MONITORING REPORT FOR 2016

STREAMSIDE TAILINGS OPERABLE UNIT
SILVER BOW CREEK/BUTTE AREA NPL SITE

prepared for

Montana Department of Environmental Quality
Remediation Division | Federal Superfund and Construction Bureau
1400 Broadway | Helena, MT 59620-0901

Montana Department of Justice
Natural Resource Damage Program
1301 E. Lockey | Helena, MT 59620-0901

and

U.S. Environmental Protection Agency
Federal Building
10 West 15th Street | Helena, MT 59626

July 2017

RESPEC

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Montana Department of Environmental Quality | Remediation Division

Montana Department of Justice | Natural Resource Damage Program

U.S. Environmental Protection Agency

July 2017

EXECUTIVE SUMMARY

The performance monitoring program evaluates the progress of remedial actions in the Streamside Tailings Operable Unit (SSTOU) of Silver Bow Creek. Environmental media monitored in 2016 included surface water, instream sediment, groundwater, vadose zone water, macroinvertebrates and periphyton, fish, geomorphology, vegetation, soils and mycorrhizae, and birds. This report summarizes results of data collected for each of these environmental media and evaluates progress toward attainment of performance goals as of 2016.[1]

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

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

The portion of Silver Bow Creek, and the adjacent floodplain undergoing remediation under the consent decree settlement [Montana v. AR, 1998] is designated the SSTOU. The SSTOU is divided into four subareas based upon geologic and topographic features that control soil, hydrogeologic, geomorphic, surface water, ecological, demographic, and land use characteristics of the SSTOU [MDEQ and USEPA, 1995]. Each remedial subarea is further divided into remedial reaches, each approximately one mile in length.

Remedial actions include excavation of tailings and contaminated soils from the Silver Bow Creek floodplain, removal of those soils to a local repository or to the Opportunity Ponds, replacement of removed tailings with clean fill material, native grass seeding, some willow and shrub plantings, and complete channel reconstruction [USEPA, 2011]. Restoration actions involve various habitat improvements that include the addition of organic matter to the borrow soils and additional plant revegetation and aquatic habitat components [NRDP, 2005]. As of the

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

end of 2016, major remedial activity was complete in all Subareas of the SSTOU. Additional repairs of remnant tailings areas in Subarea 1 occurred in 2016 and will be ongoing in 2017.

Performance goals referenced in this report for surface water contaminants of concern (COC) were those specified by the SSTOU ROD. Specifically, the performance goal is for all samples collected in the SSTOU to "meet the more restrictive aquatic life or human health standards for surface water identified in MDEQ Circular WQB-7, through application of I-classification requirements" [MDEQ and USEPA, 1995]. The SSTOU ROD also specified that surface water monitoring should be conducted quarterly and identified a suite of water chemistry parameters to be monitored, including six metal contaminants of concern (COCs): arsenic, cadmium, copper, lead, mercury, and zinc. In 2016, seventeen sites were included in the monitoring network, including all sites specified by the SSTOU ROD. Thirteen sites were sampled in the SSTOU. In addition, two sites in Silver Bow Creek were sampled in the "Lower Area One" portion of the Butte Priority Soils Operable Unit. Those Lower Area One sites represent previously contaminated and subsequently remediated portions of Silver Bow Creek located immediately upstream from the SSTOU. In addition, two sites were sampled in tributary streams located within the watershed, but outside the area of primary contamination.

Surface water monitoring results over the 2010-2016 time period demonstrate some evidence that remedial actions have resulted in reduced COC concentrations and variability during this recent time frame. In Subareas 1 and 2, concentrations at most sites have remained relatively level since 2010 and variability appears to be low. At sites in Subarea 3 and 4, particularly sites near the German Gulch confluence (Subarea 3) and at Opportunity (Subarea 4), total recoverable COC concentrations have demonstrated a steady decline. However, despite improvements, exceedances of surface water performance goals were common in 2016 in each Subarea of the SSTOU.

Copper was the COC which most commonly exceeded the surface water performance goals in 2016. Copper exceeded the performance goal at every SSTOU site in 2016 during at least one quarter and at two sites copper exceeded the performance goal during each quarter. Overall, copper concentrations exceeded the performance goal in 65% (34 of 52) of the SSTOU samples. The proportion of samples (n = 52) which exceeded the performance goals for other total recoverable metal COC concentrations in the SSTOU, in order of frequency, were mercury (33%), cadmium (13%), lead (6%), arsenic (0%), and zinc (0%).

In 2016 the Butte wastewater treatment plant (WWTP) upgraded treatment methods to reduce nutrient loading to Silver Bow Creek. Monitoring in 2016 demonstrated that those upgrades substantially reduced nutrient concentrations in the creek. Overall, nutrient (nitrogen and phosphorus) concentrations remained high in Silver Bow Creek, as in prior monitoring years. However, downstream from the WWTP effluent, concentrations of nitrogen constituents were reduced compared to prior monitoring years. Ammonia concentrations were particularly low relative to prior monitoring years. After the first quarter monitoring period, nearly all samples had ammonia concentrations which were below the analytical reporting limit. In contrast, prior to 2016, ammonia concentrations were commonly several orders of magnitude greater than the reporting limit.

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

Weighted mean sediment COC concentrations in the SSTOU exceeded the TEC (and often PEC) reference values at virtually all sites in 2016 for copper and other COCs. However, the highest concentrations for copper and most other COCs in sediment occurred at sites in the vicinity of the Slag Canyon in Butte (upstream from the SSTOU). Downstream from those sites sediment COC concentrations tended to decrease rapidly through Subarea 1 and were lowest in Silver Bow Creek in Subarea 2. Concentrations in Subarea 3 were generally the highest in the SSTOU. However, it appears that the specific sites sampled in Subarea 3 may not be representative of sediment concentrations throughout Subarea 3. In 2016, an additional site was sampled in Subarea 3, approximately 100 meters upstream from the long-term monitoring site SS-15A (Silver Bow Creek above German Gulch) and COC concentrations at the new site were commonly three times lower than at site SS-15A.

As with surface water, the SSTOU ROD defined the performance goals for groundwater quality as having COC concentrations which, "Attain compliance with applicable Circular WQB-7 standards, federal MCLs (maximum contaminant levels) and federal nonzero maximum contaminant level goals (MCLGs) for all SSTOU groundwater." Moreover, "The groundwater levels to be attained consist of the more stringent of the MCL, any nonzero MCLG, or the WQB-7 human health standard for each parameter." Groundwater was monitored at 27 wells located in nine well clusters including 18 monitoring wells and nine background wells. Nine well clusters were located in the Silver Bow Creek floodplain and one cluster was located near the Mine Waste Relocation Repository (MWRR). Wells located in the MWRR were monitored during May and September of 2016, whereas the rest of the sites were monitored during September only.

In the floodplain well clusters in 2016, several COCs (arsenic, cadmium, copper, and zinc) exceeded the performance goals in at least one monitoring well. Arsenic frequently exceeded performance goals in background wells as well. Of the samples collected from the monitoring wells located in the floodplain clusters (n = 18), 11% exceeded the arsenic performance goal, 39% exceeded the cadmium performance goal, 6% exceeded the copper performance goal, and 39%

exceeded the zinc performance goal. In the MWRR cluster, no samples from monitoring wells had concentrations exceeding the performance goals.

Vadose zone water quality is monitored in the vicinity of the MWRR to assess mobility of COCs from the repository into the underlying groundwater supply and surface water in the SSTOU. As with groundwater monitoring in the MWRR, vadose zone water was monitored in May and September utilizing soil lysimeters (seven monitoring lysimeters and one background lysimeter). Monitoring at these same lysimeters has occurred each year since 2010. Performance goals were not established in the SSTOU ROD for vadose zone water. Instead, COC concentrations and other parameters (other metals, common ions, and physical parameters) are compared between the reference and monitoring lysimeters to assess potential differences which might be indicators of leaching of COCs from the repository.

Vadose zone water samples in 2016 had similar COC concentrations to prior monitoring years (2010-2015). From 2010-2016, arsenic concentrations in three monitoring lysimeters appeared to be higher than in the background lysimeter. In addition, cadmium (in three monitoring lysimeters) concentrations also appeared to be higher than in the background lysimeter during the 2010-2016 period. It is unclear if these differences are related to inherent differences in soil chemistry between areas sampled by the background lysimeter and the monitoring lysimeters, or if the higher analyte concentrations in the monitoring lysimeters are related to the influence of the MWRR. There did not appear to be any obvious evidence that any COC concentrations were increasing through time at any lysimeters.

Biological (macroinvertebrate and periphyton) samples were collected at each surface water sampling site during the third quarter of 2016. As with other environmental media monitored which did not have ROD-specified performance goals, reference values from specific bioindices are used to evaluate macroinvertebrate and periphyton biointegrity. Among other bioassessment indices, the Montana Valley and Foothill Prairies (MVFP) bioassessment index [Bollman, 1998] was used to evaluate macroinvertebrate biointegrity in the SSTOU. All SSTOU sites were either “moderately” or “severely” impaired for macroinvertebrate biointegrity (MVFP scores ranged from 11-44%). In the four background sites monitored outside the SSTOU, impairment scores ranged from 22% “severe” to 67% “slight”. Stressors implicated as likely impairments to macroinvertebrate biointegrity in the 13 SSTOU sites included nutrients and habitat disturbance (at all sites), sediments (at 12 sites), and hypoxia (at 10 sites). Metals were not implicated as a likely stressor to the macroinvertebrate assemblage at any sites in 2016.

Among other tools, periphyton biointegrity in the SSTOU was assessed using diatom increaser taxa indices which provide impairment probability estimates from metals, nutrients, and sediment. Among the 13 SSTOU sites, the probabilities of impairment ranged from 15-75% for sediment (mean = 45%; standard deviation [SD] = 19%), from 30-98% for metals (mean = 77%; SD = 19%), and from 10-93% for nutrients (mean = 28%; SD = 22%). All SSTOU sites were rated as “fair” or “good” for periphyton biointegrity. All sites sampled outside the SSTOU were rated with “good” biointegrity.

Geomorphic monitoring in 2016 occurred in Reach I of Subarea 2 downstream from Browns Gulch (at monitoring site SS-11C) and in Reach P of Subarea 4 downstream from Fairmont Road (at monitoring site SS-16B). Monitoring represented conditions 10 years post-remediation

at site SS-11C and 5 years post-remediation at site SS-16B. Results indicated that the reconstructed channel characteristics were within the reference value range for pool percentage at both sites but above the reference range at both sites for width to depth ratio and proportion of undercut banks. At both sites, riparian cover, channel cover, and woody debris proportion were below the reference range. Although above the reference range, a high proportion of undercut banks may reflect favorable conditions for fish and other aquatic species by providing cover but at the risk of potentially destabilizing the banks. Undercut banks in Silver Bow Creek may be particularly important due to the relative lack of cover currently provided by overstory vegetation and wood. Width to depth ratios indicate that the remediated channel of Silver Bow Creek at these sites was wider and shallower compared to the reference system. At site SS-11C, the trend through time has been toward a higher width to depth ratio (either due to a wider channel, a shallower channel, or both). Since the channel banks at the site appeared to be stable, an increase in the width to depth ratio through time likely indicated the channel was getting shallower, perhaps as the channel bed aggraded due to sediment deposition. Despite any geomorphic differences from reference conditions, trout including westslope cutthroat trout have thrived in the remediated channel of Silver Bow Creek.

Metals cleanup activities have improved the habitability of Silver Bow Creek for native fishes. Improvements in the Butte municipal water treatment facility should result in a reduction of ammonia discharge and potentially reduce the prevalence of hypoxic conditions. In 2016, fish abundance in Silver Bow Creek was monitored in August and October at six long-term monitoring sites. In August, when water temperatures were at high and streamflows were low, trout abundance in sites downstream from German Gulch were significantly higher than other sections of Silver Bow Creek suggesting that trout were seeking thermal refuge. These results support prior findings of a trout movement study that demonstrated low abundance of salmonids in hypoxic sections of Silver Bow Creek during summer and increased abundance in these sections after hypoxic conditions subsided in the winter [Naughton, 2013]. However, in 2016, it is not clear if hypoxia was present in upstream sections of Silver Bow Creek because ammonia concentrations were generally low. Therefore, movement of trout to waters influenced by German Gulch may largely be due to thermal refuge.

Bighorn Environmental Sciences monitored SSTOU revegetation, soils, and birds in 2016. Revegetation was monitored in Subarea 4 in Reaches Q, R, and T in 2016. Mean perennial plant cover in Reaches Q and R (consisting predominantly of upland hydrology) was 62% and 60%, respectively. The desired condition in upland hydrology is 60%. In contrast, Reach T uplands had >100% stratified perennial plant cover despite dry conditions in 2016 during the growing season. Suspected contaminated conditions in an overflow channel of Reach R apparently reduced plant cover which was estimated at 13%

Repair work is recommended in Reaches Q and R and throughout Subarea 4 to increase plant cover and reduce contamination, which is evident in some places. In Reach T, it appears that a combination of over-tilling and inadequate weed control measures prior to construction contributed to an extensive (approximately 28 acre) patch of weeds, primarily kochia and whitetop. Planned treatment for this patch is repeated tillage and chemical weed control, and reseeding in fall 2017.

Soil sampling in Reach O was conducted to assess fertility. Results revealed adequate fertilization in the 0-4 inch depth interval. Of two samples, one had clay texture as proscribed by the Record of Decision.

Basin wildrye roots were sampled in many reaches (representing many ages since seeding) for mycorrhizae. Nutrient cycling occurs within the mycorrhizasphere because that is where organic matter is added to the soil in temperate, semiarid environments, and beneficial microorganisms naturally congregate there. New and young plants have few, if any, fungal associates in SSTOU coversoil. After about year five, most plants attained the highest rank for mycorrhizal abundance. In Silver Bow Creek remediation using coversoil, seeded perennials establish practically free of arbuscular mycorrhizae. The few fungal propagules present are not contacted by most young, rapidly growing roots. Mycotrophic species and those more reliant on arbuscular mycorrhizae likely will not establish. A fresh inoculant at the time of seeding would be expected to confer advantage to species reliant on a fungal associate. Although ecosystem function benefits from arbuscular mycorrhizae develop after several years, seeded mycrotrophs are absent and native colonization is stifled because sites typically become saturated with vascular plants and the seed rain is mainly noxious weeds.

The 2016 year is expected to be the final year of bird sampling in Subarea 2. Gross bird use established quickly following revegetation, followed by a weak increasing trend. Species richness and mean species per station have generally increased over time. Equitability among species has been consistent through time in Subarea 2. Equitability among stations has decreased, especially in the last year. Some stations with particular habitats, have become the focus of heavy bird use whereas others nearby have received little use. Within Subarea 2, Sheep Gulch Pond appeared to be a magnet for bird use. For March, April, and May, all metrics in Reaches N and O were up: bird counts, species richness, species equitability, and station equitability.

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1.0 SURFACE WATER

1.1 INTRODUCTION

This chapter describes the results of surface water monitoring activities conducted in 2016 to assess the effectiveness of remedial actions implemented within the Streamside Tailings Operable Unit (SSTOU) of the Silver Bow Creek/Butte Area National Priorities List site [Figure 1-1]. Data were collected to describe the effects of remedial actions on surface water quality and to gauge progress toward attainment of performance goals.

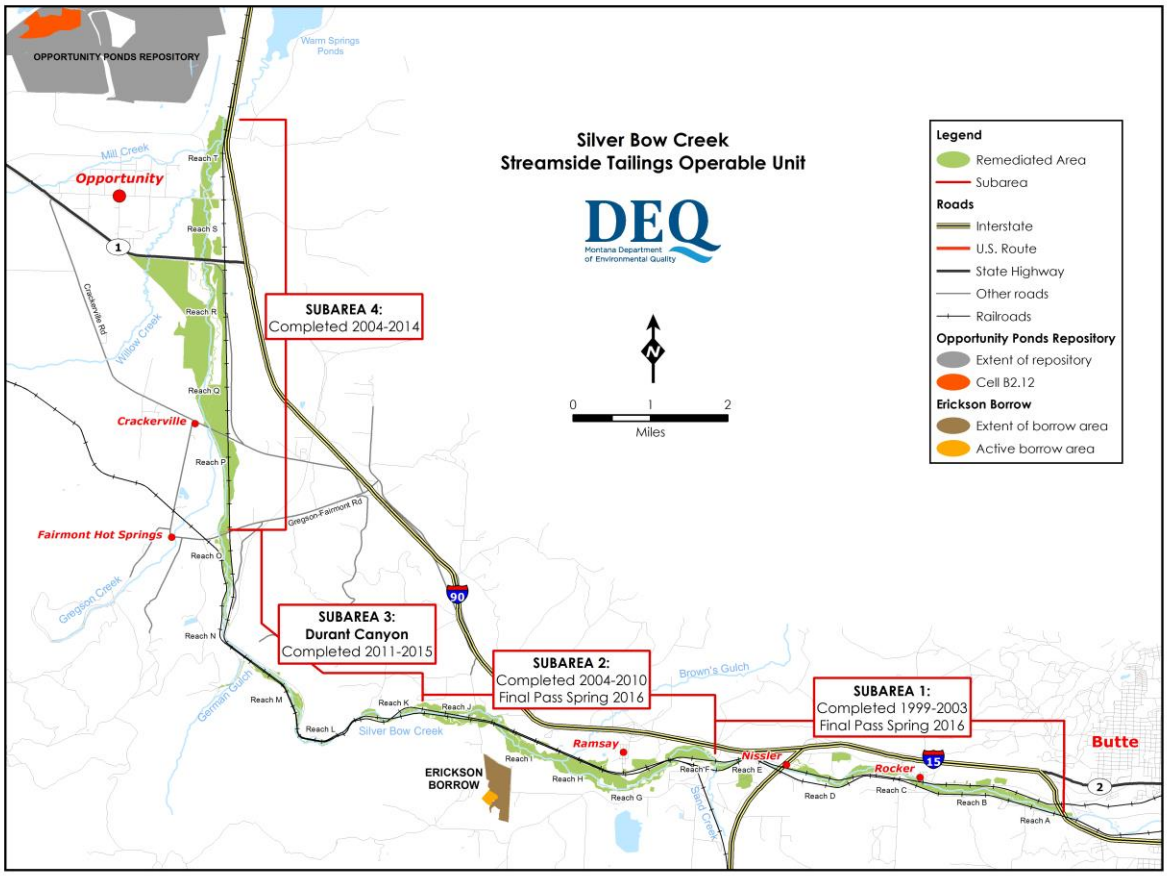

Figure 1-1. Remedial subareas of the Streamside Tailings Operable Unit.

1.2 PERFORMANCE GOALS

The SSTOU Record of Decision (ROD) specified that the final remediation goal for contaminant of concern (COC) concentrations in surface waters was to "meet the more restrictive of aquatic life or human health standards for surface water identified in MDEQ

Circular WQB-7, through application of I-classification requirements" [MDEQ and USEPA, 1995]. Since the issuance of the ROD, Circular WQB-7 [MDHES, 1994] has been replaced by Circular DEQ-7 [MDEQ, 2012a], and standards for some COCs have been revised. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP) provide for use of the new, more stringent standards where compliance with the new standard is necessary to ensure protectiveness of human health and the environment. Although there has not yet been a formal decision to adopt the new, more stringent standards for the SSTOU, this report uses the more stringent of either the ROD's Circular WQB-7 [MDHES, 1994] or the current Circular DEQ-7 [MDEQ, 2012a] standards for evaluating compliance for the COCs.

The most restrictive surface water standard for each COC (arsenic, cadmium, copper, lead, mercury, and zinc) is either the chronic aquatic life standard (ALS) or the human health surface water standard (HHSWS) from either Circular WQB-7 [MDHES, 1994] or Circular DEQ-7 [MDEQ, 2012a]. In both versions, the chronic ALS is hardness-based for cadmium, copper, lead, and zinc. Thus, the chronic ALS vary in relation to water hardness for those metals, in all cases becoming less restrictive as water hardness increases. The most restrictive surface water standard for each COC is depicted in Table 1-1. This report uses the current Circular DEQ-7 [MDEQ, 2012a] standards as reference values for metals which are not COCs [Table 1-2].

The most current MDEQ Circular-7 surface water standards for each metal are identified in Table 1-2. Additionally, the SSTOU ROD specifies that the remedial action objective should "support the growth and propagation of fishes and associated aquatic life…including a self-sustaining population of trout species" provided that upstream contaminant sources are eliminated.

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

- Dissolved oxygen concentration must not be reduced below the applicable standards given in Circular DEQ-7 (i.e., 1-day minimum = 3 mg/L) [MDEQ and USEPA, 1995; MDEQ, 2012a].
- Hydrogen ion concentration (pH) must be maintained within the range of 6.5 to 9.5.
- Except as permitted in MCA 75-5-318, no increase in naturally occurring turbidity is allowed which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.
- No increase in naturally occurring temperature is allowed which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.
- No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in MCA 75-5-318), and settleable solids, oils,

or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

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

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

In addition, Circular DEQ-7 [MDEQ, 2012a] specifies the following aquatic life standards (ALS) for total ammonia which are applicable year round[2]:

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

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

[2] The total ammonia acute ALS is inversely related to pH and water temperature (i.e., as pH and temperature increases the acute ALS decreases) and is also dependent on whether or not early life stage salmonids are present. The given standard assumes pH of 7.5 and that early life stage salmonids are present. Typically, pH in the SSTOU is at least 7.5 [Atkins, 2011; 2013a; 2013b; RESPEC, 2015a; 2015b; 2016b] and salmonids are known to be present in the SSTOU [RESPEC, 2015b]. The chronic ALS for ammonia is not influenced by the presence or absence of early life stage salmonids.

Table 1-1. Comparison of the state of Montana surface water standards in July 1994 (effective at the time of issuance of the Streamside Tailings Operable Unit Record of Decision) and October 2012 (effective in 2016) for each contaminant of concern. Gray cells indicate the most restrictive standard.

Contaminant of concern[3]	Chronic aquatic life standard (mg/L)		Human health surface water standard (mg/L)	
	MDHES [1994]	MDEQ [2012a]	MDHES [1994]	MDEQ [2012a]
Arsenic	0.190	0.150	0.018	0.010
Cadmium	0.00113	0.00027	0.00500	0.00500
Copper	0.012	0.009	1.000	1.300
Lead[4]	0.0032	0.0032	0.0150	0.0150
Mercury	0.000012	0.000910	0.000140	0.000050
Zinc	0.10599	0.11982	5.00000	2.00000

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

[4] The chronic aquatic life standard is most restrictive for lead until hardness >338 mg/L as $CaCO_3$. At hardness >338 mg/L as $CaCO_3$, the human health surface water standard becomes more restrictive. Lead standards were the same in MDHES [1994] and MDEQ [2012a].

Table 1-2. Montana surface water standards for metals which are not contaminants of concern in the Streamside Tailings Operable Unit [MDEQ, 2012a]. The most restrictive surface water standard (highlighted in gray) for each contaminant is to be used as the remediation standard for surface water in the Streamside Tailings Operable Unit [MDEQ and USEPA, 1995].

Metal[5,6]	Aquatic life standard (mg/L)		Human health surface water standard (mg/L)
	Acute	Chronic	
Aluminum	0.750	0.087	-
Antimony	-	-	0.0056
Barium	-	-	1
Beryllium	-	-	0.004
Boron	-	-	-
Chromium	-	-	0.1
Cobalt	-	-	-
Iron	-	1.00	-
Manganese	-	-	-
Molybdenum	-	-	-
Nickel	0.469	0.052	0.100
Selenium	0.020	0.005	0.050
Silver	0.0041	-	0.1000
Uranium	-	-	0.03
Vanadium	-	-	-

1.3 METHODS

The purpose of the surface water monitoring program is to collect data describing the temporal and spatial variation of metals and nutrient concentrations, and other physical properties of surface water in the SSTOU. These data provide a long-term record of environmental conditions in the SSTOU. As of 2016, 17 years of SSTOU surface water data (2000-2016) have been collected under this monitoring program. This long-term record provides a dataset to evaluate the effect of remediation on environmental conditions in the SSTOU over time.

Changes to the surface water monitoring program have occurred over time and a record of these changes is provided in the project sampling and analysis plan [RESPEC, 2016a]. The program attempts to adhere to monitoring requirements specified in the SSTOU ROD [Table 1-3]. To comply with these requirements, surface water sampling sites were added to the

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

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

monitoring network in 2013 (SS-13 and SS-16B) and 2014 (SS-19) [Figure 1-2; Table 1-4]. All of the sites required by the SSTOU ROD [Table 1-3] were included in the surface water monitoring program since 2014.

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

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

1.3.1 Monitoring Locations

In 2016, major remediation in the SSTOU was completed in all subareas. Minor remedial actions were in progress in portions of Subarea 1 and 2 [Figure 1-2]. Monitoring occurred at 17 sites, 13 of which were located within the SSTOU. Locations of some sampling sites were selected based on SSTOU ROD requirements [Table 1-3]. Other sites were selected to provide greater spatial resolution or to assess the influence of specific surface water inputs. Sites located outside the SSTOU were sampled to describe surface water conditions in the stream immediately upstream from the SSTOU (SS-01, SS-05A, SS-06G) or in a major tributary (German Gulch; SS-15G) entering Silver Bow Creek within the SSTOU [Figure 1-2].

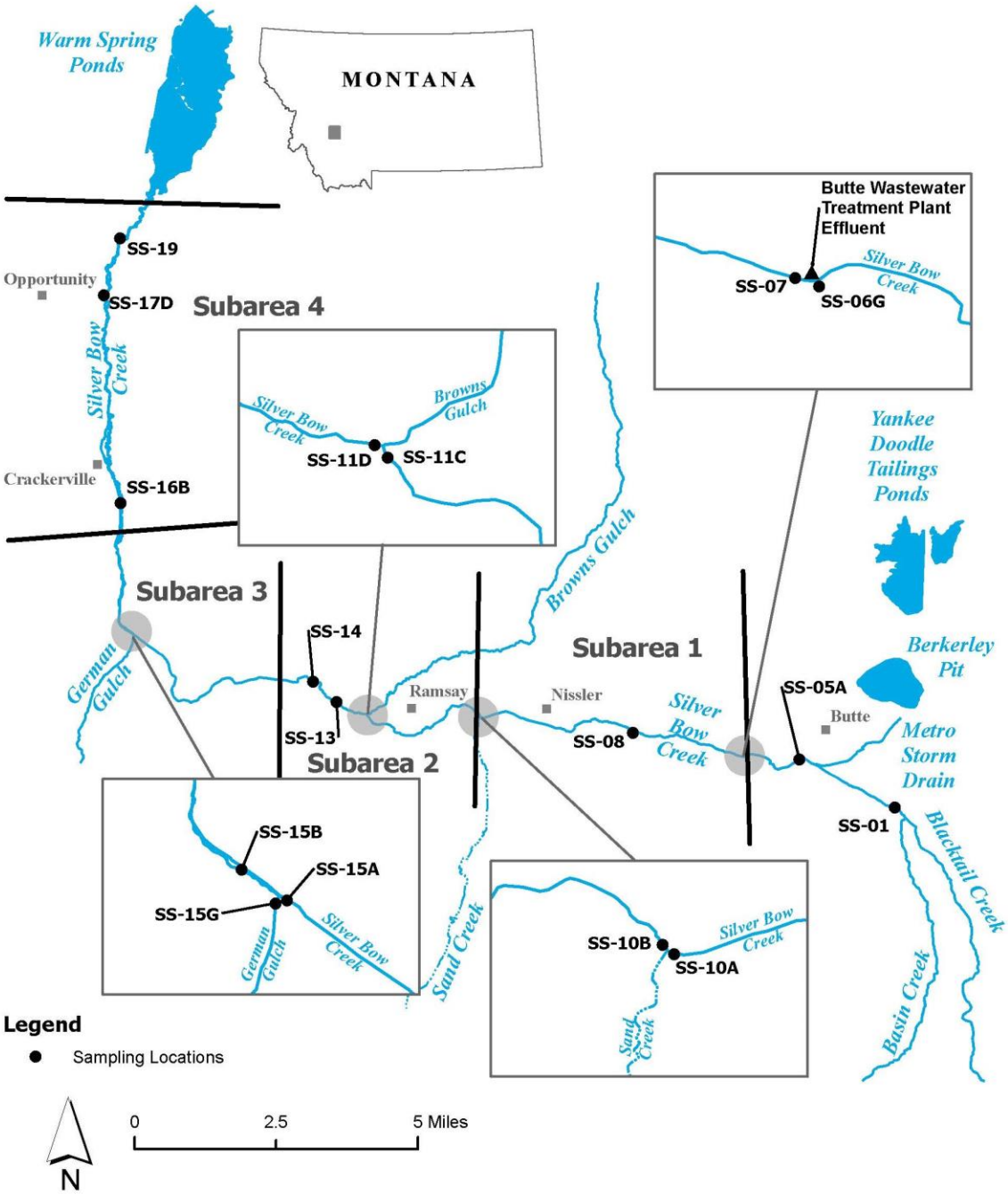

Figure 1-2. Surface water sampling locations in the Streamside Tailings Operable Unit, 2016.

Table 1-4. Surface water sampling locations in the Streamside Tailings Operable Unit, 2016.

Site ID	Site Location	Location (GPS coordinates, NAD 83)	
		Latitude	Longitude
SS-01*	Blacktail Creek at Father Sheehan Park	45.98532	-112.50772
SS-05A*	Silver Bow Creek above Butte Reduction Works	45.99653	-112.54343
SS-06G*	Silver Bow Creek above Butte WWTP	45.99648	-112.56316
SS-07[7]	Silver Bow Creek below Butte WWTP	45.99679	-112.56470
SS-08	Silver Bow Creek at Rocker	46.00167	-112.60490
SS-10A	Silver Bow Creek above Sand Creek	46.00375	-112.66084
SS-10B	Silver Bow Creek below Sand Creek	46.00429	-112.66160
SS-11C	Silver Bow Creek above Browns Gulch	46.00336	-112.70172
SS-11D	Silver Bow Creek below Browns Gulch	46.00342	-112.70304
SS-13	Silver Bow Creek in Reach L	46.00647	-112.71394
SS-14	Silver Bow Creek at Miles Crossing	46.01142	-112.72270
SS-15A	Silver Bow Creek above German Gulch	46.02170	-112.78969
SS-15B	Silver Bow Creek below German Gulch	46.02263	-112.79175
SS-15G*	German Gulch near confluence	46.02170	-112.79029
SS-16B	Silver Bow Creek in Reach P near Fairmont	46.05494	-112.79611
SS-17D[8]	Silver Bow Creek below Stewart Street at Opportunity	46.10787	-112.80553
SS-19	Silver Bow Creek at Frontage Road	46.12247	-112.80077

* Not located within the Streamside Tailings Operable Unit.

1.3.2 Monitoring Schedule

Monitoring events were scheduled quarterly to describe seasonal variation in water chemistry within the SSTOU. One monitoring event occurred during each calendar quarter. Quarterly monitoring events occurred near the end of each quarter. First quarter (Q1) monitoring occurred from March 16–17 prior to spring snowmelt runoff. Second quarter (Q2) monitoring occurred from June 2-3 near the peak of the spring snowmelt runoff period. Third quarter (Q3) monitoring occurred from September 14-15 during low streamflow conditions. Fourth quarter (Q4) monitoring occurred from December 14-15 during late fall.

1.3.3 Monitoring Parameters

Streamflows were measured at all surface water sampling sites at the time when sampling occurred. Streamflows were determined from USGS streamflow gauges that were co-located

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

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

with the sampling sites at two sites. Streamflows were measured manually at sites without co-located USGS gauge stations. Laboratory analysis of analyte concentrations in samples was provided by Energy Laboratories (Helena, Montana). Water samples were analyzed for metal concentrations, nutrient concentrations, and other chemical and physical properties [Table 1-5].

Volatile suspended sediment (VSS) was added to the analyte list at all SSTOU sites during all sample periods in 2016 [Table 1-5]. This analyte was evaluated to quantify the proportion of organic material in each total recoverable sample. We are interested in the proportion of organic material in each sample to determine if metals in the total recoverable samples appear to be complexed primarily with organic or mineral sediments. Volatile suspended sediment measures the mass of combustible material in the total suspended sediment sample. Volatile suspended sediment concentrations provide an approximation of the concentration of organic material in the sample.

Table 1-5. Sampling parameters and analytes for surface water monitoring of the Streamside Tailings Operable Unit, 2016.

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

1.3.4 Sample Collection and Analysis

Sample collection, analysis, and quality assurance procedures are described in the program sampling and analysis plan [RESPEC, 2016a] and quality assurance project plan [RESPEC, 2014]. Methods generally followed standard operating procedures (SOPs) developed for the Clark Fork River [AR, 1992]. Field sampling procedures were in accordance with MDEQ [2012b] and followed "clean hands/dirty hands" procedures as described in USGS [2006][9]. Composited surface water samples were collected using width- and depth-integration according to methods described in USGS [2006]. Field parameters (water temperature, pH,

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

dissolved oxygen concentration, and conductivity) were measured during each monitoring event with a field multimeter (YSI Professional Plus or YSI 556). Turbidity was measured with a field turbidity meter (Hach Model 2100P Portable Turbidimeter). Streamflows were measured using a portable electromagnetic streamflow meter (Marsh-McBirney Flo-Mate 2000). Calibration methods for field meters, data recording and handling methods, and quality assurance and quality control procedures are described in the program sampling and analysis plan [RESPEC, 2016a]. Samples were analyzed by Energy Laboratories (Helena, Montana). Laboratory analysis procedures for each analyte are presented in Table 1-6.

Table 1-6. Analytes, analytical methods, and reporting limits for surface water samples in the Streamside Tailings Operable Unit, 2016.

Analyte	Requested Method	Requested Reporting Limit (mg/L)[10]	Holding Time (days)	Bottle	Preservative
Water Samples - Physical Properties and Inorganics					
Solids, Total Suspended (at 105C)	A 2540 D	1	7	1 L HDPE	4 ± 2 C
Solids, Volatile Suspended	SM 2540 E	1	7		
Alkalinity, Total (as CaCO3)	A 2320 B	4	14	500 mL HDPE	
Alkalinity, Bicarbonate (as HCO3)	A 2320 B	4	14		
Chloride	EPA 300.0	1	28		
Sulfate	EPA 300.0	1	28		
Hardness (as CaCO3)	A 2340 B	1	180		
Water Samples – Nutrients					
Carbon, Dissolved Organic	A 5310 C	0.5	7	Dark glass	H2SO4 to pH <2, 4 ± 2 C
Nitrogen, Ammonia (as N)	EPA 350.1	0.05	28	250 mL HDPE	4 ± 2 C
Nitrogen, Nitrate-Nitrite (as N)	EPA 353.2	0.02			H2SO4 to pH <2, 4 ± 2 C
Nitrogen, Total	A 4500 N-C	0.05	30		4 ± 2 C
Phosphorus, Total	EPA 365.1	0.003	28		H2SO4 to pH <2, 4 ± 2 C
Water Samples - Dissolved Metals (0.45 µm filtered)					
Aluminum	EPA 200.8	0.009	180	250 mL HDPE	HNO3 to pH <2
Antimony	EPA 200.8	0.0005			
Arsenic	EPA 200.8	0.001			
Barium	EPA 200.8	0.003			
Beryllium	EPA 200.8	0.0008			
Boron	EPA 200.8	0.1			
Cadmium	EPA 200.8	0.00003			
Calcium	EPA 200.8	1			
Chromium	EPA 200.8	0.01			
Cobalt	EPA 200.8	0.01			
Copper	EPA 200.8	0.001			

[10] Requested reporting limits are either the required reporting limit from MDEQ [2012a] or MDEQ [2014] (for nutrients), or the lowest reporting limit previously provided by the analytical laboratory, whichever is lower.

Analyte	Requested Method	Requested Reporting Limit (mg/L)[10]	Holding Time (days)	Bottle	Preservative
Iron	EPA 200.8	0.02			
Lead	EPA 200.8	0.0003			
Magnesium	EPA 200.8	1			
Manganese	EPA 200.8	0.001			
Molybdenum	EPA 200.8	0.005			
Nickel	EPA 200.8	0.002			
Potassium	EPA 200.8	1			
Selenium	EPA 200.8	0.001			
Silver	EPA 200.8	0.0002			
Sodium	EPA 200.8	1			
Uranium	EPA 200.8	0.0002			
Vanadium	EPA 200.8	0.1			
Zinc	EPA 200.8	0.008			
Mercury	EPA 245.1	0.000005	28		
Water Samples - Total Recoverable Metals					
Total Recoverable Metals Digestion	EPA 200.2	-	-	-	-
Aluminum	EPA 200.8	0.009			
Antimony	EPA 200.8	0.0005			
Arsenic	EPA 200.8	0.001			
Barium	EPA 200.8	0.003			
Beryllium	EPA 200.8	0.0008			
Boron	EPA 200.8	0.1			
Cadmium	EPA 200.8	0.00003			
Calcium	EPA 200.8	1	180		
Chromium	EPA 200.8	0.01			
Cobalt	EPA 200.8	0.01			
Copper	EPA 200.8	0.001			
Iron	EPA 200.8	0.02			
Lead	EPA 200.8	0.0003		250 mL HDPE	HNO3 to pH <2
Magnesium	EPA 200.8	1			
Manganese	EPA 200.8	0.001			
Mercury	EPA 245.1	0.000005	28		
Molybdenum	EPA 200.8	0.005			
Nickel	EPA 200.8	0.002			
Potassium	EPA 200.8	1			
Selenium	EPA 200.8	0.001			
Silver	EPA 200.8	0.0002	180		
Sodium	EPA 200.8	1			
Uranium	EPA 200.8	0.0002			
Vanadium	EPA 200.8	0.1			
Zinc	EPA 200.8	0.008			

1.3.5 Data Analysis

This report primarily presents a summary of surface water data collected in the SSTOU monitoring program in 2016. For certain important constituents monitored (e.g., nutrient concentrations and COC concentrations), longer-term results are presented to place 2016 results in context with prior annual monitoring periods.

Data analysis includes description of spatial trends (among sample sites during the same sample period) and temporal (quarterly and annual) trends in constituent concentrations. For

constituents of primary interest (e.g., total recoverable COC concentrations), longer-term (since 2010) results are included in this report to provide context for the 2016 results and to evaluate variability in concentrations through time.

In addition, for COCs with performance goal targets, or for constituents which have state-specified standards, sample concentrations are compared to those standards to evaluate exceedances. Evaluation of some ALS standards require an assumption that the measured analyte concentrations are consistent over time. For example, the chronic ALS is typically based on 96-hour mean concentrations and the acute ALS are typically based on 1-hour mean concentrations [MDEQ, 2012a]. However, in this monitoring program, analyte concentrations are measured at a specific point in time and mean concentrations over time are unknown. Therefore, all assessments of ALS exceedances assume that the measured concentration was representative of the mean concentration over the necessary time period.

Surface water samples were analyzed for COC and non-COC metal and metalloid concentrations. The SSTOU ROD specifies that monitoring should assess if non-COC metals have concentrations exceeding performance goals [MDEQ and USEPA, 1995]. We have interpreted the performance goals for non-COC analytes to be the most restrictive of the most current Circular DEQ-7 standards [MDEQ, 2012a].

Finally, relationships between total recoverable copper concentration (the COC which most commonly exceeded performance goals) and streamflows, turbidity, and total suspended sediment were quantified using ordinary least squares regression. In addition, other parameters (turbidity, streamflows, total and volatile suspended sediment concentrations) were compared using regression analysis to evaluate the relationship between potential predictors of COC concentrations. For each analysis, the significance threshold (α) was 0.05. All of these comparisons were based on all SSTOU sites and samples collected from 2011-2016, or for volatile suspended sediment from 2015-2016. Data from 2010 was omitted because suspended sediment concentrations were not measured in 2010.

1.3.6 Data Validation

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

1.4 RESULTS

1.4.1 Streamflows

In comparison to the long-term median for the period of record at each site monitored by the USGS, streamflows in 2016 for Silver Bow Creek and Blacktail Creek were generally

above average in the late winter through the spring runoff period, below average during the summer low streamflow period, and approximately normal during the fall period [Figure 1-3; Figure 1-4; Figure 1-5]. The peak of the spring runoff occurred at approximately the normal time of year but runoff flows subsided more rapidly than normal [Figure 1-3; Figure 1-4; Figure 1-5]. Despite relatively strong winter and spring streamflows, summer minimum flows were low at all USGS gauges: <3 ft^3/s in Blacktail Creek at Butte [Figure 1-3], <8 ft^3/s in Silver Bow Creek at Butte [Figure 1-4], and <7 ft^3/s in Silver Bow Creek at Opportunity [Figure 1-5].

First quarter surface water monitoring was conducted during approximately normal streamflow conditions for the time of year and streamflows had been relatively stable and falling over the prior week [Figure 1-6]. Second quarter monitoring occurred during the runoff period and with elevated streamflows (e.g., 104 ft^3/s in Silver Bow Creek at Opportunity) [Figure 1-7]. The annual peak (174 ft^3/s in Silver Bow Creek at Opportunity) of the spring runoff had occurred five days prior (May 28, 2016) and streamflows were falling rapidly during the Q2 sample period and during the prior five days at the time of the Q2 monitoring [Figure 1-7]. In Q3 and Q4, streamflows were near normal levels relative to the long-term medians [Figure 1-3; Figure 1-4; Figure 1-5].

Among the quarterly monitoring periods, the longitudinal streamflow trend was similar between Blacktail Creek at Father Sheehan Park (SS-01) and Silver Bow Creek above German and Gulch (SS-15A) [Figure 1-10]. The influence of German Gulch on Silver Bow Creek streamflows was very strong in Q2; Silver Bow Creek flows more than doubled in Q2 from above (SS-15A) to below (SS-15B) German Gulch [Figure 1-10]. During other quarters, only modest increases (approximately 25-30%) in streamflows occurred between SS-15A and SS-15B [Figure 1-10]. During each sample period, streamflows were generally gaining from SS-01 to Silver Bow Creek at Rocker (SS-08), losing from SS-08 to Silver Bow Creek below Sand Creek (SS-10B), gaining from SS-10B to Silver Bow Creek below Browns Gulch (SS-11D), gaining (sharply gaining in Q2) between SS-15A and Silver Bow Creek below German Gulch (SS-15B), and then gaining slightly between SS-15B and Silver Bow Creek at Frontage Road (SS-19) [Figure 1-10].

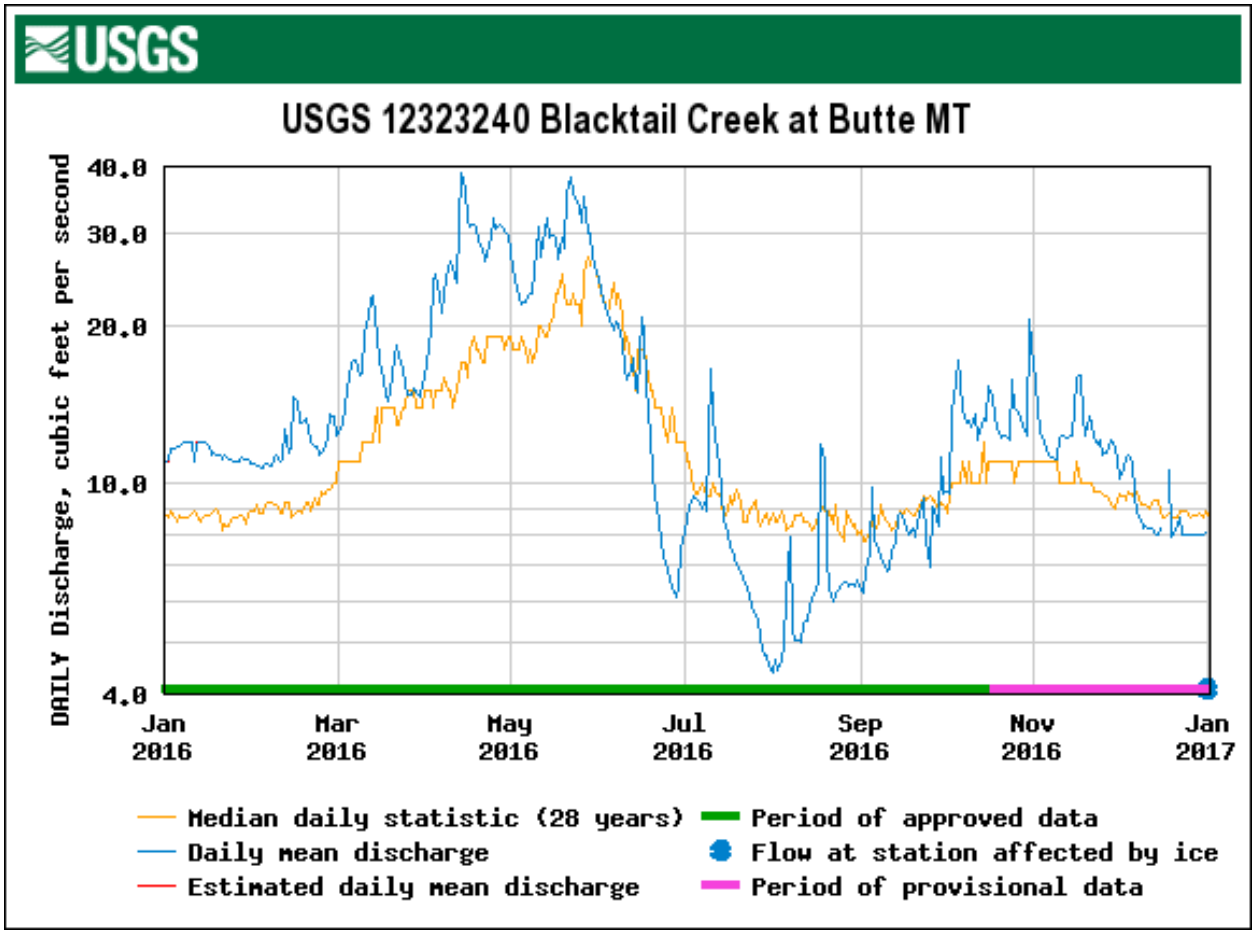

Figure 1-3. Annual hydrograph for Blacktail Creek at Butte, 2016.

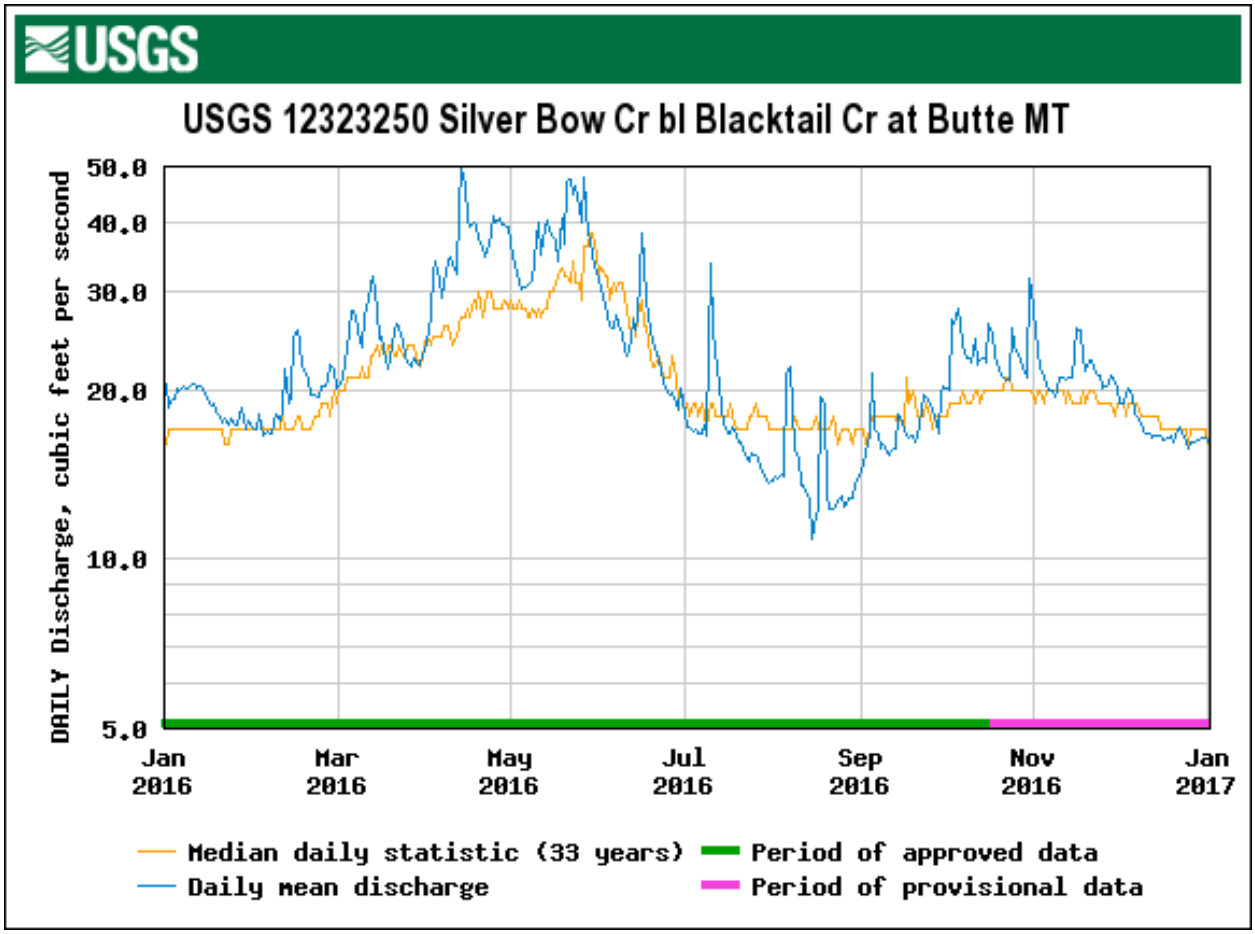

Figure 1-4. Annual hydrograph for Silver Bow Creek below Blacktail Creek at Butte, 2016.

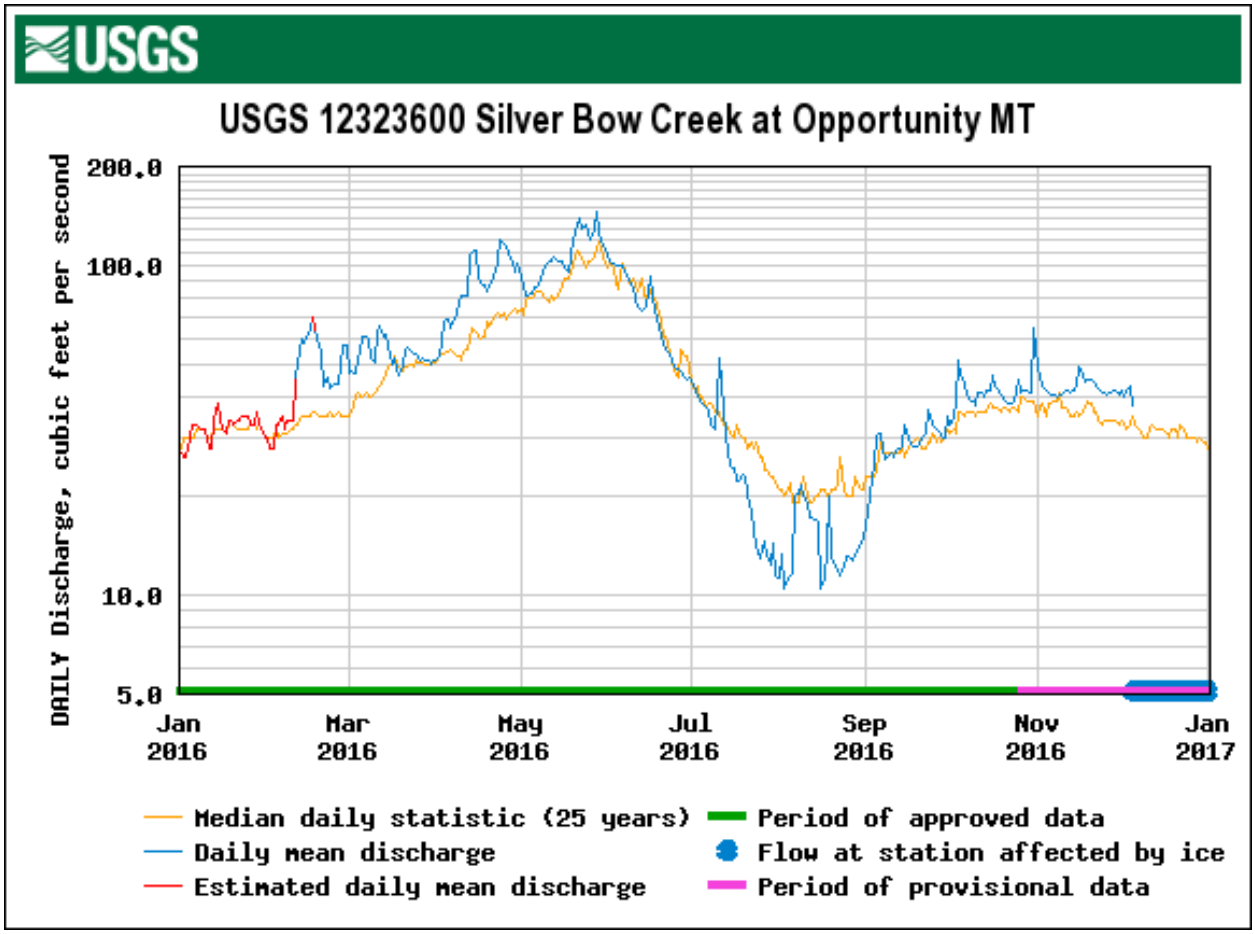

Figure 1-5. Annual hydrograph for Silver Bow Creek at Opportunity, 2016.

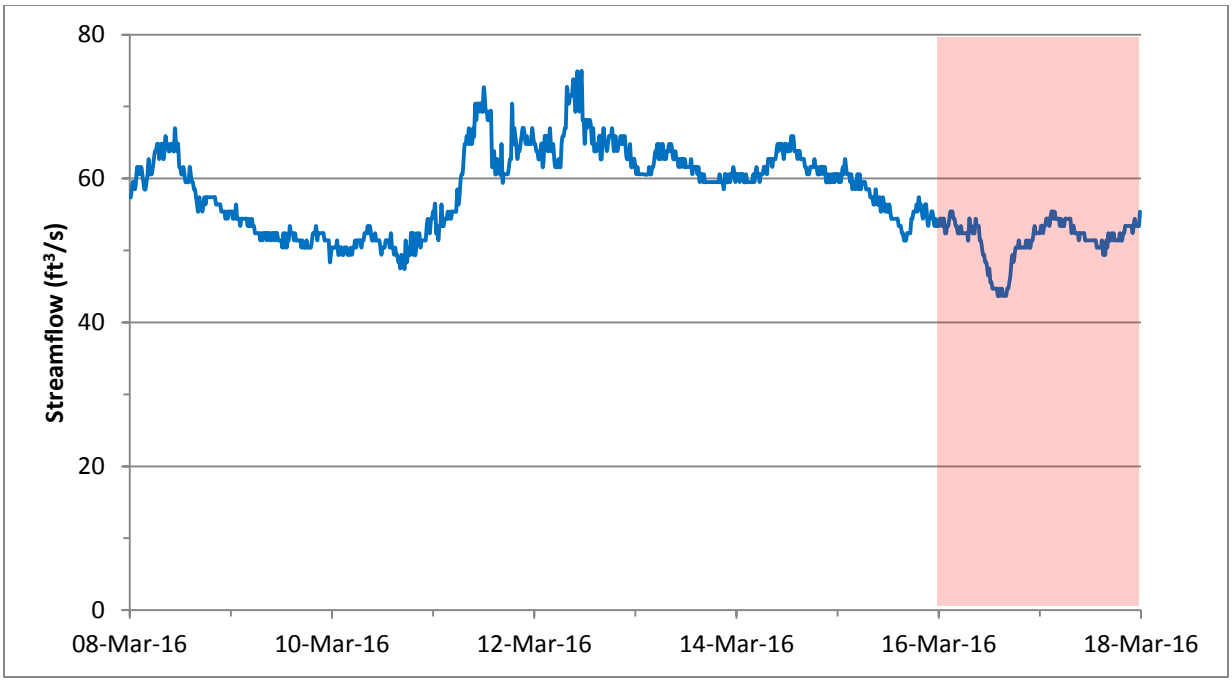

Figure 1-6. Streamflow in Silver Bow Creek at Opportunity (USGS gauge 12323600) prior to and during (red region) the first quarter sample period [Source: USGS, 2017].

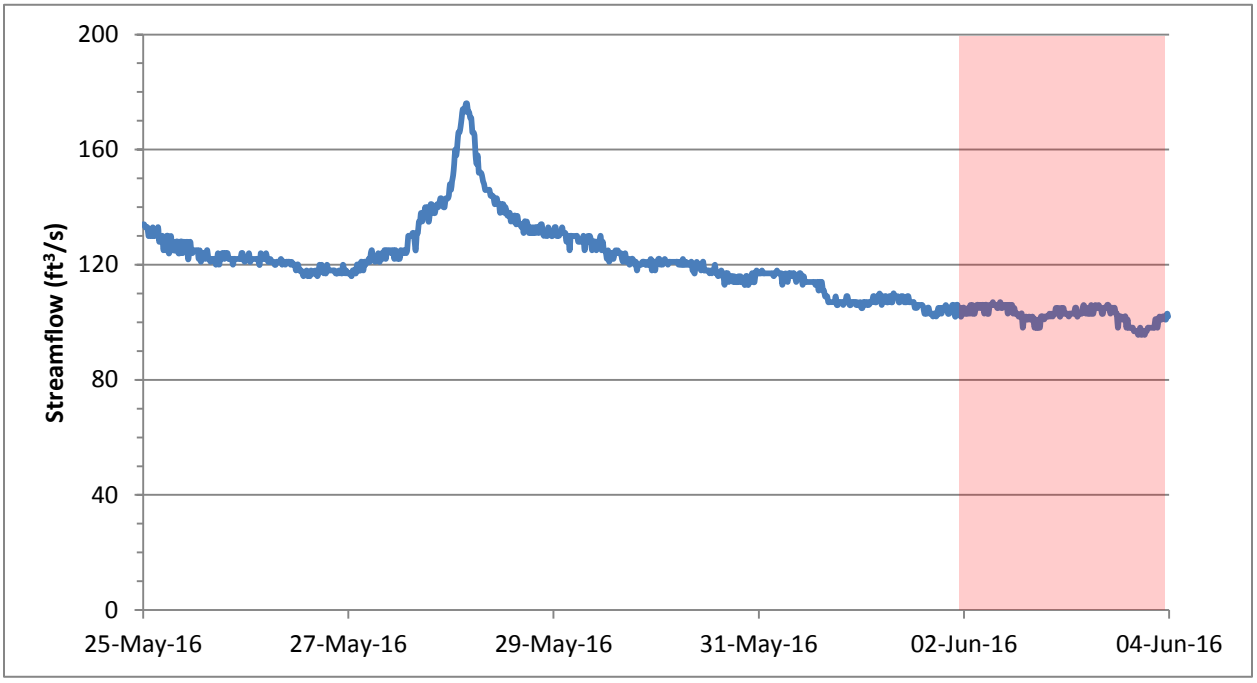

Figure 1-7. Streamflow in Silver Bow Creek at Opportunity (USGS gauge 12323600) prior to and during (red region) the second quarter sample period [Source: USGS, 2017].

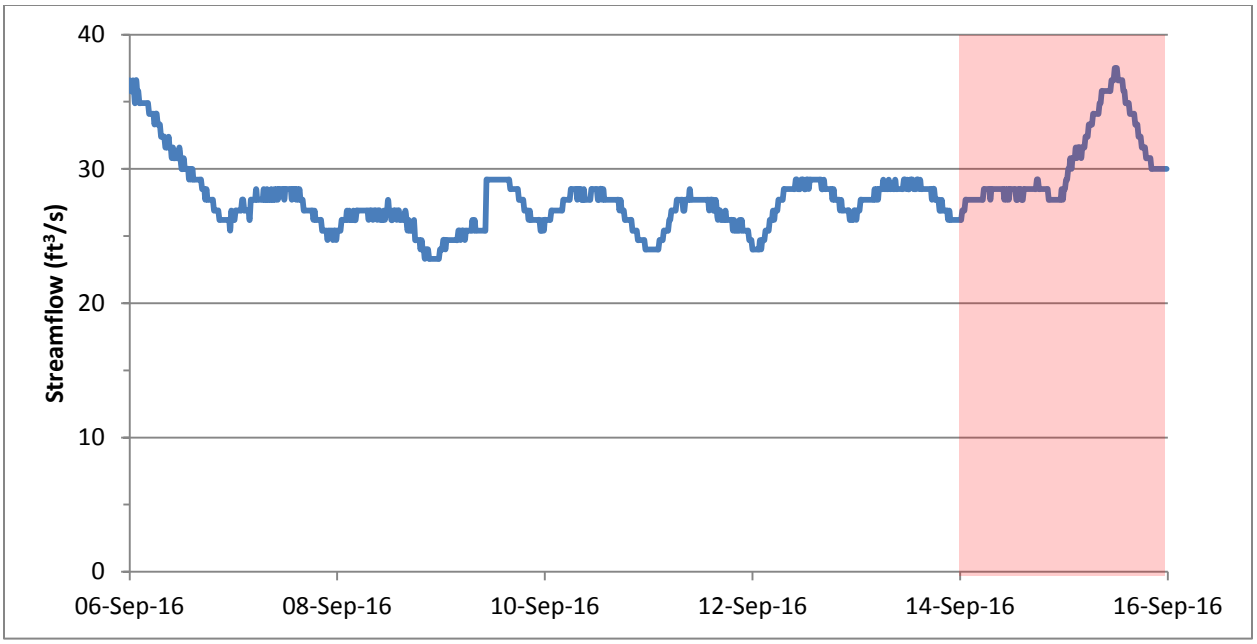

Figure 1-8. Streamflow in Silver Bow Creek at Opportunity (USGS 12323600) prior to and during (red region) the third quarter sample period [Source: USGS, 2017].

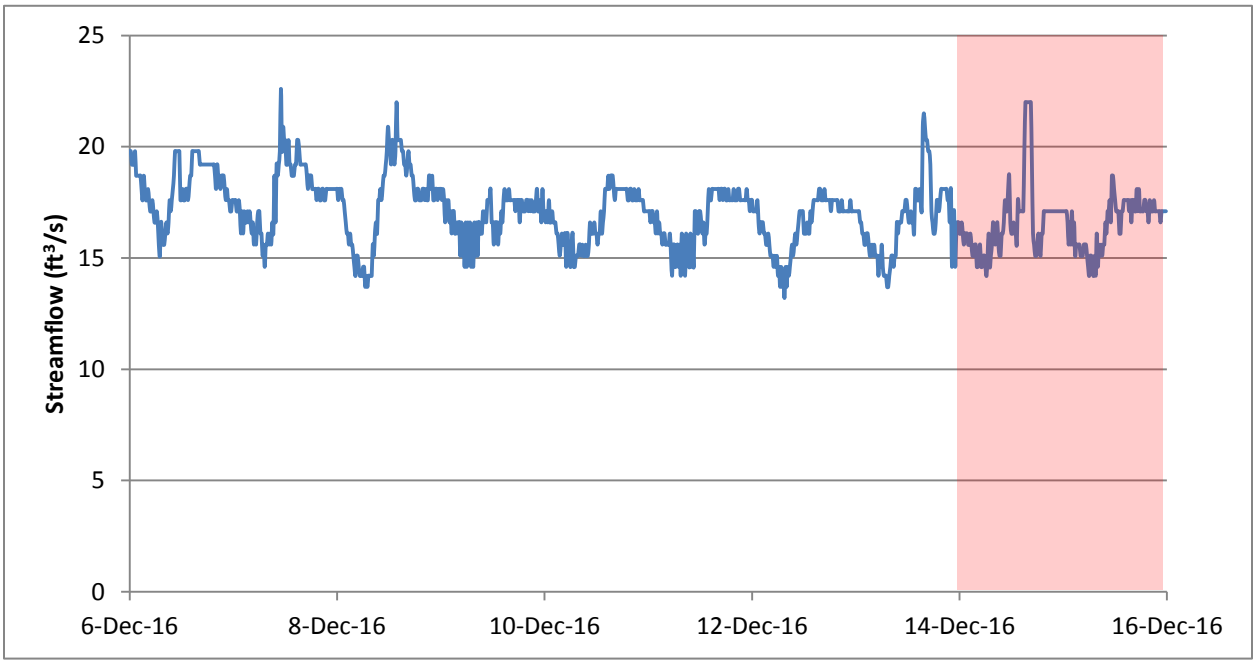

Figure 1-9. Streamflow in Silver Bow Creek at Butte (USGS 12323250) prior to and during (red region) the fourth quarter sample period [Source: USGS, 2017].[11]

[11] Streamflows in Silver Bow Creek at Opportunity (USGS 12323600) on these dates were not available due to channel ice.

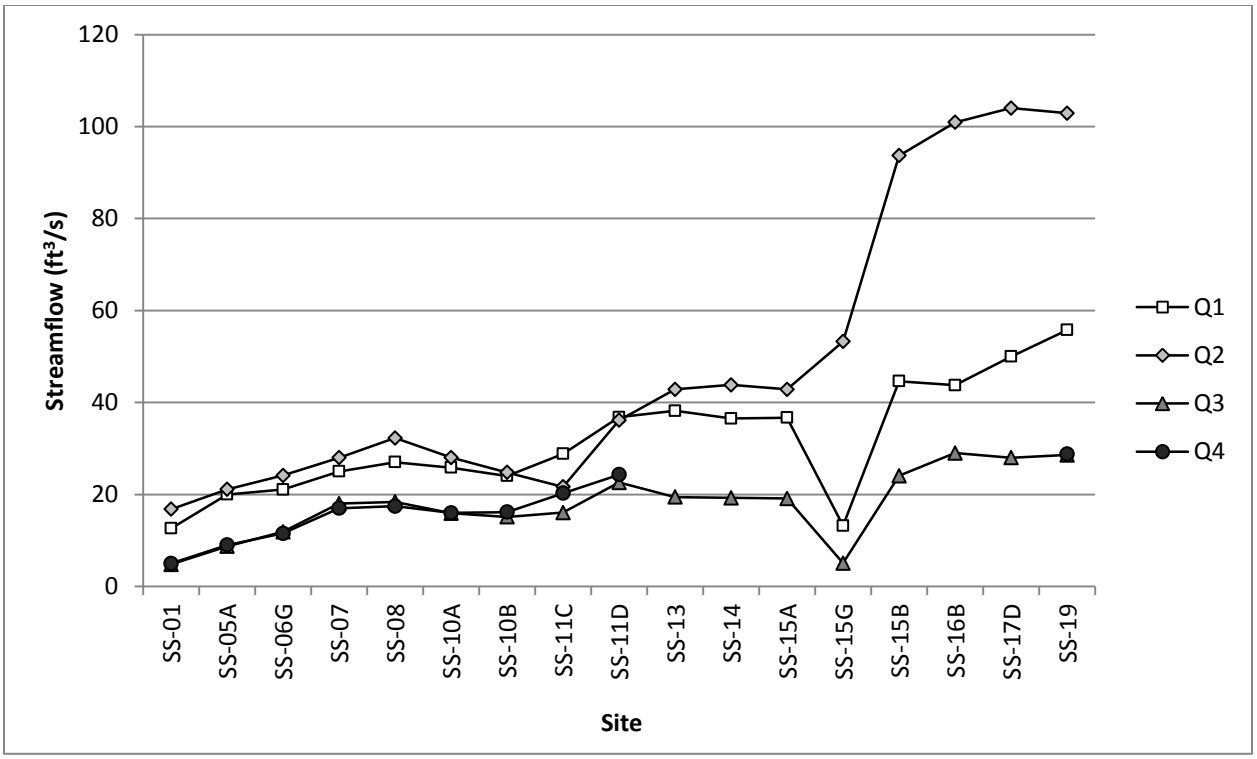

Figure 1-10. Streamflows at Streamside Tailings Operable Unit sample sites at time of sampling, 2016.[12]

[12] Streamflows in Q4 at SS-13, SS-14, SS-15A, SS-15G, SS-15B, SS-16B, and SS-17D were not measured due to channel ice.

1.4.2 Field Parameters

1.4.2.1 Water Temperature

Water temperatures in the SSTOU in 2016 were as expected for each quarterly monitoring event. Quarterly temperature ranges were: 0-5.6 C (Q1), 8.3-16.7 C (Q2), 6.5-15.1 C (Q3), and 0-4.5 C (Q4) [Figure 1-11].

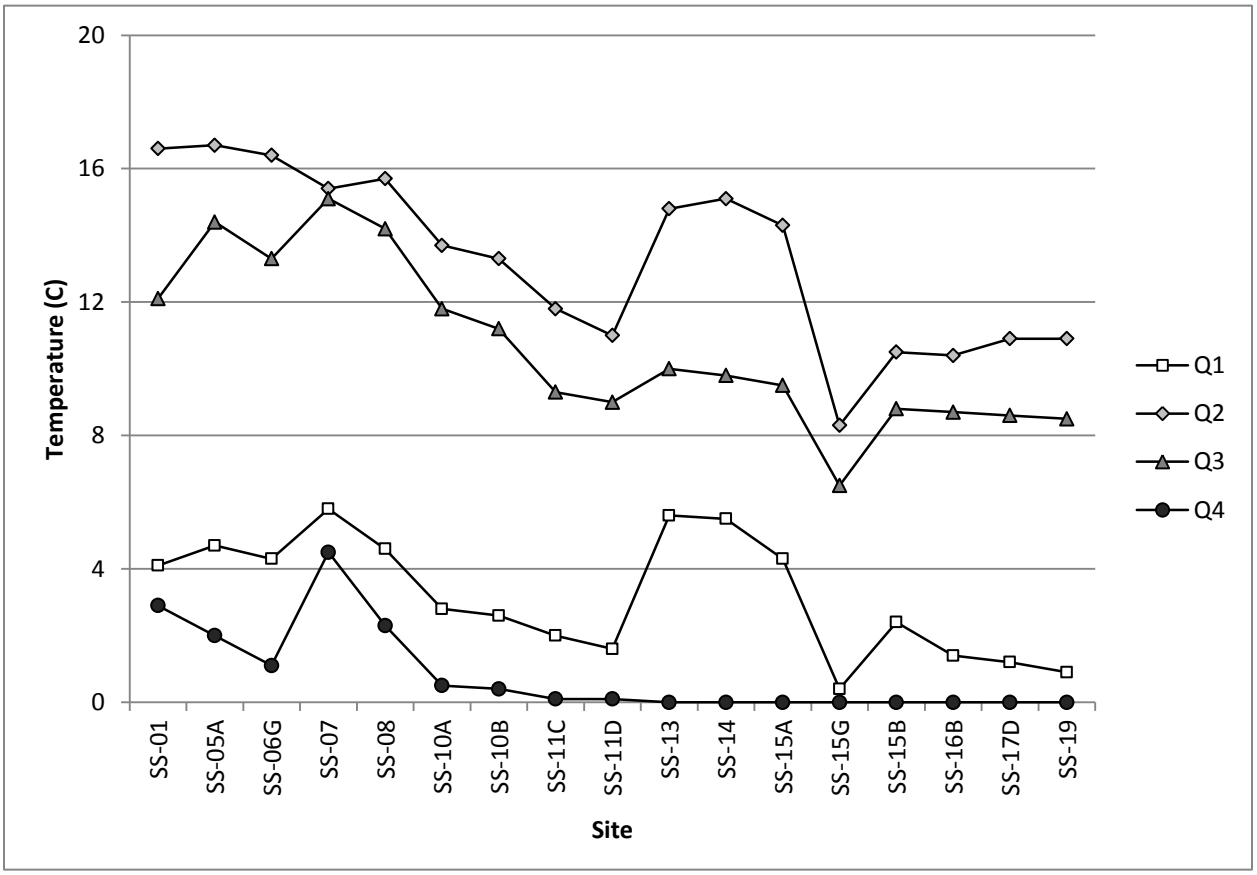

Figure 1-11. Water temperatures at Streamside Tailings Operable Unit sample sites, 2016.

1.4.2.2 Acidity

All pH measurements in the SSTOU in 2016 were within the range designated for beneficial uses of I-class streams (6.5-9.5). Quarterly pH ranges were: 7.5-8.6 (Q1), 7.8-9.1 (Q2), 7.8-8.8 (Q3), and 7.6-8.4 (Q4) [Figure 1-12].

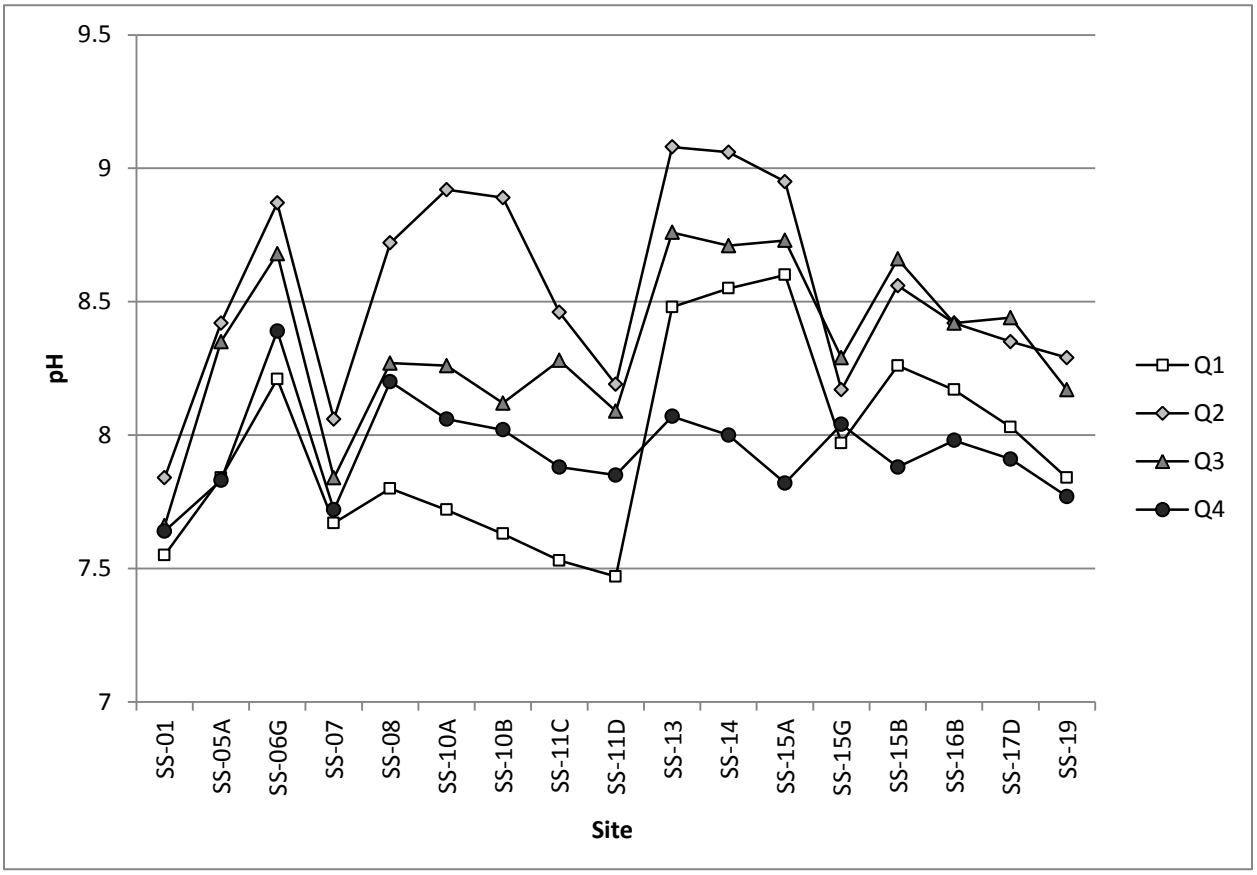

Figure 1-12. Surface water pH at Streamside Tailings Operable Unit sample sites, 2016.

1.4.2.3 Conductivity

Conductivity in the SSTOU in 2016 varied strongly by sample period and demonstrated consistent longitudinal patterns. At most sites, conductivity was highest in Q4 and lowest in Q2 [Figure 1-13]. During all quarters, conductivity in Blacktail Creek and Silver Bow Creek increased rapidly between Father Sheehan Park (SS-01) and the Butte WWTP (SS-07), increased modestly between SS-07 and the above German Gulch site (SS-15A), decreased below German Gulch (SS-15B), and remained approximately even downstream to Frontage Road (SS-19) [Figure 1-13]. The German Gulch input, which had low (≤216 µS/cm) conductivity during all quarters, reduced conductivity in the mainstem during all quarters but especially during Q2 [Figure 1-13]. Quarterly conductivity ranges were: 210-536 µS/cm (Q1), 130-345 µS/cm (Q2), 246-487 µS/cm (Q3), and 141-679 µS/cm (Q4) [Figure 1-13].

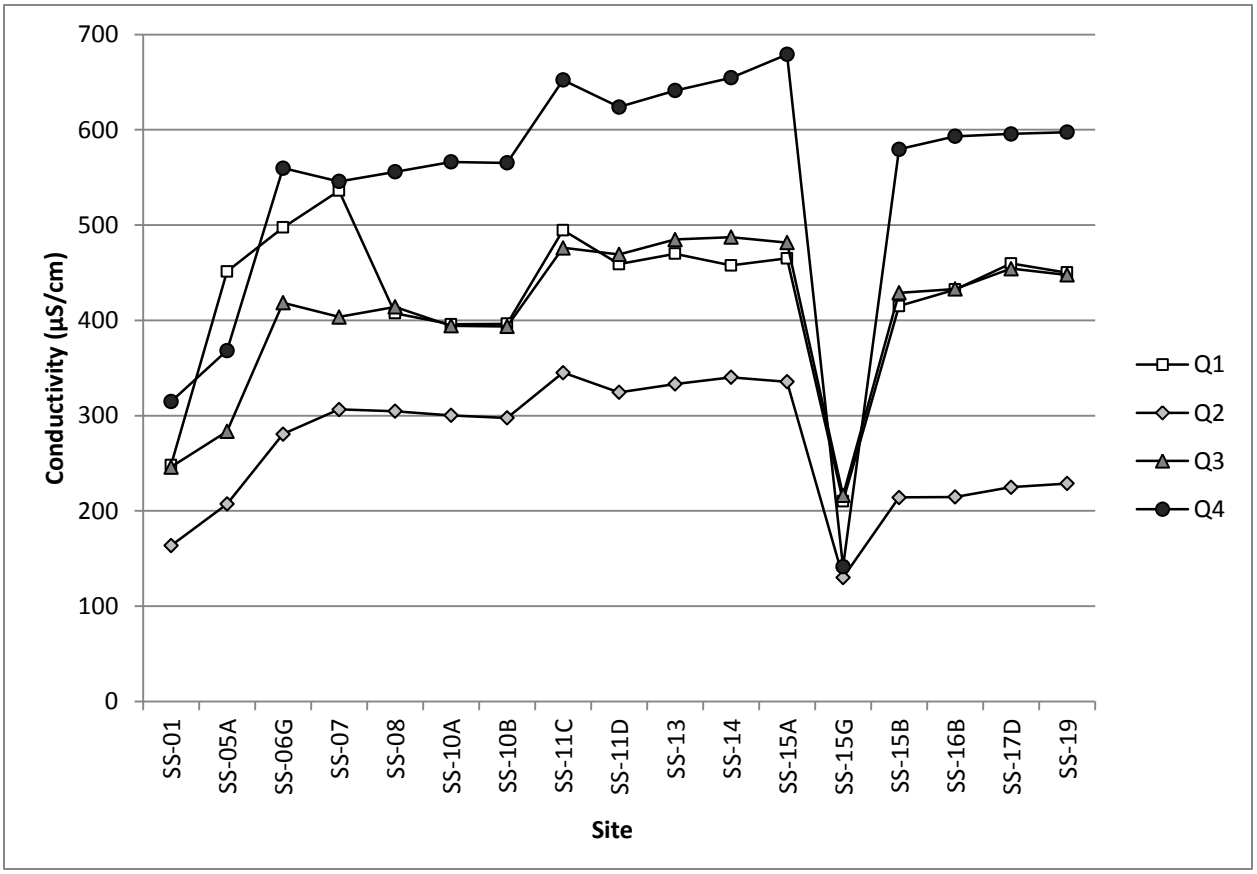

Figure 1-13. Conductivity at Streamside Tailings Operable Unit sample sites, 2016.

1.4.2.4 Dissolved Oxygen

All measured dissolved oxygen concentrations in the SSTOU in 2016 were above the applicable standards (i.e., 1-day minimum = 3 mg/L) [MDEQ and USEPA, 1995; MDEQ, 2012a]. The minimum dissolved oxygen concentration measured in 2016 was 8.5 mg/L [Figure 1-14].

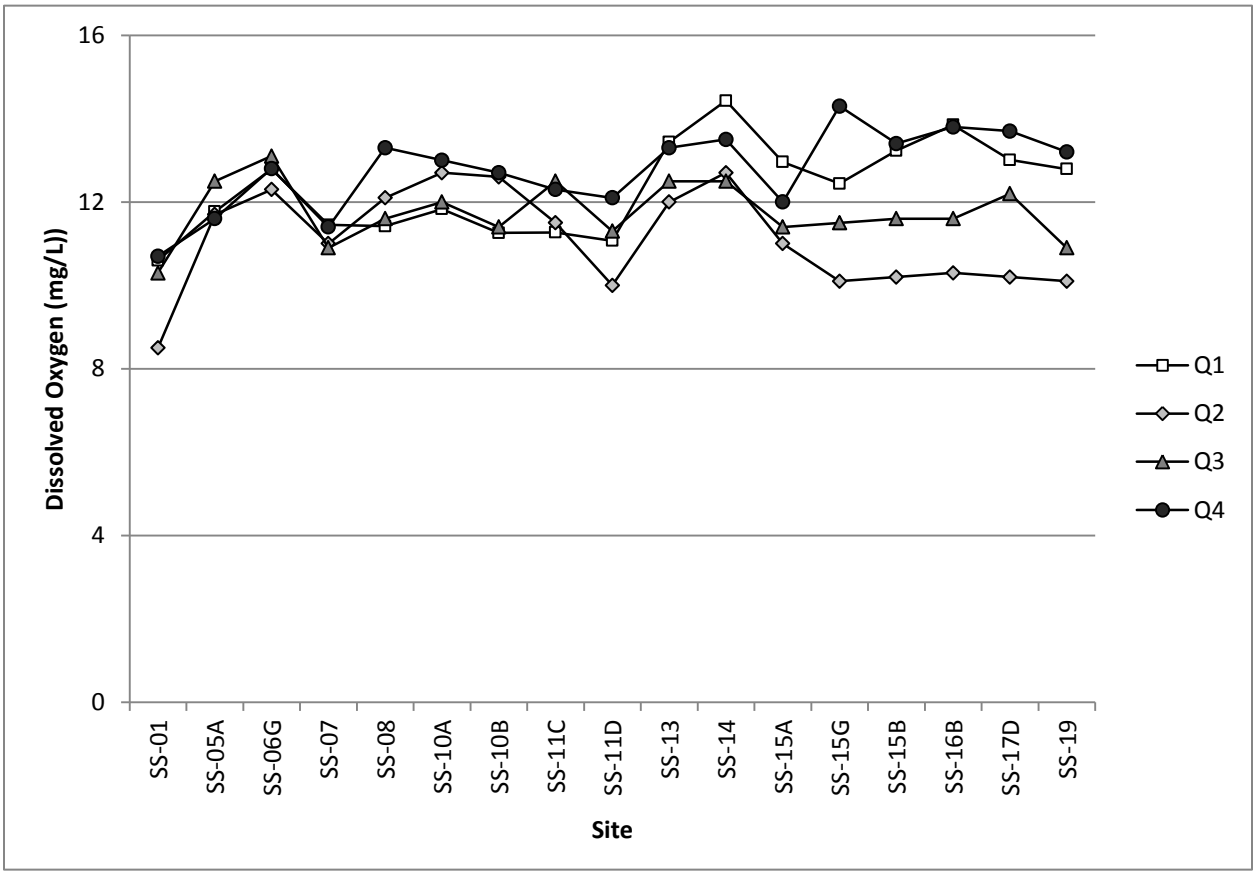

Figure 1-14. Dissolved oxygen concentrations at Streamside Tailings Operable Unit sample sites, 2016.

1.4.2.5 Turbidity

Turbidity was moderate to low (<10 NTU; Nephelometric Turbidity Units) except at sites upstream from Rocker (SS-08) in Q1 and at sites upstream from above German Gulch (SS-15A) in Q4 [Figure 1-15]. Although turbidity was elevated in Subarea 1 and Subarea 2, turbidity decreased sharply between Subarea 2 (SS-14) and Subarea 3 (SS-15A) sites [Figure 1-15]. Among all samples collected in the SSTOU from 2011-2016, turbidity was moderately correlated (r^2 from ordinary least squares regression = 0.5926) with total suspended sediment concentrations [Figure 1-16].

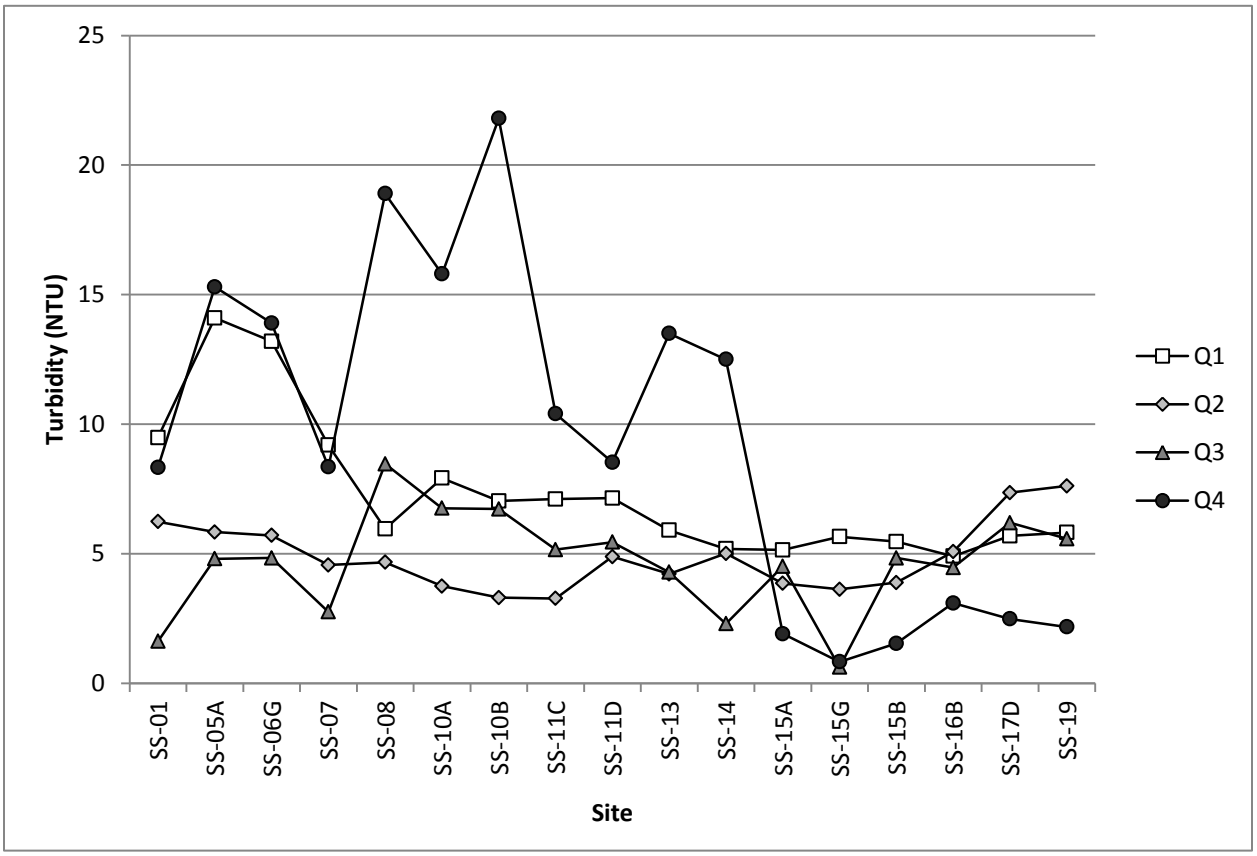

Figure 1-15. Turbidity at Streamside Tailings Operable Unit sample sites, 2016.

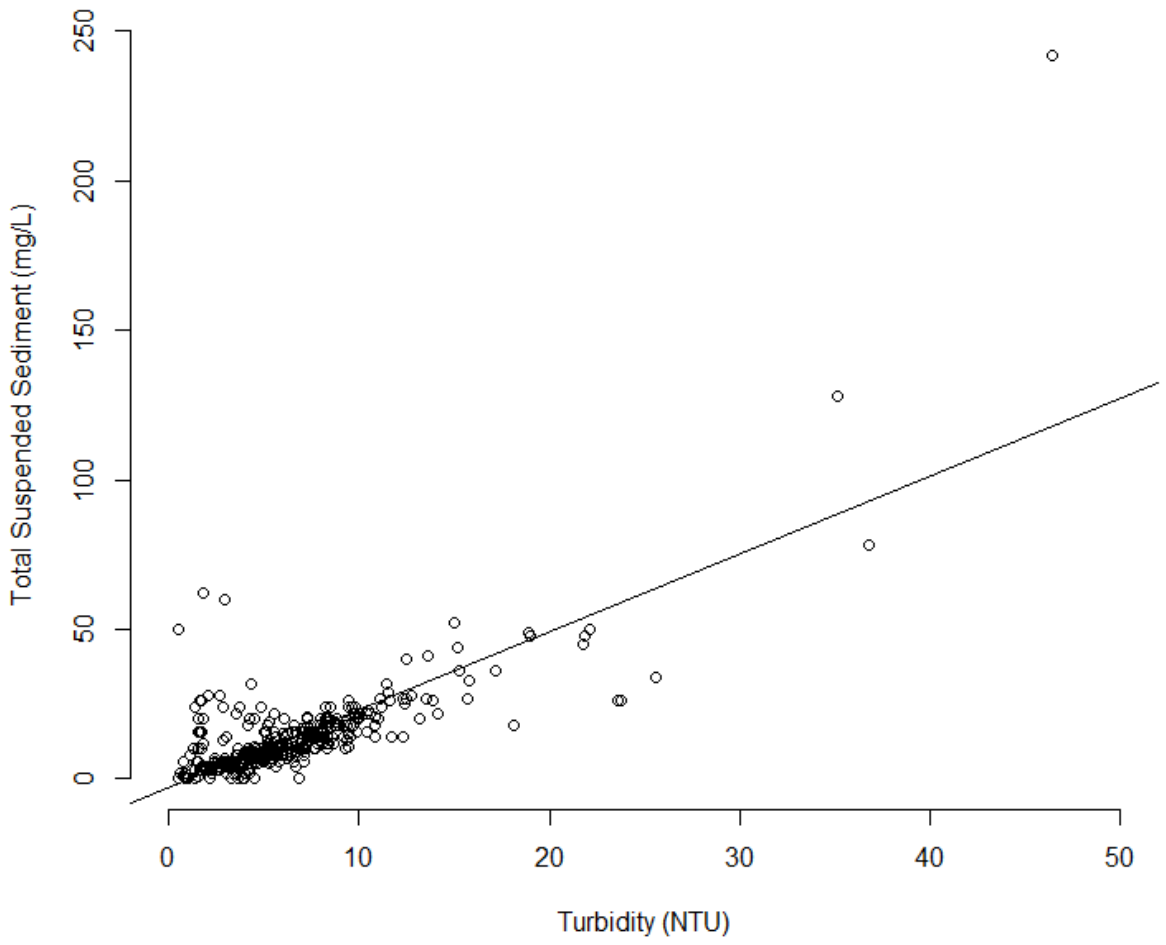

Figure 1-16. Relationship between turbidity and total suspended sediment concentrations in the Streamside Tailings Operable Unit, 2011-2016. Black line represents ordinary least squares regression.

1.4.3 Total Suspended Sediment

Seasonal and spatial patterns for total suspended sediment concentrations were highly similar to turbidity [Figure 1-15; Figure 1-17]. As with turbidity, elevated Q4 2016 total suspended sediment concentrations in Subarea 1 and Subarea 2, followed by a sharp decrease in concentrations in Subarea 3, have been observed during multiple recent Q4 sample periods.

Streamflows were not closely related to total suspended sediment concentrations (r^2 from ordinary least squares regression = 0.2404) among all samples collected in the SSTOU between 2011-2016. Although not closely related, the correlation of streamflow and total suspended sediment concentration was statistically significant (p-value from ordinary least squares regression = 0.0036).

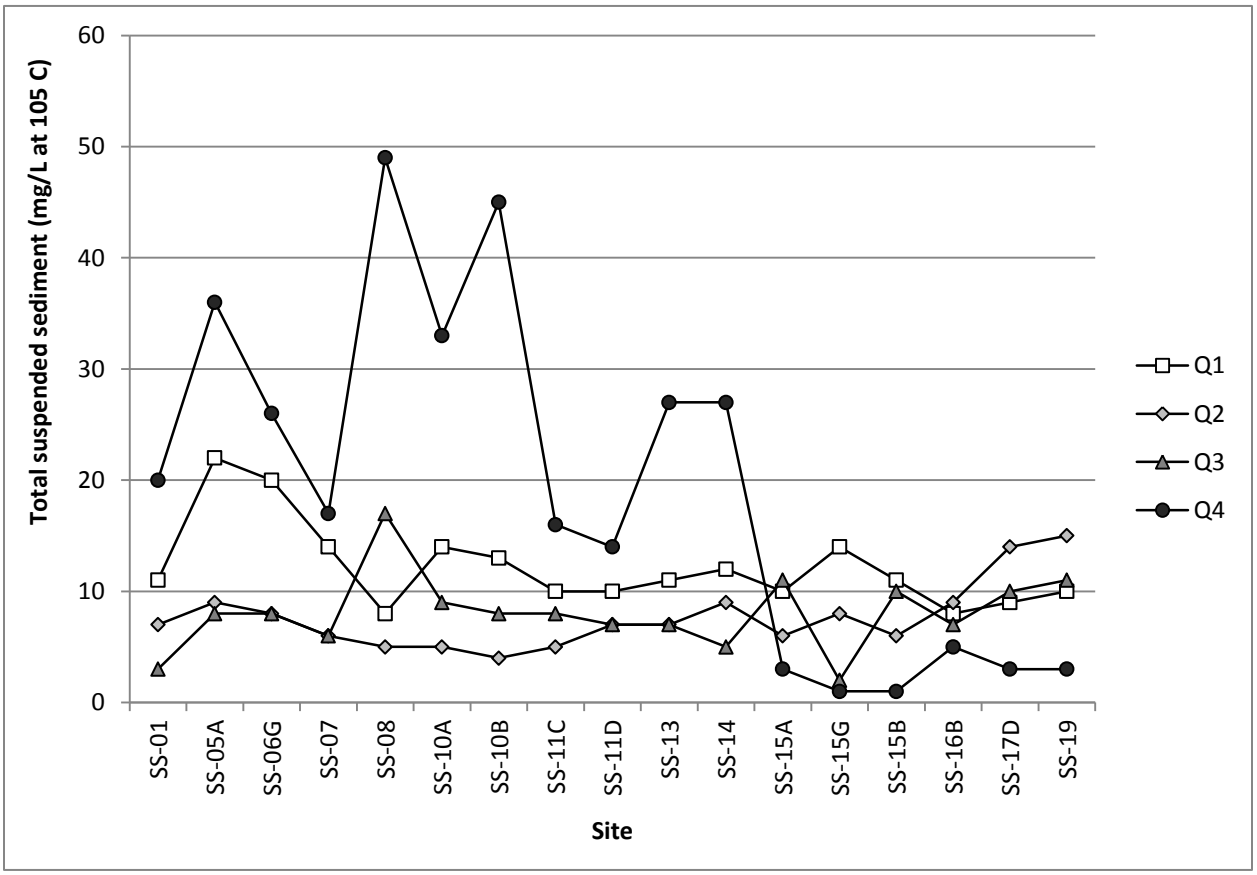

Figure 1-17. Total suspended sediment concentrations at Streamside Tailings Operable Unit sample site, 2016.

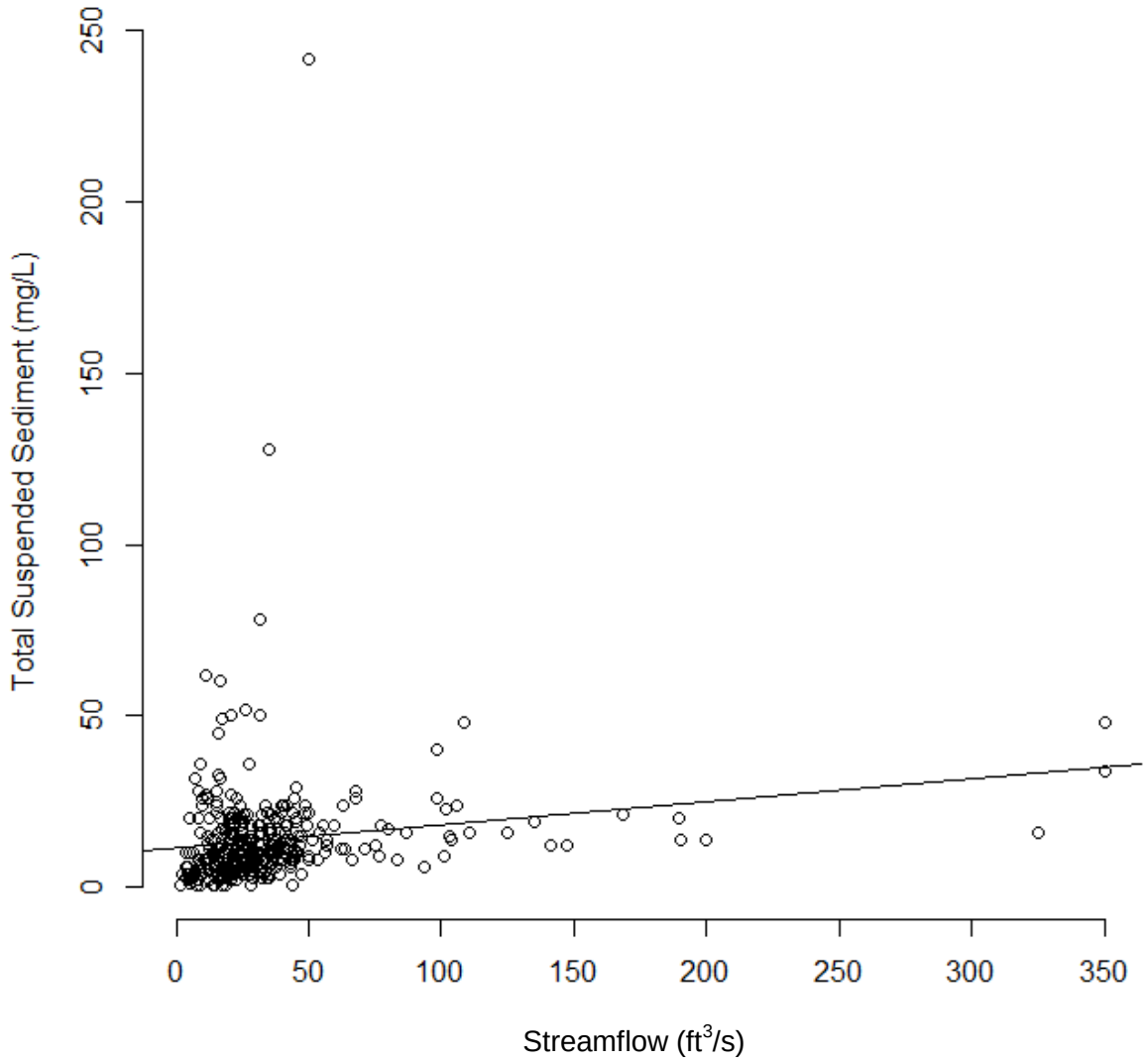

Figure 1-18. Relationship between streamflows and total suspended sediment concentrations in the Streamside Tailings Operable Unit, 2011-2016. Black line represents ordinary least squares regression.

1.4.4 Volatile Suspended Sediment

Volatile suspended sediment concentrations demonstrated relatively low variability in Q1, Q2, and Q3, and ranged from 2-5 mg/L [Figure 1-19]. In Q4, volatile suspended sediment concentrations [Figure 1-19] were variable and demonstrated a similar spatial pattern to turbidity [Figure 1-15] and total suspended sediment concentrations [Figure 1-17]. Volatile and total suspended sediment concentrations were highly correlated (r^2 from simple linear regression = 0.8565).

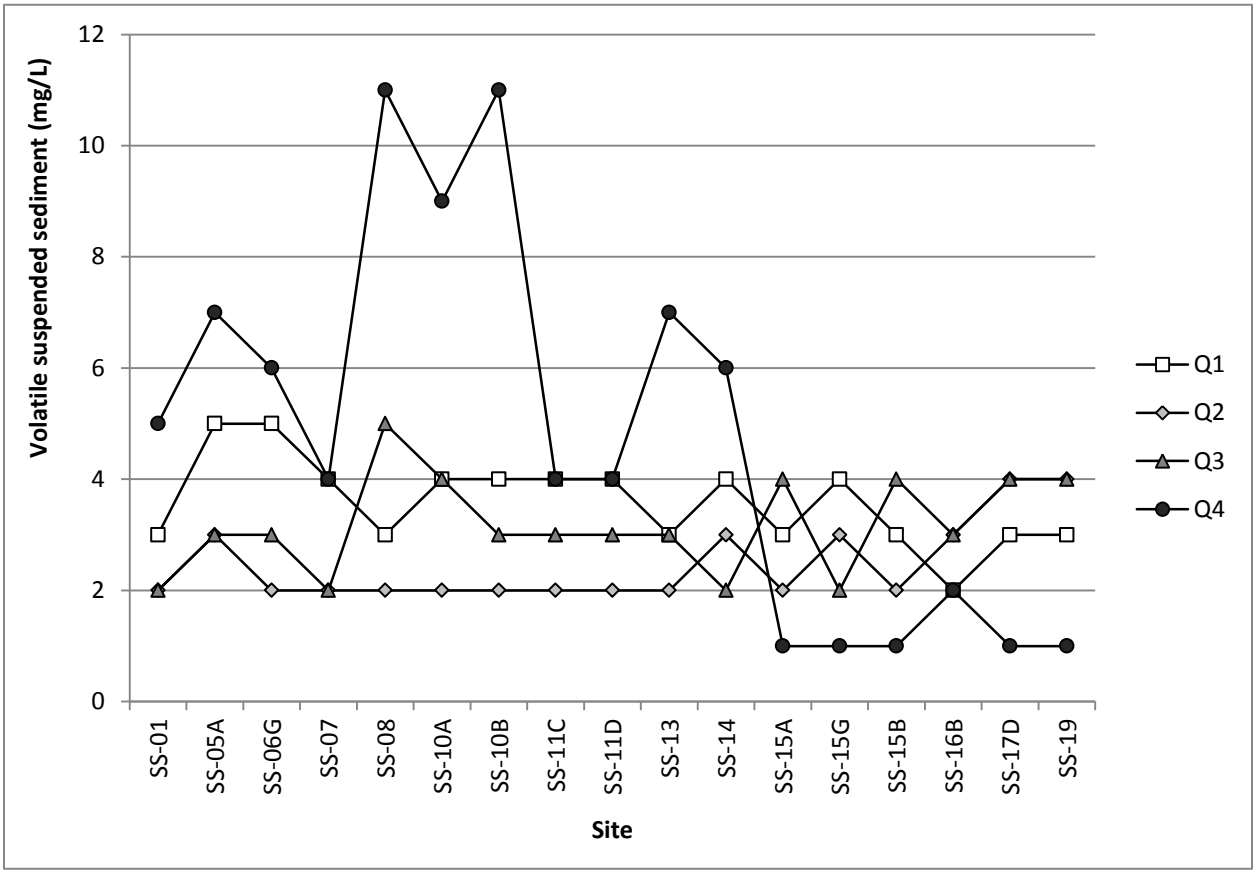

Figure 1-19. Volatile suspended sediment concentrations at Streamside Tailings Operable Unit sample sites at time of sampling, 2016.

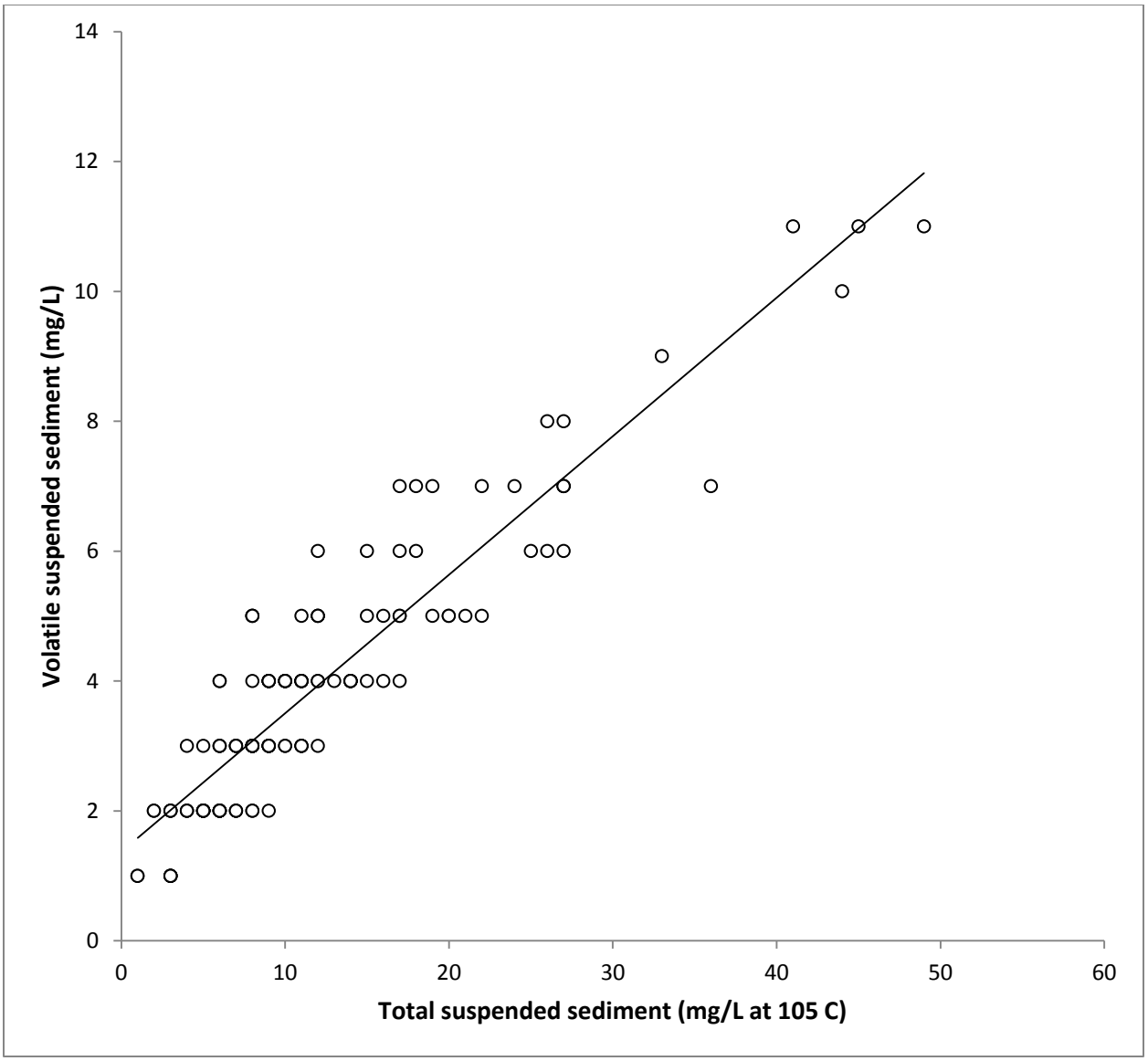

Figure 1-20. Relationship between total suspended sediment concentrations and volatile suspended sediment concentrations in the Streamside Tailings Operable Unit, 2015-2016. Black line represents ordinary least squares regression.

1.4.5 Common Ions

Common ion concentrations were somewhat variable among sites but generally demonstrated consistent seasonal patterns. All common ions concentrations were generally lowest at all sites in Q2 during the runoff period and highest in Q4 [Figure 1-21; Figure 1-22; Figure 1-23; Figure 1-24; Figure 1-25; Figure 1-26; Figure 1-27; Figure 1-28]. Most ion concentrations were lowest in Blacktail Creek at Father Sheehan Park (SS-01) or German Gulch (SS-15G) and highest at or near Silver Bow Creek above German Gulch (SS-15A). However, chloride and magnesium concentrations were highest, by a substantial margin, at sites between Blacktail Creek at Father Sheehan Park (SS-01 and Silver Bow Creek at Rocker (SS-08) in Q1 [Figure 1-25; Figure 1-27].

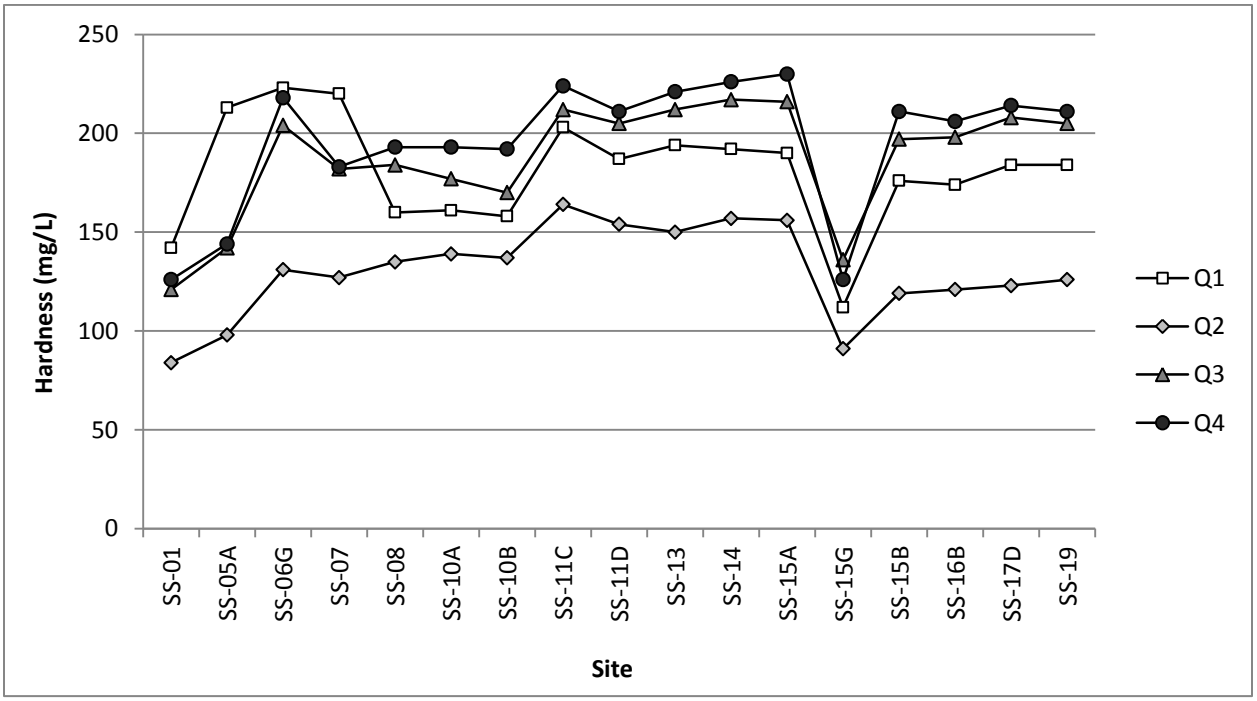

Figure 1-21. Water hardness at Streamside Tailings Operable Unit sample sites, 2016.

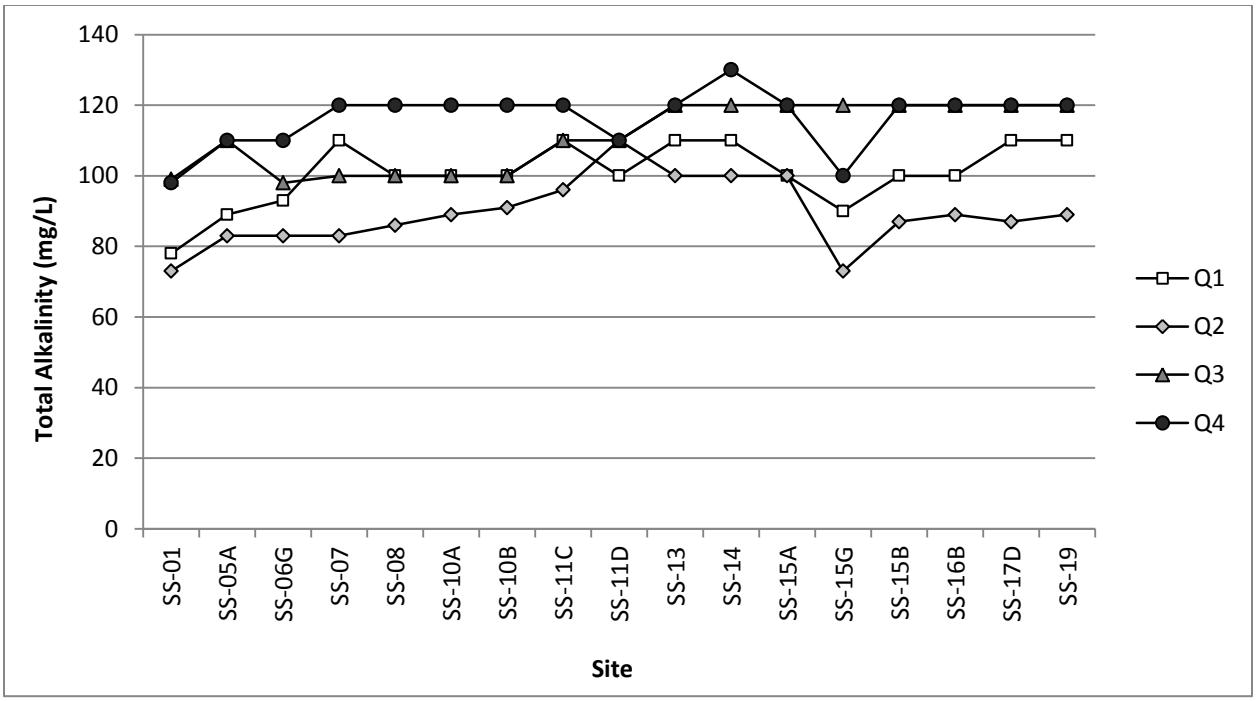

Figure 1-22. Total alkalinity at Streamside Tailings Operable Unit sample sites, 2016.

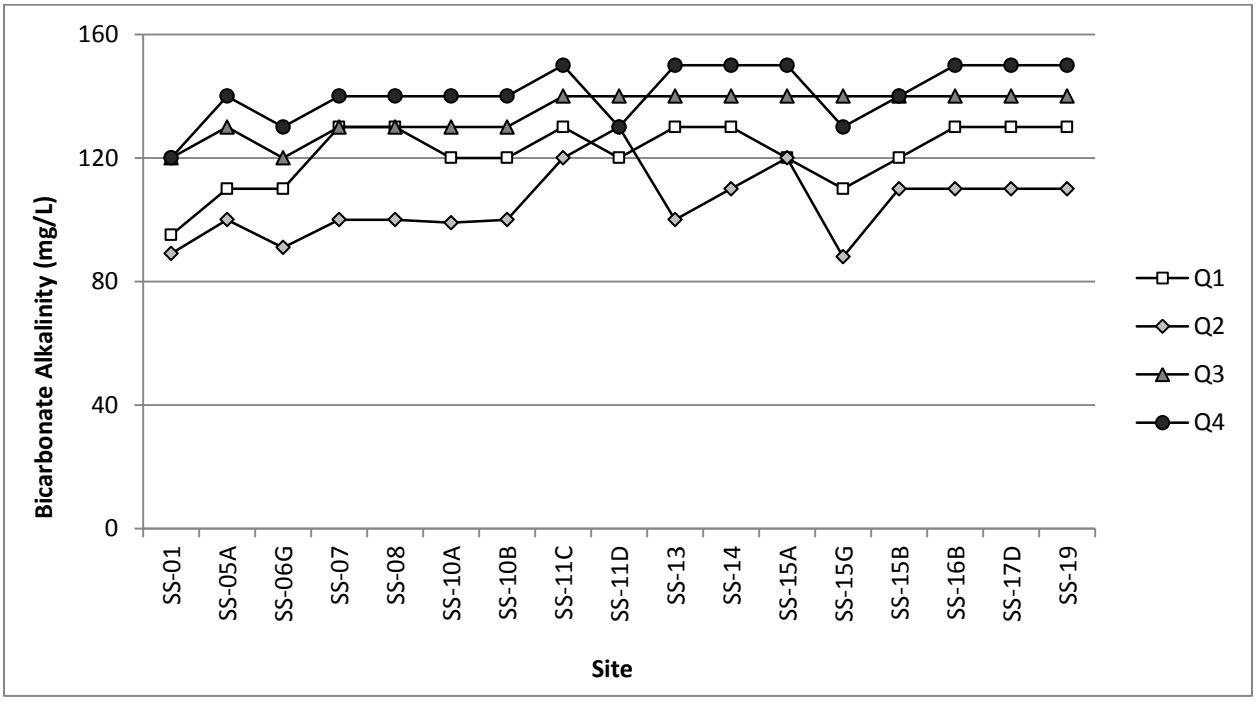

Figure 1-23. Bicarbonate alkalinity at Streamside Tailings Operable Unit sample sites, 2016.

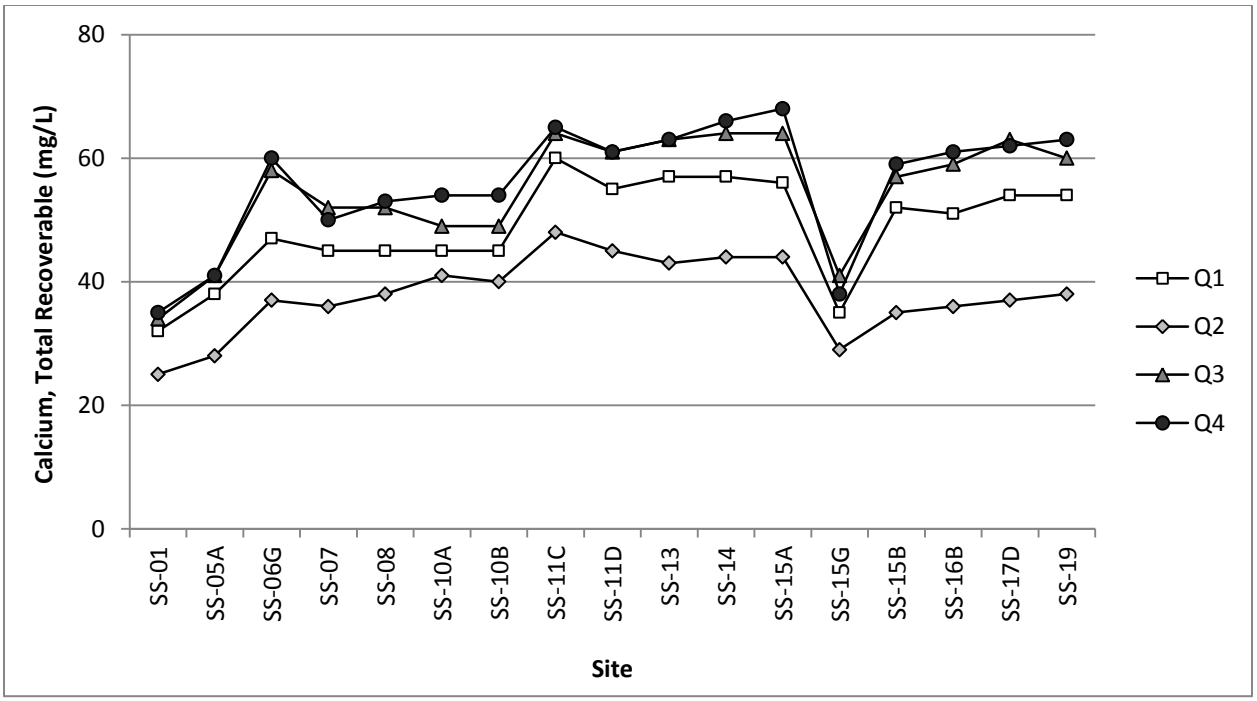

Figure 1-24. Calcium concentrations at Streamside Tailings Operable Unit sample sites, 2016.

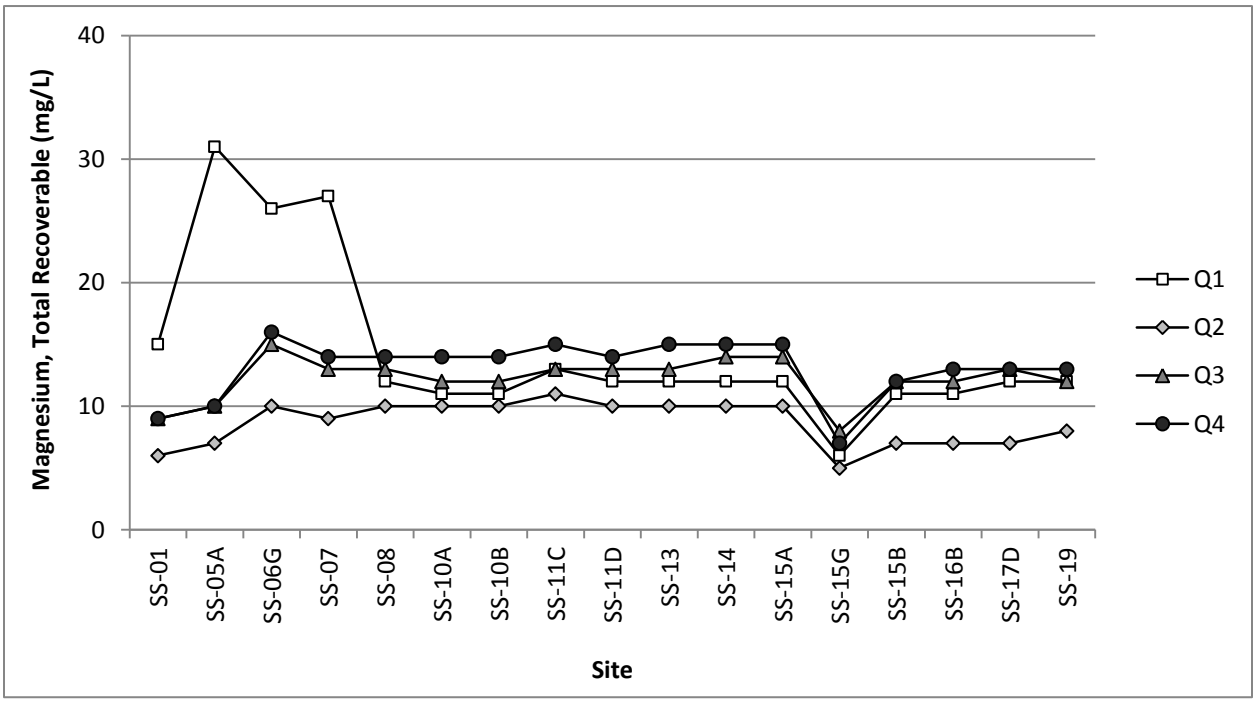

Figure 1-25. Magnesium concentrations at Streamside Tailings Operable Unit sample sites, 2016.

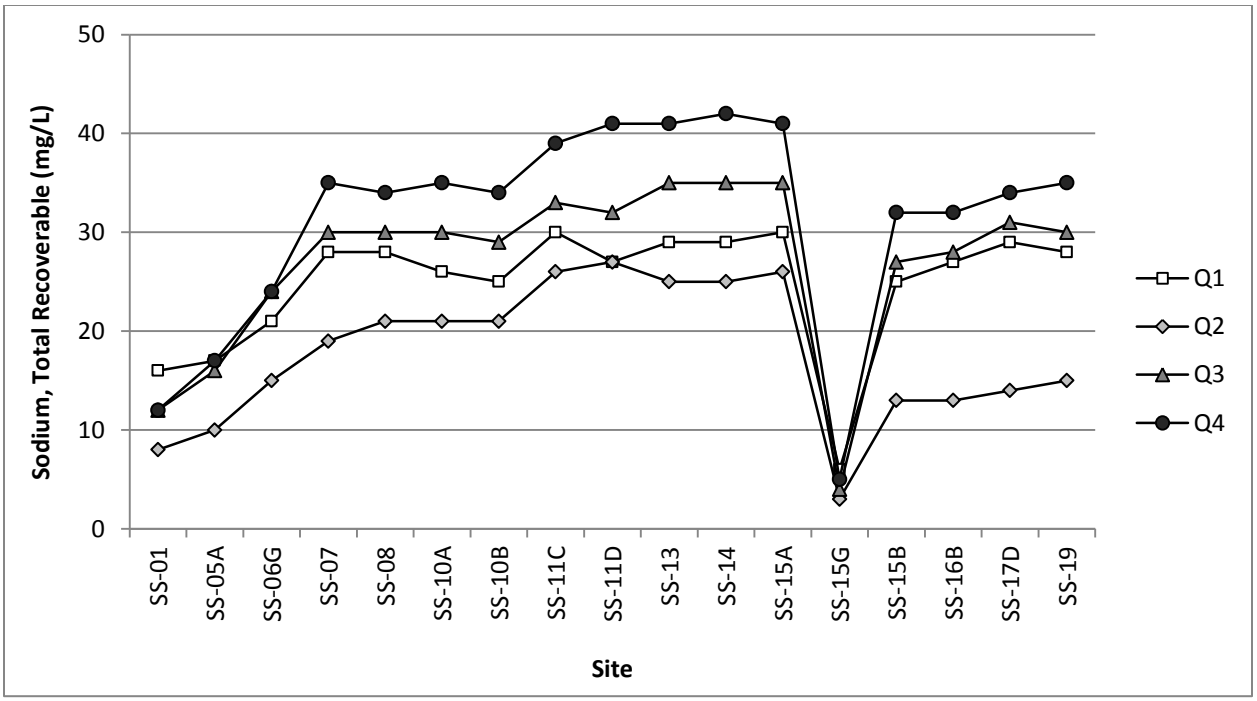

Figure 1-26. Sodium concentrations at Streamside Tailings Operable Unit sample sites, 2016.

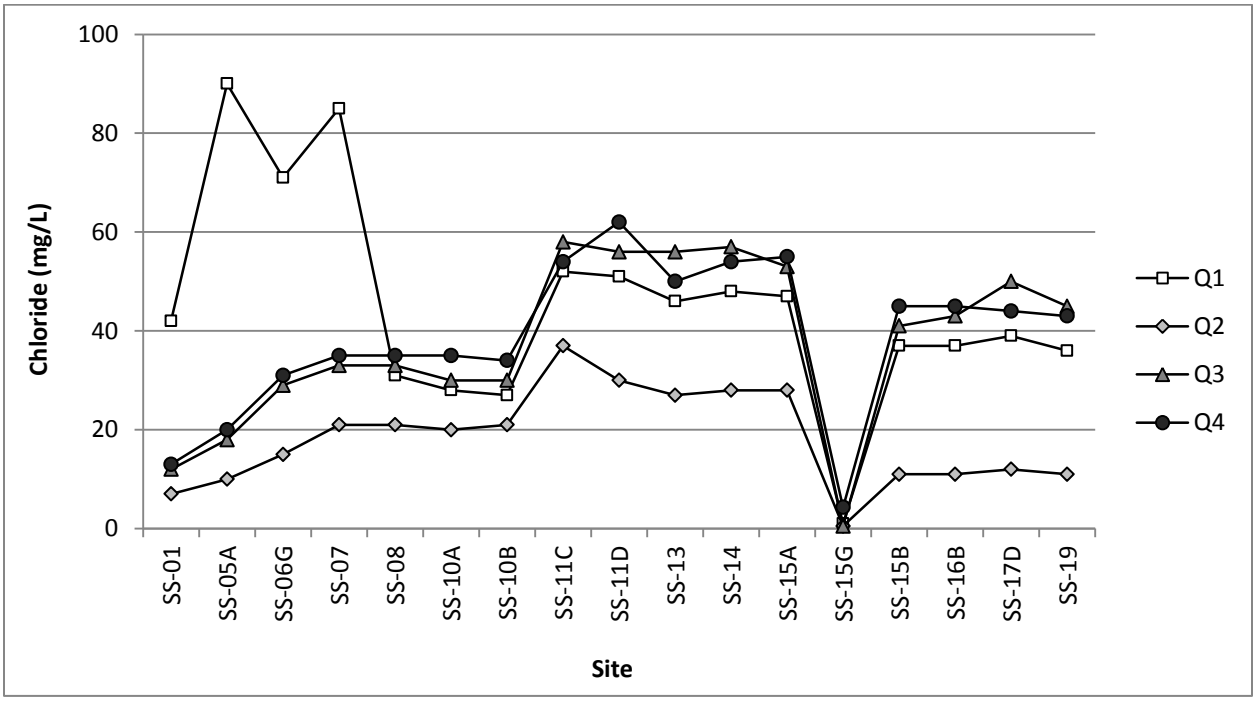

Figure 1-27. Chloride concentrations at Streamside Tailings Operable Unit sample sites, 2016.

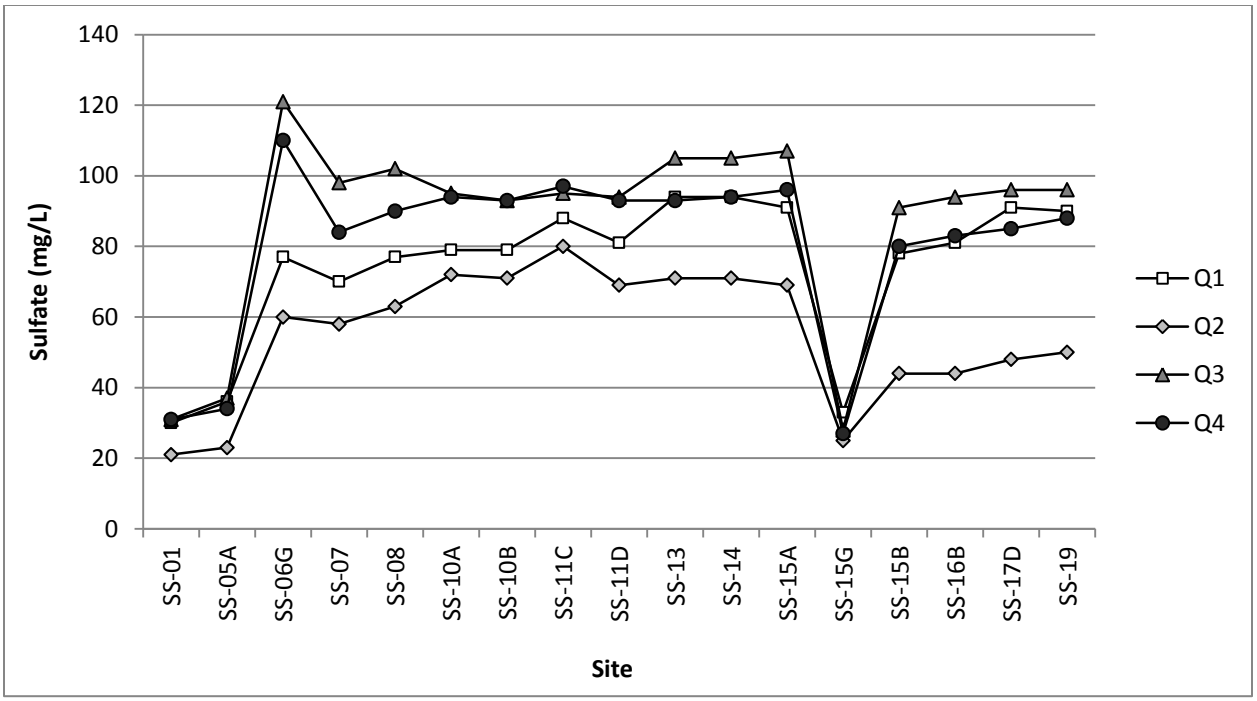

Figure 1-28. Sulfate concentrations at Streamside Tailings Operable Unit sample sites, 2016.

1.4.6 Nutrients

1.4.6.1 Dissolved Organic Carbon

Dissolved organic carbon concentrations in the SSTOU in 2016 ranged from 1.3-6.3 mg/L [Table 1-7]. At most mainstem sample sites, concentrations were highest in Q2 and lowest in Q4 [Figure 1-29]. Dissolved organic carbon concentrations increased sharply below the Butte WWTP in all quarters and at Browns Gulch in Q1 and Q2 [Figure 1-29]. Dissolved organic carbon concentrations were generally variable among sites [Figure 1-29].

Table 1-7. Dissolved organic carbon concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	3.9	5.3	1.7	1.3
SS-05A	Silver Bow Creek above Butte Reduction Works	4.0	4.7	2.1	1.4
SS-06G	Silver Bow Creek above Butte WWTP	3.3	4.2	2.0	1.4
SS-07	Silver Bow Creek below Butte WWTP	4.3	4.6	3.1	3.2
SS-08	Silver Bow Creek at Rocker	3.6	4.4	3.4	3.1
SS-10A	Silver Bow Creek above Sand Creek	3.5	4.1	4.2	2.7
SS-10B	Silver Bow Creek below Sand Creek	3.7	4.1	4.6	2.7
SS-11C	Silver Bow Creek above Browns Gulch	5.5	4.3	3.6	2.9
SS-11D	Silver Bow Creek below Browns Gulch	6.3	5.6	3.4	2.7
SS-13	Silver Bow Creek in Reach L	3.9	5.7	2.9	2.6
SS-14	Silver Bow Creek at Miles Crossing	3.9	5.7	2.9	2.7
SS-15A	Silver Bow Creek above German Gulch	4.0	5.7	2.9	2.5
SS-15G	German Gulch near confluence	2.1	4.6	1.5	1.3
SS-15B	Silver Bow Creek below German Gulch	3.5	4.9	2.4	2.3
SS-16B	Silver Bow Creek in Reach P near Fairmont	3.9	5.0	2.3	2.2
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	3.5	5.2	2.5	2.5
SS-19	Silver Bow Creek at Frontage Road	3.4	5.1	2.7	2.6

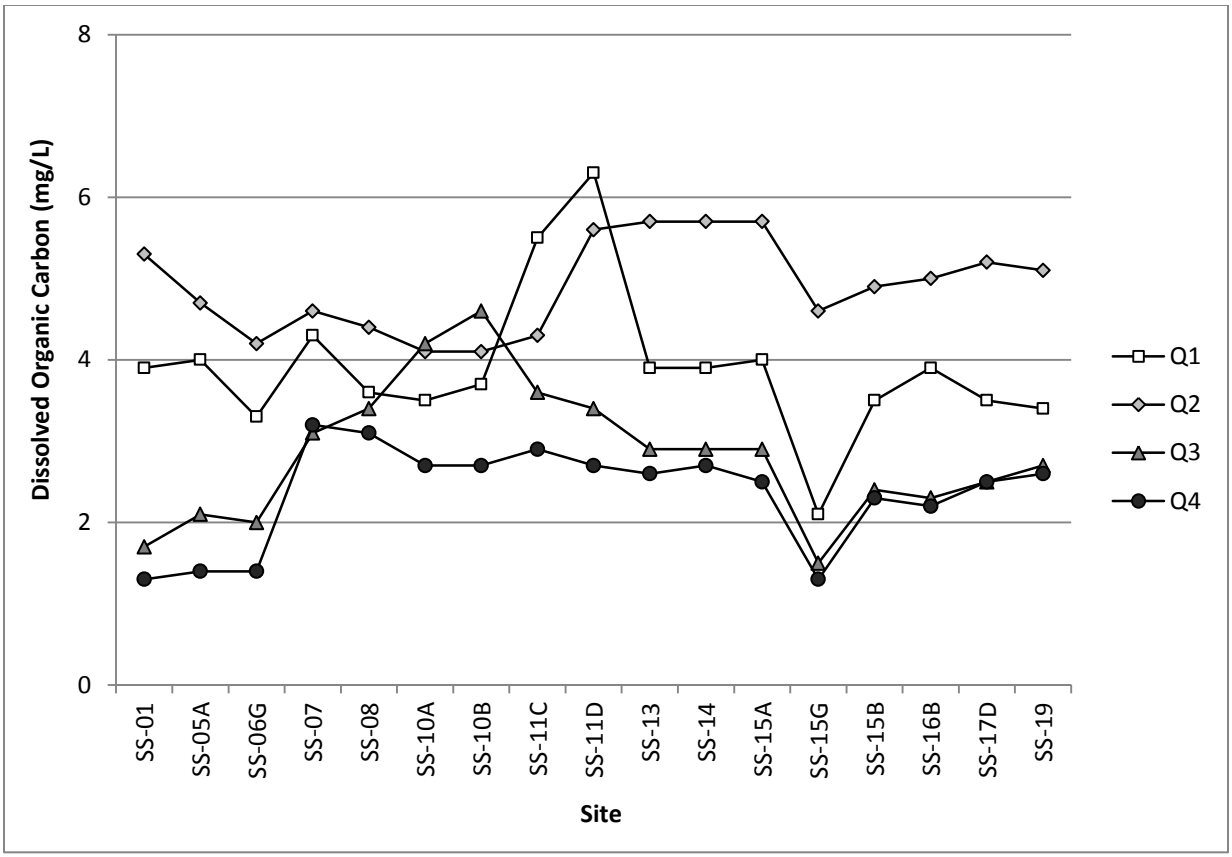

Figure 1-29. Dissolved organic carbon concentrations in the Streamside Tailings Operable Unit (SSTOU) monitoring stations, 2016.

1.4.6.2 Total Nitrogen

Total nitrogen concentrations were very high in the SSTOU in 2016 at all sites except German Gulch (SS-15G) [Figure 1-30]. Concentrations in Q2 were the lowest of the year at all sites, often by half or more [Figure 1-30]. In Q3, all sites except SS-15G exceeded the total nitrogen standard [Table 1-8] and Silver Bow Creek sites below the WWTP had concentrations exceeding the standard by nearly an order of magnitude [Figure 1-30].

It appears that upgrades to the WWTP, which occurred in 2016, resulted in decreased total nitrogen concentrations downstream from the WWTP. In Q1 2016, prior to completion of the upgrades, total nitrogen concentrations increased from above (SS-06G) to below (SS-07) the WWTP by more than three times whereas in other quarters of 2016, after the upgrade, the increase was less substantial [Figure 1-30]. During all quarters of 2016, total nitrogen rapidly decreased downstream from SS-07 [Figure 1-30].

Based on longer term data, the increase in total nitrogen at the WWTP between SS-06G and SS-07 observed in Q2, Q3, and Q4 of 2016 was substantially lower compared to prior monitoring periods. Typically, between 2010-2015, total nitrogen concentrations above the WWTP (SS-06G) were in the 1-2 mg/L range and increased to the 4-8 mg/L range (and up to 33 mg/L) below the WWTP (SS-07), indicating a typical increase of 400% (and higher) below the WWTP [Figure 1-31]. In Q2, Q3, and Q4 of 2016, the increase in total nitrogen concentrations between SS-06G and SS-07 was much lower compared to prior periods: 113% (Q2), 30% (Q3), and 21% (Q4) [Table 1-8].

Table 1-8. Total nitrogen concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	1.01	0.64	1.32	1.84
SS-05A	Silver Bow Creek above Butte Reduction Works	1.30	0.78	1.44	1.95
SS-06G	Silver Bow Creek above Butte WWTP	1.53	0.90	1.65	2.30
SS-07	Silver Bow Creek below Butte WWTP	4.90	1.92	2.14	2.79
SS-08	Silver Bow Creek at Rocker	2.57	1.21	1.48	2.31
SS-10A	Silver Bow Creek above Sand Creek	1.83	0.84	1.30	2.29
SS-10B	Silver Bow Creek below Sand Creek	1.88	0.80	1.33	2.42
SS-11C	Silver Bow Creek above Browns Gulch	2.31	0.70	1.29	2.40
SS-11D	Silver Bow Creek below Browns Gulch	2.51	0.72	1.23	2.26
SS-13	Silver Bow Creek in Reach L	1.82	0.66	0.96	2.13
SS-14	Silver Bow Creek at Miles Crossing	1.83	0.62	1.04	2.20
SS-15A	Silver Bow Creek above German Gulch	2.41	0.55	1.29	1.99
SS-15G	German Gulch near confluence	0.18	0.20	ND	0.17
SS-15B	Silver Bow Creek below German Gulch	2.17	0.36	0.94	1.54
SS-16B	Silver Bow Creek in Reach P near Fairmont	2.56	0.40	0.69	1.46
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	2.61	0.54	0.91	1.87
SS-19	Silver Bow Creek at Frontage Road	1.82	0.59	1.04	1.89

Exceeds the summertime base total nitrogen standard [MDEQ, 2014].

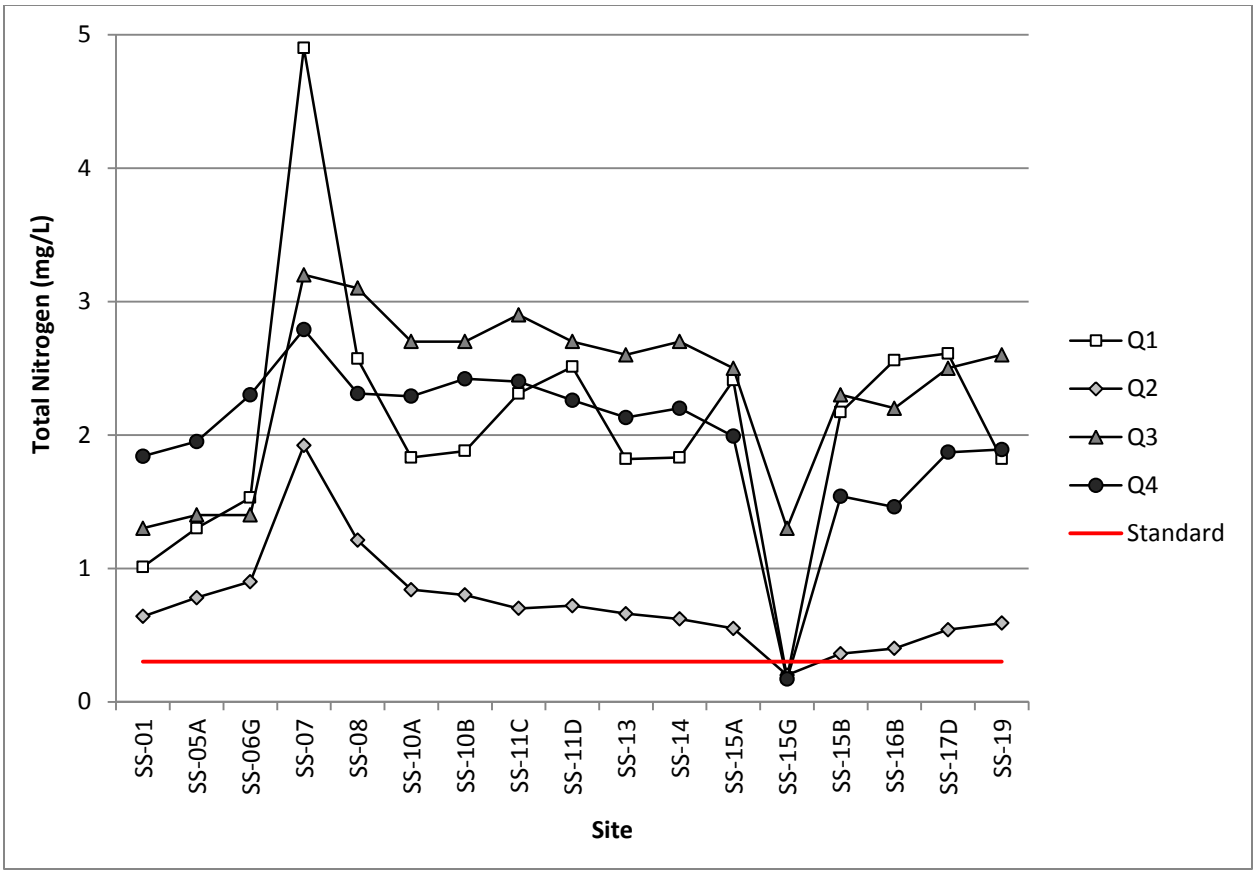

Figure 1-30. Total nitrogen concentrations at Streamside Tailings Operable Unit monitoring stations, 2016. Red line represents the total nitrogen standard [MDEQ, 2014]. Samples with concentrations below the analytical reporting limit (0.05 mg/L) are represented at a concentration of 0.025 mg/L.

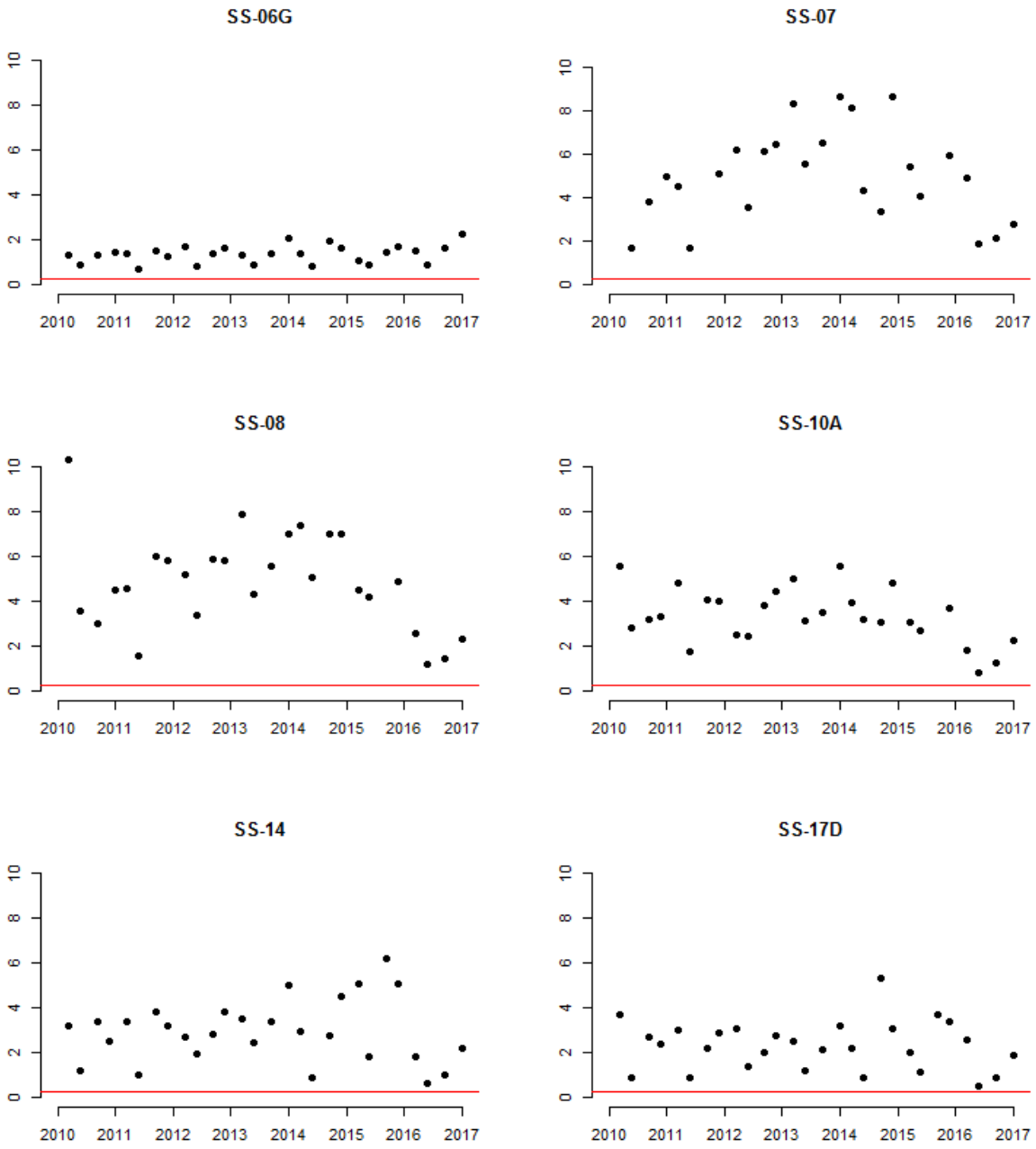

Figure 1-31. Total nitrogen concentrations (mg/L) at Silver Bow Creek sites in the Streamside Tailings Operable Unit: above Butte WWTP (SS-06G), below Butte WWTP (SS-07), at Rocker (SS-08), above Sand Creek (SS-10A), at Miles Crossing (SS-14), and at Opportunity (SS-17D). Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.[13]

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

1.4.6.3 Nitrate plus Nitrite Nitrogen

Nitrate plus nitrite nitrogen concentrations were high (>0.5 mg/L) in 2016 at all sites (except SS-15G) in all non-runoff (Q2) periods [Table 1-9]. During all quarters, concentrations increased steadily from Blacktail Creek at Father Sheehan Park (SS-01) and in Silver Bow Creek below the Butte WWTP (SS-07), and then decreased rapidly downstream at Rocker (SS-08) or above Sand Creek (SS-10A) [Figure 1-32]. The highest concentrations at nearly all sites occurred during Q4 and the lowest occurred during Q2 [Figure 1-32]. Following the WWTP upgrades (in Q2, Q3, and Q4), concentrations in Silver Bow Creek sites downstream from SS-10A were generally similar to, or lower than, concentrations at SS-01. In contrast, in Q1, concentrations in Silver Bow Creek downstream from SS-10A were more than double the concentration at SS-01 [Figure 1-32]. Concentrations in German Gulch were one to two orders of magnitude lower than in any Blacktail Creek or Silver Bow Creek sites [Table 1-9]. Concentrations in 2016 did not appear to be substantially reduced compared to longer term data [Figure 1-33].

Table 1-9. Nitrate plus nitrite nitrogen concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.61	0.31	1.25	1.80
SS-05A	Silver Bow Creek above Butte Reduction Works	0.77	0.45	1.30	1.79
SS-06G	Silver Bow Creek above Butte WWTP	1.08	0.57	1.53	2.08
SS-07	Silver Bow Creek below Butte WWTP	2.58	1.18	1.84	2.40
SS-08	Silver Bow Creek at Rocker	1.84	0.75	1.08	1.65
SS-10A	Silver Bow Creek above Sand Creek	1.22	0.42	0.92	1.89
SS-10B	Silver Bow Creek below Sand Creek	1.26	0.42	0.94	1.84
SS-11C	Silver Bow Creek above Browns Gulch	1.43	0.29	0.96	2.04
SS-11D	Silver Bow Creek below Browns Gulch	1.34	0.25	0.96	1.97
SS-13	Silver Bow Creek in Reach L	1.25	0.16	0.70	1.81
SS-14	Silver Bow Creek at Miles Crossing	1.25	0.12	0.75	2.00
SS-15A	Silver Bow Creek above German Gulch	1.68	0.06	1.06	1.81
SS-15G	German Gulch near confluence	ND	ND	ND	0.11
SS-15B	Silver Bow Creek below German Gulch	1.48	0.03	0.76	1.36
SS-16B	Silver Bow Creek in Reach P near Fairmont	1.82	0.05	0.51	1.29
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1.96	0.12	0.75	1.69
SS-19	Silver Bow Creek at Frontage Road	1.32	0.12	0.88	1.73

ND Not detected at analytical reporting limit.

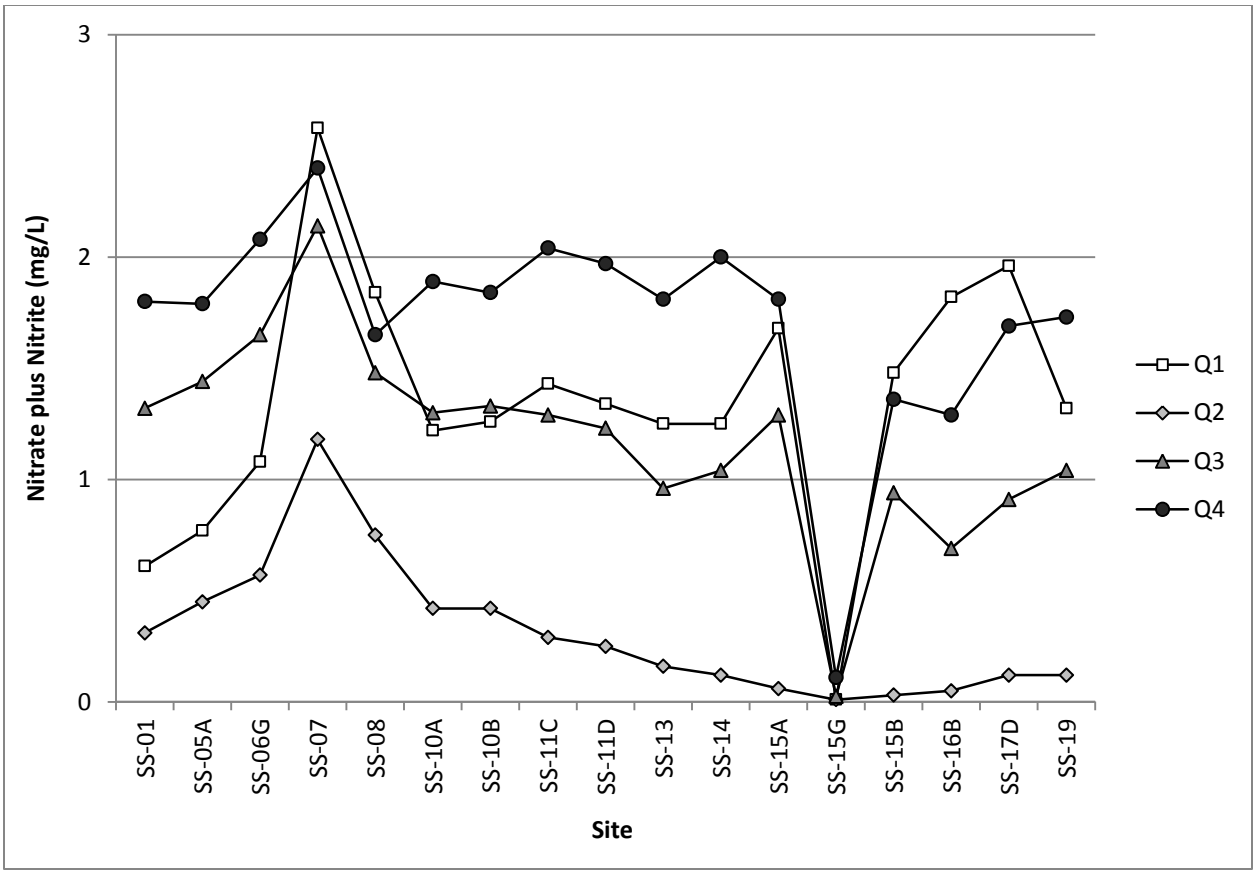

Figure 1-32. Nitrate plus nitrite nitrogen concentrations at Streamside Tailings Operable Unit monitoring stations, 2016. Samples with concentrations below the analytical reporting limit (0.02 mg/L) are represented at a concentration of 0.01 mg/L.

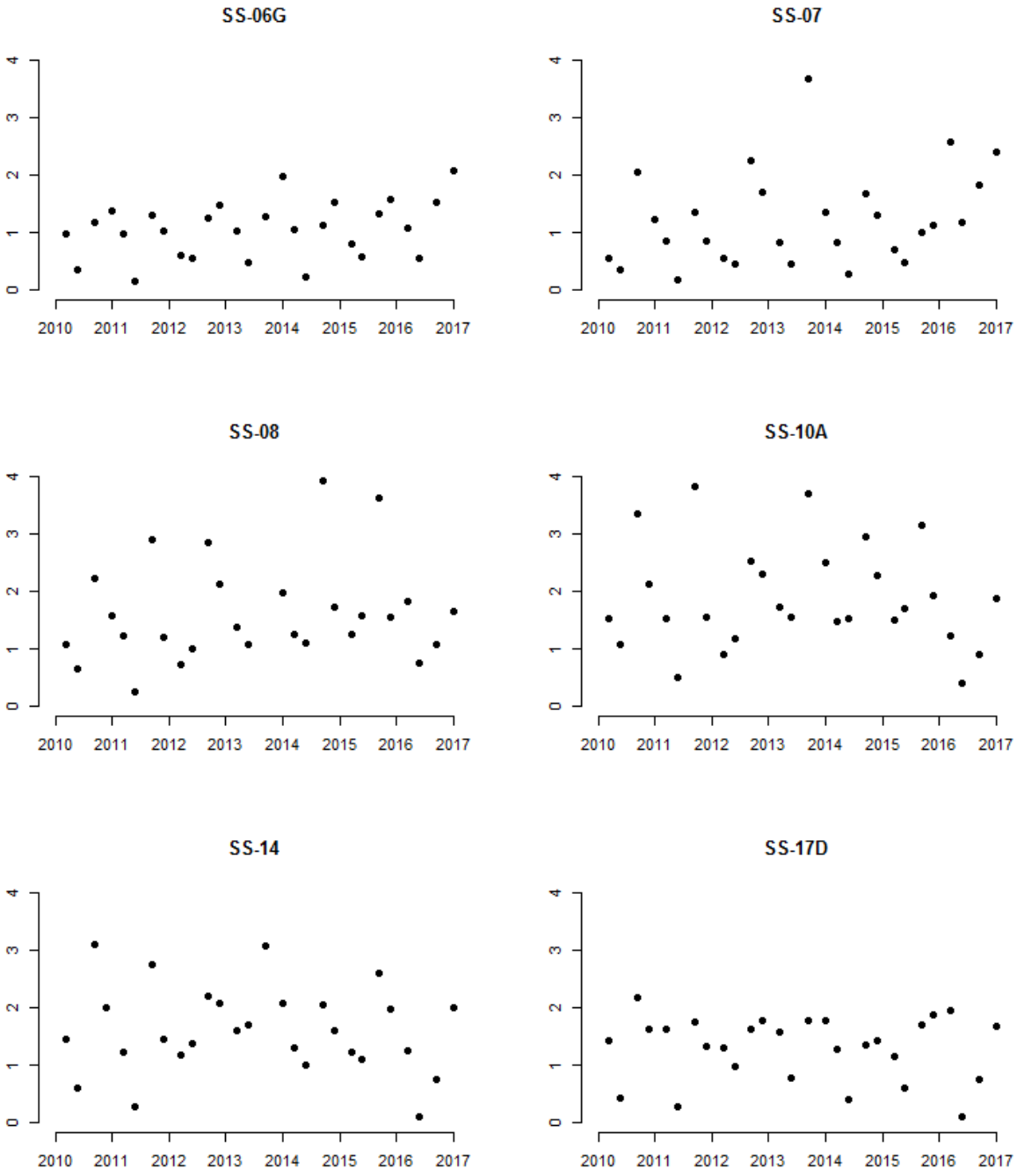

Figure 1-33. Nitrate plus nitrite concentrations (mg/L) at Silver Bow Creek sites in the Streamside Tailings Operable Unit: above Butte WWTP (SS-06G), below Butte WWTP (SS-07), at Rocker (SS-08), above Sand Creek (SS-10A), at Miles Crossing (SS-14), and at Opportunity (SS-17D). Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.[14]

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

1.4.6.4 Total Ammonia

Upgrades to the Butte WWTP appear to have substantially reduced ammonia concentrations in Silver Bow Creek downstream from the Butte WWTP (SS-07). There were no samples collected in 2016 which exceeded the chronic aquatic life standard [Table 1-10]. With the exception of the sample collected in Q1 at SS-07, all samples had ammonia concentrations which were <0.4 mg/L [Figure 1-34].

Based on data collected from 2010-2016, it appears that upgrades to the WWTP which occurred in 2016 resulted in substantially decreased ammonia concentrations. At Silver Bow Creek sites downstream from SS-06G, samples collected in Q2, Q3, and Q4 of 2016 had ammonia concentrations which were well below prior levels [Figure 1-35]. This change was most striking at SS-07, where samples collected in Q2, Q3, and Q4 of 2016 had concentrations which were commonly nearly two orders of magnitude below concentrations prior to 2016 [Figure 1-35].

Table 1-10. Total ammonia concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	ND	ND	ND	ND
SS-05A	Silver Bow Creek above Butte Reduction Works	ND	ND	ND	0.06
SS-06G	Silver Bow Creek above Butte WWTP	ND	ND	ND	0.08
SS-07	Silver Bow Creek below Butte WWTP	1.70	0.25	ND	0.08
SS-08	Silver Bow Creek at Rocker	0.17	ND	ND	0.18
SS-10A	Silver Bow Creek above Sand Creek	0.06	ND	ND	ND
SS-10B	Silver Bow Creek below Sand Creek	0.08	ND	ND	0.05
SS-11C	Silver Bow Creek above Browns Gulch	0.29	ND	ND	ND
SS-11D	Silver Bow Creek below Browns Gulch	0.38	ND	ND	ND
SS-13	Silver Bow Creek in Reach L	ND	ND	ND	ND
SS-14	Silver Bow Creek at Miles Crossing	ND	ND	ND	ND
SS-15A	Silver Bow Creek above German Gulch	0.06	ND	ND	ND
SS-15G	German Gulch near confluence	ND	ND	ND	ND
SS-15B	Silver Bow Creek below German Gulch	0.08	ND	ND	ND
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.13	ND	ND	ND
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	ND	ND	ND	ND
SS-19	Silver Bow Creek at Frontage Road	ND	ND	ND	ND

ND Not detected at analytical reporting limit.

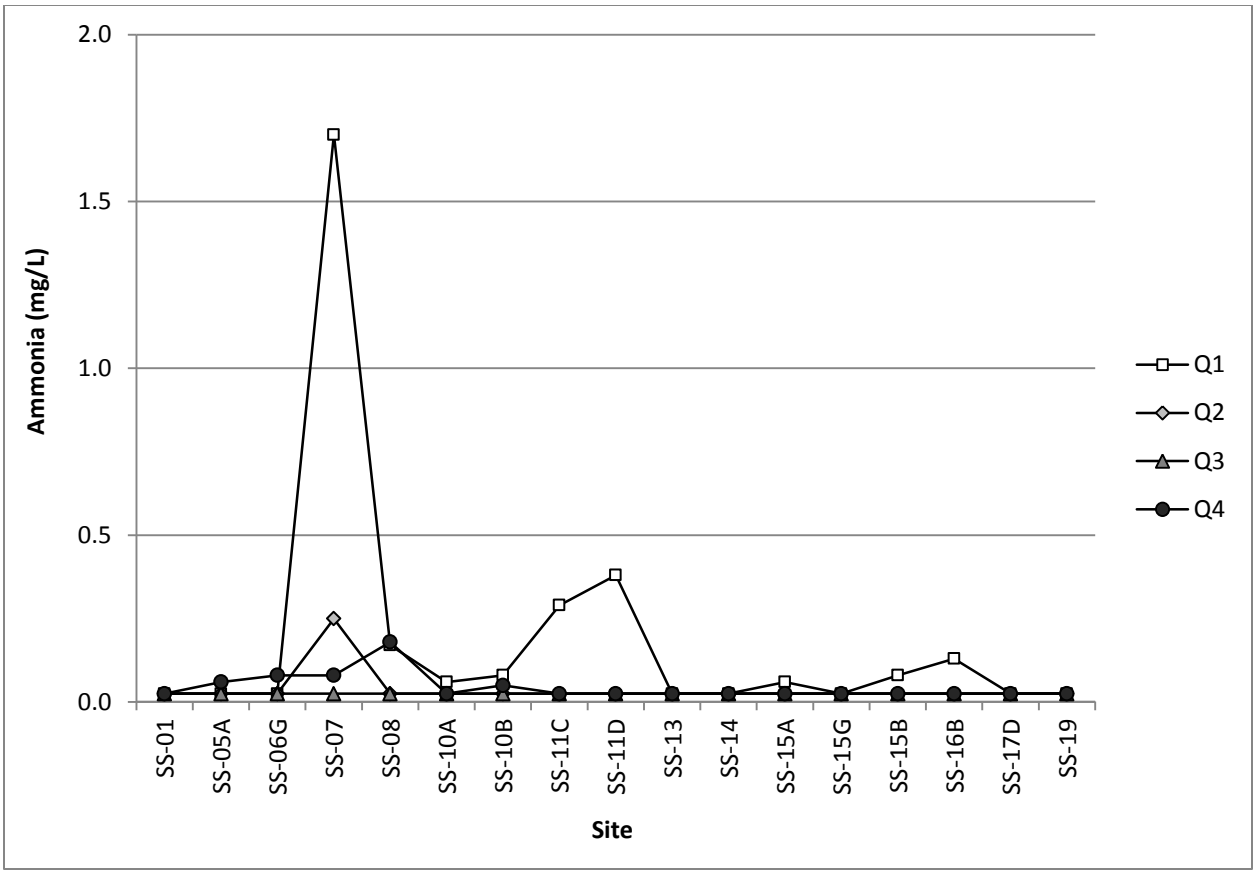

Figure 1-34. Total ammonia concentrations at Streamside Tailings Operable Unit monitoring stations, 2016. Samples with concentrations below the analytical reporting limit (0.05 mg/L) are represented at a concentration of 0.025 mg/L.

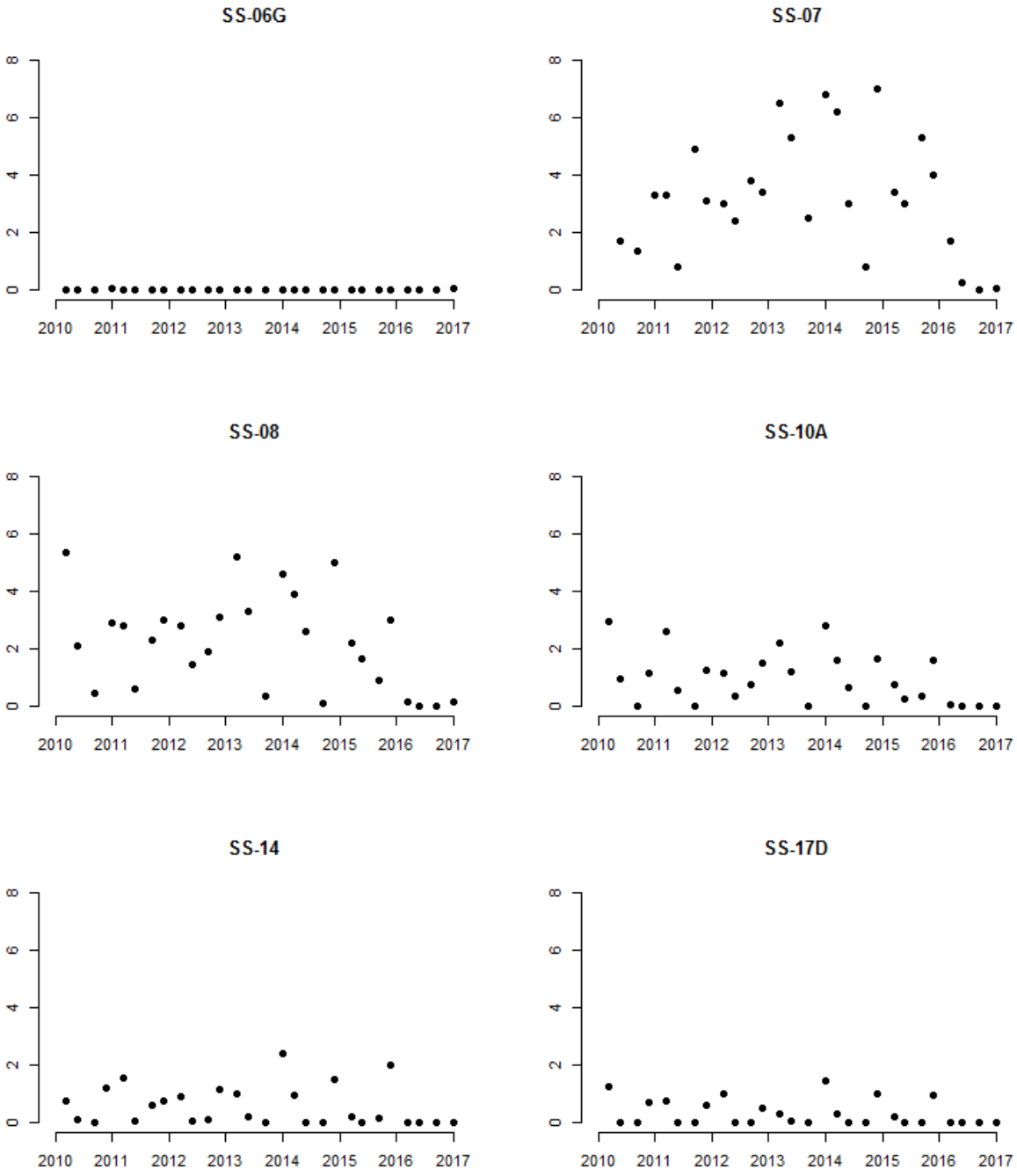

Figure 1-35. Ammonia concentrations (mg/L) at Silver Bow Creek sites in the Streamside Tailings Operable Unit: above Butte WWTP (SS-06G), below Butte WWTP (SS-07), at Rocker (SS-08), above Sand Creek (SS-10A), at Miles Crossing (SS-14), and at Opportunity (SS-17D). Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.[15]

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

1.4.6.5 Total Phosphorus

Total phosphorus concentrations were high (0.170-0.843 mg/L) in the SSTOU in 2016 in all sites except German Gulch (SS-15G) and Blacktail Creek and Silver Bow Creek sites upstream from the WWTP (SS-01, SS-05A, SS-06G) [Table 1-11; Figure 1-36]. Concentrations in Q1 and Q2 were typically about half the concentrations in Q3 and Q4 [Figure 1-36]. In Q3, all sites except SS-15G exceeded the total phosphorus standard [Table 1-11]. Concentrations were lowest in Q1 suggesting that the WWTP upgrades did not result in reduced phosphorus concentrations [Figure 1-36]. Concentrations in 2016 were generally similar to concentrations in prior years since 2010 [Figure 1-37].

Table 1-11. Total phosphorus concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.091	0.109	0.089	0.126
SS-05A	Silver Bow Creek above Butte Reduction Works	0.119	0.108	0.104	0.191
SS-06G	Silver Bow Creek above Butte WWTP	0.099	0.091	0.067	0.134
SS-07	Silver Bow Creek below Butte WWTP	0.347	0.356	0.282	0.843
SS-08	Silver Bow Creek at Rocker	0.170	0.275	0.402	0.667
SS-10A	Silver Bow Creek above Sand Creek	0.206	0.288	0.505	0.567
SS-10B	Silver Bow Creek below Sand Creek	0.221	0.282	0.509	0.696
SS-11C	Silver Bow Creek above Browns Gulch	0.262	0.290	0.428	0.568
SS-11D	Silver Bow Creek below Browns Gulch	0.266	0.267	0.489	0.524
SS-13	Silver Bow Creek in Reach L	0.209	0.267	0.526	0.580
SS-14	Silver Bow Creek at Miles Crossing	0.210	0.284	0.502	0.618
SS-15A	Silver Bow Creek above German Gulch	0.237	0.304	0.372	0.397
SS-15G	German Gulch near confluence	0.048	0.023	0.027	0.042
SS-15B	Silver Bow Creek below German Gulch	0.226	0.149	0.300	0.313
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.280	0.167	0.312	0.352
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.220	0.160	0.291	0.321
SS-19	Silver Bow Creek at Frontage Road	0.175	0.156	0.279	0.279

Exceeds the summertime base numeric nutrient standard for total phosphorus [MDEQ, 2014].

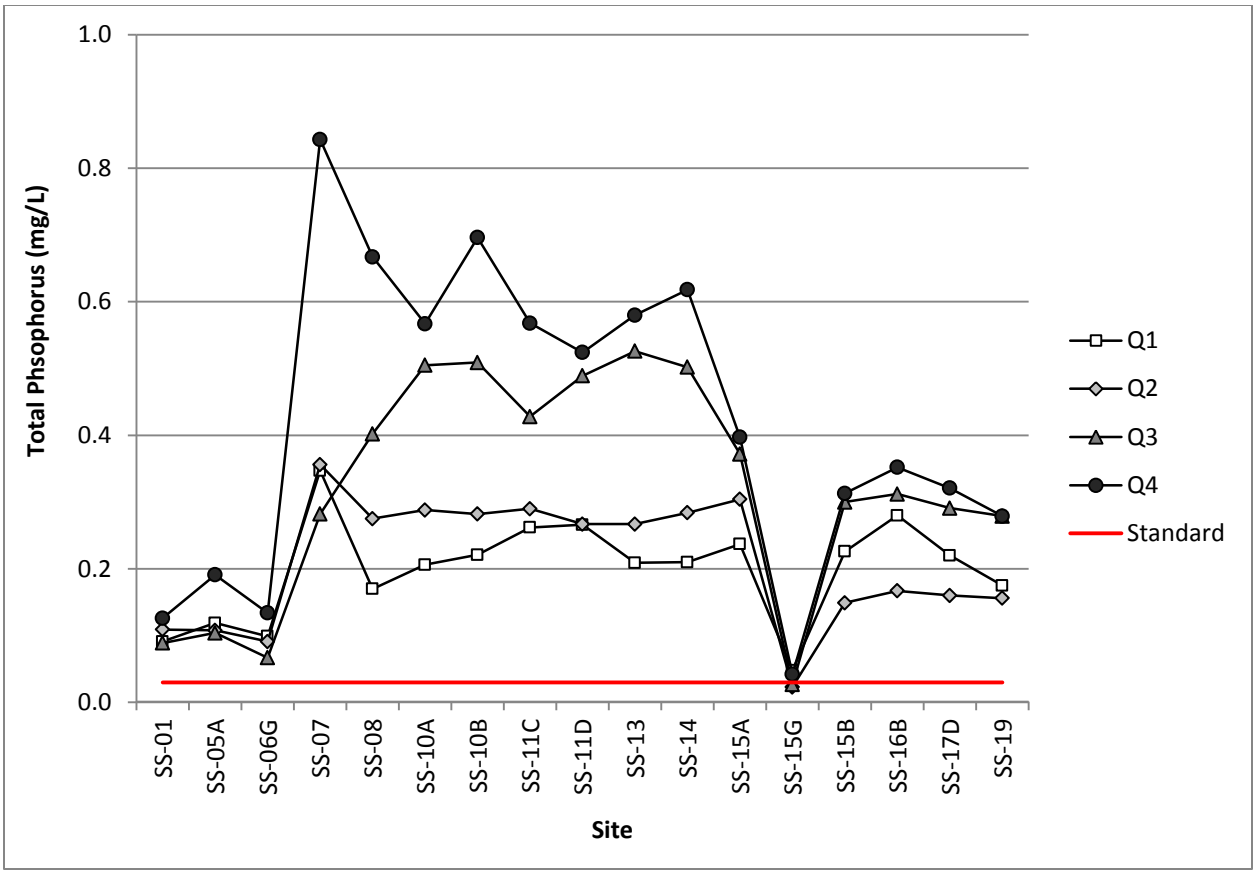

Figure 1-36. Total phosphorus concentrations at Streamside Tailings Operable Unit monitoring stations, 2016. Red line represents the total phosphorus standard [MDEQ, 2014].

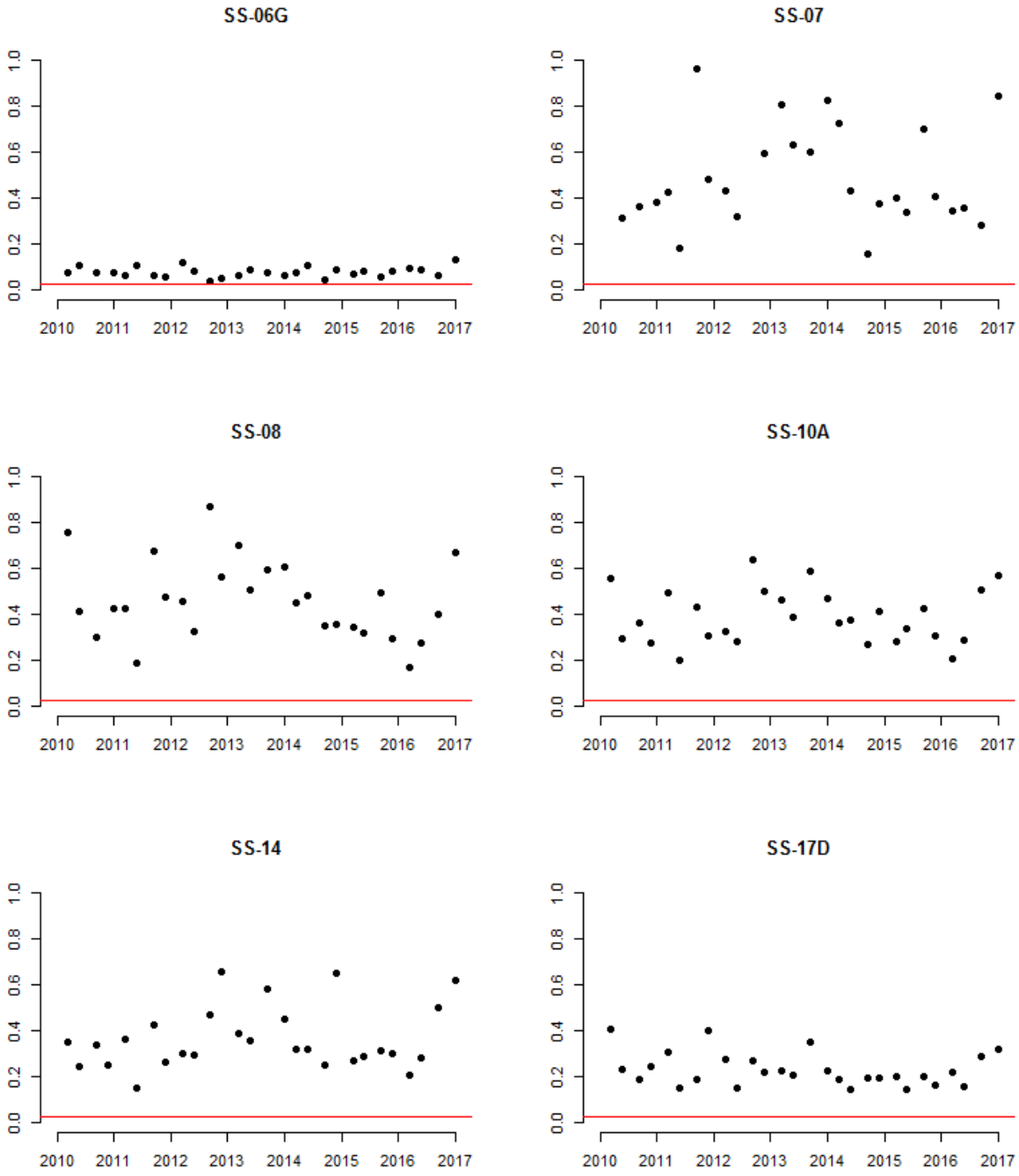

Figure 1-37. Total phosphorus concentrations (mg/L) at Silver Bow Creek sites in the Streamside Tailings Operable Unit: above Butte WWTP (SS-06G), below Butte WWTP (SS-07), at Rocker (SS-08), above Sand Creek (SS-10A), at Miles Crossing (SS-14), and at Opportunity (SS-17D). Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.[16]

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

1.4.7 Contaminants of Concern

1.4.7.1 Arsenic

In 2016, total recoverable arsenic concentrations in the SSTOU ranged from 0.002-0.010 mg/L [Table 1-12]. No samples had concentrations exceeding the human health surface water standard, although in Q2 four samples collected in Silver Bow Creek from below Browns Gulch (SS-11D) to above German Gulch (SS-15A) had concentrations equal to the standard [Figure 1-38]. Concentrations were generally highest in Q2 and lowest in Q1 or Q4 [Figure 1-38].

Compared to prior monitoring years (2010-2015), total recoverable arsenic concentrations in 2016 were similar in reference sites [Figure 1-39], similar in Subarea 1 sites [Figure 1-40], and similar in Subarea 2 sites [Figure 1-41]. In the reference, Subarea 1, and Subarea 2 sites, concentrations at some sites appear to have become less variable (e.g., SS-06G) over time [Figure 1-39; Figure 1-40; Figure 1-41]. In Subarea 3, concentrations appear to be reduced in both sites, particularly since 2012 [Figure 1-42]. In Subarea 4 sites, there is no apparent trend at sites monitored only since 2013, but at Opportunity (monitored since 2010), there was a sharp decrease in concentrations after 2012 [Figure 1-43].

Table 1-12. Total recoverable arsenic concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.004	0.007	0.003	0.002
SS-05A	Silver Bow Creek above Butte Reduction Works	0.005	0.006	0.005	0.005
SS-06G	Silver Bow Creek above Butte WWTP	0.005	0.006	0.005	0.005
SS-07	Silver Bow Creek below Butte WWTP	0.005	0.006	0.004	0.004
SS-08	Silver Bow Creek at Rocker	0.004	0.006	0.005	0.006
SS-10A	Silver Bow Creek above Sand Creek	0.004	0.006	0.005	0.005
SS-10B	Silver Bow Creek below Sand Creek	0.004	0.006	0.005	0.006
SS-11C	Silver Bow Creek above Browns Gulch	0.006	0.007	0.006	0.006
SS-11D	Silver Bow Creek below Browns Gulch	0.006	0.010	0.006	0.006
SS-13	Silver Bow Creek in Reach L	0.006	0.010	0.006	0.006
SS-14	Silver Bow Creek at Miles Crossing	0.006	0.010	0.007	0.006
SS-15A	Silver Bow Creek above German Gulch	0.006	0.010	0.007	0.006
SS-15G	German Gulch near confluence	0.004	0.003	0.003	0.003
SS-15B	Silver Bow Creek below German Gulch	0.006	0.006	0.006	0.005
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.007	0.007	0.007	0.006
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.006	0.007	0.007	0.006
SS-19	Silver Bow Creek at Frontage Road	0.006	0.008	0.008	0.006

ND Not detected at analytical reporting limit.

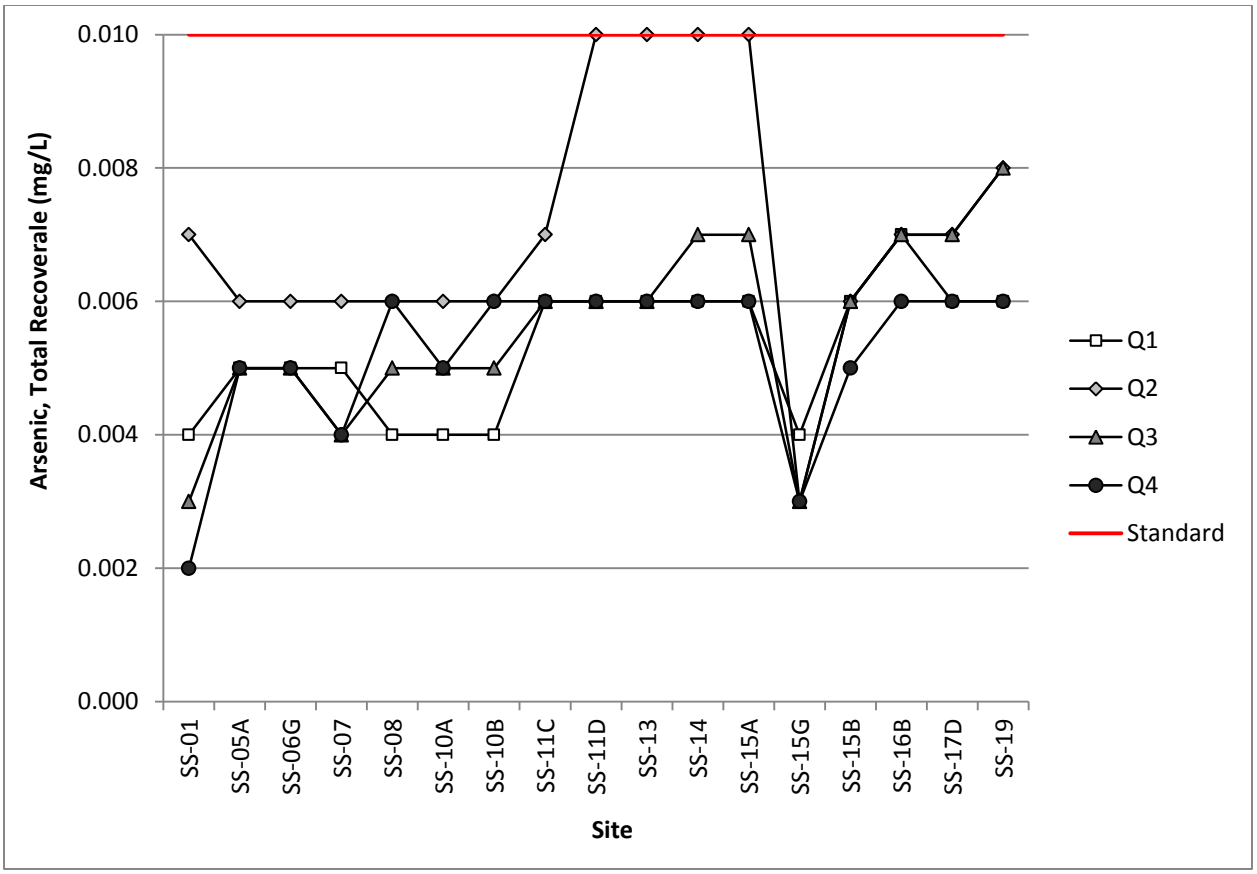

Figure 1-38. Total recoverable arsenic concentrations at Streamside Tailings Operable Unit monitoring stations, 2016. Red line represents the human health surface water standard [MDEQ, 2012a].

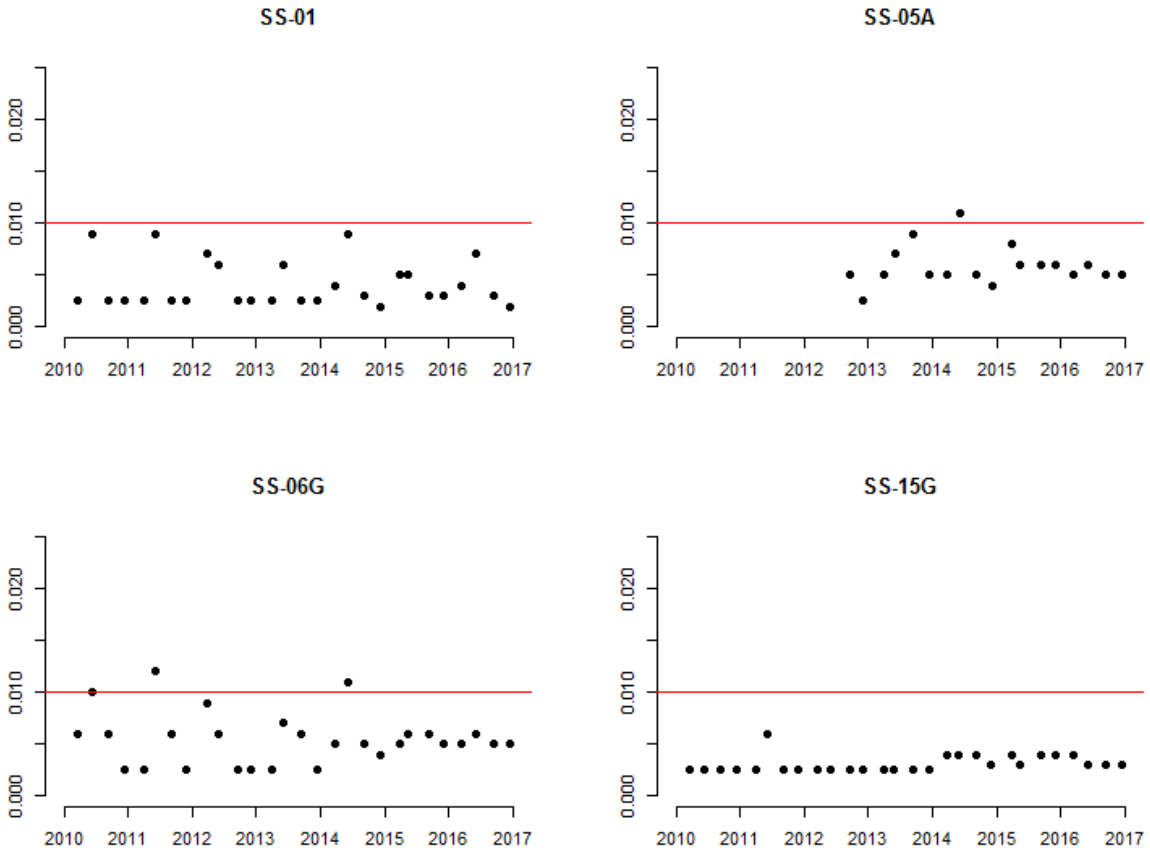

Figure 1-39. Total recoverable arsenic concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (SS-01), Silver Bow Creek above Butte Reduction Works (SS-05A), Silver Bow Creek above Butte WWTP (SS-06G), and German Gulch near mouth (SS-15G). Red line represents the human health surface water standard [MDEQ, 2012a]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.

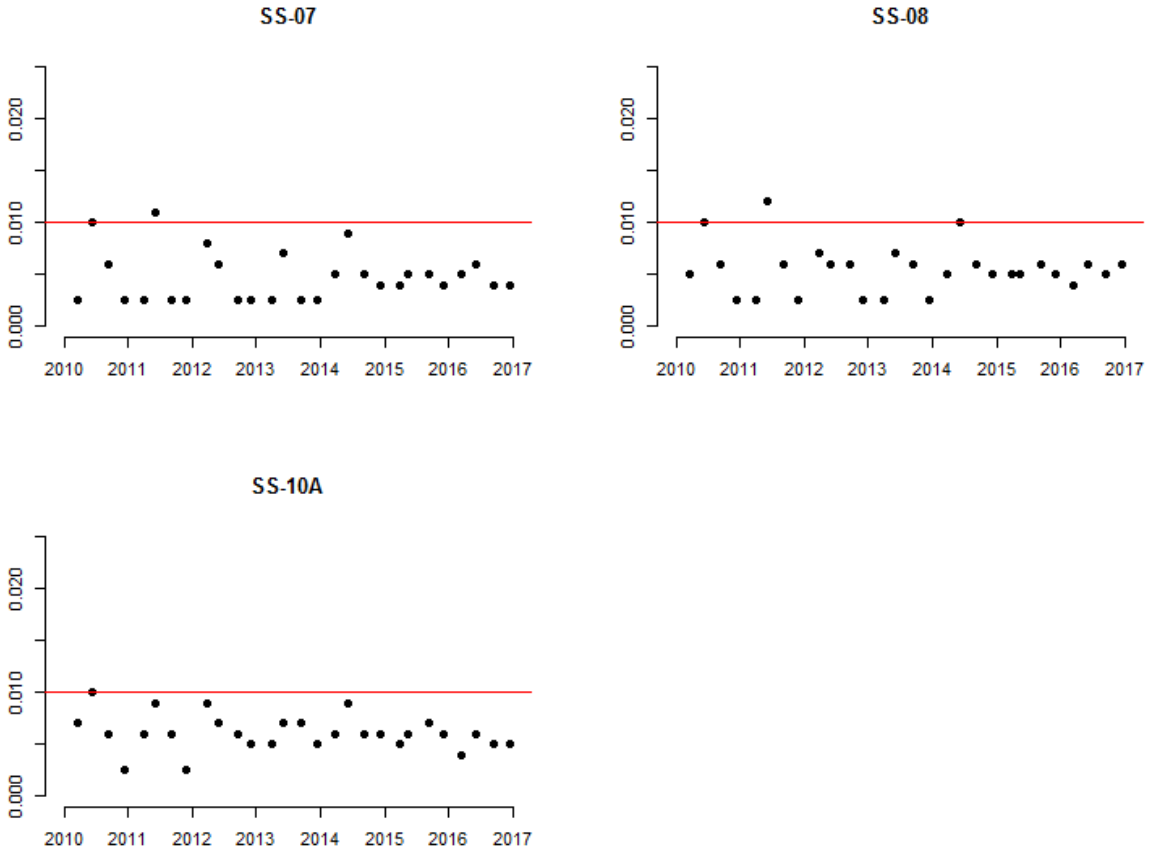

Figure 1-40. Total recoverable arsenic concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (SS-07), Silver Bow Creek at Rocker (SS-08), and Silver Bow Creek above Sand Creek (SS-10A). Red line represents the human health surface water standard [MDEQ, 2012a]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.

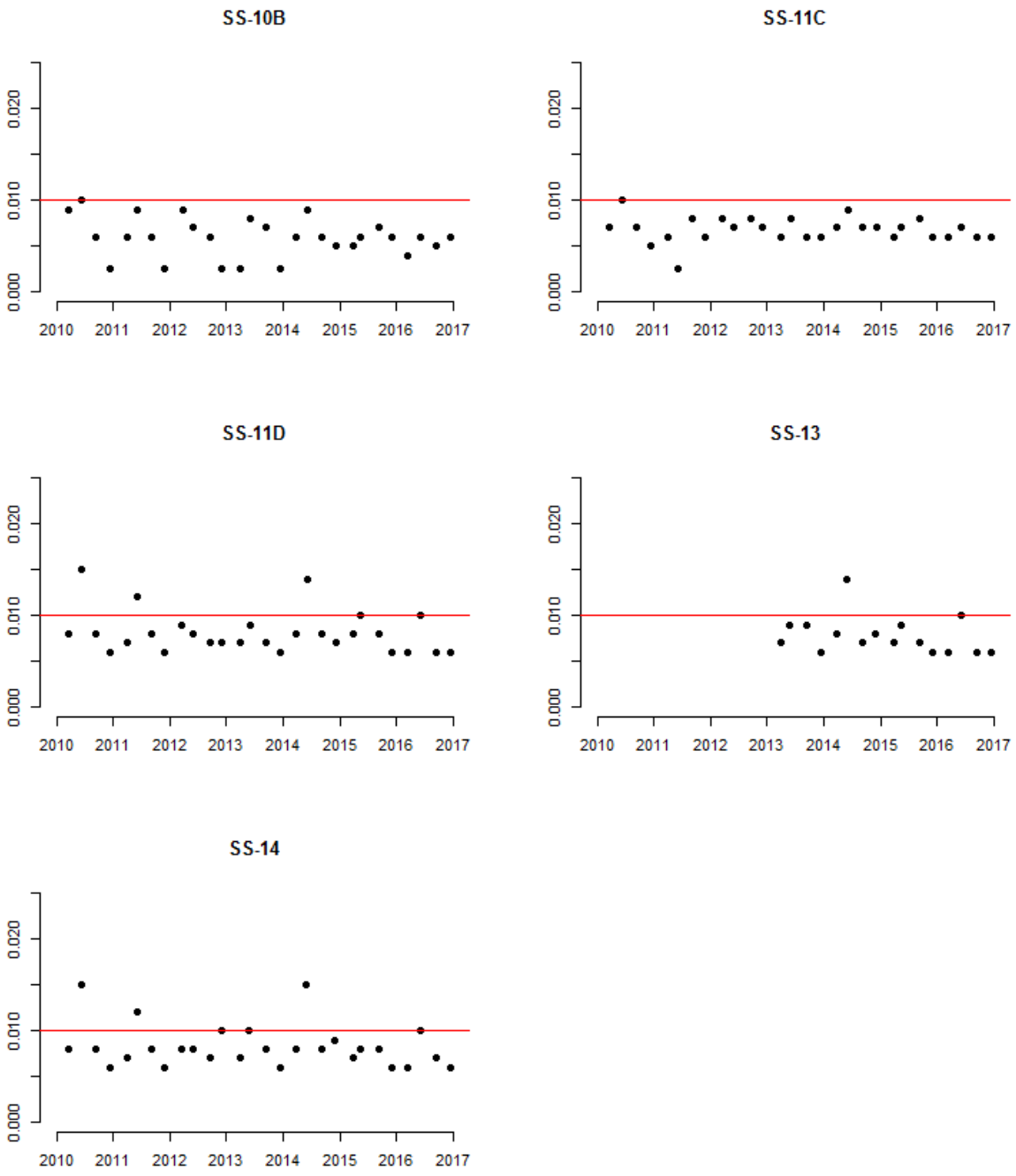

Figure 1-41. Total recoverable arsenic concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (SS-10B), Silver Bow Creek above (SS-11C) and below (SS-11D) Browns Gulch, Silver Bow Creek in Reach L (SS-13), and Silver Bow Creek at Miles Crossing (SS-14). Red line represents the human health surface water standard [MDEQ, 2012a]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.

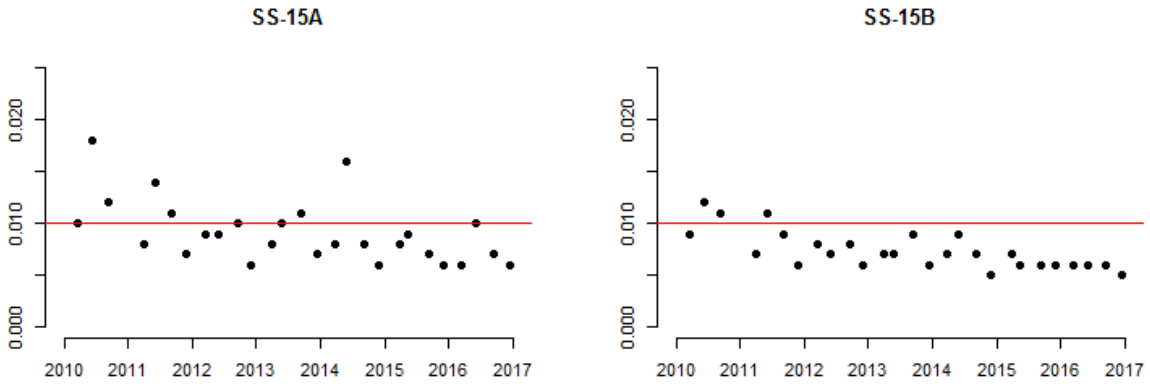

Figure 1-42. Total recoverable arsenic concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (SS-15A) and below (SS-15B) German Gulch. Red line represents the human health surface water standard [MDEQ, 2012a].[17]

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

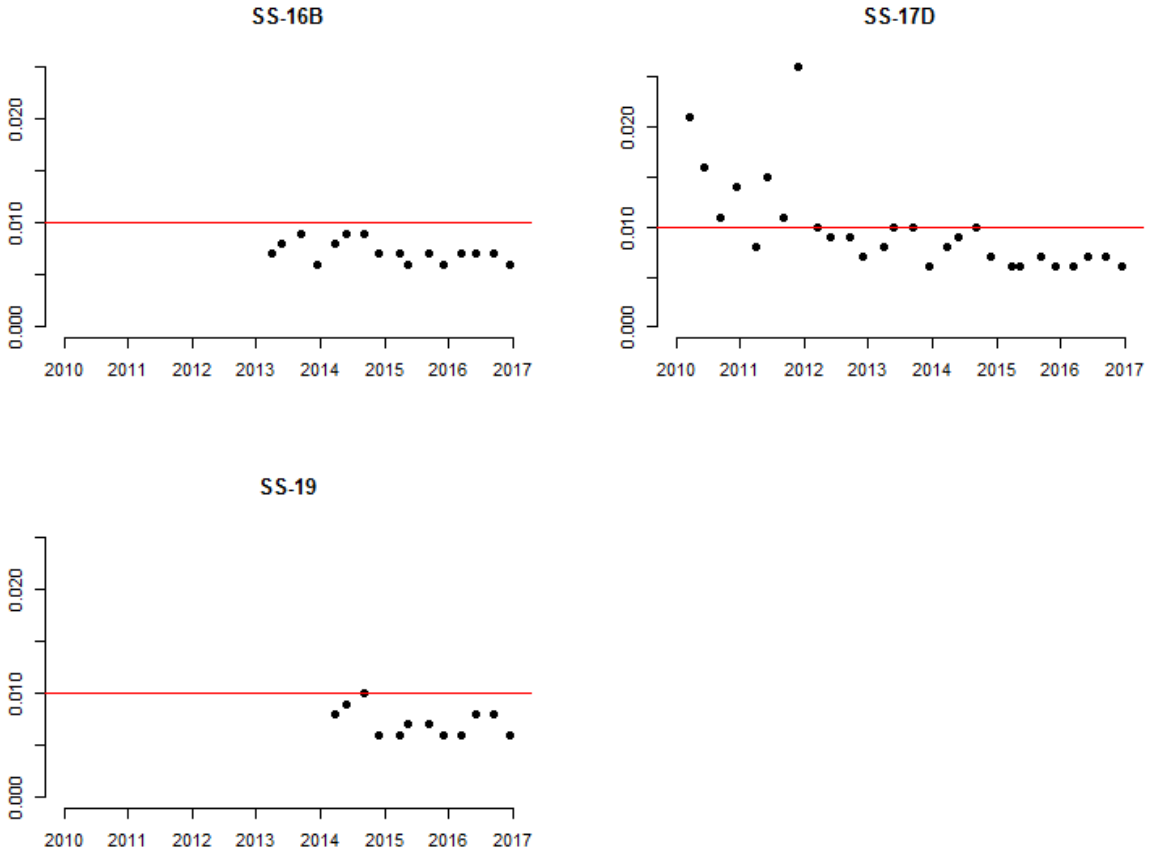

Figure 1-43. Total recoverable arsenic concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (SS-16B), Silver Bow Creek at Opportunity (SS-17D), and Silver Bow Creek at Frontage Road (SS-19). Red line represents the human health surface water standard [MDEQ, 2012a].

1.4.7.2 Cadmium

In 2016, total recoverable cadmium concentrations in the SSTOU ranged from <0.00003-0.00060 mg/L [Table 1-13]. Seven samples had concentrations exceeding the human health chronic aquatic life standard, all from sites either in Subarea 1 (SS-08 and SS-10A) or Subarea 2 (SS-10B, SS-11C, and SS-13) in either Q1 or Q4 [Table 1-13]. Concentrations were generally highest in Q1 or Q4 and lowest in Q2 or Q3 [Figure 1-44].

Compared to prior monitoring years (2010-2015), total recoverable cadmium concentrations in 2016 were similar in reference sites [Figure 1-45], generally similar in Subarea 1 sites [Figure 1-46], and generally similar in Subarea 2 sites [Figure 1-47]. However, in Silver Bow Creek at Rocker (SS-08) the concentration in Q4 2016 was higher than in any prior monitoring period [Figure 1-46]. In Subarea 3, concentrations appear to have decreased steadily since 2010 in both sites [Figure 1-48]. In Subarea 4 sites, there appeared to be a decreasing trend at all sites although the trend is most apparent at Opportunity (SS-17D) where the monitoring period is longest [Figure 1-49].

Table 1-13. Total recoverable cadmium concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.00003	ND	ND	0.00004
SS-05A	Silver Bow Creek above Butte Reduction Works	0.00013	0.00007	0.00013	0.00020
SS-06G	Silver Bow Creek above Butte WWTP	0.00014	0.00008	0.00010	0.00023
SS-07	Silver Bow Creek below Butte WWTP	0.00013	0.00009	0.00012	0.00016
SS-08	Silver Bow Creek at Rocker	0.00020	0.00013	0.00025	0.00049
SS-10A	Silver Bow Creek above Sand Creek	0.00040	0.00023	0.00020	0.00048
SS-10B	Silver Bow Creek below Sand Creek	0.00039	0.00024	0.00015	0.00060
SS-11C	Silver Bow Creek above Browns Gulch	0.00047	0.00028	0.00022	0.00042
SS-11D	Silver Bow Creek below Browns Gulch	0.00037	0.00024	0.00021	0.00039
SS-13	Silver Bow Creek in Reach L	0.00029	0.00022	0.00022	0.00050
SS-14	Silver Bow Creek at Miles Crossing	0.00036	0.00020	0.00020	0.00048
SS-15A	Silver Bow Creek above German Gulch	0.00031	0.00023	0.00024	0.00024
SS-15G	German Gulch near confluence	ND	ND	ND	ND
SS-15B	Silver Bow Creek below German Gulch	0.00032	0.00013	0.00018	0.00020
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.00031	0.00015	0.00023	0.00023
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.00037	0.00019	0.00027	0.00026
SS-19	Silver Bow Creek at Frontage Road	0.00038	0.00021	0.00031	0.00024

ND Not detected at analytical reporting limit.

Exceeds the chronic aquatic life standard [MDEQ, 2012a].

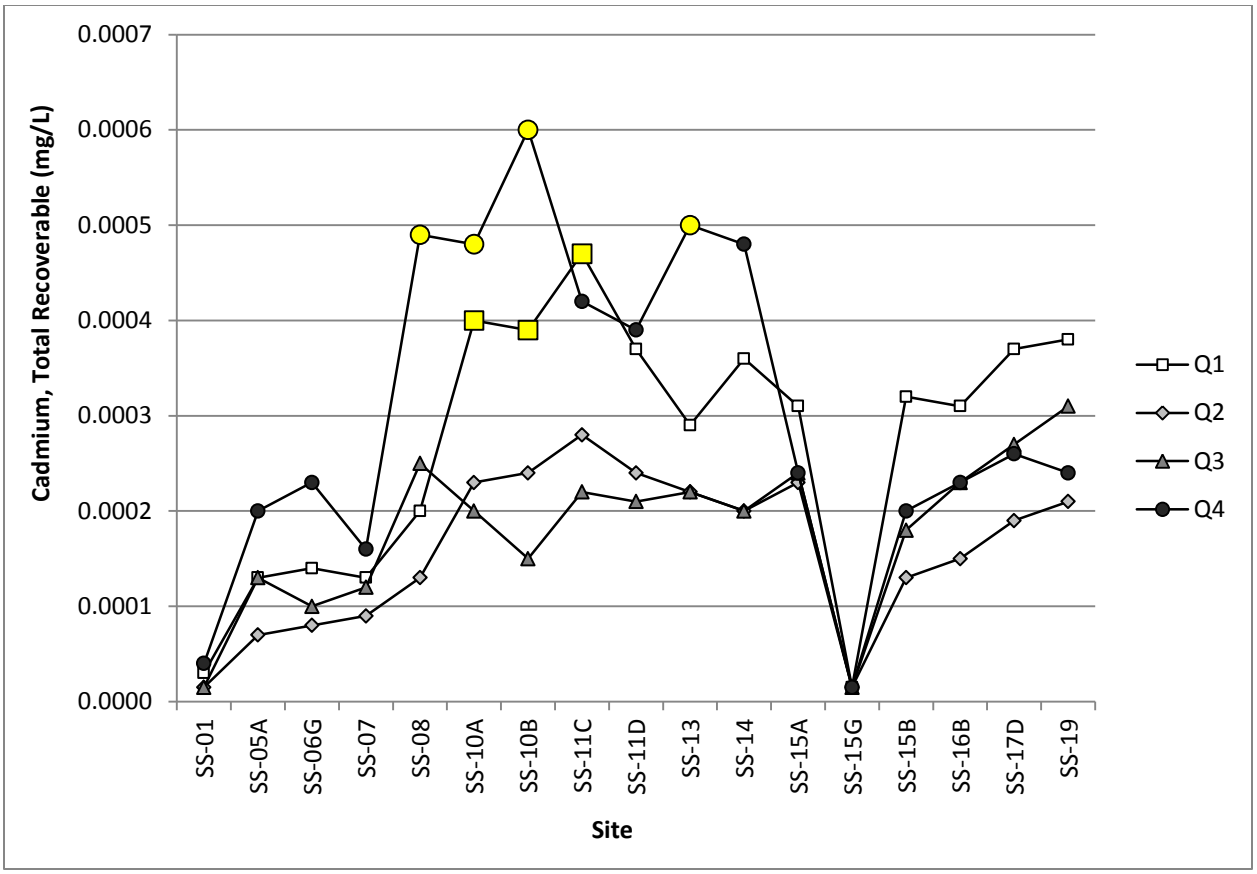

Figure 1-44. Total recoverable cadmium concentrations at Streamside Tailings Operable Unit monitoring stations, 2016. Yellow symbols represent samples exceeding the chronic aquatic life standard [MDEQ, 2012a].

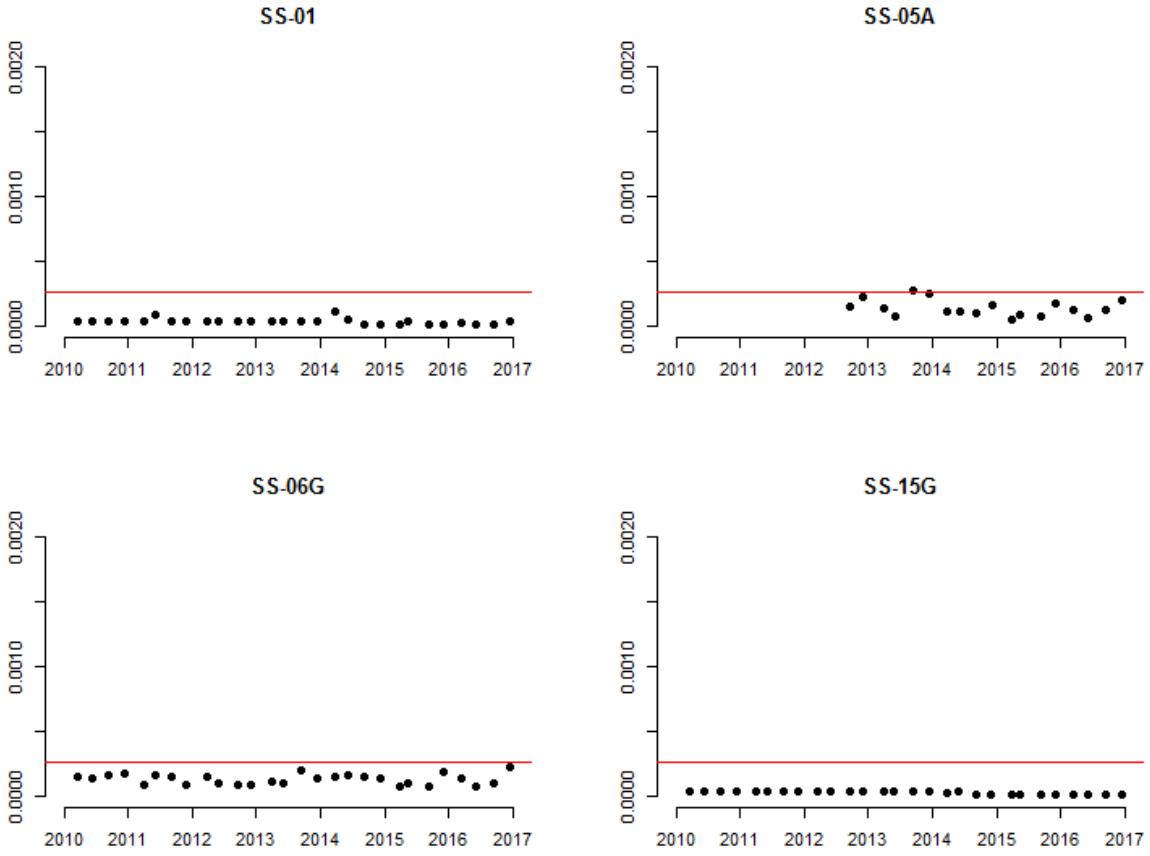

Figure 1-45. Total recoverable cadmium concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (SS-01), Silver Bow Creek above Butte Reduction Works (SS-05A), Silver Bow Creek above Butte WWTP (SS-06G), and German Gulch near mouth (SS-15G). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.

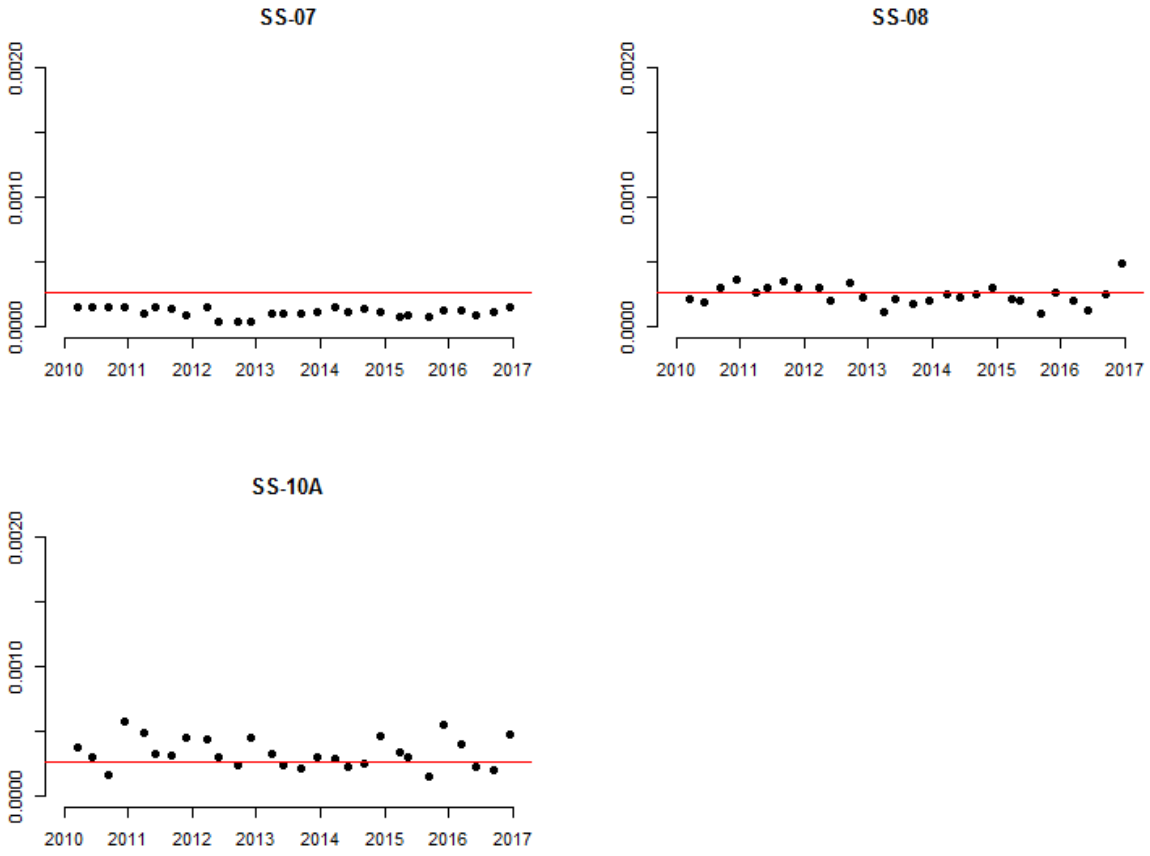

Figure 1-46. Total recoverable cadmium concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (SS-07), Silver Bow Creek at Rocker (SS-08), and Silver Bow Creek above Sand Creek (SS-10A). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.

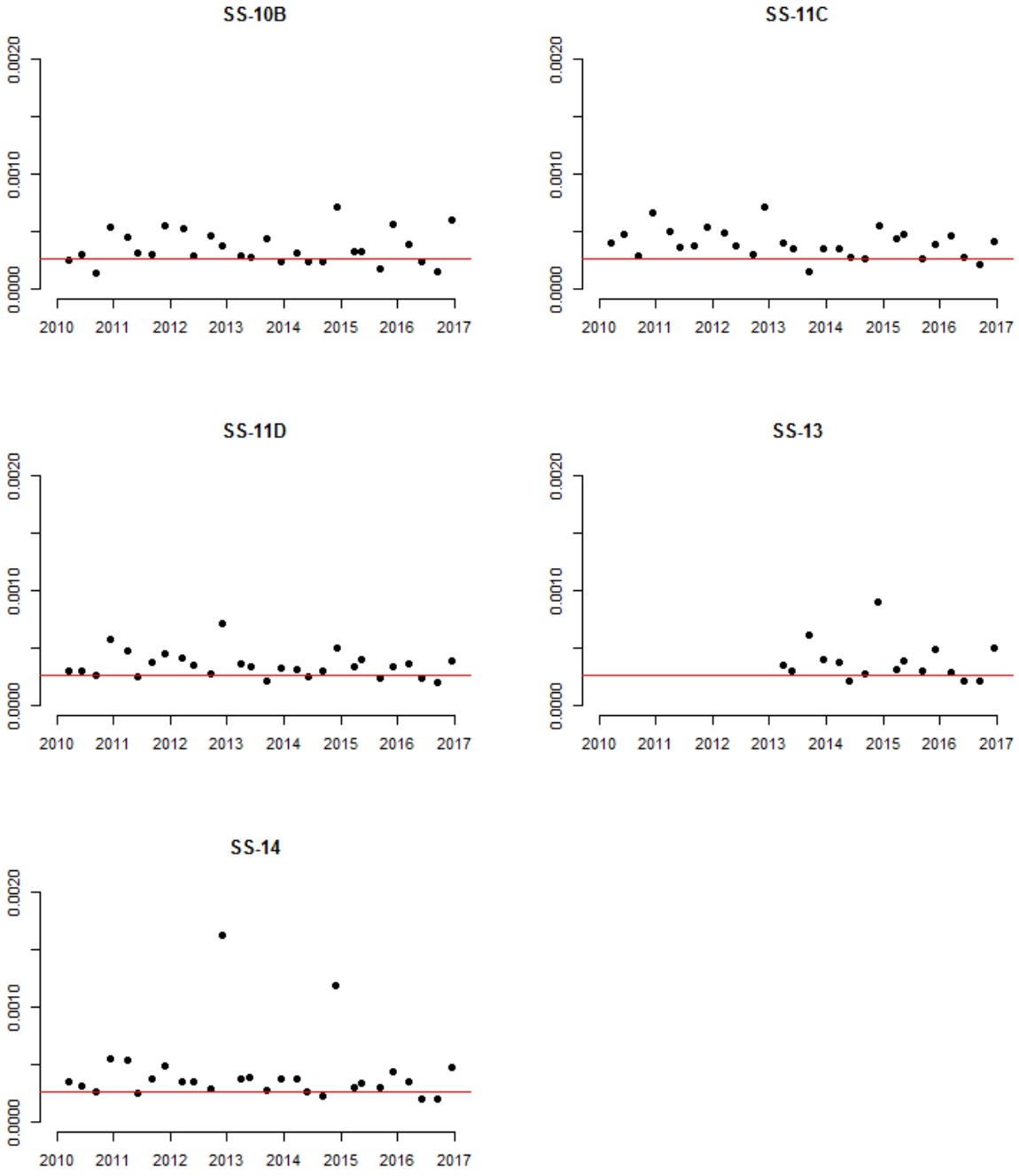

Figure 1-47. Total recoverable cadmium concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (SS-10B), Silver Bow Creek above (SS-11C) and below (SS-11D) Browns Gulch, Silver Bow Creek in Reach L (SS-13), and Silver Bow Creek at Miles Crossing (SS-14). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].

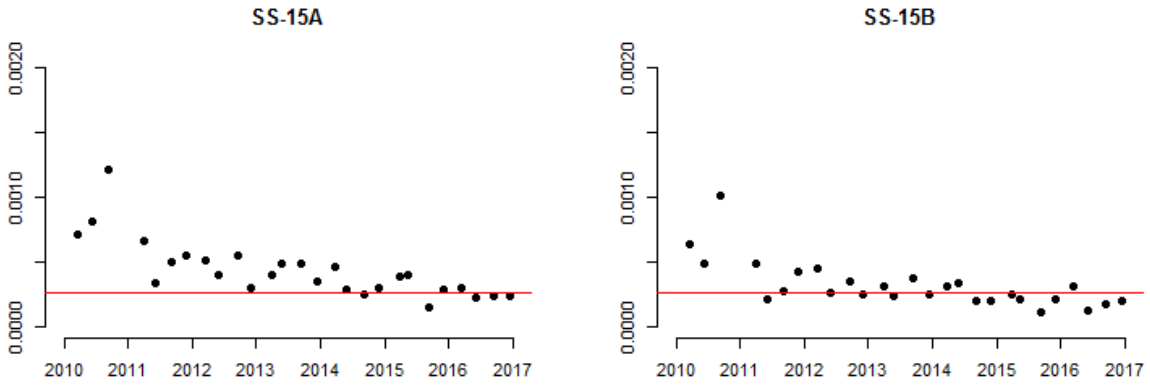

Figure 1-48. Total recoverable cadmium concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (SS-15A) and below (SS-15B) German Gulch. Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].[18]

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

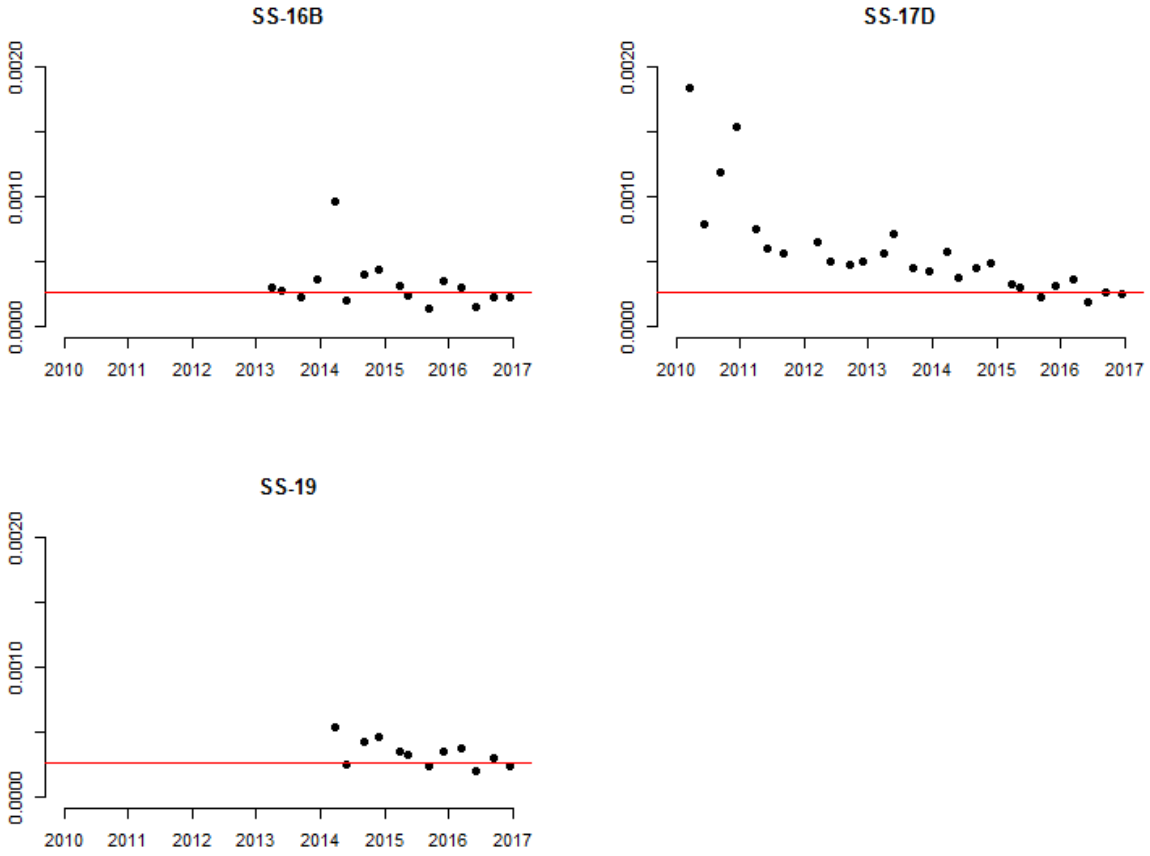

Figure 1-49. Total recoverable cadmium concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (SS-16B), Silver Bow Creek at Opportunity (SS-17D), and Silver Bow Creek at Frontage Road (SS-19). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].

1.4.7.3 Copper

In 2016, total recoverable copper concentrations in the SSTOU ranged from <0.001-0.056 mg/L [Table 1-14]. Thirty-five samples had concentrations exceeding the chronic aquatic life standard and 12 also exceeded the acute standard [Table 1-14]. Exceedances of the chronic standard occurred in all quarters but were less frequent in Q3 [Table 1-14]. Exceedances of the acute standard occurred in all quarters except Q2 [Table 1-14].Concentrations were generally highest in Q1 or Q4 and lowest in Q2 or Q3 [Figure 1-50].

Compared to prior monitoring years (2010-2015), total recoverable copper concentrations in 2016 were similar in reference sites [Figure 1-51], similar in Subarea 1 sites [Figure 1-52], and similar in Subarea 2 sites [Figure 1-53]. At several reference, Subarea 1, and Subarea 2 sites, the Q4 2016 concentrations were higher than or nearly as high as any previous concentrations at that site since monitoring began in 2010 [Figure 1-51; Figure 1-52; Figure 1-53]. In Subarea 3, concentrations decreased sharply between 2010 and 2011 and appear to be declining slowly since then at both sites [Figure 1-54]. In Subarea 4 sites, there is no apparent trend at sites monitored only since 2013, but at Opportunity (monitored since 2010), there was a sharp decrease in concentrations between 2011 and 2012 and there appears to be a slow decline in concentrations since then [Figure 1-55].

Based on samples collected in the Streamside Tailings Operable Unit between 2011-2016, the best predictor of total recoverable copper concentrations were total suspended sediment concentrations (r^2 from ordinary least squares regression = 0.7526) [Figure 1-56] followed by turbidity (r^2 from ordinary least squares regression = 0.5140) [Figure 1-57]. Streamflows were a poor (r^2 from ordinary least squares regression = 0.0351) predictor of total recoverable copper concentrations [Figure 1-58]. The relationships between total recoverable copper concentrations and each of these predictors was statistically significant (p-value from each ordinary least squares regression <0.001; <0.0001 for turbidity and total suspended sediment concentrations).

Table 1-14. Total recoverable copper concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.006	0.005	0.002	0.005
SS-05A	Silver Bow Creek above Butte Reduction Works	0.013	0.007	0.006	0.018
SS-06G	Silver Bow Creek above Butte WWTP	0.014	0.009	0.008	0.020
SS-07	Silver Bow Creek below Butte WWTP	0.011	0.008	0.008	0.016
SS-08	Silver Bow Creek at Rocker	0.014	0.010	0.016	0.040
SS-10A	Silver Bow Creek above Sand Creek	0.038	0.021	0.018	0.044
SS-10B	Silver Bow Creek below Sand Creek	0.035	0.021	0.018	0.056
SS-11C	Silver Bow Creek above Browns Gulch	0.031	0.021	0.015	0.029
SS-11D	Silver Bow Creek below Browns Gulch	0.028	0.017	0.015	0.026
SS-13	Silver Bow Creek in Reach L	0.024	0.017	0.014	0.037
SS-14	Silver Bow Creek at Miles Crossing	0.028	0.018	0.012	0.037
SS-15A	Silver Bow Creek above German Gulch	0.023	0.018	0.018	0.015
SS-15G	German Gulch near confluence	0.002	0.002	ND	ND
SS-15B	Silver Bow Creek below German Gulch	0.021	0.009	0.015	0.011
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.021	0.013	0.012	0.013
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.022	0.016	0.017	0.015
SS-19	Silver Bow Creek at Frontage Road	0.021	0.018	0.015	0.015

ND Not detected at analytical reporting limit.

Exceeds the chronic aquatic life standard [MDEQ, 2012a].

Exceeds the acute aquatic life standard [MDEQ, 2012a].

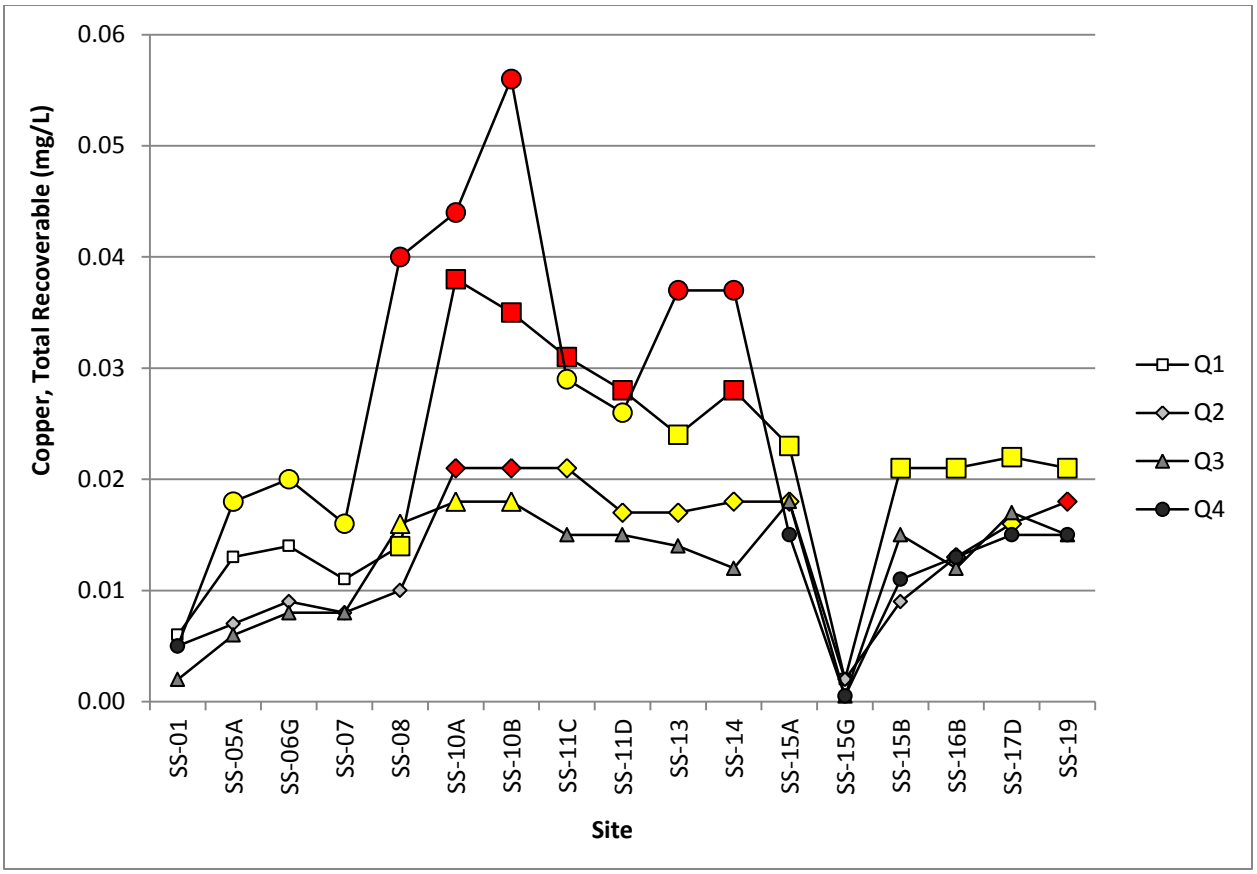

Figure 1-50. Total recoverable copper concentrations at Streamside Tailings Operable Unit monitoring stations, 2016. Colored symbols represent samples exceeding the chronic (yellow) and acute (red) aquatic life standards [MDEQ, 2012a].

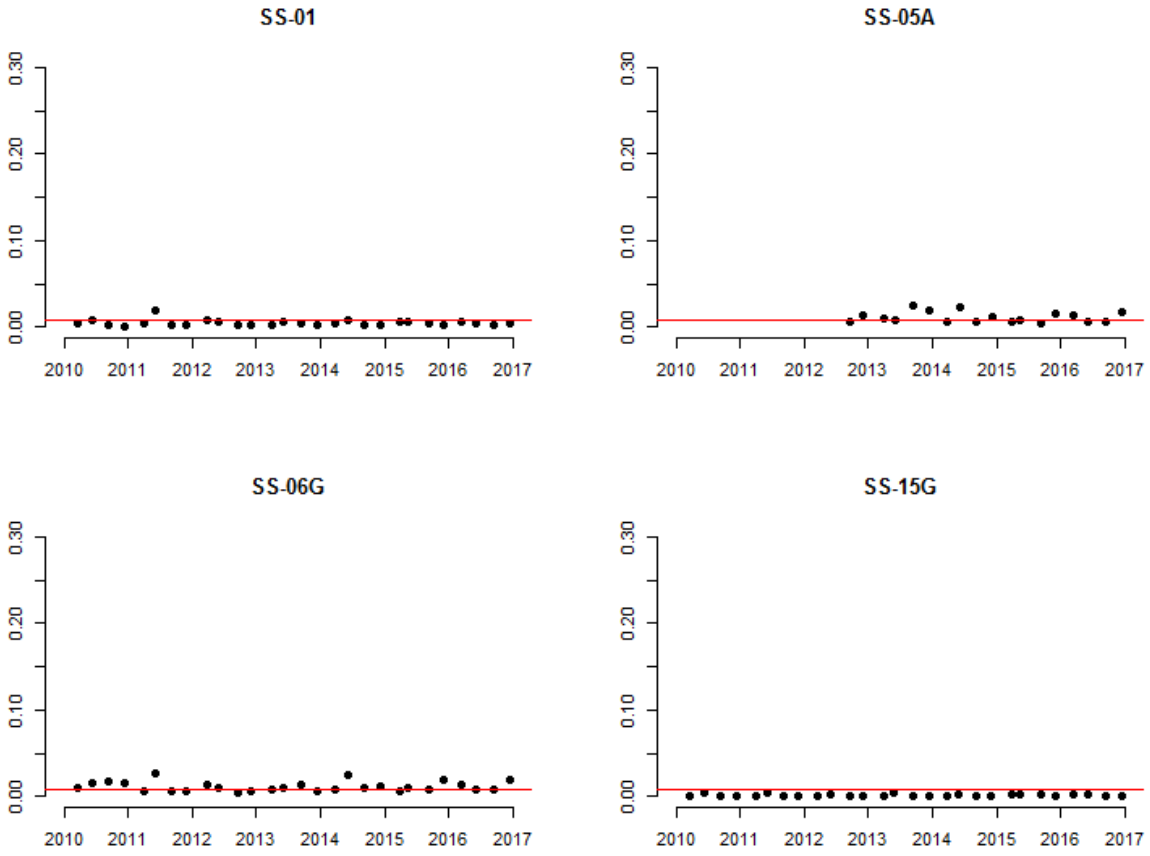

Figure 1-51. Total recoverable copper concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (SS-01), Silver Bow Creek above Butte Reduction Works (SS-05A), Silver Bow Creek above Butte WWTP (SS-06G), and German Gulch near mouth (SS-15G). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.

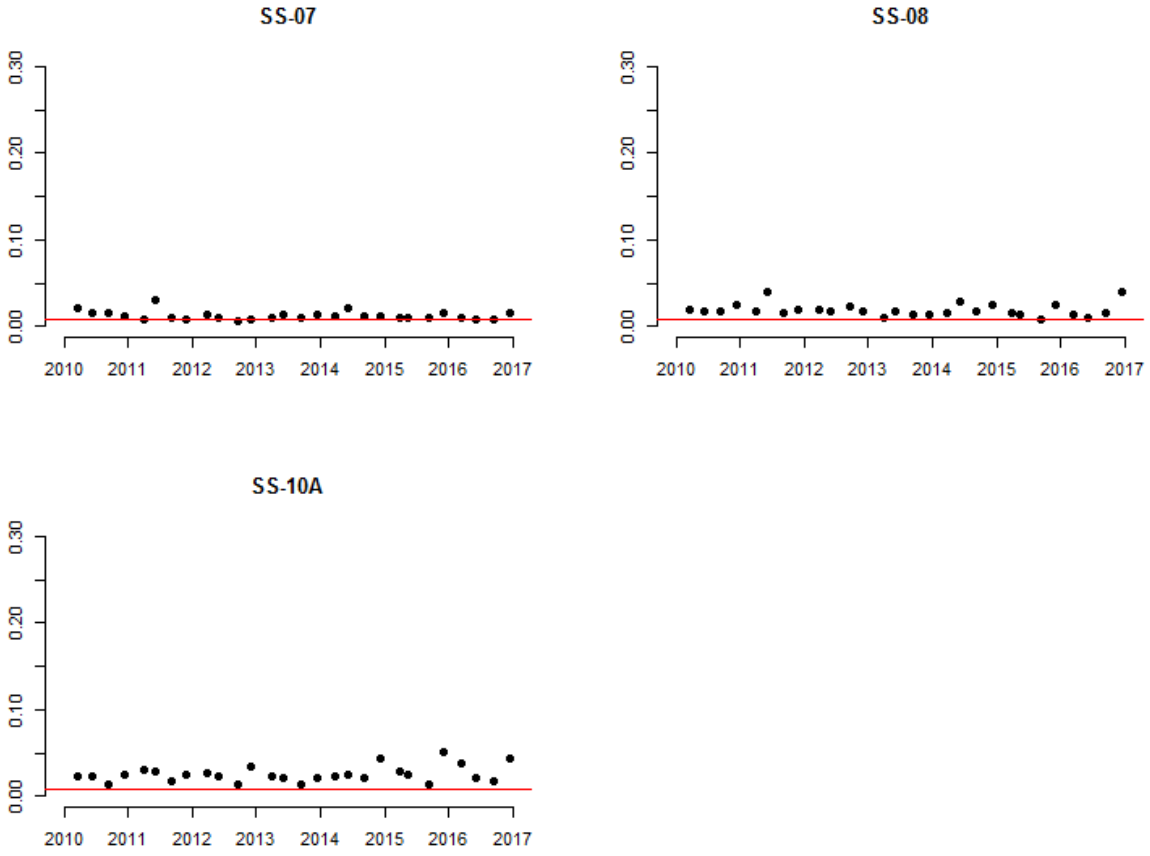

Figure 1-52. Total recoverable copper concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (SS-07), Silver Bow Creek at Rocker (SS-08), and Silver Bow Creek above Sand Creek (SS-10A). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].

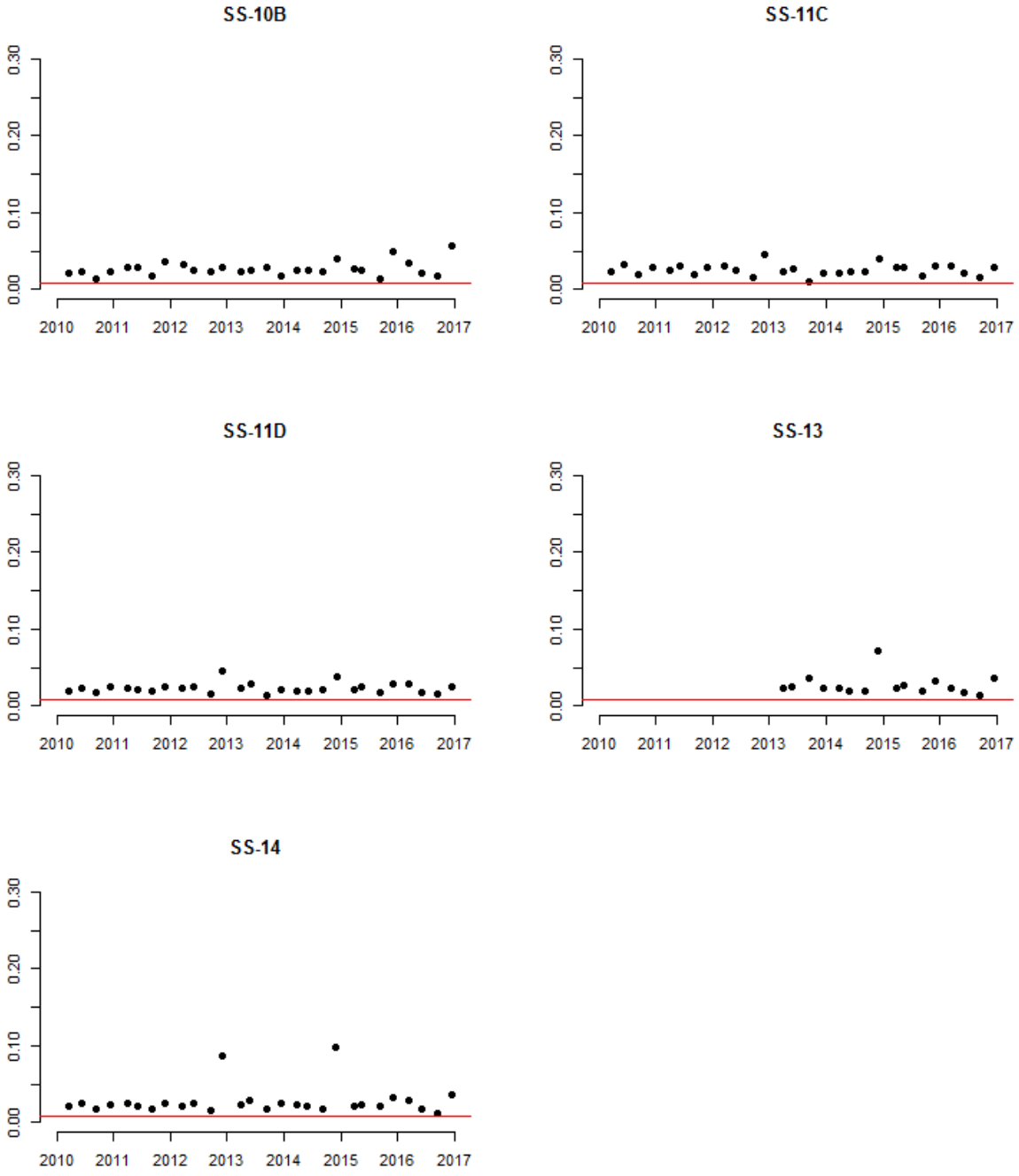

Figure 1-53. Total recoverable copper concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (SS-10B), Silver Bow Creek above (SS-11C) and below (SS-11D) Browns Gulch, Silver Bow Creek in Reach L (SS-13), and Silver Bow Creek at Miles Crossing (SS-14). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].

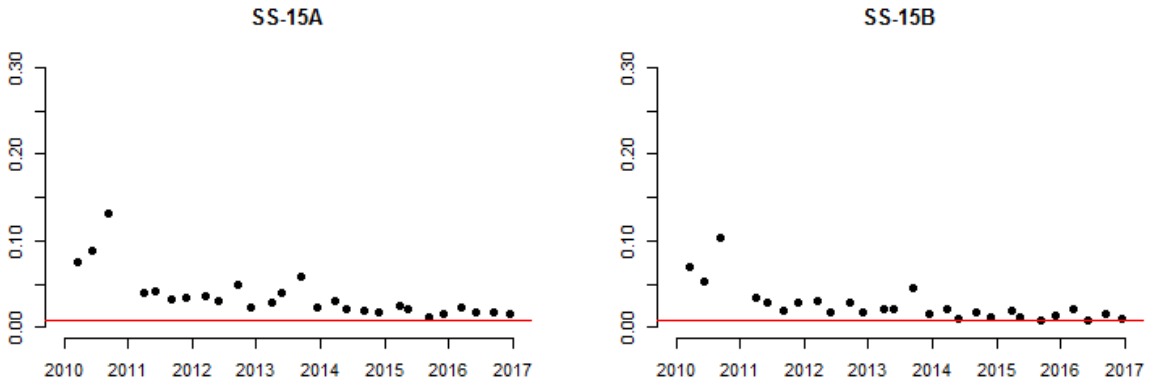

Figure 1-54. Total recoverable copper concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (SS-15A) and below (SS-15B) German Gulch. Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].[19]

[19] Two outliers are not depicted: 2.01 mg/L at SS-15A on December 13, 2010 and 1.25 mg/L at SS-15B on the same day.

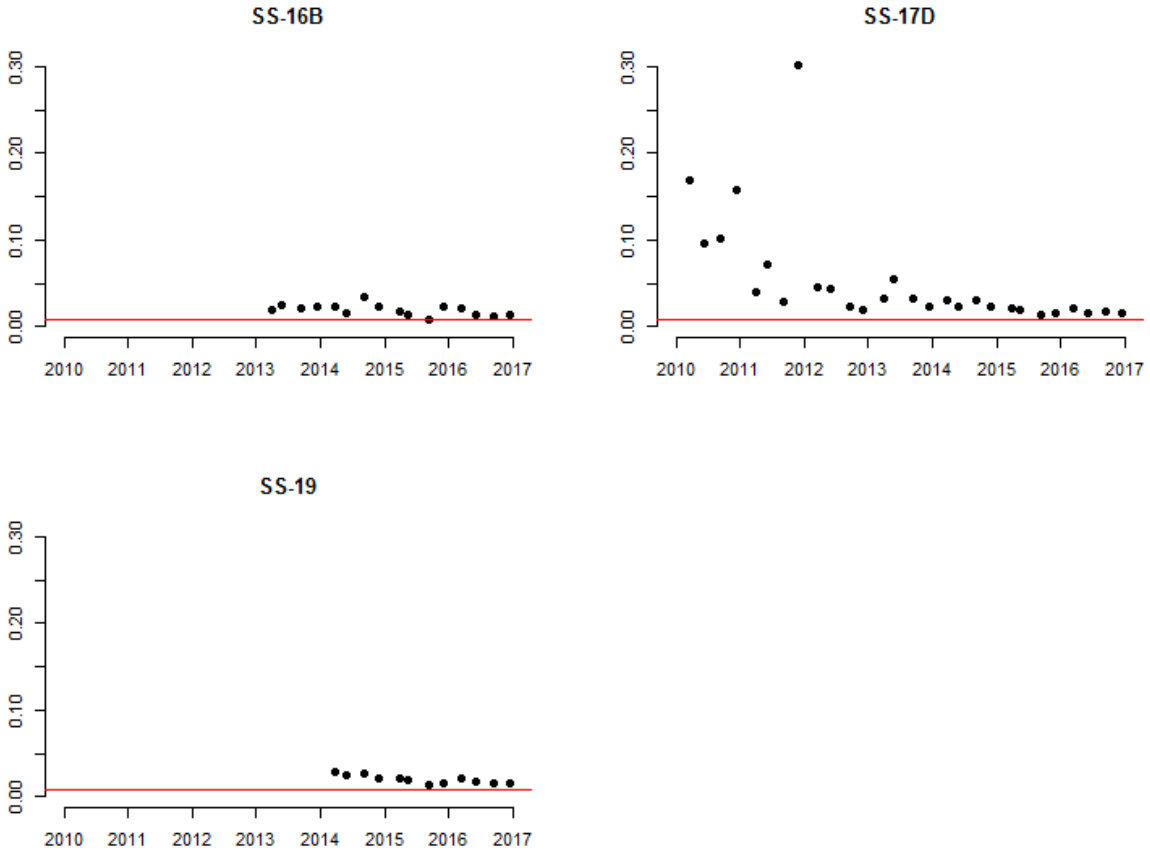

Figure 1-55. Total recoverable copper concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (SS-16B), Silver Bow Creek at Opportunity (SS-17D), and Silver Bow Creek at Frontage Road (SS-19). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].

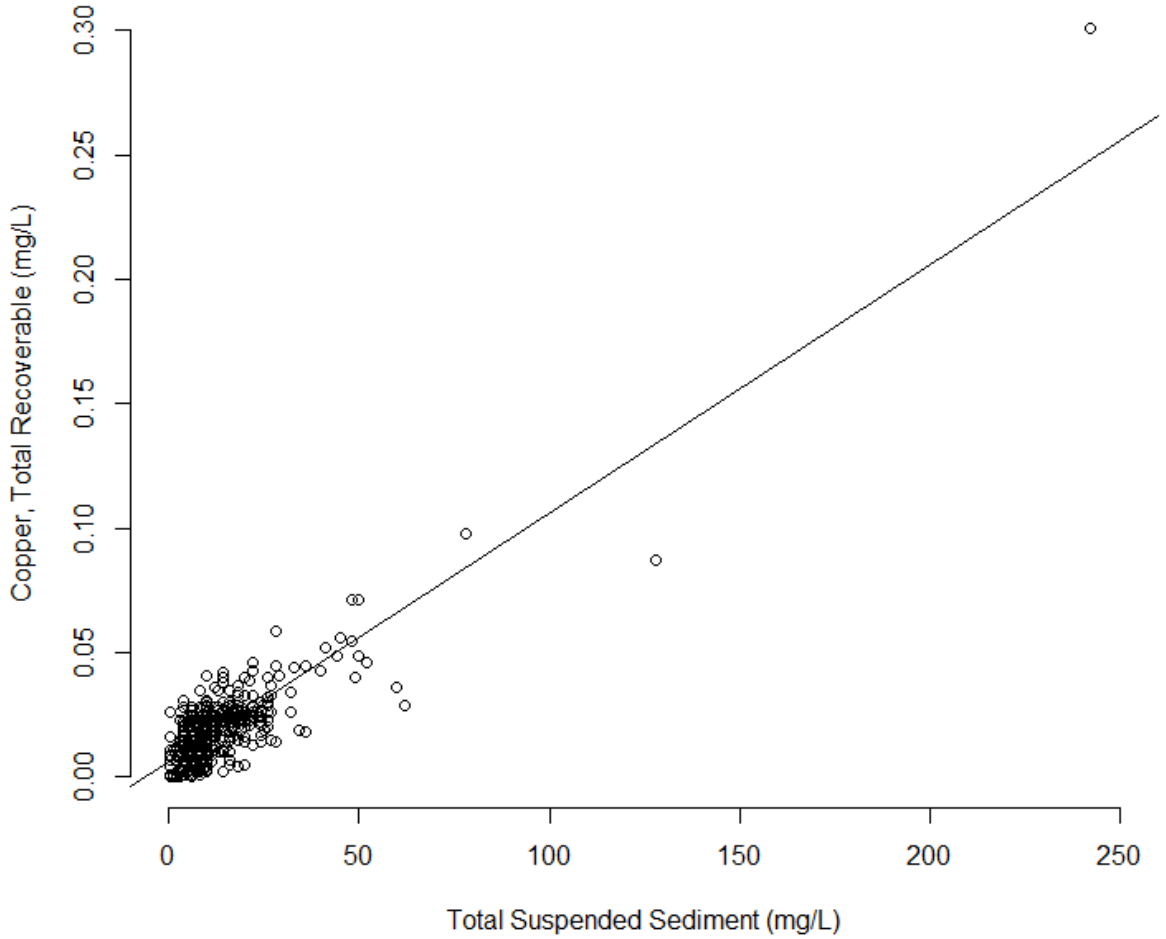

Figure 1-56. Relationship between total suspended sediment concentrations and total recoverable copper concentrations in the Streamside Tailings Operable Unit, 2011-2016. Black line represents ordinary least squares regression.

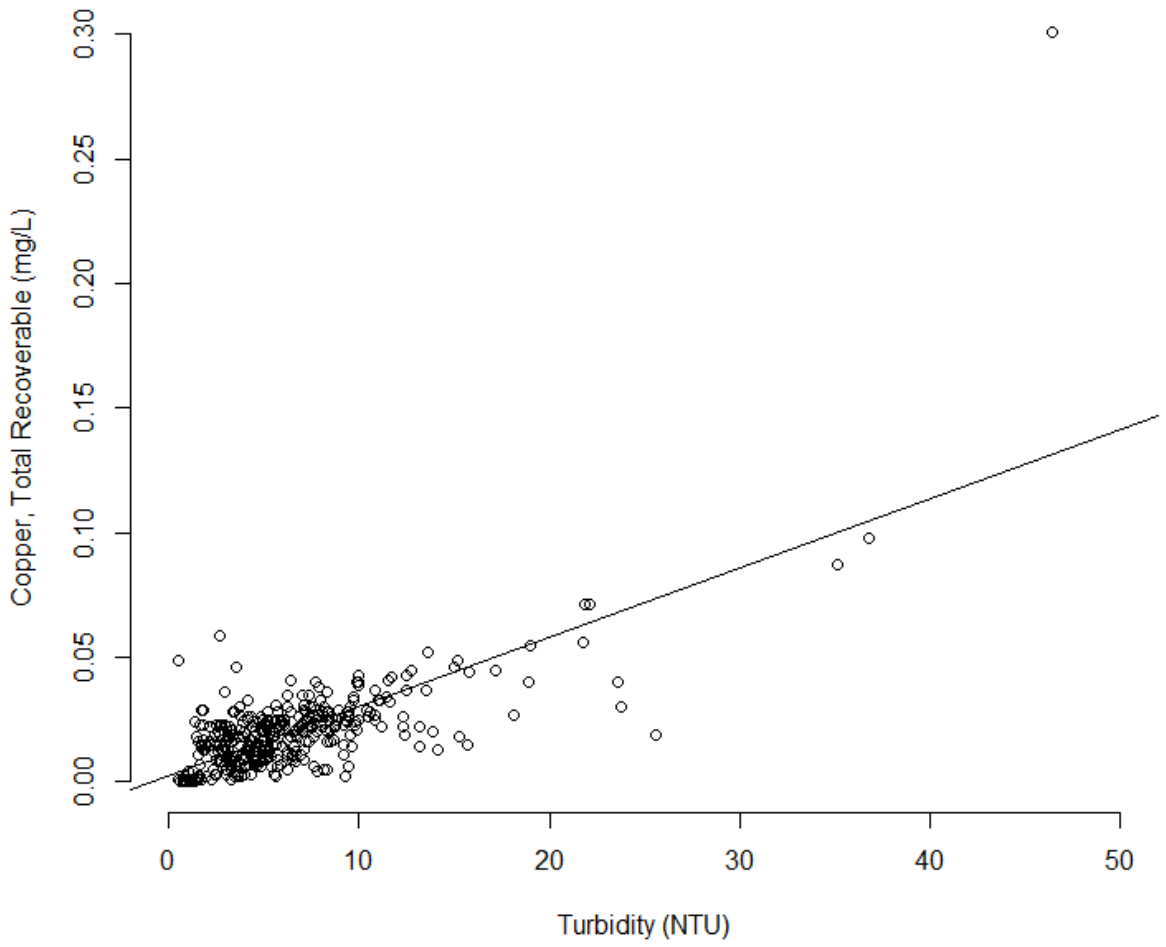

Figure 1-57. Relationship between turbidity and total recoverable copper concentrations in the Streamside Tailings Operable Unit, 2011-2016. Black line represents ordinary least squares regression.

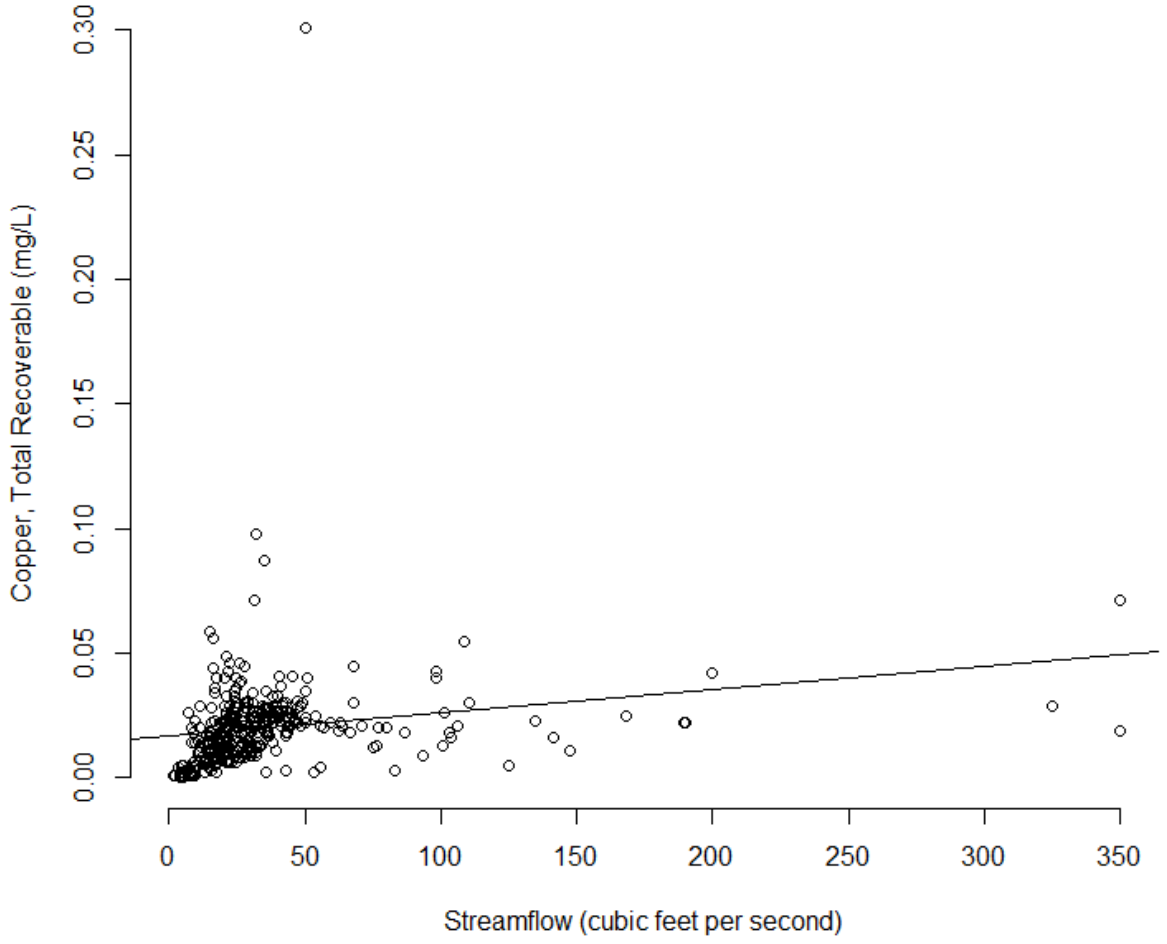

Figure 1-58. Relationship between streamflows and total recoverable copper concentrations in the Streamside Tailings Operable Unit, 2011-2016. Black line represents ordinary least squares regression.

1.4.7.4 Lead

In 2016, total recoverable lead concentrations in the SSTOU ranged from <0.0003-0.0121 mg/L [Table 1-15]. Four samples had concentrations exceeding the chronic aquatic life standard, all in Q4 [Table 1-15]. Concentrations in Subarea 1 and 2 were highest in Q4 although in Subarea 3 and Subarea 4, concentrations were lowest in Q4 [Figure 1-59]. During other quarters, concentrations were generally similar [Figure 1-59]

Compared to prior monitoring years (2010-2015), total recoverable lead concentrations in all 2016 quarters (except Q4) were similar in reference sites [Figure 1-60], similar in Subarea 1 sites [Figure 1-61], and similar in Subarea 2 sites [Figure 1-62]. In some reference, Subarea 1, and Subarea 2 sites (e.g., SS-05A, SS-08, SS-10B), concentrations in Q4 2016 were slightly higher than in prior monitoring periods since 2010 [Figure 1-60; Figure 1-61; Figure 1-62]. In Subarea 3, concentrations appear to be reduced in both sites, particularly since 2014 [Figure 1-63]. In Subarea 4 sites, there is no obvious trend at sites monitored only since 2013, but at Opportunity (monitored since 2010), there was a sharp decrease in concentrations after 2013 [Figure 1-64].

Table 1-15. Total recoverable lead concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.0012	0.0008	ND	0.0013
SS-05A	Silver Bow Creek above Butte Reduction Works	0.0038	0.0016	0.0020	0.0066
SS-06G	Silver Bow Creek above Butte WWTP	0.0041	0.0016	0.0022	0.0056
SS-07	Silver Bow Creek below Butte WWTP	0.0026	0.0013	0.0018	0.0034
SS-08	Silver Bow Creek at Rocker	0.0021	0.0016	0.0058	0.0121
SS-10A	Silver Bow Creek above Sand Creek	0.0032	0.0014	0.0021	0.0083
SS-10B	Silver Bow Creek below Sand Creek	0.0027	0.0013	0.0020	0.0107
SS-11C	Silver Bow Creek above Browns Gulch	0.0018	0.0012	0.0013	0.0036
SS-11D	Silver Bow Creek below Browns Gulch	0.0017	0.0013	0.0014	0.0033
SS-13	Silver Bow Creek in Reach L	0.0018	0.0013	0.0011	0.0055
SS-14	Silver Bow Creek at Miles Crossing	0.0025	0.0014	0.0008	0.0052
SS-15A	Silver Bow Creek above German Gulch	0.0019	0.0013	0.0023	0.0007
SS-15G	German Gulch near confluence	0.0004	ND	ND	ND
SS-15B	Silver Bow Creek below German Gulch	0.0019	0.0009	0.0019	0.0005
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.0017	0.0013	0.0015	0.0010
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.0017	0.0020	0.0023	0.0008
SS-19	Silver Bow Creek at Frontage Road	0.0018	0.0021	0.0021	0.0008

ND Not detected at analytical reporting limit.

Exceeds the chronic aquatic life standards [MDEQ, 2012a].

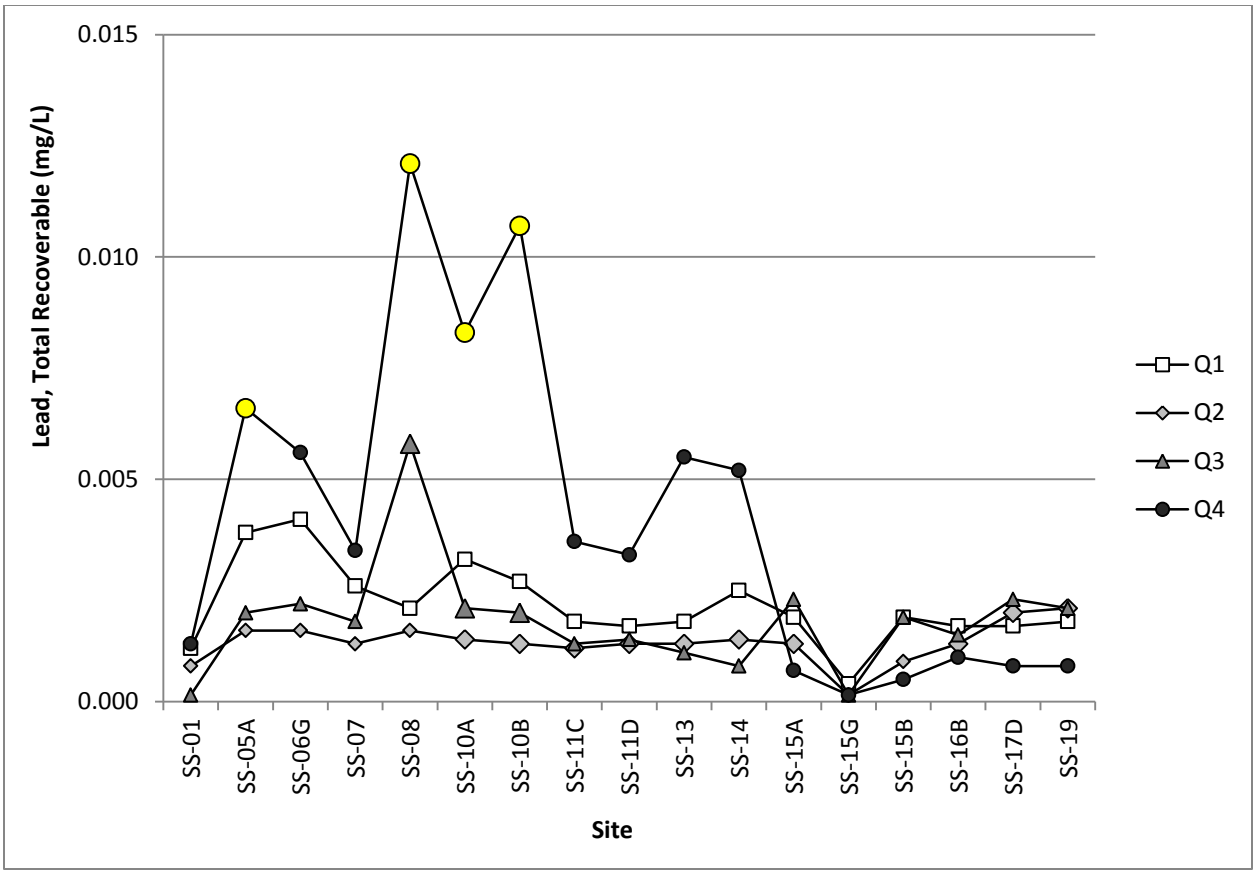

Figure 1-59. Total recoverable lead concentrations at Streamside Tailings Operable Unit monitoring stations, 2016. Yellow symbols represent samples exceeding the chronic aquatic life standards [MDEQ, 2012a].

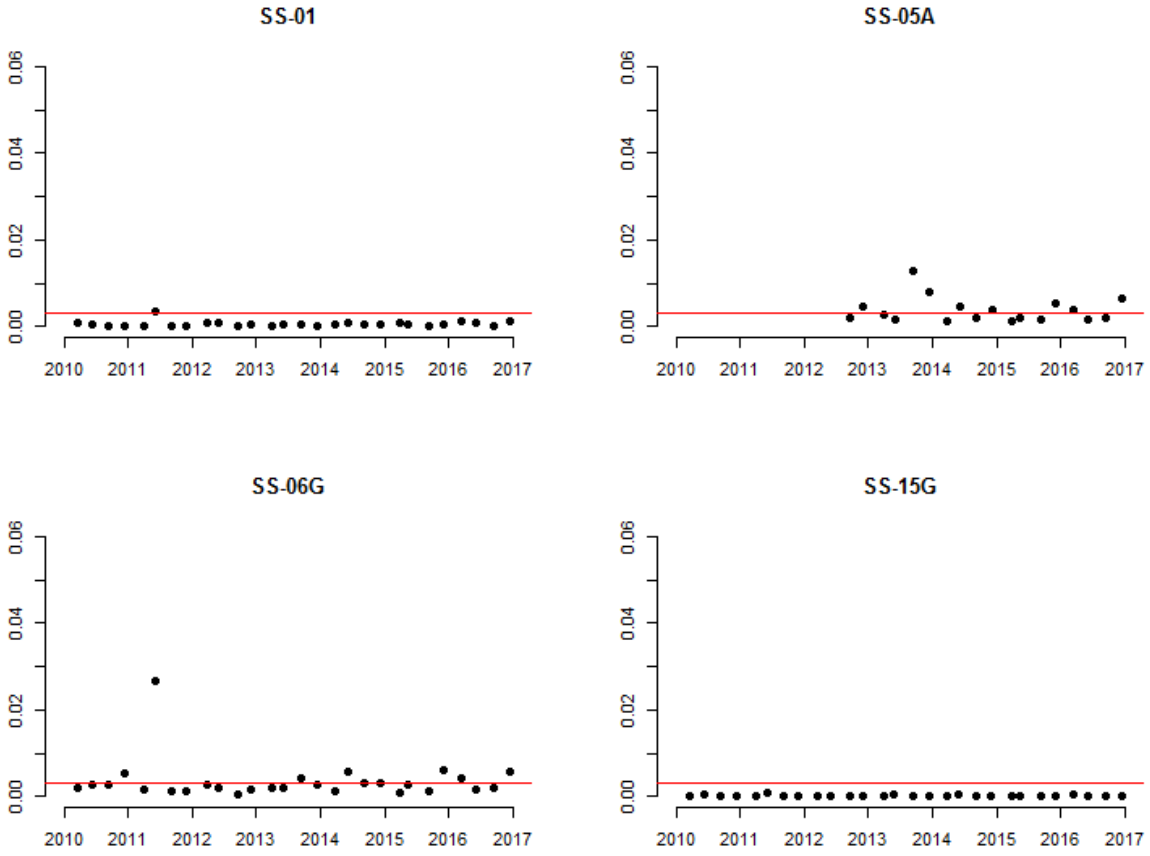

Figure 1-60. Total recoverable lead concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (SS-01), Silver Bow Creek above Butte Reduction Works (SS-05A), Silver Bow Creek above Butte WWTP (SS-06G), and German Gulch near mouth (SS-15G). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.

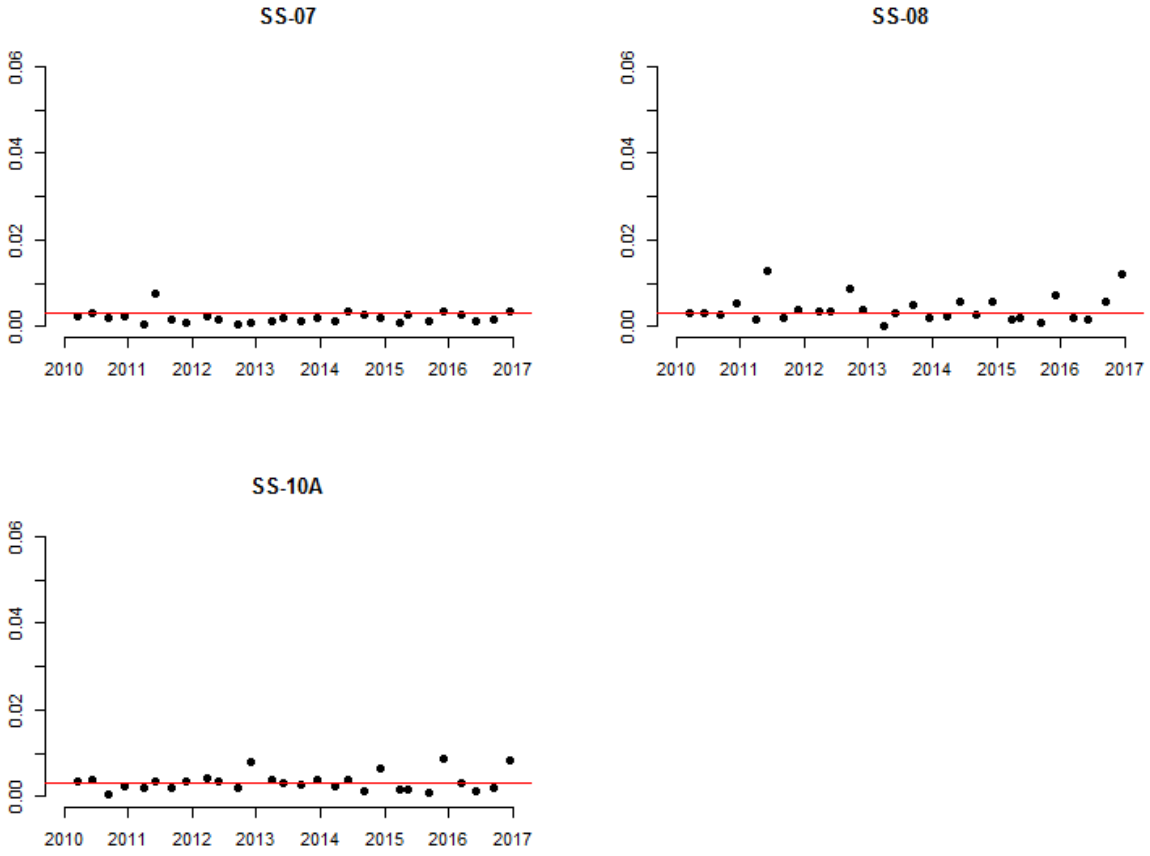

Figure 1-61. Total recoverable lead concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (SS-07), Silver Bow Creek at Rocker (SS-08), and Silver Bow Creek above Sand Creek (SS-10A). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].

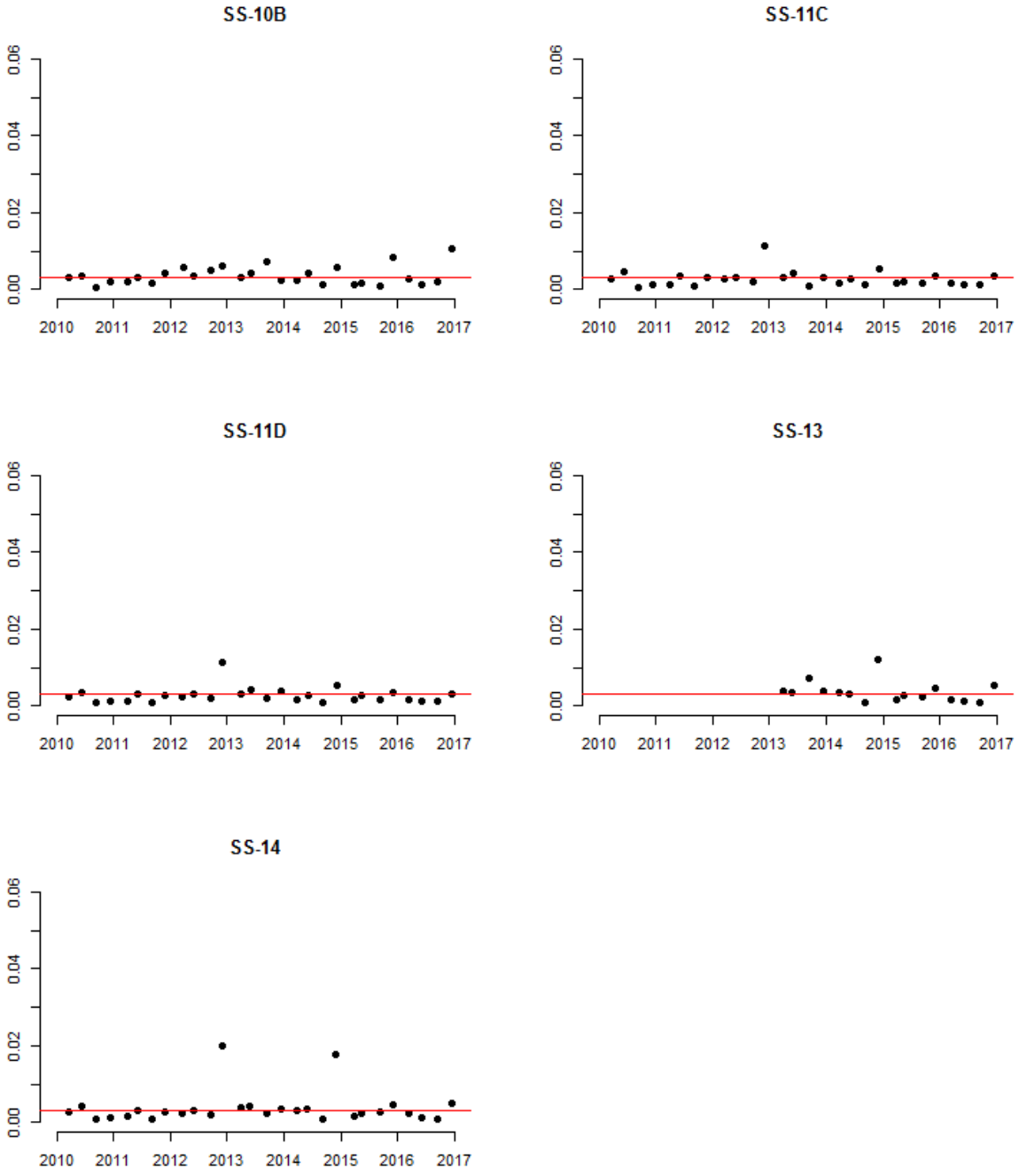

Figure 1-62. Total recoverable lead concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (SS-10B), Silver Bow Creek above (SS-11C) and below (SS-11D) Browns Gulch, Silver Bow Creek in Reach L (SS-13), and Silver Bow Creek at Miles Crossing (SS-14). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].

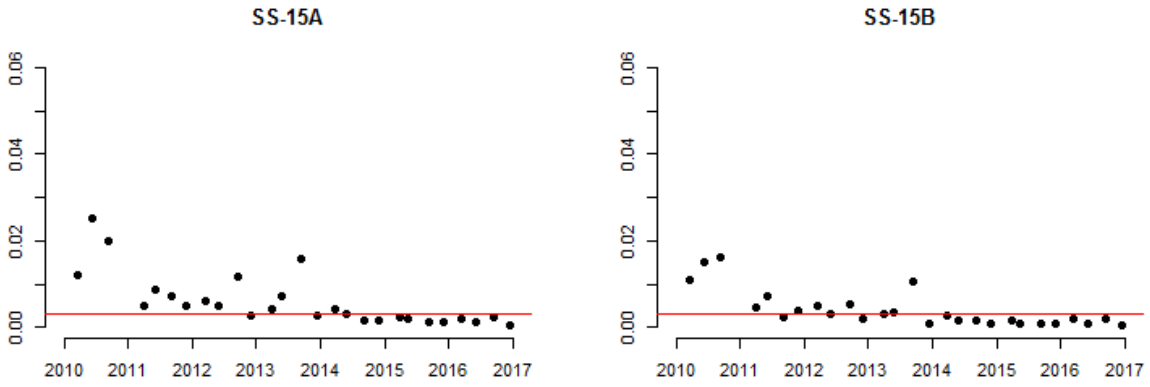

Figure 1-63. Total recoverable lead concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (SS-15A) and below (SS-15B) German Gulch. Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].[20]

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

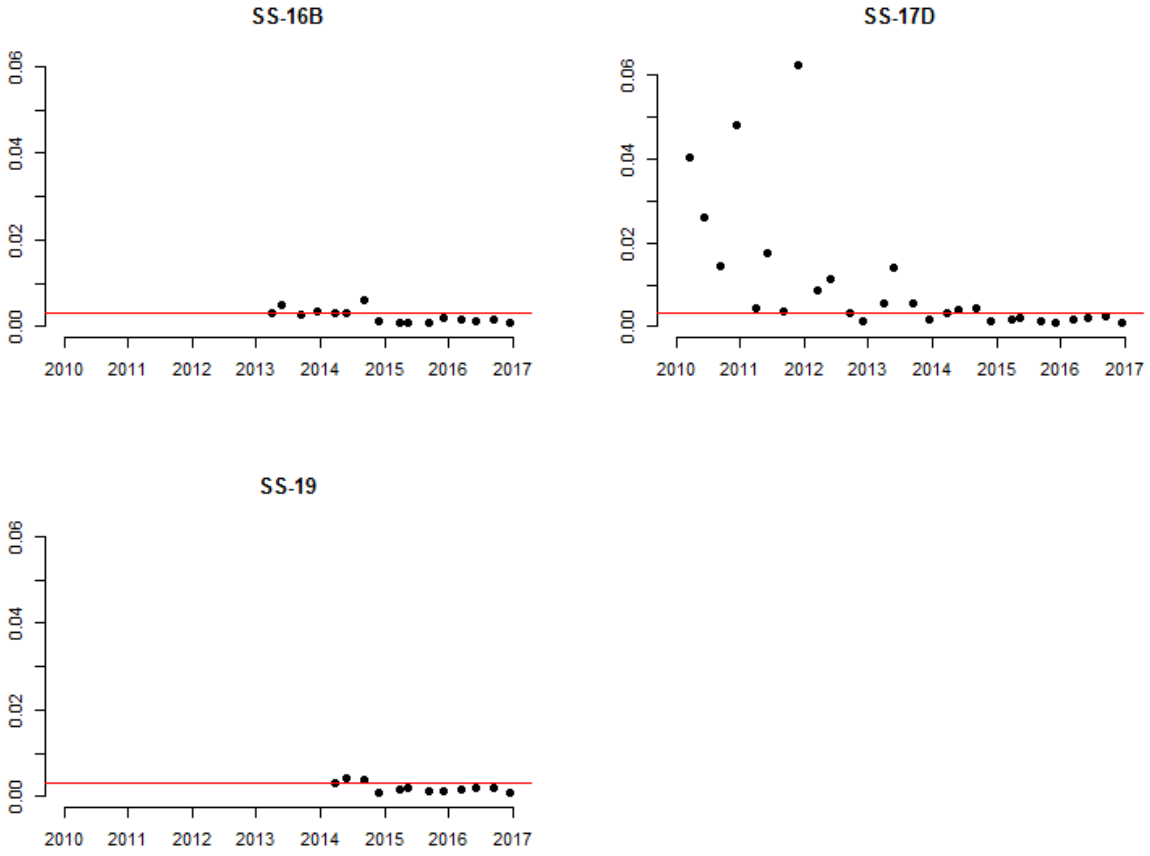

Figure 1-64. Total recoverable lead concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (SS-16B), Silver Bow Creek at Opportunity (SS-17D), and Silver Bow Creek at Frontage Road (SS-19). Red line represents the human health surface water standard assuming hardness is 100 mg/L [MDEQ, 2012a].

1.4.7.5 Mercury

In 2016, total recoverable mercury concentrations in the SSTOU ranged from <0.000005-0.000072 mg/L [Table 1-16]. Eighteen samples had concentrations exceeding the chronic aquatic life standard [Table 1-16]. In Subarea 1 and Subarea 2 (between sites SS-07 and SS-14), concentrations were highest (by a large margin) in Q4; however, concentrations in Subarea 3 and 4 sites (from SS-15A to SS-19) were lowest Q4 [Figure 1-65]. For comparison, the highest concentration observed in Q4 in Silver Bow Creek (0.000072 mg/L at SS-10A in Q4) was 11.5 times lower than the highest concentration observed in Flint Creek in 2016 (0.000830 mg/L in Q2 2016; RESPEC, 2017].

Long-term trends (2010-2016) for total recoverable mercury concentrations are difficult to discern at many sites because the reporting limits prior to 2014 were high (≥0.00005 mg/L). Prior to lowering the reporting limits in 2014, the majority of samples in reference sites [Figure 1-66], Subarea 1 sites [Figure 1-67], Subarea 2 sites [Figure 1-68], and site SS-15B in Subarea 3 [Figure 1-69] had concentrations below the 0.00005 mg/L reporting limit and therefore those data of very limited use for identifying temporal trends (particularly downward trends) from 2010-2016. However, despite the confounding influence of the high reporting limits prior to 2014, some sites appear to be exhibiting decreasing concentrations through time, specifically: Silver Bow Creek in Reach L (SS-13) [Figure 1-68], Silver Bow Creek above German Gulch (SS-15A) [Figure 1-69], Silver Bow Creek at Fairmont (SS-16B) [Figure 1-70], and Silver Bow Creek at Opportunity (SS-17D) [Figure 1-70]. In addition, despite the relatively short sample period (2014-2016), there appears to potentially be a decreasing trend in Silver Bow Creek at Frontage Road (SS-19) [Figure 1-70].

Table 1-16. Total recoverable mercury concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.000005	0.000007	ND	0.000009
SS-05A	Silver Bow Creek above Butte Reduction Works	0.000007	0.000010	ND	0.000019
SS-06G	Silver Bow Creek above Butte WWTP	0.000008	0.000007	0.000012	0.000012
SS-07	Silver Bow Creek below Butte WWTP	ND	0.000006	ND	0.000009
SS-08	Silver Bow Creek at Rocker	0.000008	0.000008	0.000022	0.000048
SS-10A	Silver Bow Creek above Sand Creek	0.000012	0.000007	0.000009	0.000072
SS-10B	Silver Bow Creek below Sand Creek	0.000016	0.000006	0.000009	0.000063
SS-11C	Silver Bow Creek above Browns Gulch	0.000014	0.000007	0.000007	0.000020
SS-11D	Silver Bow Creek below Browns Gulch	0.000011	0.000007	ND	0.000015
SS-13	Silver Bow Creek in Reach L	0.000012	0.000008	0.000005	0.000027
SS-14	Silver Bow Creek at Miles Crossing	0.000018	0.000010	0.000007	0.000025
SS-15A	Silver Bow Creek above German Gulch	0.000013	0.000011	0.000013	ND
SS-15G	German Gulch near confluence	ND	ND	ND	ND
SS-15B	Silver Bow Creek below German Gulch	0.000014	0.000008	0.000011	ND
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.000012	0.000012	0.000009	0.000006
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.000008	0.000016	0.000016	ND
SS-19	Silver Bow Creek at Frontage Road	0.000007	0.000016	0.000012	ND

ND Not detected at analytical reporting limit.

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

Exceeds the human health surface water standard [MDEQ, 2012a].

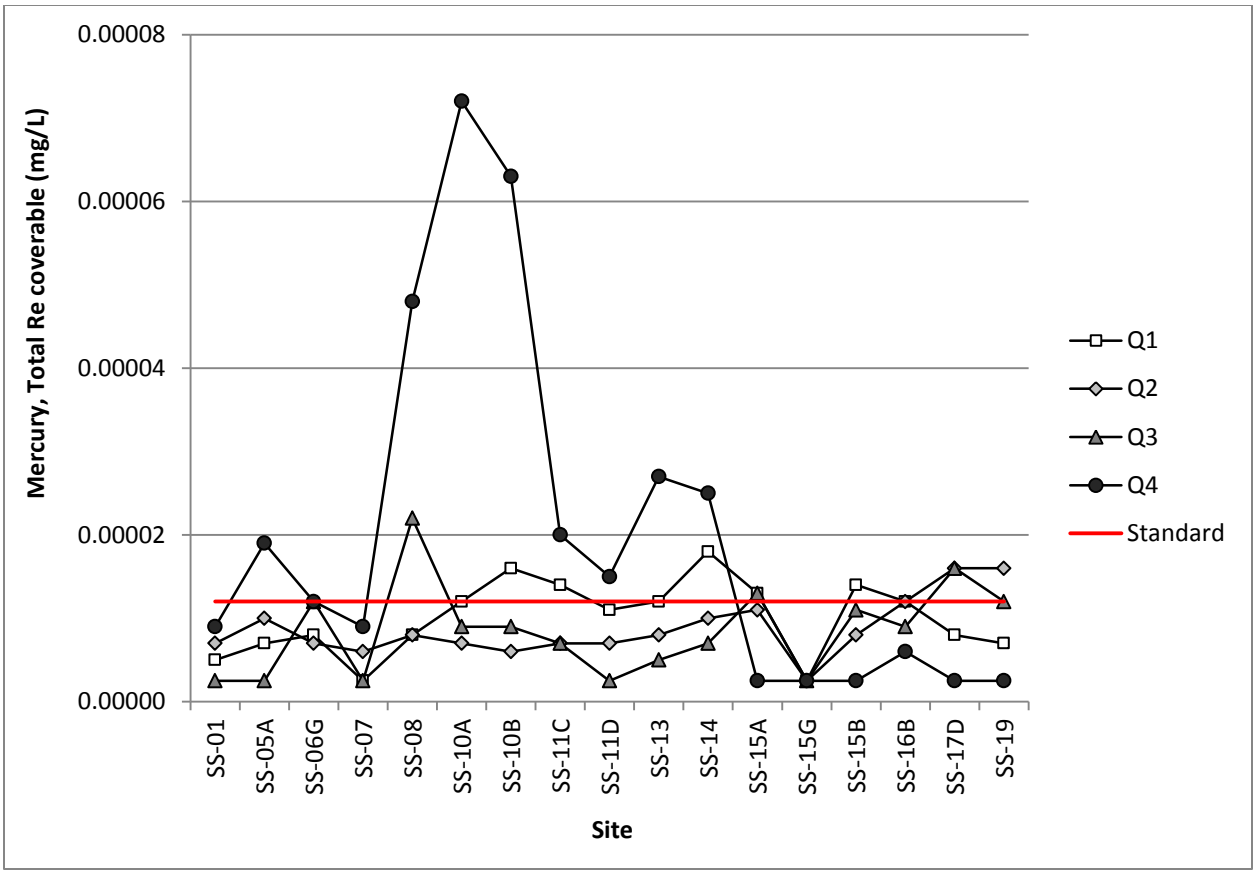

Figure 1-65. Total recoverable mercury concentrations at Streamside Tailings Operable Unit monitoring stations, 2016. Red line represents the chronic aquatic life standard [MDHES, 1994].

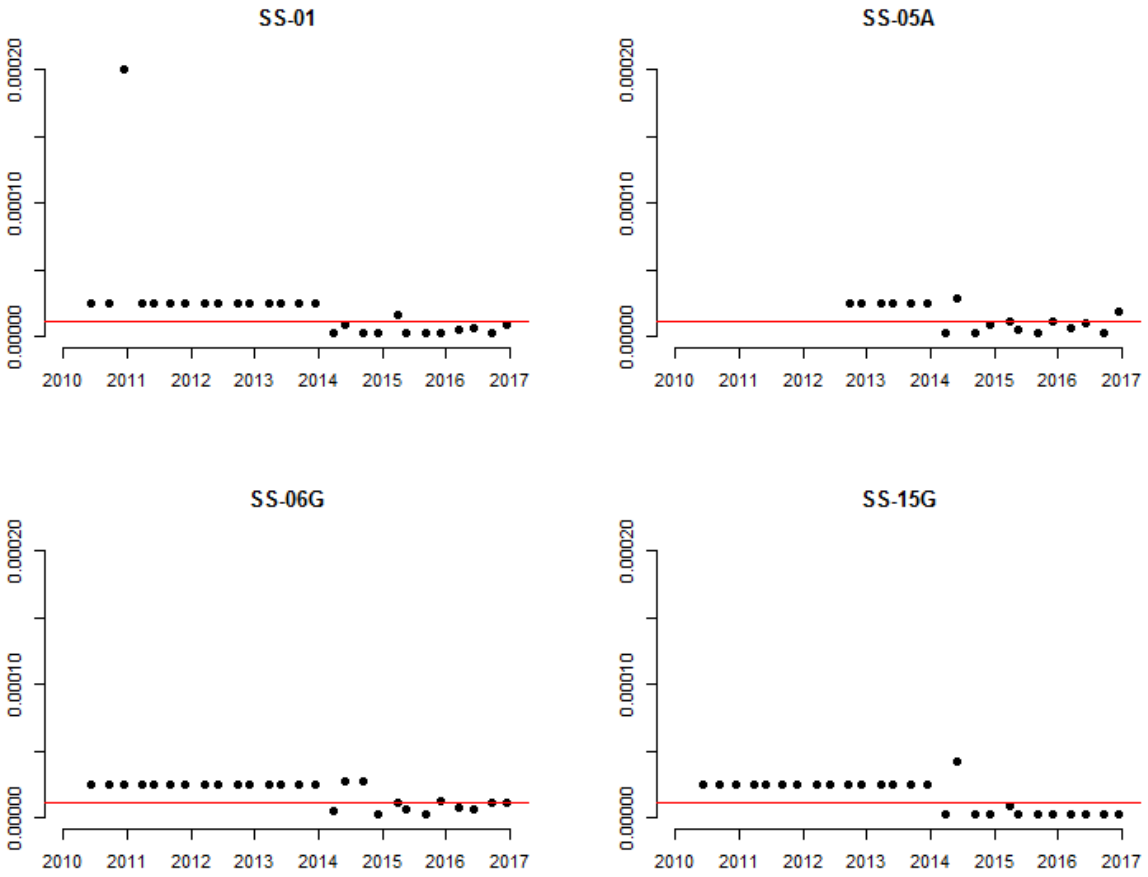

Figure 1-66. Total recoverable mercury concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (SS-01), Silver Bow Creek above Butte Reduction Works (SS-05A), Silver Bow Creek above Butte WWTP (SS-06G), and German Gulch near mouth (SS-15G). Red line represents the chronic aquatic life standard [MDHES, 1994]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.[21]

[21] Samples collected on March 23, 2010 are not included because the reporting limit was high (0.001 mg/L).

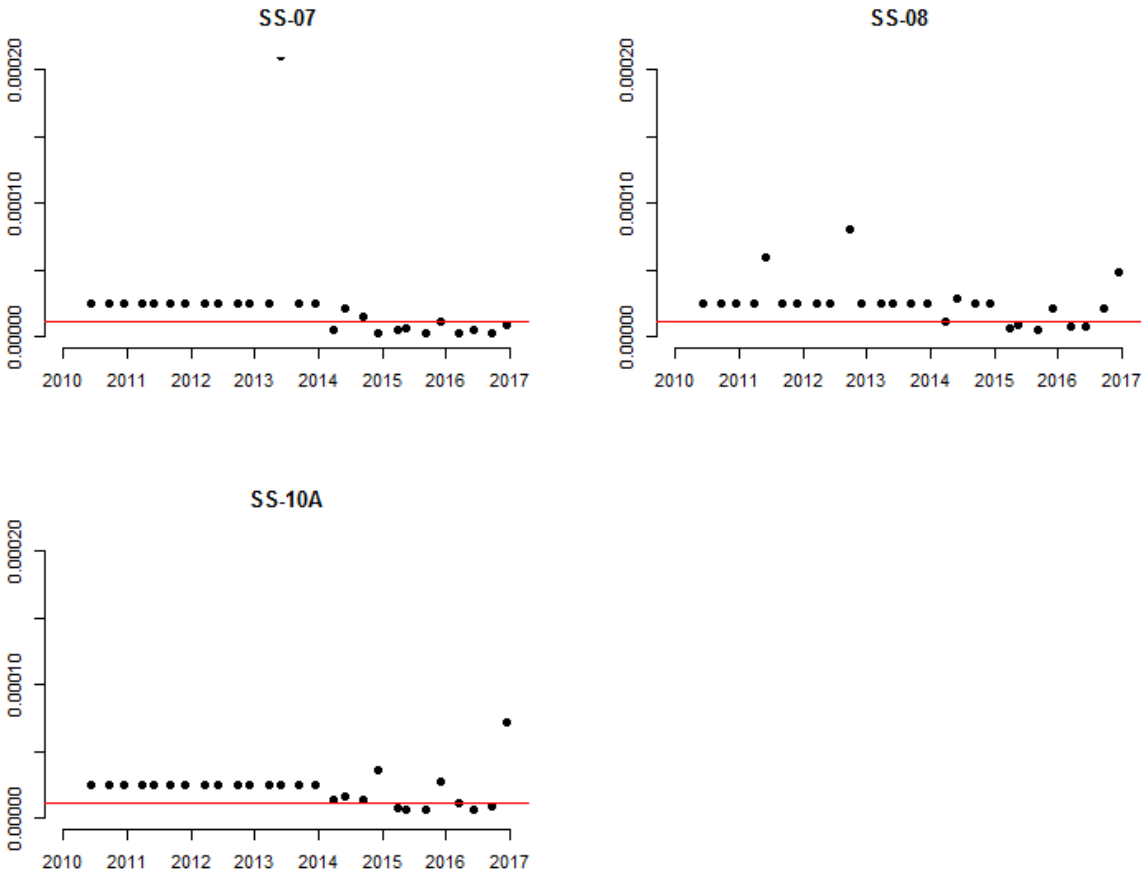

Figure 1-67. Total recoverable mercury concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (SS-07), Silver Bow Creek at Rocker (SS-08), and Silver Bow Creek above Sand Creek (SS-10A). Red line represents the chronic aquatic life standard [MDHES, 1994]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL. [22]

[22] Samples collected on March 23, 2010 are not included because the reporting limit was high (0.001 mg/L).

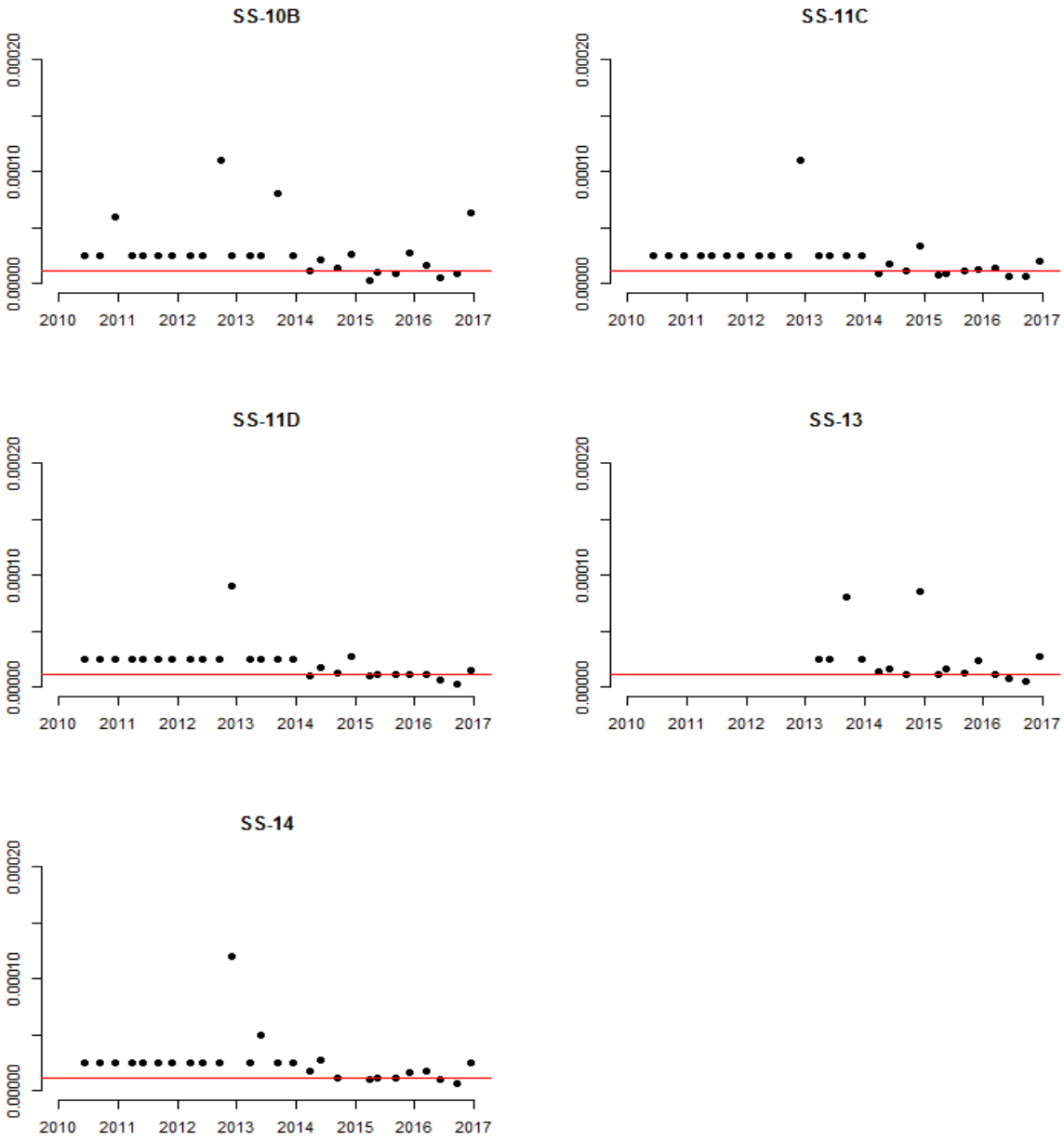

Figure 1-68. Total recoverable mercury concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (SS-10B), Silver Bow Creek above (SS-11C) and below (SS-11D) Browns Gulch, Silver Bow Creek in Reach L (SS-13), and Silver Bow Creek at Miles Crossing (SS-14). Red line represents the chronic aquatic life standard [MDHES, 1994]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL. [23] [24]

[23] Samples collected on March 23, 2010 are not included because the reporting limit was high (0.001 mg/L).

[24] One outlier is not depicted: 0.00036 mg/L at SS-14 on December 3, 2014.

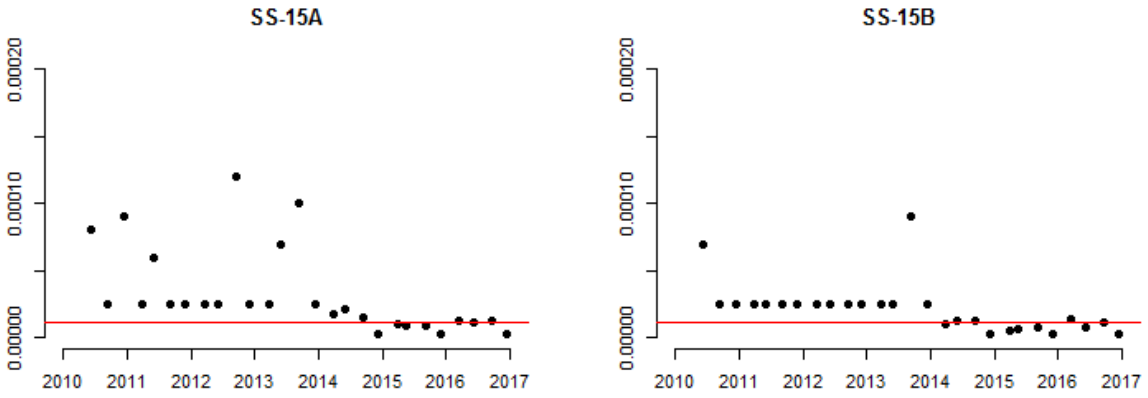

Figure 1-69. Total recoverable mercury concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (SS-15A) and below (SS-15B) German Gulch. Red line represents the chronic aquatic life standard [MDHES, 1994]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.

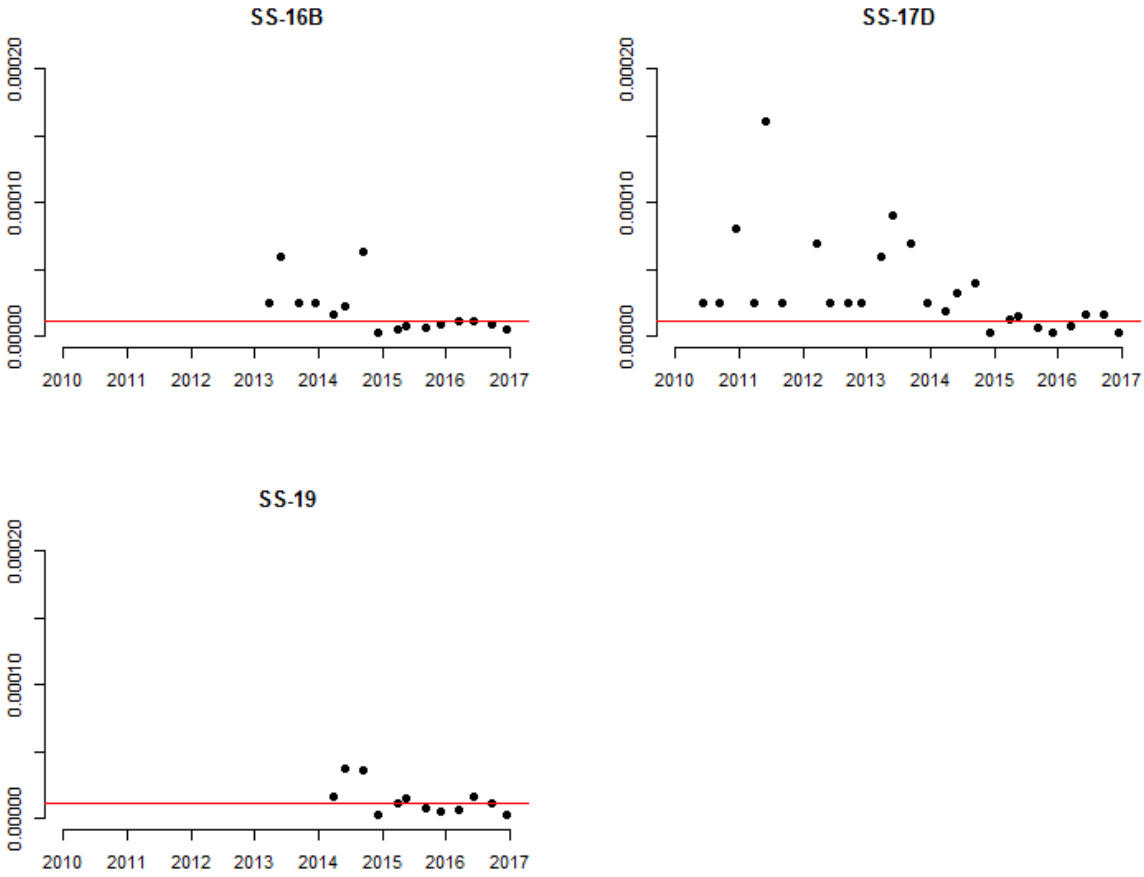

Figure 1-70. Total recoverable mercury concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (SS-16B), Silver Bow Creek at Opportunity (SS-17D), and Silver Bow Creek at Frontage Road (SS-19). Red line represents the chronic aquatic life standard [MDHES, 1994]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL. [25] [26]

[25] Samples collected on March 23, 2010 are not included because the reporting limit was high (0.001 mg/L).

[26] One outlier is not depicted: 0.00034 mg/L at SS-17D on November 29, 2011.

1.4.7.6 Zinc

In 2016, total recoverable zinc concentrations in the SSTOU ranged from 0.004-0.182 mg/L [Table 1-17]. No samples had concentrations exceeding the chronic aquatic life standard [MDHES, 1994; Table 1-17]. Concentrations were generally highest in Q1 or Q4 and lowest in Q2 or Q3 [Figure 1-71].

Compared to prior monitoring years (2010-2015), total recoverable zinc concentrations in 2016 were generally similar in reference sites [Figure 1-72], in Subarea 1 sites [Figure 1-73], and in Subarea 2 sites [Figure 1-74]. However, there was an exception to that general trend in Q4 2016 at the three Subarea 1 sites and in Silver Bow Creek below Sand Creek (SS-10B). At those sites in Q4 2016, zinc concentrations were somewhat high relative to prior data [Figure 1-73; Figure 1-74]. In Subarea 3, concentrations appear to be decreasing in both sites, particularly since 2011 [Figure 1-75]. In Subarea 4, concentrations appear to be decreasing slightly since a sharp decrease between 2011 and 2012 [Figure 1-76].

Table 1-17. Total recoverable zinc concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.009	0.004	0.004	0.009
SS-05A	Silver Bow Creek above Butte Reduction Works	0.029	0.015	0.016	0.047
SS-06G	Silver Bow Creek above Butte WWTP	0.033	0.016	0.019	0.052
SS-07	Silver Bow Creek below Butte WWTP	0.050	0.030	0.055	0.075
SS-08	Silver Bow Creek at Rocker	0.066	0.035	0.073	0.155
SS-10A	Silver Bow Creek above Sand Creek	0.116	0.044	0.053	0.150
SS-10B	Silver Bow Creek below Sand Creek	0.114	0.043	0.055	0.182
SS-11C	Silver Bow Creek above Browns Gulch	0.162	0.067	0.067	0.148
SS-11D	Silver Bow Creek below Browns Gulch	0.141	0.069	0.069	0.134
SS-13	Silver Bow Creek in Reach L	0.076	0.042	0.046	0.152
SS-14	Silver Bow Creek at Miles Crossing	0.087	0.044	0.038	0.155
SS-15A	Silver Bow Creek above German Gulch	0.090	0.050	0.058	0.114
SS-15G	German Gulch near confluence	0.004	0.004	0.004	0.004
SS-15B	Silver Bow Creek below German Gulch	0.098	0.026	0.049	0.090
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.123	0.038	0.040	0.090
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.123	0.052	0.063	0.099
SS-19	Silver Bow Creek at Frontage Road	0.119	0.057	0.064	0.100

ND Not detected at analytical reporting limit.

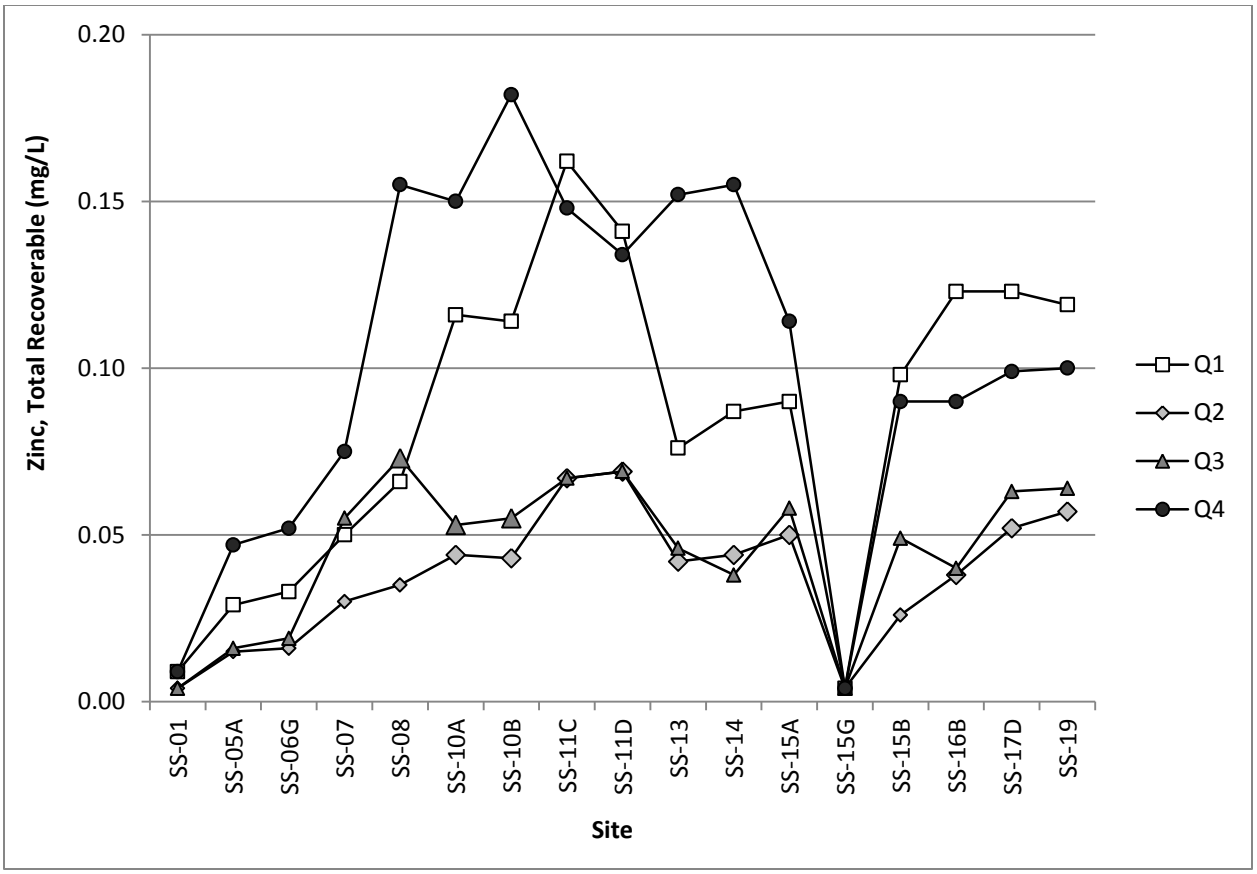

Figure 1-71. Total recoverable zinc concentrations at Streamside Tailings Operable Unit monitoring stations, 2016.

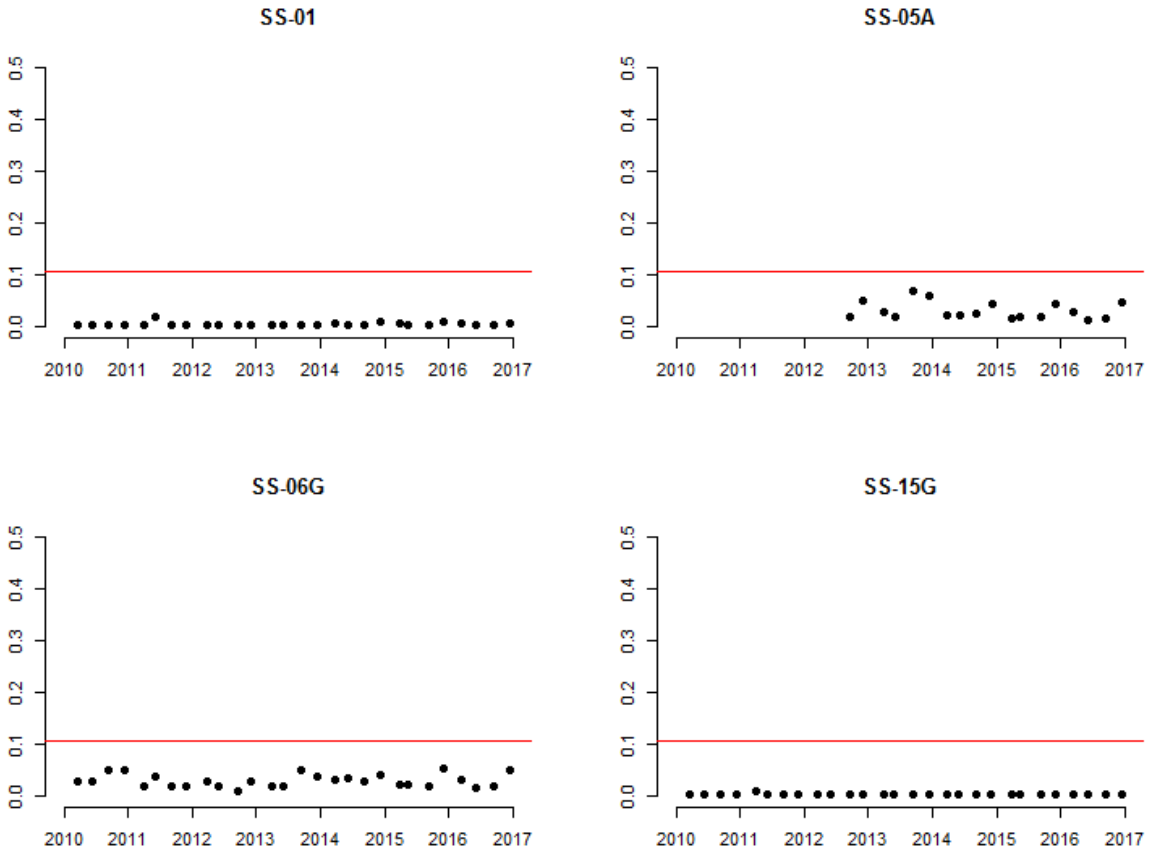

Figure 1-72. Total recoverable zinc concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (SS-01), Silver Bow Creek above Butte Reduction Works (SS-05A), Silver Bow Creek above Butte WWTP (SS-06G), and German Gulch near mouth (SS-15G). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].

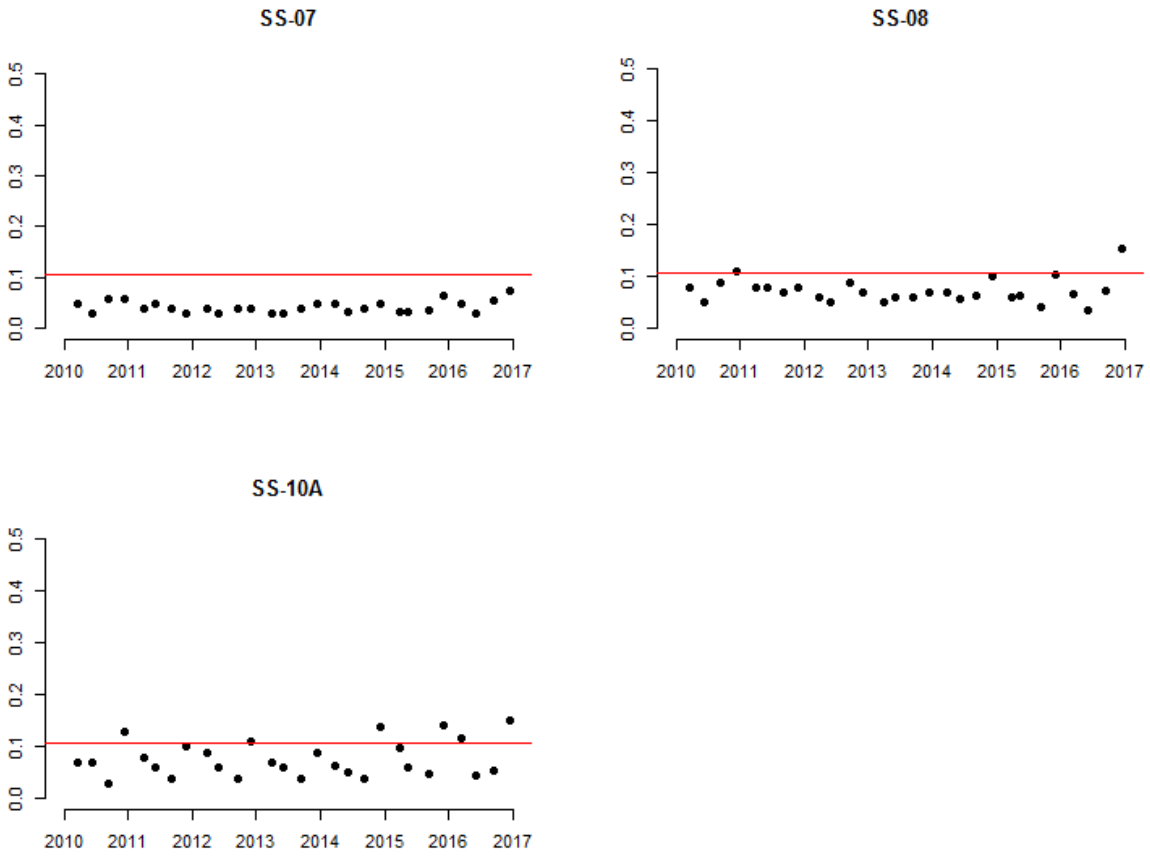

Figure 1-73. Total recoverable zinc concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (SS-07), Silver Bow Creek at Rocker (SS-08), and Silver Bow Creek above Sand Creek (SS-10A). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].

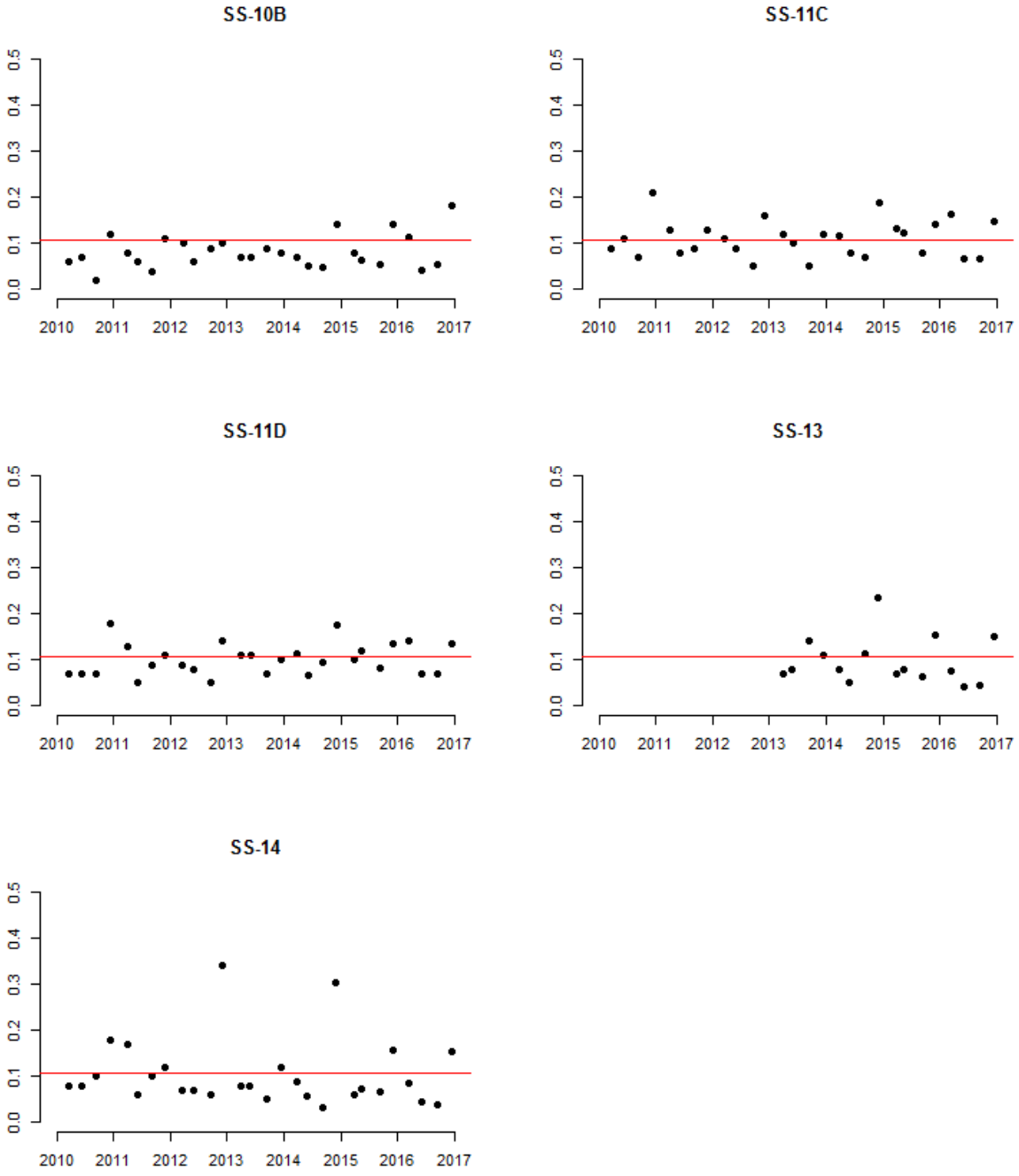

Figure 1-74. Total recoverable zinc concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (SS-10B), Silver Bow Creek above (SS-11C) and below (SS-11D) Browns Gulch, Silver Bow Creek in Reach L (SS-13), and Silver Bow Creek at Miles Crossing (SS-14). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].

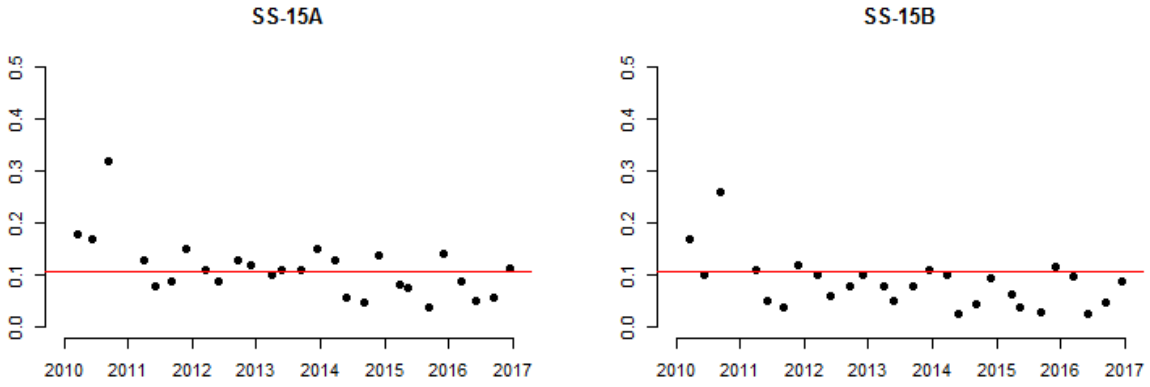

Figure 1-75. Total recoverable zinc concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (SS-15A) and below (SS-15B) German Gulch. Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].[27]

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

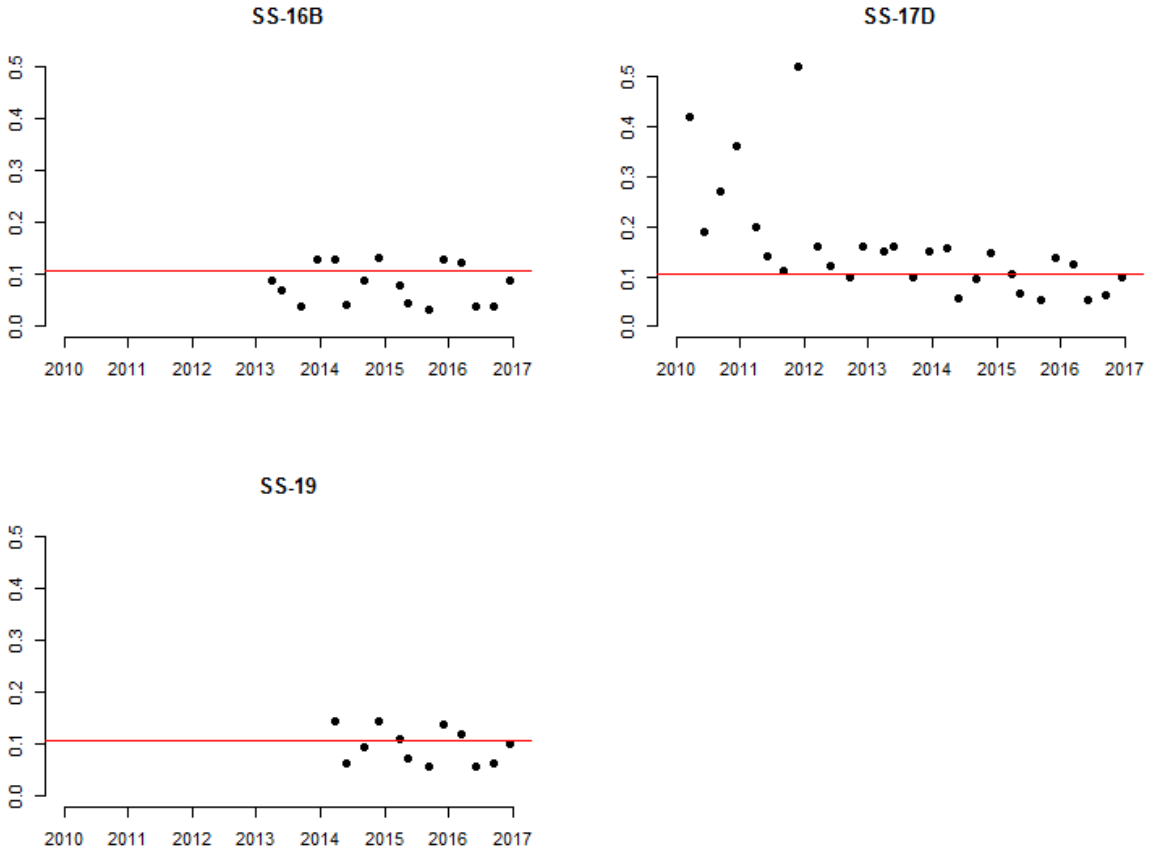

Figure 1-76. Total recoverable zinc concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (SS-16B), Silver Bow Creek at Opportunity (SS-17D), and Silver Bow Creek at Frontage Road (SS-19). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].

1.4.8 Other Metals

1.4.8.1 Aluminum

Dissolved aluminum was detected at concentrations above the reporting limit (0.009 mg/L) in 9% of the samples (6 of 68) collected in 2016; concentrations ranged from <0.009-0.022 mg/L. No samples had dissolved aluminum concentrations exceeding the MDEQ [2012a] standards.

Total recoverable aluminum was detected at concentrations above the reporting limit in 100% of the samples (68 of 68) in 2016; concentrations ranged from 0.027-0.845 mg/L.

1.4.8.2 Antimony

Dissolved antimony was detected at concentrations above the reporting limit (0.0005 mg/L) in 4% of the samples (3 of 68) collected in 2016; concentrations ranged from <0.0005-0.0006 mg/L.

Total recoverable antimony was detected at concentrations above the reporting limit in 4% of the samples (6 of 68) in 2016; concentrations ranged from <0.0005-0.0007 mg/L. No samples had total recoverable antimony concentrations exceeding the MDEQ [2012a] standards.

1.4.8.3 Barium

Dissolved barium was detected at concentrations above the reporting limit (0.003 mg/L) in 100% of the samples (68 of 68) collected in 2016; concentrations ranged from 0.018-0.060 mg/L.

Total recoverable barium was detected at concentrations above the reporting limit in 100% of the samples (68 of 68) in 2016; concentrations ranged from 0.019-0.081 mg/L. No samples had total recoverable barium concentrations exceeding the MDEQ [2012a] standards.

1.4.8.4 Beryllium

Dissolved beryllium was detected at concentrations above the reporting limit (0.0008 mg/L) in 0% of the samples (0 of 68) collected in 2016.

Total recoverable beryllium was detected at concentrations above the reporting limit in 0% of the samples (0 of 68) in 2016. No samples had total recoverable beryllium concentrations exceeding the MDEQ [2012a] standards.

1.4.8.5 Boron

Dissolved boron was detected at concentrations above the reporting limit (0.1 mg/L) in 4% of the samples (3 of 68) collected in 2016; concentrations ranged from <0.1-0.2 mg/L.

Total recoverable boron was detected at concentrations above the reporting limit in 4% of the samples (3 of 68) in 2016; concentrations ranged from <0.1-0.2 mg/L.

1.4.8.6 Chromium

Dissolved chromium was detected at concentrations above the reporting limit (0.01 mg/L) in 0% of the samples (0 of 68) collected in 2016.

Total recoverable chromium was detected at concentrations above the reporting limit in 0% of the samples (0 of 68) in 2016. No samples had total recoverable chromium concentrations exceeding the MDEQ [2012a] standards.

1.4.8.7 Cobalt

Dissolved cobalt was detected at concentrations above the reporting limit (0.01 mg/L) in 0% of the samples (0 of 68) collected in 2016.

Total recoverable cobalt was detected at concentrations above the reporting limit in 0% of the samples (0 of 68) in 2016.

1.4.8.8 Iron

Dissolved iron was detected at concentrations above the reporting limit (0.02 mg/L) in 90% of the samples (61 of 68) collected in 2016; concentrations ranged from <0.02-0.34 mg/L.

Total recoverable iron was detected at concentrations above the reporting limit in 100% of the samples (68 of 68) in 2016; concentrations ranged from 0.03-1.56 mg/L. Seven samples had total recoverable iron concentrations exceeding the MDEQ [2012a] standard [Table 1-18].

Table 1-18. Total recoverable iron concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2016.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.98	0.93	0.22	0.95
SS-05A	Silver Bow Creek above Butte Reduction Works	1.21	0.82	0.35	1.39
SS-06G	Silver Bow Creek above Butte WWTP	1.02	0.70	0.28	1.04
SS-07	Silver Bow Creek below Butte WWTP	0.69	0.57	0.22	0.66
SS-08	Silver Bow Creek at Rocker	0.51	0.51	0.56	1.56
SS-10A	Silver Bow Creek above Sand Creek	0.74	0.47	0.26	1.08
SS-10B	Silver Bow Creek below Sand Creek	0.64	0.45	0.27	1.48
SS-11C	Silver Bow Creek above Browns Gulch	0.49	0.38	0.16	0.55
SS-11D	Silver Bow Creek below Browns Gulch	0.46	0.42	0.20	0.54
SS-13	Silver Bow Creek in Reach L	0.45	0.42	0.19	0.89
SS-14	Silver Bow Creek at Miles Crossing	0.57	0.44	0.13	0.87
SS-15A	Silver Bow Creek above German Gulch	0.48	0.36	0.30	0.12
SS-15G	German Gulch near confluence	0.28	0.22	0.04	0.03
SS-15B	Silver Bow Creek below German Gulch	0.49	0.29	0.25	0.08
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.42	0.38	0.21	0.19
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.38	0.49	0.30	0.14
SS-19	Silver Bow Creek at Frontage Road	0.41	0.52	0.33	0.14

Exceeds the chronic aquatic life standard [MDEQ, 2012a].

1.4.8.9 Manganese

Dissolved manganese was detected at concentrations above the reporting limit (0.001 mg/L) in 100% of the samples (68 of 68) collected in 2016; concentrations ranged from 0.001-0.280 mg/L.

Total recoverable manganese was detected at concentrations above the reporting limit in 100% of the samples (68 of 68) in 2016; concentrations ranged from 0.003-0.349 mg/L.

1.4.8.10 Molybdenum

Dissolved molybdenum was detected at concentrations above the reporting limit (0.005 mg/L) in 28% of the samples (19 of 68) collected in 2016; concentrations ranged from <0.005-0.007 mg/L.

Total recoverable molybdenum was detected at concentrations above the reporting limit in 47% of the samples (32 of 68) in 2016; concentrations ranged from <0.005-0.007 mg/L.

1.4.8.11 Nickel

Dissolved nickel was detected at concentrations above the reporting limit (0.002 mg/L) in 0% of the samples (0 of 68) collected in 2016.

Total recoverable nickel was detected at concentrations above the reporting limit in 3% of the samples (2 of 68) in 2016; concentrations ranged from <0.002-0.005 mg/L. No samples had total recoverable nickel concentrations exceeding the MDEQ [2012a] standards.

1.4.8.12 Selenium

Dissolved selenium was detected at concentrations above the reporting limit (0.001 mg/L) in 0% of the samples (0 of 68) collected in 2016.

Total recoverable selenium was detected at concentrations above the reporting limit in 0% of the samples (0 of 68) in 2016. No samples had total recoverable selenium concentrations exceeding the MDEQ [2012a] standards.

1.4.8.13 Silver

Dissolved silver was detected at concentrations above the reporting limit (0.0002 mg/L) in 0% of the samples (0 of 68) collected in 2016.

Total recoverable silver was detected at concentrations above the reporting limit in 1% of the samples (1 of 68) in 2016; concentrations ranged from <0.0002-0.0003 mg/L. No samples had total recoverable silver concentrations exceeding the MDEQ [2012a] standards.

1.4.8.14 Uranium

Dissolved uranium was detected at concentrations above the reporting limit (0.0002 mg/L) in 100% of the samples (68 of 68) collected in 2016; concentrations ranged from 0.0004-0.0060 mg/L.

Total recoverable uranium was detected at concentrations above the reporting limit in 100% of the samples (68 of 68) in 2016; concentrations ranged from 0.0005-0.0063 mg/L. No samples had total recoverable uranium concentrations exceeding the MDEQ [2012a] standards.

1.4.8.15 Vanadium

Dissolved vanadium was detected at concentrations above the reporting limit (0.1 mg/L) in 0% of the samples (0 of 68) collected in 2016.

Total recoverable vanadium was detected at concentrations above the reporting limit in 0% of the samples (0 of 68) in 2016.

1.4.9 Data Validation

Data quality objectives (DQOs) were evaluated for accuracy and precision. These DQOs were largely met in 2016, with a few exceptions. Analyte concentrations were measured in field blanks to evaluate sampling accuracy and the extent to which the field techniques may have contaminated the samples. Fifty eight analytes were analyzed in eight separate field blank samples in 2016. Of the 464 analyte concentrations in those field blanks, 1.9% (9 of 464) of the analytes had concentrations equal to or greater than the respective analytical reporting limit. Barium was detected in 12.5% (1 of 8) of the dissolved field blank samples with a concentration of 0.004 mg/L (RL = 0.003 mg/L). Total phosphorus was detected in 12.5% (1 of 8) of the field blank samples with a concentration of 0.008 mg/L (RL = 0.003 mg/L). Dissolved zinc was detected in 87.5% (7 of 8) of the field blanks samples; detectable dissolved zinc concentrations in field blanks ranged from 0.008-0.016 mg/L.

Paired field sample and field duplicate concentrations were compared to evaluate sampling precision. In each pair, fifty eight analytes were analyzed in eight separate field sample and field duplicate pairs in 2016. In total, there were 464 sample and duplicate pairs. Of those pairs, 47% (217 of 464) had concentrations which were ≥500% of the analytical reporting limit (RL) and relative percent difference (RPD) comparisons were made between the field sample and duplicate sample for those 217 analyte pairs. Two of the 217 pairs (1%) had RPDs for a specific analyte greater than the DQO specified for sampling precision (25%). The RPD for total recoverable aluminum was 55% in the sample and duplicate pair collected at SS-11C on September 15, 2016. The RPD for total recoverable aluminum was 30% in the sample and duplicate pair collected at SS-14 on September 14, 2016.

1.5 DISCUSSION

The SSTOU remedy is intended to remove threats to human health and the environment posed by mining related contaminants within the floodplain of Silver Bow Creek. As of December 2016, major remedial measures have been completed throughout the SSTOU and minor actions were in progress in Subarea 1 to remove residual contaminants. This monitoring report represents a continuing assessment of post-remediation conditions as of 2016 in the SSTOU and at reference sample sites immediately outside the SSTOU.

1.5.1 Streamflows

The 2016 monitoring year was characterized by generally higher than normal late winter and spring streamflows, a slightly stronger than normal spring runoff, followed by an extended period of lower than normal summer streamflows and approximately normal fall streamflows. Streamflows appear to be closely related to some constituent concentrations in the SSTOU, particularly common ion concentrations. However, at least in a general sense among all SSTOU sample sites, streamflows have not been a particularly reliable predictor of total recoverable copper concentrations since 2011.

Constituents which appear to be strongly influenced by streamflows include common ions and, to a lesser extent, nutrients. In 2016, hardness, conductivity, and common ion concentrations (alkalinity, bicarbonate alkalinity, calcium, magnesium, sodium, chloride, and sulfate) tended to be lowest during the spring runoff period (Q2) and highest during the early winter sample period (Q4) suggesting that these ion concentrations are strongly influenced by dilution from spring snowmelt. Nutrient concentrations were also generally lowest when streamflows were highest (Q2) indicating that dilution is an important factor controlling nutrient concentrations. However, nutrient concentrations also appeared to be strongly influenced by wastewater management practices and presumably by stream metabolism. Elevated nutrient concentrations during the late fall of 2016 may have been caused by several factors including concentrated nutrients (due to low streamflows), low stream metabolism as rates of biological uptake of nutrients decreased in relation to decreased sunlight and water temperatures, and decomposition of aquatic plants and algae.

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

1.5.2 Field Parameters

1.5.2.1 Water Temperature

Differences in water temperature among sample quarters reflected seasonal temperature fluctuations in the SSTOU in 2016. Temperatures were lowest in the late fall (Q4) and ranged from 0-4.5 C. Temperatures were highest during the spring runoff (Q2) and ranged from 8.3-16.7 C. Within sample quarters, variation in water temperature among sites probably did not represent actual temperature variation because comparisons were confounded by the time of day samples were collected and diel variation in water temperatures was likely very strong during some sample periods (particularly Q2 and Q3). During warm periods, diel fluctuations in water temperature were likely primary factors responsible for the variation in temperatures among sites during the same sample periods. However, in Q4, air temperatures were below freezing (-18 C to -8 C) and therefore diel warming was probably not a significant factor explaining variation among sites at that time.

In Q4 2016, when diel variation was minimal, water temperatures in Silver Bow Creek and Blacktail Creek were substantially warmer from Rocker upstream. All sites in Silver Bow Creek and German Gulch downstream from the Silver Bow Creek above Sand Creek site (SS-10A) had temperatures between 0-0.5 C. Water temperatures in sites upstream from SS-10A were 1.1-4.5 C. Between sites above (SS-06G) and below (SS-07) the Butte WWTP, water temperature increased by 3.4 C. In addition, water temperatures in Blacktail Creek at Father Sheehan Park (SS-07) were also relatively warm (2.9 C). Warm water at SS-07 is presumably

due to the Butte WWTP input. Warm water at SS-01 (and at sites downstream from SS-01) may be due to inputs of groundwater.

Finally, this sampling program does not represent mid-summer conditions. Although the temperatures observed in this program during the 2016 sampling periods do not suggest stressful conditions for salmonids and other cold-water organisms, hourly temperature monitoring in Silver Bow Creek by Montana Fish Wildlife and Parks [rRESPEC, 2015b] indicate that water temperatures in Silver Bow Creek during the summer commonly exceed 20 C and occasionally exceed 25 C. Therefore, it is important to recognize the limitations of the data included in this report in describing spatial temperature trends.

1.5.2.2 Acidity

All pH measurements in the SSTOU in 2016 were within the 6.5–9.5 range which is the goal for I-classification streams. Variability in pH between sites during the same sample period were likely the result of diel biogeochemical cycles [Nimmick et al., 2002] and therefore it is difficult from the data contained in this report to discern spatial pH trends.

1.5.2.3 Conductivity

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

Conductivity was generally highest at each site in Q4 presumably due to low flows at that time. The lowest conductivities at most stations were observed in Q2 when streamflows were highest. The greatest increase in conductivity between Silver Bow Creek sites occurred from above (SS-06G) to below (SS-07) the Butte WWTP, presumably due to the large influx of nutrient solutes.

1.5.2.4 Dissolved Oxygen

All dissolved oxygen concentration measurements were above the 1-day minimum standard for an I-classification stream without juvenile salmonids (3 mg/L; MDEQ [2012a]). Recent studies have demonstrated that Silver Bow Creek, prior to the Butte WWTP upgrades, had stream reaches with severe hypoxia (dissolved oxygen <2 mg/L) during summer nights [Plumb, 2009; Gammons et al., 2011; Naughton, 2013] caused by ammonia-rich effluent from the Butte WWTP [Gammons et al., 2011]. Following the WWTP upgrades, ammonia concentrations are sharply reduced from prior levels.

1.5.2.5 Turbidity and Suspended Sediment

Metals in the SSTOU are complexed with sediments and therefore measurement of sediment concentrations are closely related to total recoverable copper concentrations. Unfortunately, direct measurement of copper and sediment concentrations requires expensive

laboratory analysis. Turbidity measurements provide a simple, cost effective method of estimating both suspended sediment and total recoverable copper ocncentrations. Suspended sediment concentrations were highly correlated to total recoverable copper concentrations: based on data collected at all SSTOU sites from 2011-2016, variation in total suspended sediment concentrations explained 75% of the variation in total recoverable copper concentrations. Turbidity was not as closely related (51%) but still was a far better predictor of total recoverable copper concentration than streamflow (3%). Total suspended sediment concentrations and turbidity both measure the concentration of solids suspended in the water. However, measurement of total suspended sediment concentrations and turbidity differs because total suspended sediment concentrations are evaluated by laboratory analysis of the sediment weight whereas turbidity is measured in the field by the amount of light scattered by the suspended sediments in a water sample.

In 2015, volatile suspended sediment concentrations were added to the monitoring program at each site. Volatile suspended sediment concentrations measure the proportion of combustible (i.e., organic) material in the total suspended sediment sample. Although the analytical method for measurement of volatile suspended sediment concentrations may slightly overestimate the proportion of organic material [Spellman, 2014] in the sample, we believe it provides a suitable approximation. We hypothesized that increased suspended sediment concentrations, which have tended to occur in Q4 and are strongly related to copper concentrations, were caused by sloughing of organic material from anchor ice and channel scour and the proportion of volatile suspended sediments in the total suspended sediment sample would increase during Q4 in samples with the highest total suspended sediment concentrations. However, we do not find evidence to support that hypothesis. In Q4 of 2015 and 2016, total suspended sediment concentrations were much higher than in other quarters at specific Subarea 1 and 2 sites, but the proportion of volatile sediments to total sediments did not change as the total suspended sediment concentrations increased. This evidence suggests that the mechanism of increased Q4 suspended sediment concentrations was not due to increased proportions of organic sediments. Rather, the increased total suspended sediment concentrations may have been because sloughing of organic material releases mineral sediments (some of which contain COCs) that are trapped by, rather than complexed with, the plant and algal material in the channel.

Alternate hypotheses for the increased suspended sediment concentrations during Q4 are that channel constriction due to ice formation along the stream channel margins caused displacement and ice scouring of the stream bed and banks. Ice cover along the channel margins and stream bed has been extensive in Q4 of 2014, 2015, and 2016. Those conditions, in addition to the sloughing of algal material and associated sediments, may have contributed to the elevated suspended sediment and COC concentrations in Q4.

1.5.3 Common Ions

Common ions describe the basic water chemistry of the subject water bodies, and certain ions (e.g., sulfate) may be used as indicators for the presence of mine related contaminants. Calcium and magnesium ions contribute to water hardness, which helps to buffer the toxic

effects of some heavy metals. Aquatic life toxicity standards for cadmium, copper, lead, zinc and other metals are determined on the basis of water hardness. Hardness mitigates metal toxicity by preventing aquatic organisms from absorbing metals. Carbonate and bicarbonate alkalinity contribute to the buffering system of surface waters to resist changes in pH. Levels of water hardness and alkalinity also influence the productivity of aquatic systems. Western freshwater fisheries typically have alkalinity values of 100–200 mg/L.

In Q1 2016, magnesium and chloride concentrations in Silver Bow Creek sites in Butte were about twice as high as during any other sample period in 2016. This phenomenon was also observed in Q4 2015 at those same sites. These results likely are due to storm water runoff or storm water discharges containing chemical de-icing agents.

1.5.4 Nutrients

The 2016 monitoring year was important for evaluation of nutrient concentrations because upgrades to the Butte WWTP plant became effective during that year. After the upgrades, which appear to have become effective between Q1 2016 and Q2 2016, nitrogen constuent concentrations were reduced (particularly ammonia) but phosphorus concentrations apparently were not affected by the upgrades.

Ammonia concentrations in Silver Bow Creek below the WWTP (SS-07) were approximately two orders of magnitude below concentrations prior to the upgrades. Total nitrogen and nitrate plus nitrite concentrations increased sharply at the WWTP but quickly returned to levels that were similar to, or even lower than, Blacktail Creek at Father Sheehan Park (SS-01). Prior to the upgrades, nitrate plus nitrite concentrations at all Silver Bow Creek sites downstream from the WWTP were typically double the concentrations at SS-01. Total nitrogen concenetrations prior to the upgrades commonly increased by four times or more, but after the upgrades the increase was much less (1-2 times). Total phosphorus concentrations throughout 2016 were similar to concentrations prior to 2016 suggesting the upgrades were not intended (or were not effective) for phosphorus.

Despite the upgrades, total nitrogen and total phosphorus concentrations remained well above the MDEQ standards. For nitrogen, further reductions will likely require non-point source actions above SS-01 because total nitrogen concentrations at SS-01 were up to six times the MDEQ standard. Total phosphorus concentrations at SS-01 in Q4 were more than four times the standard and therefore non-point source actions are important for phosphorus in the Blacktail Creek headwaters. However, the primary source of phosphorus in Silver Bow Creek remains the Butte WWTP. In Q4 2016, total phosphorus concentrations increased from approximately four times the standard, to approximately 28 times the standard.

1.5.5 Contaminants of Concern

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

Exceedances of performance goals for COCs in 2016 at SSTOU sites (sites SS-01, SS-05A, SS-06G, and SS-15G are not in SSTOU) occurred for four COCs: cadmium, copper, lead, and mercury. In the non-SSTOU sites (SS-01, SS-05A, SS-06G, and SS-15G), exceedances occurred at two sites: Silver Bow Creek above Butte Reduction Works (SS-05A; mercury, lead, copper) and Silver Bow Creek above Butte WWTP (SS-06G; copper). At SSTOU sites, 52 samples were collected and the performance goals were exceeded for cadmium in 7 (13%) samples, for copper in 33 (63%) samples, for lead in 4 (8%) samples, and for mercury in 17 (33%) samples. In SS-05A and SS-06G, 8 samples were collected and lead and mercury performance goals were exceeded in 1 (13%) of the samples and the copper performance goal was exceeded in 4 (50%) of the samples.

Suspended sediment concentrations and total recoverable COC concentrations appear to be strongly linked and during winter periods suspended sediment concentrations have tended to be the highest. In the winter, elevated suspended sediment concentrations are apparently not related to streamflow but possibly to sloughing algae and release of mineral sediments trapped by the sloughing algae. In addition, increased suspended sediment concentrations in the winter may be due to ice scour along the stream bottom. The highest concentrations in 2016 occurred in Q4 for all total recoverable COC concentrations except arsenic. In particular, sites in Subarea 1 and 2 had the highest concentrations for those COCs. These elevated concentrations were strongly correlated with elevated suspended sediment concentrations which occurred in particular Subarea 1 and 2 sites in Q4. In addition, many Q1 samples also had elevated COC concentrations in Q1 in Subarea 1 and 2, but generally the Q1 concentrations were not quite as high as in Q4.

Major remediation was completed in Subarea 1 in 2003, in Subarea 2 in 2010, in Subarea 3 in 2015, and in Subarea 4 in 2014. Therefore, it is most likely that changes in COC concentrations over time would be most apparent in recent data (since 2010) in Subarea 3 and 4 sites. From 2010-2016, COC concentrations do appear to have stabilized in Subarea 1 and 2 and it has become difficult to discern changes in concentrations through time at those sites without applying statistical analyses. However, in Subarea 3 sites above (SS-15A) and below (SS-15B) German Gulch it appears that a steady decline in most COC concentrations has occurred through time. In Subarea 4, the site at Opportunity (SS-17D) has demonstrated a sharp decline in COC concentrations since 2010.

Over time, COC concentrations will likely stabilize in Subarea 3 and 4. It may be important to monitor the relationship between suspended sediment concentrations and total recoverable COC concentrations through time to evaluate if disassociation of the sediment and COC concentrations is occurring. Additional cleanup actions in Subareas 1 and 2, which are currently in progress, may result in some punctuated decreases in COC concentrations.

1.5.6 Other Metals

No surface water samples exceeded MDEQ [2012a] standards for any non-COC metal with the exception of iron. Iron concentrations exceeded the standard in 7 of 68 samples. The timing and location of elevated iron concentrations in the SSTOU in Q1 and Q4 appeared to correspond with elevated turbidity and suspended sediment concentrations.

1.5.7 Data Validation

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

There were few detections of any analytes in field blanks suggesting that the field techniques introduced little contamination into the samples. However, one exception was dissolved zinc which was detected in 88% of the field blank samples, although at low concentrations (≤0.016 mg/L) relative to the performance goal (0.120 mg/L at water hardness of 100 mg/L). The consistency with which the field blanks were contaminated by dissolved zinc implies that the field technique introduces a positive bias into the samples (i.e., actual dissolved zinc concentrations in the stream were probably slightly lower than the concentrations in the samples). We suspect that the disposable membrane discs used to filter the dissolved samples were likely responsible for the zinc contamination in the dissolved samples despite rinsing of each filter with one syringe volume (60 mL) of deionized water and one volume of sample water prior to filtration of each sample. Although contamination of dissolved zinc is a concern, the performance goal for zinc is based on total recoverable (i.e., unfiltered) concentrations and therefore contamination of the total recoverable samples by the filter membranes would not have occurred. No field blanks had total recoverable zinc concentrations above the reporting limit suggesting that contamination of those samples was minimal.

The eexceedance rate of the project data quality objective for sampling precision (i.e., paired sample and duplicate RPDs <25%) was less than 1% in 2016 suggesting that sampling precision for the data collected was high.

2.0 SEDIMENT

2.1 INTRODUCTION

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

2.2 REFERENCE VALUES

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

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

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

2.3 METHODS

The purpose of the instream sediment monitoring program is to collect data describing the temporal and spatial variation of COC concentrations in the SSTOU. These data provide a long-term record of environmental conditions in the SSTOU. This long-term record provides a dataset to evaluate the effect of remediation on environmental conditions in the SSTOU over time. Changes to the sediment monitoring program have occurred over time and a record of these changes is provided in the project sampling and analysis plan [RESPEC, 2016a]. The program attempts to fully adhere to monitoring requirements specified in the SSTOU ROD [Table 2-2].

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

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

2.3.1 Monitoring Locations

In 2016, major remedial actions were complete throughout the SSTOU. Monitoring was conducted at 17 long-term monitoring sites and three additional sites which were monitored to investigate specific questions [Figure 2-1]. The three additional sites are not intended to be long-term sites.

Of the long-term sites, 13 were located within the SSTOU [Table 2-3; Figure 2-1]. Locations of some sampling sites were selected based on SSTOU ROD requirements [Table 2-2]. Long-term monitoring sites located outside the SSTOU were sampled to describe instream sediment conditions in portions of Silver Bow Creek and Blacktail Creek immediately upstream from the SSTOU (SS-01, SS-05A, SS-06G), and in a major tributary (German Gulch) entering Silver Bow Creek within the SSTOU (SS-15G) [Figure 2-1]. Site SS-05A is located within Lower Area One of the Butte Priority Soils Operable Unit and historically was heavily contaminated by mining and smelting waste. Therefore, SS-05A is not representative of background conditions. Sites in Blacktail Creek at Father Sheehan Park (SS-01) and in German Gulch (SS-15G) are the sites which probably best represent “background” conditions in the watershed, that is conditions outside the direct influence of mining contamination from Butte area operations.

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

Resource Damage Program to provide additional monitoring data for Silver Bow Creek and Blacktail Creek in the vicinity of the Slag Canyon and Metro Storm Drain [Figure 2-3].

Table 2-3. Instream sediment sampling locations in the Streamside Tailings Operable Unit, 2016.

Site ID	Site Location	Within SSTOU	Long-term Site	Location (GPS coordinates, NAD 83)	
				Latitude	Longitude
SS-01	Blacktail Creek at Father Sheehan Park		x	45.98532	-112.50772
SS-04[28]	Blacktail Creek at Metro Storm Drain Confluence			45.99460	-112.53592
SLAG-01	Silver Bow Creek in Slag Canyon			45.99675	-112.54143
SS-05A	Silver Bow Creek above Butte Reduction Works		x	45.99653	-112.54343
SS-06G	Silver Bow Creek above Butte WWTP	x	x	45.99648	-112.56316
SS-07[29]	Silver Bow Creek below Butte WWTP	x	x	45.99679	-112.56470
SS-08	Silver Bow Creek at Rocker	x	x	46.00167	-112.60490
SS-10A	Silver Bow Creek above Sand Creek	x	x	46.00375	-112.66084
SS-10B	Silver Bow Creek below Sand Creek	x	x	46.00429	-112.66160
SS-11C	Silver Bow Creek above Browns Gulch	x	x	46.00336	-112.70172
SS-11D	Silver Bow Creek below Browns Gulch	x	x	46.00342	-112.70304
SS-13	Silver Bow Creek in Reach L	x	x	46.00647	-112.71394
SS-14	Silver Bow Creek at Miles Crossing	x	x	46.01142	-112.72270
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	x		46.02096	-112.78802
SS-15A	Silver Bow Creek above German Gulch	x	x	46.02170	-112.78969
SS-15B	Silver Bow Creek below German Gulch	x	x	46.02263	-112.79175
SS-15G	German Gulch near confluence		x	46.02170	-112.79029
SS-16B	Silver Bow Creek in Reach P near Fairmont	x	x	46.05494	-112.79611
SS-17D[30]	Silver Bow Creek below Stewart Street at Opportunity	x	x	46.10787	-112.80553
SS-19	Silver Bow Creek at Frontage Road	x	x	46.12250	-112.80077

[28] Co-located with USGS gauge 12323240.

[29] Co-located with USGS gauge 12323250.

[30] Co-located with USGS gauge 12323600.

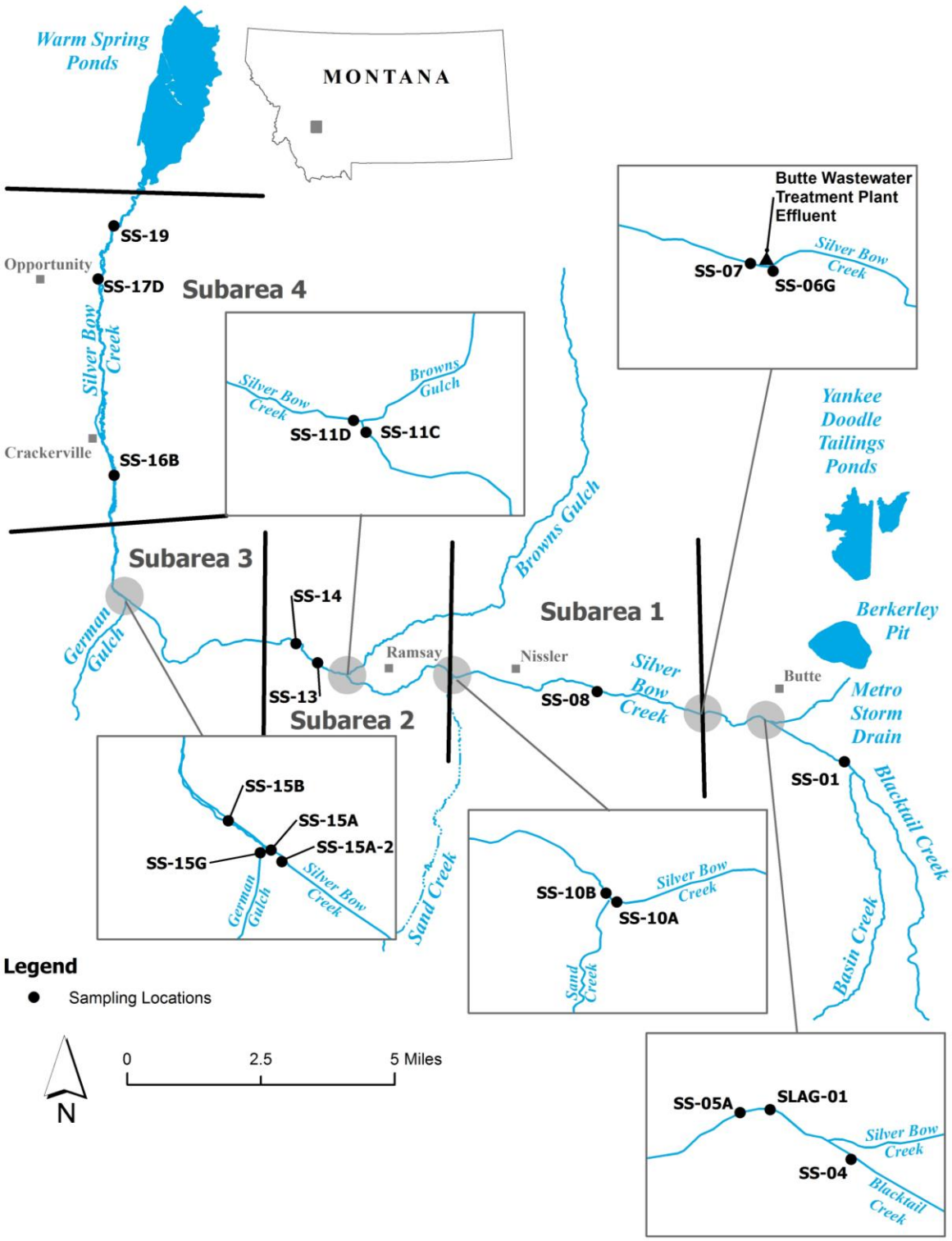

Figure 2-1. Instream sediment sampling locations in the Streamside Tailings Operable Unit, 2016.

Figure 2-2. Instream sediment sampling locations in the vicinity of the German Gulch confluence in the Streamside Tailings Operable Unit, 2016. The reach of the Silver Bow Creek stream channel highlighted in red was not remediated due to the limited access and the relatively low estimated tailings volume.

Figure 2-3. Silver Bow Creek and Blacktail Creek instream sediment sampling locations in the vicinity of the Slag Canyon (highlighted in yellow) and the Metro Storm Drain (i.e., Silver Bow Creek) and Blacktail Creek confluence in Butte, Montana, 2016.

2.3.2 Monitoring Schedule

Monitoring events were scheduled to describe seasonal variation in water chemistry within the SSTOU. One monitoring event occurred during each calendar quarter. Quarterly monitoring events occurred near the end of each quarter. First quarter (Q1) monitoring occurred from March 16–17 prior to spring snowmelt runoff. Second quarter (Q2) monitoring occurred from June 2-3 approximately at the peak of the spring snowmelt runoff period. Third quarter (Q3) monitoring occurred from September 14-15 during low streamflow conditions. Fourth quarter (Q4) monitoring occurred from December 14-15 during late fall.

Samples at one alternate site in Silver Bow Creek above German Gulch (SS-15A-2) were not collected during Q1. Sediment samples were not collected at six sites (SS-13, SS-14, SS-15A-2, SS-15A, SS-15B, SS-15G) in Q4 due to channel ice.

2.3.3 Monitoring Parameters

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

2.3.4 Sample Collection and Analysis

Sample collection and analysis procedures are described in the project sampling and analysis plan (SAP) [RESPEC, 2016a] and quality assurance and quality control procedures are described in the program quality assurance project plan (QAPP) [RESPEC, 2014]. Sample collection methods generally followed standard operating procedures (SOPs) developed for the Clark Fork River [AR, 1992]. Composite sediment samples were collected from at least five depositional areas in the stream according to Montana Department of Environmental Quality (MDEQ) standard operating procedures (SOPs) [MDEQ, 2012b]. Each composite sample was wet sieved in the laboratory into three sediment size fractions: <0.063 mm, 0.063–1 mm, and 1–2 mm. Samples were analyzed by size fraction at Energy Laboratories (Helena, Montana). Laboratory analysis procedures included SW6010B, SW6020, SW7471A, or SW7471B [Table 2-4]. Samples collected from SS-04 and SLAG-01 were not analyzed for the entire suite of analytes listed in Table 2-4. At those sites, samples were analyzed for arsenic, cadmium, copper, lead, and zinc in the <0.063 mm size fraction following the same analytical procedures.

Table 2-4. Analytes and analytical methods for instream sediment monitoring in the Streamside Tailings Operable Unit, 2016.

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

2.3.5 Data Analysis

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

2.3.6 Data Validation

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

Variability in sediment metals concentrations among samples was assessed by comparing field duplicate samples to field samples. Field duplicate samples were collected at the same location and at the same time as field samples and were processed and analyzed by the same

methods. The relative percent difference (RPD) between the concentration in the field duplicate and field sample pair was determined for each metal. Two field duplicate samples were collected during each sampling event and RPD statistics were calculated for each field duplicate and field sample pair.

2.4 RESULTS

2.4.1 Sample Size Fraction

The proportion of sediment by size fraction in each sample for 2016 is displayed in Table 2-5.

Table 2-5. Proportion of each sediment sample in four size fractions in the Streamside Tailings Operable Unit, 2016.

Site ID	Location	Proportion of sample in size fraction (%)			
		<0.063 mm	0.063–1 mm	1–2 mm	>2 mm
First Quarter					
SS-01	Blacktail Creek at Father Sheehan Park	3.2	58.1	17.7	79.0
SS-04	Blacktail Creek at Metro Storm Drain Confluence	12.4	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	6.5	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	4.4	40.9	12.2	57.5
SS-06G	Silver Bow Creek above Butte WWTP	7.2	42.5	24.2	73.9
SS-07	Silver Bow Creek below Butte WWTP	1.4	23.7	26.1	51.2
SS-08	Silver Bow Creek at Rocker	6.0	39.8	39.0	84.8
SS-10A	Silver Bow Creek above Sand Creek	15.3	27.0	15.1	57.4
SS-10B	Silver Bow Creek below Sand Creek	2.4	17.2	17.6	37.2
SS-11C	Silver Bow Creek above Browns Gulch	1.8	9.4	23.5	34.7
SS-11D	Silver Bow Creek below Browns Gulch	4.0	27.0	14.8	45.8
SS-13	Silver Bow Creek in Reach L	12.2	25.9	10.9	49.0
SS-14	Silver Bow Creek at Miles Crossing	6.0	18.8	12.8	37.6
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	---	---	---
SS-15A	Silver Bow Creek above German Gulch	2.0	17.8	24.4	44.2
SS-15B	Silver Bow Creek below German Gulch	7.4	52.4	16.9	76.7
SS-15G	German Gulch near confluence	4.9	33.7	31.1	69.7
SS-16B	Silver Bow Creek in Reach P near Fairmont	5.0	70.2	16.4	91.6
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	9.0	48.6	26.7	84.3
SS-19	Silver Bow Creek at Frontage Road	1.7	37.3	29.7	68.7
Second Quarter					
SS-01	Blacktail Creek at Father Sheehan Park	1.4	25.6	30.4	57.4
SS-04	Blacktail Creek at Metro Storm Drain Confluence	7.7	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	2.8	---	---	---

Site ID	Location	Proportion of sample in size fraction (%)			
		<0.063 mm	0.063–1 mm	1–2 mm	>2 mm
SS-05A	Silver Bow Creek above Butte Reduction Works	5.6	45.5	15.6	66.7
SS-06G	Silver Bow Creek above Butte WWTP	3.9	36.9	39.3	80.1
SS-07	Silver Bow Creek below Butte WWTP	30.4	36.8	25.5	92.7
SS-08	Silver Bow Creek at Rocker	6.0	27.4	43.6	77.0
SS-10A	Silver Bow Creek above Sand Creek	14.1	10.5	4.6	29.2
SS-10B	Silver Bow Creek below Sand Creek	13.2	32.3	13.0	58.5
SS-11C	Silver Bow Creek above Browns Gulch	2.2	34.1	20.4	56.7
SS-11D	Silver Bow Creek below Browns Gulch	4.5	28.5	16.4	49.4
SS-13	Silver Bow Creek in Reach L	4.6	29.1	13.0	46.7
SS-14	Silver Bow Creek at Miles Crossing	4.1	38.3	18.2	60.6
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	3.5	18.6	24.3	
SS-15A	Silver Bow Creek above German Gulch	5.8	33.2	23.6	62.6
SS-15B	Silver Bow Creek below German Gulch	5.9	50.0	11.7	67.6
SS-15G	German Gulch near confluence	1.1	35.5	28.4	65.0
SS-16B	Silver Bow Creek in Reach P near Fairmont	4.7	59.0	15.8	79.5
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	20.2	68.1	4.1	92.4
SS-19	Silver Bow Creek at Frontage Road	4.3	34.0	29.1	67.4
Third Quarter					
SS-01	Blacktail Creek at Father Sheehan Park	4.1	31.8	22.6	58.5
SS-04	Blacktail Creek at Metro Storm Drain Confluence	11.4	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	3.8	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	10.9	44.4	13.7	69.0
SS-06G	Silver Bow Creek above Butte WWTP	4.8	28.4	41.2	74.4
SS-07	Silver Bow Creek below Butte WWTP	3.8	35.9	26.0	65.7
SS-08	Silver Bow Creek at Rocker	4.1	36.5	36.3	76.9
SS-10A	Silver Bow Creek above Sand Creek	17.5	47.4	19.6	84.5
SS-10B	Silver Bow Creek below Sand Creek	7.2	25.3	16.4	48.9
SS-11C	Silver Bow Creek above Browns Gulch	2.3	19.0	15.9	37.2
SS-11D	Silver Bow Creek below Browns Gulch	4.7	22.8	23.2	50.7
SS-13	Silver Bow Creek in Reach L	3.7	37.1	14.5	55.3
SS-14	Silver Bow Creek at Miles Crossing	6.9	28.2	16.2	51.3
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	3.8	16.9	19.4	---
SS-15A	Silver Bow Creek above German Gulch	3.7	12.4	21.0	37.1
SS-15B	Silver Bow Creek below German Gulch	7.4	64.6	10.7	82.7
SS-15G	German Gulch near confluence	5.2	50.7	23.7	79.6
SS-16B	Silver Bow Creek in Reach P near Fairmont	7.0	49.4	16.0	72.4
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	4.2	52.5	18.4	75.1
SS-19	Silver Bow Creek at Frontage Road	3.7	40.0	20.5	64.2
Fourth Quarter					
SS-01	Blacktail Creek at Father Sheehan Park	5.8	53.6	13.6	73.0

Site ID	Location	Proportion of sample in size fraction (%)			
		<0.063 mm	0.063–1 mm	1–2 mm	>2 mm
SS-04	Blacktail Creek at Metro Storm Drain Confluence	14.0	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	3.6	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	3.8	41.8	17.3	62.9
SS-06G	Silver Bow Creek above Butte WWTP	1.7	34.6	38.2	74.5
SS-07	Silver Bow Creek below Butte WWTP	2.7	35.9	16.8	55.4
SS-08	Silver Bow Creek at Rocker	17.0	28.0	26.3	71.3
SS-10A	Silver Bow Creek above Sand Creek	16.6	32.6	15.9	65.1
SS-10B	Silver Bow Creek below Sand Creek	8.1	35.6	12.8	56.5
SS-11C	Silver Bow Creek above Browns Gulch	4.7	14.3	22.6	41.6
SS-11D	Silver Bow Creek below Browns Gulch	4.7	30.4	27.2	62.3
SS-13	Silver Bow Creek in Reach L	---	---	---	---
SS-14	Silver Bow Creek at Miles Crossing	---	---	---	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	---	---	---
SS-15A	Silver Bow Creek above German Gulch	---	---	---	---
SS-15B	Silver Bow Creek below German Gulch	---	---	---	---
SS-15G	German Gulch near confluence	---	---	---	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	1.2	45.6	31.3	78.1
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	3.4	48.2	21.5	73.1
SS-19	Silver Bow Creek at Frontage Road	3.2	41.5	24.8	69.5

--- Not sampled.

2.4.2 Contaminants of Concern

2.4.2.1 Arsenic

Among all samples collected in 2016, sediment arsenic concentrations ranged from 13-511 mg/kg-DW in the <0.063 mm size fraction, from 5-134 mg/kg-DW in the 0.063-1 mm size fraction, and from 5-255 mg/kg-DW in the 1-2 mm size fraction [Table 2-6]. Weighted mean arsenic concentrations ranged from 1-38 mg/kg-DW among samples with arsenic concentrations above the reporting limit in all three size fractions [Table 2-6]. Based on the weighted mean concentrations, exceedances of the arsenic TEC occurred in 43 samples and the PEC was exceeded in 19 samples; weighted mean concentrations were not determined for 15 samples because one or more size fractions for that sample had an arsenic concentration below the analytical reporting limit and therefore weighted mean concentrations could not be determined [Table 2-6].

Spatially, fine fraction (<0.063 mm) median arsenic concentrations generally increased between each site from Blacktail Creek at Father Sheehan Park (SS-01) downstream to Silver Bow Creek above the Butte Reduction Works (SS-05A), decreased downstream to Silver Bow Creek below Sand Creek (SS-10B), remained level downstream to the alternate site for Silver Bow Creek above German Gulch (SS-15A-2), increased at the regular site for Silver Bow

Creek above German Gulch (SS-15A), and remained relatively level downstream to Silver Bow Creek at Frontage Road (SS-19) [Figure 2-4]. The median concentration at SS-05A was three or more times higher than at any other site [Figure 2-4]. Sharp increases in median concentrations occurred between SS-01 and Blacktail Creek at the Metro Storm Drain (SS-04), between SS-04 and Silver Bow Creek in the Slag Canyon (SLAG-01), between SLAG-01 and SS-05A, and between SS-15A-2 and SS-15A [Figure 2-4]. Sharp decreases occurred between SS-05A and Silver Bow Creek above the Butte WWTP (SS-06G) and between Silver Bow Creek below the Butte WWTP (SS-07) and Silver Bow Creek at Rocker (SS-08) [Figure 2-4].

In "background" sites (i.e., SS-01 and SS-15G), fine fraction (<0.063 mm) median arsenic concentrations were above the PEC in both sites [Figure 2-4]. In Subarea 1 and 2 sites (from SS-07 to SS-14), median concentrations were below the level in the background sites at all Subarea 1 and 2 sites downstream from SS-08 [Figure 2-4]. In Subarea 3 (from SS-15A-2 to SS-15B), median concentrations were approximately double the concentration in the Subarea 1 and 2 sites and above the medians of the background sites, with the exception of SS-15A-2 [Figure 2-4]. In Subarea 4 (from SS-16B to SS-19), median concentrations were lower than in SS-15A and SS-15B but above the median concentrations in the background sites [Figure 2-4].

Table 2-6. Total arsenic concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2016.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	63	42	39	35
SS-04	Blacktail Creek at Metro Storm Drain Confluence	123	104	98	97
SLAG-01	Silver Bow Creek in Slag Canyon	180	200	144	140
SS-05A	Silver Bow Creek above Butte Reduction Works	511	350	279	258
SS-06G	Silver Bow Creek above Butte WWTP	142	116	128	138
SS-07	Silver Bow Creek below Butte WWTP	115	98	110	146
SS-08	Silver Bow Creek at Rocker	74	73	62	62
SS-10A	Silver Bow Creek above Sand Creek	55	18	83	20
SS-10B	Silver Bow Creek below Sand Creek	30	39	37	18
SS-11C	Silver Bow Creek above Browns Gulch	23	39	45	38
SS-11D	Silver Bow Creek below Browns Gulch	31	13	28	24
SS-13	Silver Bow Creek in Reach L	40	43	34	---
SS-14	Silver Bow Creek at Miles Crossing	30	32	43	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	32	33	---
SS-15A	Silver Bow Creek above German Gulch	96	98	99	---
SS-15B	German Gulch at mouth	92	88	135	---
SS-15G	Silver Bow Creek below German Gulch	42	61	51	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	55	64	54	85
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	78	75	73	75
SS-19	Silver Bow Creek at Frontage Road	156	64	117	53

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Mid fraction (0.063-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	5	7	7	ND
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	134	117	96	113
SS-06G	Silver Bow Creek above Butte WWTP	27	24	31	23
SS-07	Silver Bow Creek below Butte WWTP	27	32	24	17
SS-08	Silver Bow Creek at Rocker	17	21	17	12
SS-10A	Silver Bow Creek above Sand Creek	14	12	19	8
SS-10B	Silver Bow Creek below Sand Creek	ND	6	ND	5
SS-11C	Silver Bow Creek above Browns Gulch	ND	5	5	7
SS-11D	Silver Bow Creek below Browns Gulch	ND	5	ND	ND
SS-13	Silver Bow Creek in Reach L	8	11	6	---
SS-14	Silver Bow Creek at Miles Crossing	7	8	7	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	50	44	---
SS-15A	Silver Bow Creek above German Gulch	88	98	60	---
SS-15B	German Gulch at mouth	52	59	41	---
SS-15G	Silver Bow Creek below German Gulch	35	32	23	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	18	38	16	23
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	26	18	13	24
SS-19	Silver Bow Creek at Frontage Road	34	26	23	12
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	6	6	ND	ND
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	101	77	70	255
SS-06G	Silver Bow Creek above Butte WWTP	27	23	19	17
SS-07	Silver Bow Creek below Butte WWTP	254	16	57	18
SS-08	Silver Bow Creek at Rocker	13	9	5	12
SS-10A	Silver Bow Creek above Sand Creek	16	6	12	6
SS-10B	Silver Bow Creek below Sand Creek	ND	ND	ND	ND
SS-11C	Silver Bow Creek above Browns Gulch	ND	ND	8	ND
SS-11D	Silver Bow Creek below Browns Gulch	ND	ND	ND	ND
SS-13	Silver Bow Creek in Reach L	5	5	ND	---
SS-14	Silver Bow Creek at Miles Crossing	ND	8	10	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	30	50	---
SS-15A	Silver Bow Creek above German Gulch	44	114	93	---
SS-15B	German Gulch at mouth	28	39	21	---
SS-15G	Silver Bow Creek below German Gulch	19	24	23	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	9	28	14	30
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	13	103	11	46
SS-19	Silver Bow Creek at Frontage Road	37	13	15	17
Weighted mean of each size fraction					

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	8	7	DNA	DNA
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	156	127	120	161
SS-06G	Silver Bow Creek above Butte WWTP	38	28	31	23
SS-07	Silver Bow Creek below Butte WWTP	145	49	42	24
SS-08	Silver Bow Creek at Rocker	19	18	14	24
SS-10A	Silver Bow Creek above Sand Creek	25	14	31	11
SS-10B	Silver Bow Creek below Sand Creek	DNA	DNA	DNA	DNA
SS-11C	Silver Bow Creek above Browns Gulch	DNA	DNA	8.8	DNA
SS-11D	Silver Bow Creek below Browns Gulch	DNA	DNA	DNA	DNA
SS-13	Silver Bow Creek in Reach L	15	12	DNA	---
SS-14	Silver Bow Creek at Miles Crossing	DNA	10	13	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	47	42	---
SS-15A	Silver Bow Creek above German Gulch	64	104	83	---
SS-15B	German Gulch at mouth	51	58	47	---
SS-15G	Silver Bow Creek below German Gulch	28	29	25	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	18	38	19	27
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	27	34	16	32.8
SS-19	Silver Bow Creek at Frontage Road	38	23	26	16

--- Not sampled.

ND Not detected at analytical reporting limit.

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

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

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

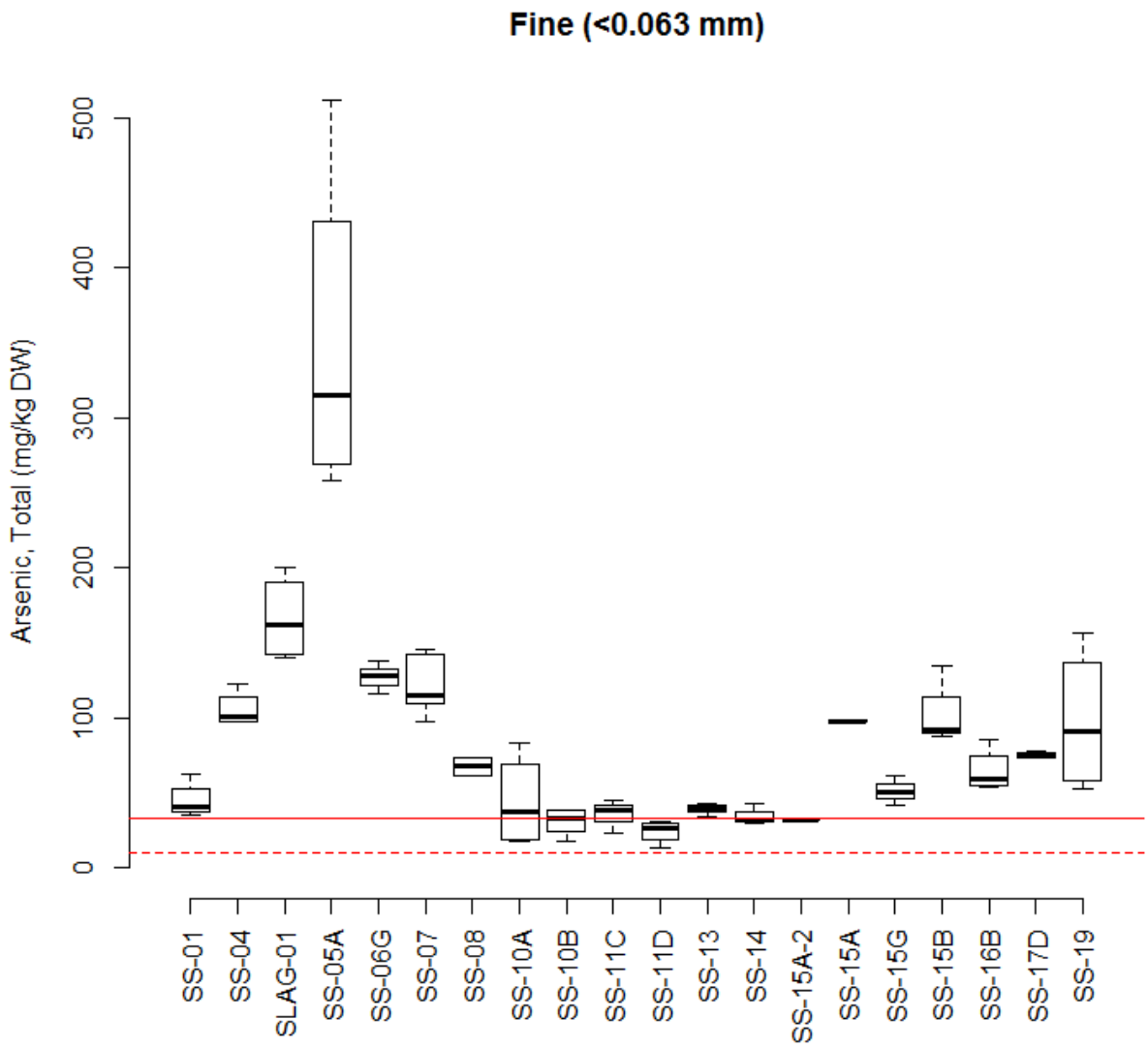

Figure 2-4. Total arsenic concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2016. Solid red line is the "probable effect concentration" (PEC) and the dashed red line is the "threshold effect concentration" (TEC) [MacDonald et al., 2000].

2.4.2.2 Cadmium

Among all samples collected in 2016, sediment cadmium concentrations ranged from 1.0-20.2 mg/kg-DW in the <0.063 mm size fraction, from 0.2-16.3 mg/kg-DW in the 0.063-1 mm size fraction, and from 0.2-6.6 mg/kg-DW in the 1-2 mm size fraction [Table 2-7]. Weighted mean concentrations ranged from 0.9-10.7 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions [Table 2-7]. Based on the weighted mean concentrations, exceedances of the TEC occurred in 52 samples and the PEC was exceeded in 3 samples; weighted mean concentrations were not determined for 8 samples because one or

more size fractions for that sample had a concentration below the analytical reporting limit and therefore weighted mean concentrations could not be determined [Table 2-7].

Spatially, fine fraction (<0.063 mm) median cadmium concentrations generally increased between each site from Blacktail Creek at Father Sheehan Park (SS-01) downstream to Silver Bow Creek in Slag Canyon (SLAG-01), generally decreased downstream to Silver Bow Creek above Sand Creek (SS-10A), and generally increased downstream to Silver Bow Creek at Frontage Road (SS-19) [Figure 2-5]. Within that overall trend there was some variation. Although, the trend in median concentrations was decreasing between SLAG-01 and SS-10A, median concentrations in Silver Bow Creek at Rocker (SS-08) were elevated [Figure 2-5]. In addition, within the general increasing trend between SS-10A and SS-19 median concentrations were particularly elevated in Silver Bow Creek above Browns Gulch (SS-11C), in Reach L (SS-13), and above German Gulch (SS-15A) [Figure 2-5]. Sharp increases in median concentrations occurred between SS-01 and Blacktail Creek at the Metro Storm Drain (SS-04), between SS-04 and SLAG-01, between Silver Bow Creek below Sand Creek (SS-10B) and SS-11C, between Silver Bow Creek below Browns Gulch (SS-11D) and S-13, and between the alternate site at Silver Bow Creek above German Gulch (SS-15A-2) and SS-15A [Figure 2-5]. Sharp decreases in median concentrations occurred between Silver Bow Creek above the Butte WWTP (SS-06G) and between Silver Bow Creek below the Butte WWTP (SS-07), between SS-08 and SS-10A, between SS-11C and SS-11D, between SS-13 and Silver Bow Creek at Miles Crossing (SS-14), and between SS-15A and Silver Bow Creek below German Gulch (SS-15B) [Figure 2-5].

In "background" sites (i.e., SS-01 and SS-15G), fine fraction (<0.063 mm) median cadmium concentrations were similar and between the TEC and PEC in both sites [Figure 2-5]. In Subarea 1 and 2 sites (from SS-07 to SS-14), median concentrations were highly variable and approximately 2-5 times higher than the levels in the background sites [Figure 2-5]. In Subarea 3 (from SS-15A-2 to SS-15B), median concentrations were approximately 3-5 times higher than the levels in the background sites [Figure 2-5]. In Subarea 4, median concentrations were approximately 4-6 times higher than the levels in the background sites in the background sites [Figure 2-5].

Table 2-7. Total cadmium concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2016.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	3.1	2.5	2.2	1.0
SS-04	Blacktail Creek at Metro Storm Drain Confluence	5.9	5.6	6.0	5.0
SLAG-01	Silver Bow Creek in Slag Canyon	13.9	14.9	15.4	11.3
SS-05A	Silver Bow Creek above Butte Reduction Works	20.2	15.5	13.1	10.0
SS-06G	Silver Bow Creek above Butte WWTP	13.1	11.4	15.4	14.4
SS-07	Silver Bow Creek below Butte WWTP	10.6	8.3	10.8	10.6
SS-08	Silver Bow Creek at Rocker	12.2	13.3	11.6	11.0

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-10A	Silver Bow Creek above Sand Creek	12.2	4.8	5.3	2.7
SS-10B	Silver Bow Creek below Sand Creek	6.4	6.9	5.8	3.8
SS-11C	Silver Bow Creek above Browns Gulch	8.8	13.0	14.8	10.6
SS-11D	Silver Bow Creek below Browns Gulch	7.8	3.8	10.3	7.0
SS-13	Silver Bow Creek in Reach L	13.1	11.7	10.3	---
SS-14	Silver Bow Creek at Miles Crossing	7.3	7.8	11.0	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	10.6	8.1	---
SS-15A	Silver Bow Creek above German Gulch	11.0	16.3	13.4	---
SS-15B	German Gulch at mouth	13.1	8.7	9.8	---
SS-15G	Silver Bow Creek below German Gulch	1.5	1.8	2.0	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	8.3	10.7	10.8	14.5
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	17.6	7.8	12.2	10.1
SS-19	Silver Bow Creek at Frontage Road	14.1	12.0	15.0	19.2
Mid fraction (0.063-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	0.2	ND	0.4	0.2
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	3.5	3.4	3.3	2.1
SS-06G	Silver Bow Creek above Butte WWTP	1.0	1.6	1.3	0.8
SS-07	Silver Bow Creek below Butte WWTP	2.0	2.1	1.3	1.0
SS-08	Silver Bow Creek at Rocker	3.8	3.0	2.1	2.8
SS-10A	Silver Bow Creek above Sand Creek	3.6	1.8	1.3	1.1
SS-10B	Silver Bow Creek below Sand Creek	1.4	0.8	1.2	0.9
SS-11C	Silver Bow Creek above Browns Gulch	1.0	1.1	0.6	1.2
SS-11D	Silver Bow Creek below Browns Gulch	0.8	0.9	0.7	0.5
SS-13	Silver Bow Creek in Reach L	1.4	3.0	1.7	---
SS-14	Silver Bow Creek at Miles Crossing	1.3	0.8	0.9	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	2.8	1.3	---
SS-15A	Silver Bow Creek above German Gulch	8.0	16.3	3.5	---
SS-15B	German Gulch at mouth	1.4	1.9	0.6	---
SS-15G	Silver Bow Creek below German Gulch	ND	ND	ND	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.6	0.8	1.2	0.8
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1.2	1.0	0.9	1.7
SS-19	Silver Bow Creek at Frontage Road	1.3	0.8	0.6	0.7
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	ND	ND	ND	ND
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	0.9	1.6	1.3	1.4
SS-06G	Silver Bow Creek above Butte WWTP	0.6	0.5	0.7	0.8
SS-07	Silver Bow Creek below Butte WWTP	0.6	0.4	0.9	0.6
SS-08	Silver Bow Creek at Rocker	1.2	1.5	0.5	2.5
SS-10A	Silver Bow Creek above Sand Creek	1.0	0.3	0.6	0.6

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-10B	Silver Bow Creek below Sand Creek	0.6	0.3	0.6	ND
SS-11C	Silver Bow Creek above Browns Gulch	0.3	0.4	0.3	0.6
SS-11D	Silver Bow Creek below Browns Gulch	0.4	0.4	0.4	0.4
SS-13	Silver Bow Creek in Reach L	0.6	0.6	0.5	---
SS-14	Silver Bow Creek at Miles Crossing	0.3	0.4	0.4	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	0.9	1.0	---
SS-15A	Silver Bow Creek above German Gulch	6.6	1.5	3.7	---
SS-15B	German Gulch at mouth	0.3	0.3	0.2	---
SS-15G	Silver Bow Creek below German Gulch	ND	ND	ND	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.3	0.5	0.8	0.4
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.5	0.9	0.7	1.8
SS-19	Silver Bow Creek at Frontage Road	0.9	0.3	0.3	2.7
Weighted mean of each size fraction					
SS-01	Blacktail Creek at Father Sheehan Park	DNA	DNA	DNA	DNA
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	4.2	4.0	4.5	2.4
SS-06G	Silver Bow Creek above Butte WWTP	2.0	1.5	1.9	1.1
SS-07	Silver Bow Creek below Butte WWTP	1.5	3.7	1.7	1.3
SS-08	Silver Bow Creek at Rocker	3.2	3.0	1.9	4.6
SS-10A	Silver Bow Creek above Sand Creek	5.2	3.0	2.0	1.4
SS-10B	Silver Bow Creek below Sand Creek	1.3	2.1	1.7	DNA
SS-11C	Silver Bow Creek above Browns Gulch	0.93	1.3	1.3	1.9
SS-11D	Silver Bow Creek below Browns Gulch	1.3	1.00	1.5	0.95
SS-13	Silver Bow Creek in Reach L	4.1	3.2	2.0	---
SS-14	Silver Bow Creek at Miles Crossing	1.9	1.2	2.1	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	4.0	2.5	---
SS-15A	Silver Bow Creek above German Gulch	7.4	10.7	4.6	---
SS-15B	German Gulch at mouth	2.3	2.2	1.4	---
SS-15G	Silver Bow Creek below German Gulch	DNA	DNA	DNA	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.97	1.3	2.0	0.85
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	2.7	2.5	1.5	2.1
SS-19	Silver Bow Creek at Frontage Road	1.4	1.3	1.3	2.3

--- Not sampled.

ND Not detected at analytical reporting limit.

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

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

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

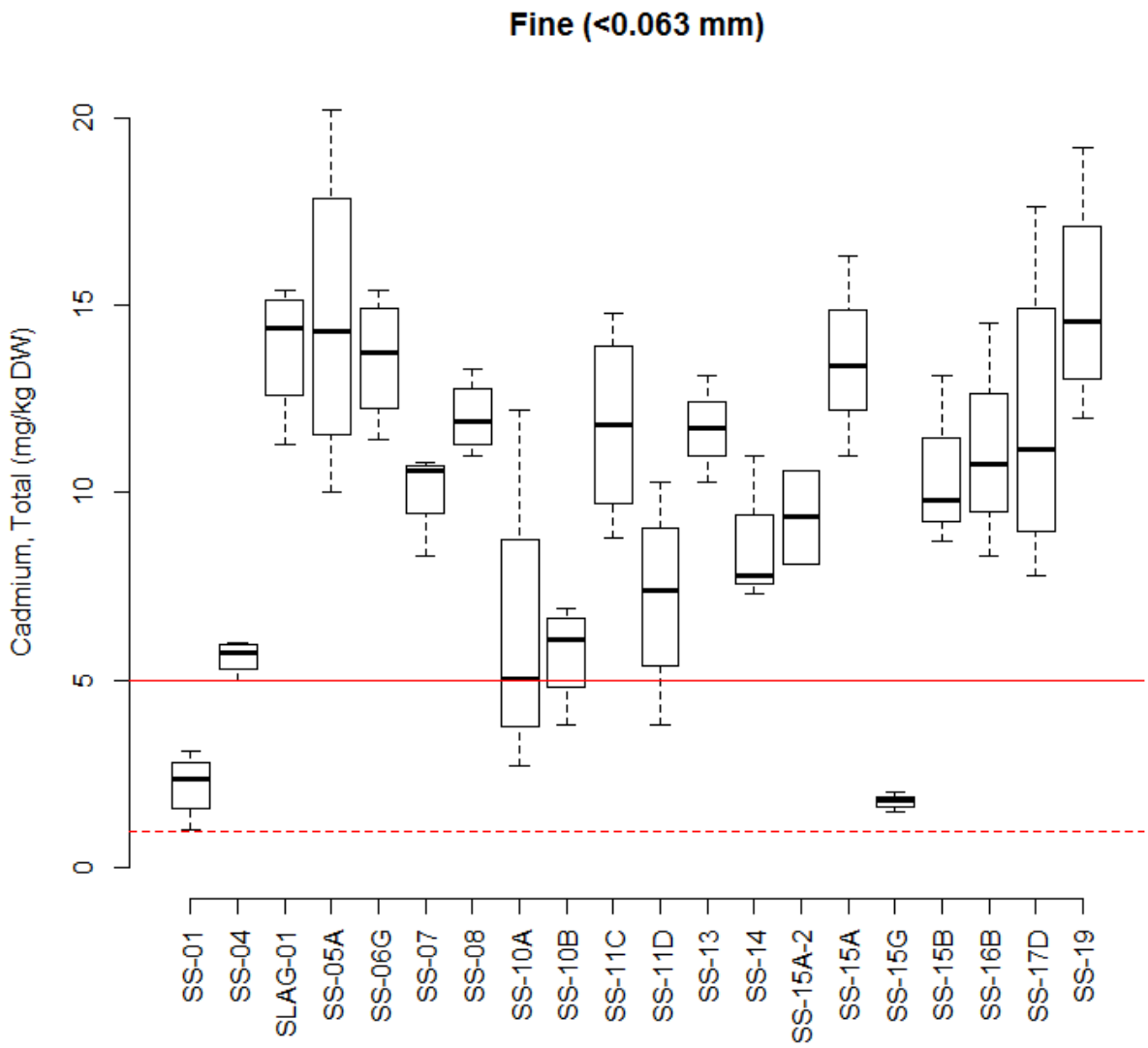

Figure 2-5. Total cadmium concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2016. Solid red line is the "probable effect concentration" (PEC) and the dashed red line is the "threshold effect concentration" (TEC) [MacDonald et al., 2000].

2.4.2.3 Copper

Among all samples collected in 2016, sediment copper concentrations ranged from 109-4,140 mg/kg-DW in the <0.063 mm size fraction, from 19-1,360 mg/kg-DW in the 0.063-1 mm size fraction, and from 13-763 mg/kg-DW in the 1-2 mm size fraction [Table 2-8]. Weighted mean concentrations ranged from 23-1,072 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions [Table 2-8]. Based on the weighted mean concentrations, exceedances of the TEC occurred in 65 samples and the PEC was exceeded in 28 samples [Table 2-8].

Spatially, fine fraction (<0.063 mm) median copper concentrations increased between each site from Blacktail Creek at Father Sheehan Park (SS-01) downstream to Silver Bow Creek above the Butte Reduction Works (SS-05A), decreased downstream to Silver Bow Creek below Sand Creek (SS-10B), and gradually increased at each site downstream to Silver Bow Creek at Frontage Road (SS-19) except for the relatively elevated concentration in Silver Bow Creek above German Gulch (SS-15A) [Figure 2-6]. The median concentration at SS-05A was at least two times higher than at any other site [Figure 2-6]. Sharp increases in median concentrations occurred between SS-01 and Blacktail Creek at the Metro Storm Drain (SS-04), between SS-04 and Silver Bow Creek in the Slag Canyon (SLAG-01), between SLAG-01 and SS-05A, and between SS-15A-2 and SS-15A [Figure 2-6]. Sharp decreases occurred between SS-05A and Silver Bow Creek above the Butte WWTP (SS-06G) and between SS-15A and Silver Bow Creek below German Gulch (SS-15B) [Figure 2-6].

In "background" sites (i.e., SS-01 and SS-15G), fine fraction (<0.063 mm) median copper concentrations were approximately two times higher than the PEC in Blacktail Creek at Father Sheehan Park (SS-01) and slightly below the PEC in German Gulch (SS-15G) [Figure 2-6]. In Subarea 1 and 2 sites (from SS-07 to SS-14), median concentrations were similar to the level in the background site SS-01 at all Subarea 1 and 2 sites downstream from SS-08 [Figure 2-6]. In Subarea 3 (from SS-15A-2 to SS-15B), median concentrations were variable and ranged from approximately 1.5-3 times higher than the concentration in the background site SS-01 [Figure 2-6]. In Subarea 4, median concentrations were approximately 1.5-2 times higher than in the background site SS-01 [Figure 2-6].

Table 2-8. Total copper concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2016.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	495	326	357	341
SS-04	Blacktail Creek at Metro Storm Drain Confluence	803	762	790	702
SLAG-01	Silver Bow Creek in Slag Canyon	1330	1410	1250	1220
SS-05A	Silver Bow Creek above Butte Reduction Works	4140	2730	2440	2060
SS-06G	Silver Bow Creek above Butte WWTP	1030	862	999	943
SS-07	Silver Bow Creek below Butte WWTP	1110	963	843	1100
SS-08	Silver Bow Creek at Rocker	956	901	853	831
SS-10A	Silver Bow Creek above Sand Creek	1000	206	622	227
SS-10B	Silver Bow Creek below Sand Creek	427	429	481	295
SS-11C	Silver Bow Creek above Browns Gulch	410	521	694	695
SS-11D	Silver Bow Creek below Browns Gulch	389	168	532	447
SS-13	Silver Bow Creek in Reach L	727	522	431	---
SS-14	Silver Bow Creek at Miles Crossing	498	435	624	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	553	590	---
SS-15A	Silver Bow Creek above German Gulch	1270	1360	1480	---

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-15B	German Gulch at mouth	916	635	711	---
SS-15G	Silver Bow Creek below German Gulch	109	126	173	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	569	643	741	1050
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	882	580	706	1020
SS-19	Silver Bow Creek at Frontage Road	1780	983	979	619
Mid fraction (0.063-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	35	36	51	43
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	927	1020	636	775
SS-06G	Silver Bow Creek above Butte WWTP	182	115	78	73
SS-07	Silver Bow Creek below Butte WWTP	321	305	163	150
SS-08	Silver Bow Creek at Rocker	267	202	147	165
SS-10A	Silver Bow Creek above Sand Creek	188	98	120	64
SS-10B	Silver Bow Creek below Sand Creek	68	44	49	62
SS-11C	Silver Bow Creek above Browns Gulch	37	47	33	55
SS-11D	Silver Bow Creek below Browns Gulch	29	49	26	19
SS-13	Silver Bow Creek in Reach L	50	113	61	---
SS-14	Silver Bow Creek at Miles Crossing	64	48	46	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	202	201	---
SS-15A	Silver Bow Creek above German Gulch	358	1360	345	---
SS-15B	German Gulch at mouth	164	96	141	---
SS-15G	Silver Bow Creek below German Gulch	25	20	24	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	107	160	110	95
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	110	99	73	138
SS-19	Silver Bow Creek at Frontage Road	202	95	108	47
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	28	73	29	19
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	450	269	217	579
SS-06G	Silver Bow Creek above Butte WWTP	88	72	90	69
SS-07	Silver Bow Creek below Butte WWTP	763	75	144	49
SS-08	Silver Bow Creek at Rocker	161	82	47	87
SS-10A	Silver Bow Creek above Sand Creek	83	23	52	21
SS-10B	Silver Bow Creek below Sand Creek	31	13	22	16
SS-11C	Silver Bow Creek above Browns Gulch	18	19	32	20
SS-11D	Silver Bow Creek below Browns Gulch	16	18	27	17
SS-13	Silver Bow Creek in Reach L	25	19	17	---
SS-14	Silver Bow Creek at Miles Crossing	16	21	42	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	142	226	---
SS-15A	Silver Bow Creek above German Gulch	323	422	399	---
SS-15B	German Gulch at mouth	146	107	51	---

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-15G	Silver Bow Creek below German Gulch	36	22	38	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	63	126	101	92
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	55	115	69	159
SS-19	Silver Bow Creek at Frontage Road	168	48	64	79
Weighted mean of each size fraction					
SS-01	Blacktail Creek at Father Sheehan Park	52	63	64	62
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	1072	988	838	799
SS-06G	Silver Bow Creek above Butte WWTP	234	130	144	91
SS-07	Silver Bow Creek below Butte WWTP	568	458	195	166
SS-08	Silver Bow Creek at Rocker	267	189	137	295
SS-10A	Silver Bow Creek above Sand Creek	377	138	208	95
SS-10B	Silver Bow Creek below Sand Creek	74	124	104	85
SS-11C	Silver Bow Creek above Browns Gulch	43	55	73	108
SS-11D	Silver Bow Creek below Browns Gulch	56	50	73	50
SS-13	Silver Bow Creek in Reach L	213	127	74	---
SS-14	Silver Bow Creek at Miles Crossing	117	66	122	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	258	272	---
SS-15A	Silver Bow Creek above German Gulch	380	1006	489	---
SS-15B	German Gulch at mouth	233	145	180	---
SS-15G	Silver Bow Creek below German Gulch	36	23	38	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	124	182	169	108
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	175	205	107	185
SS-19	Silver Bow Creek at Frontage Road	226	131	144	85

--- Not sampled.

ND Not detected at analytical reporting limit.

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

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

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

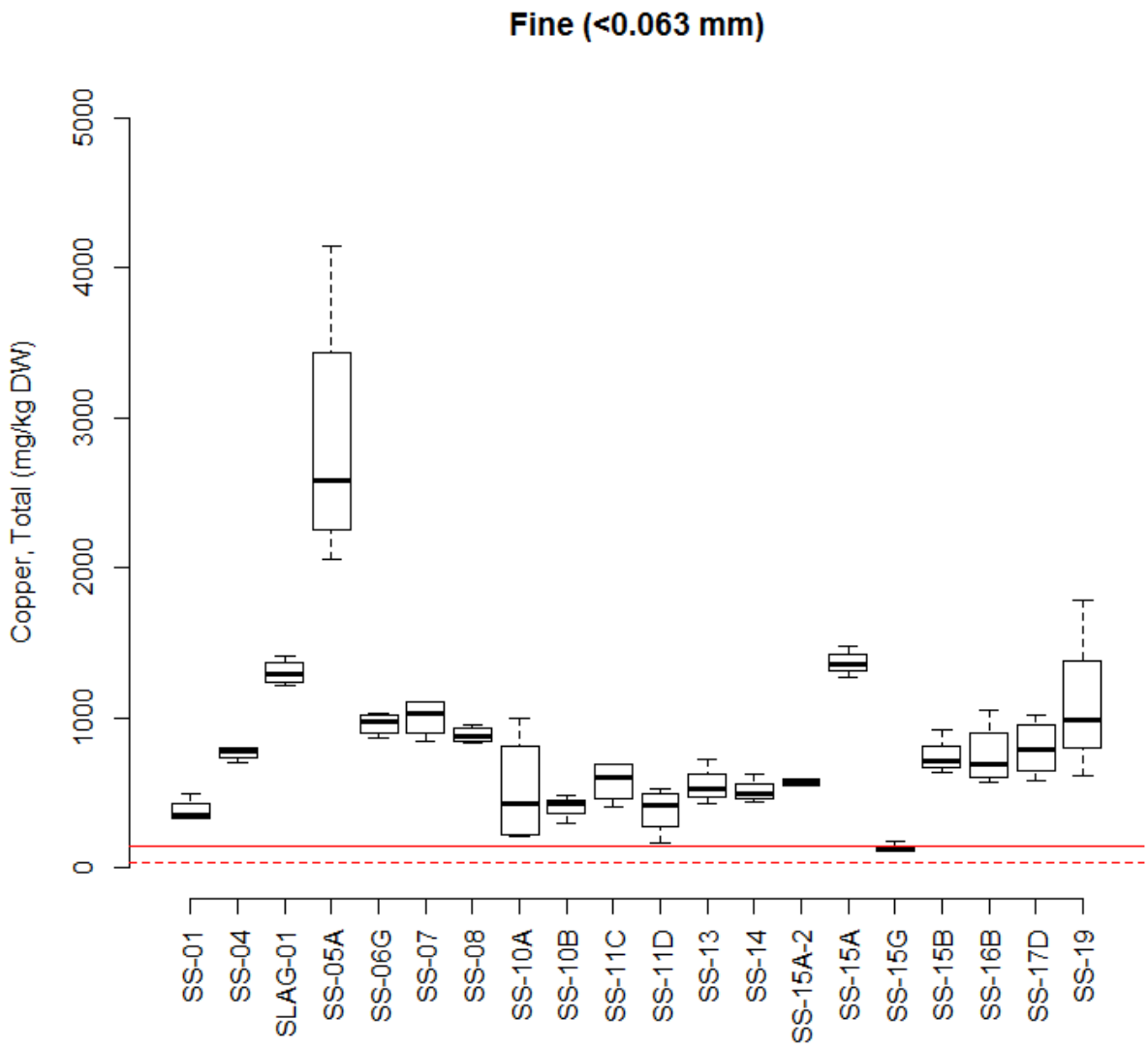

Figure 2-6. Total copper concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2016. Solid red line is the "probable effect concentration" (PEC) and the dashed red line is the "threshold effect concentration" (TEC) [MacDonald et al., 2000].

2.4.2.4 Lead

Among all samples collected in 2016, sediment lead concentrations ranged from 64-1,000 mg/kg-DW in the <0.063 mm size fraction, from 7-421 mg/kg-DW in the 0.063-1 mm size fraction, and from 5-1,290 mg/kg-DW in the 1-2 mm size fraction [Table 2-9]. Weighted mean concentrations ranged from 9-533 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions [Table 2-9]. Based on the weighted mean concentrations, exceedances of the TEC occurred in 46 samples and the PEC was exceeded in 8 samples [Table 2-9].

Spatially, fine fraction (<0.063 mm) median lead concentrations generally increased between each site from Blacktail Creek at Father Sheehan Park (SS-01) downstream to Silver Bow Creek in the Slag Canyon (SLAG-01), decreased downstream to Silver Bow Creek above Sand Creek (SS-10A), remained level downstream to the alternate site for Silver Bow Creek above German Gulch (SS-15A-2), increased at the regular site for Silver Bow Creek above German Gulch (SS-15A), decreased at Silver Bow Creek below German Gulch (SS-15B), and remained relatively level downstream to Silver Bow Creek at Frontage Road (SS-19) [Figure 2-7]. The median concentration at SLAG-01 and Silver Bow Creek above Butte Reduction Works (SS-05A) were about 1.5 times higher than at any other site [Figure 2-7]. Sharp increases in median concentrations occurred between SS-01 and Blacktail Creek at the Metro Storm Drain (SS-04), between SS-04 and SLAG-01, and between SS-15A-2 and SS-15A [Figure 2-7]. Sharp decreases occurred between SS-05A and Silver Bow Creek above the Butte WWTP (SS-06G), between Silver Bow Creek at Rocker (SS-08) and SS-10A, and between SS-15A and SS-15B [Figure 2-7].

In "background" sites (i.e., SS-01 and SS-15G), fine fraction (<0.063 mm) median lead concentrations were slightly above the PEC in SS-01 and slightly below the PEC in German Gulch (SS-15G) [Figure 2-7]. In Subarea 1 and 2 sites (from SS-07 to SS-14), median concentrations were similar to the level in SS-01 at all Subarea 1 and 2 sites downstream from SS-08 [Figure 2-7]. In Subarea 3 (from SS-15A-2 to SS-15B), median concentrations were variable and ranged from approximately 0-2 times higher than the level in SS-01 [Figure 2-7]. In Subarea 4, median concentrations were approximately 1.5 times higher than the concentration in SS-01 [Figure 2-7].

Table 2-9. Total lead concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2016.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	202	161	190	132
SS-04	Blacktail Creek at Metro Storm Drain Confluence	299	300	266	320
SLAG-01	Silver Bow Creek in Slag Canyon	720	679	845	862
SS-05A	Silver Bow Creek above Butte Reduction Works	1000	741	896	704
SS-06G	Silver Bow Creek above Butte WWTP	544	534	672	595
SS-07	Silver Bow Creek below Butte WWTP	714	386	458	554
SS-08	Silver Bow Creek at Rocker	534	479	461	351
SS-10A	Silver Bow Creek above Sand Creek	263	101	291	92
SS-10B	Silver Bow Creek below Sand Creek	218	162	208	98
SS-11C	Silver Bow Creek above Browns Gulch	170	360	254	170
SS-11D	Silver Bow Creek below Browns Gulch	177	64	189	122
SS-13	Silver Bow Creek in Reach L	157	151	136	---
SS-14	Silver Bow Creek at Miles Crossing	118	193	211	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	159	148	---
SS-15A	Silver Bow Creek above German Gulch	577	421	349	---
SS-15B	German Gulch at mouth	361	243	284	---

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-15G	Silver Bow Creek below German Gulch	105	96	117	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	251	257	242	421
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	317	215	246	284
SS-19	Silver Bow Creek at Frontage Road	466	240	371	183
Mid fraction (0.063-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	20	13	23	18
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	194	183	191	204
SS-06G	Silver Bow Creek above Butte WWTP	63	89	63	74
SS-07	Silver Bow Creek below Butte WWTP	66	81	72	67
SS-08	Silver Bow Creek at Rocker	90	61	38	47
SS-10A	Silver Bow Creek above Sand Creek	54	41	86	22
SS-10B	Silver Bow Creek below Sand Creek	20	13	16	18
SS-11C	Silver Bow Creek above Browns Gulch	83	16	14	18
SS-11D	Silver Bow Creek below Browns Gulch	12	16	13	9
SS-13	Silver Bow Creek in Reach L	19	31	18	---
SS-14	Silver Bow Creek at Miles Crossing	17	18	11	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	83	73	---
SS-15A	Silver Bow Creek above German Gulch	192	421	145	---
SS-15B	German Gulch at mouth	53	50	29	---
SS-15G	Silver Bow Creek below German Gulch	9	7	9	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	39	40	53	62
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	57	42	31	45
SS-19	Silver Bow Creek at Frontage Road	47	33	38	46
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	8	6	12	5
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	65	89	71	1290
SS-06G	Silver Bow Creek above Butte WWTP	81	29	67	62
SS-07	Silver Bow Creek below Butte WWTP	26	32	47	41
SS-08	Silver Bow Creek at Rocker	50	45	28	22
SS-10A	Silver Bow Creek above Sand Creek	21	19	28	12
SS-10B	Silver Bow Creek below Sand Creek	6	5	7	6
SS-11C	Silver Bow Creek above Browns Gulch	7	9	17	7
SS-11D	Silver Bow Creek below Browns Gulch	8	9	10	9
SS-13	Silver Bow Creek in Reach L	10	11	8	---
SS-14	Silver Bow Creek at Miles Crossing	8	13	13	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	31	126	---
SS-15A	Silver Bow Creek above German Gulch	142	120	217	---
SS-15B	German Gulch at mouth	35	29	19	---
SS-15G	Silver Bow Creek below German Gulch	11	7	9	---

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-16B	Silver Bow Creek in Reach P near Fairmont	23	22	32	21
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	23	54	26	47
SS-19	Silver Bow Creek at Frontage Road	39	19	28	39
Weighted mean of each size fraction					
SS-01	Blacktail Creek at Father Sheehan Park	25	13	30	25
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	228	208	279	533
SS-06G	Silver Bow Creek above Butte WWTP	116	81	105	80
SS-07	Silver Bow Creek below Butte WWTP	63	168	84	83
SS-08	Silver Bow Creek at Rocker	103	85	56	110
SS-10A	Silver Bow Creek above Sand Creek	101	67	115	37
SS-10B	Silver Bow Creek below Sand Creek	26	45	41	27
SS-11C	Silver Bow Creek above Browns Gulch	36	27	30	29
SS-11D	Silver Bow Creek below Browns Gulch	25	18	28	18
SS-13	Silver Bow Creek in Reach L	51	37	23	---
SS-14	Silver Bow Creek at Miles Crossing	30	28	39	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	95	87	---
SS-15A	Silver Bow Creek above German Gulch	182	308	206	---
SS-15B	German Gulch at mouth	79	63	51	---
SS-15G	Silver Bow Creek below German Gulch	17	9	16	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	48	49	67	51
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	74	80	42	57
SS-19	Silver Bow Creek at Frontage Road	54	40	54	50

--- Not sampled.

ND Not detected at analytical reporting limit.

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

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

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

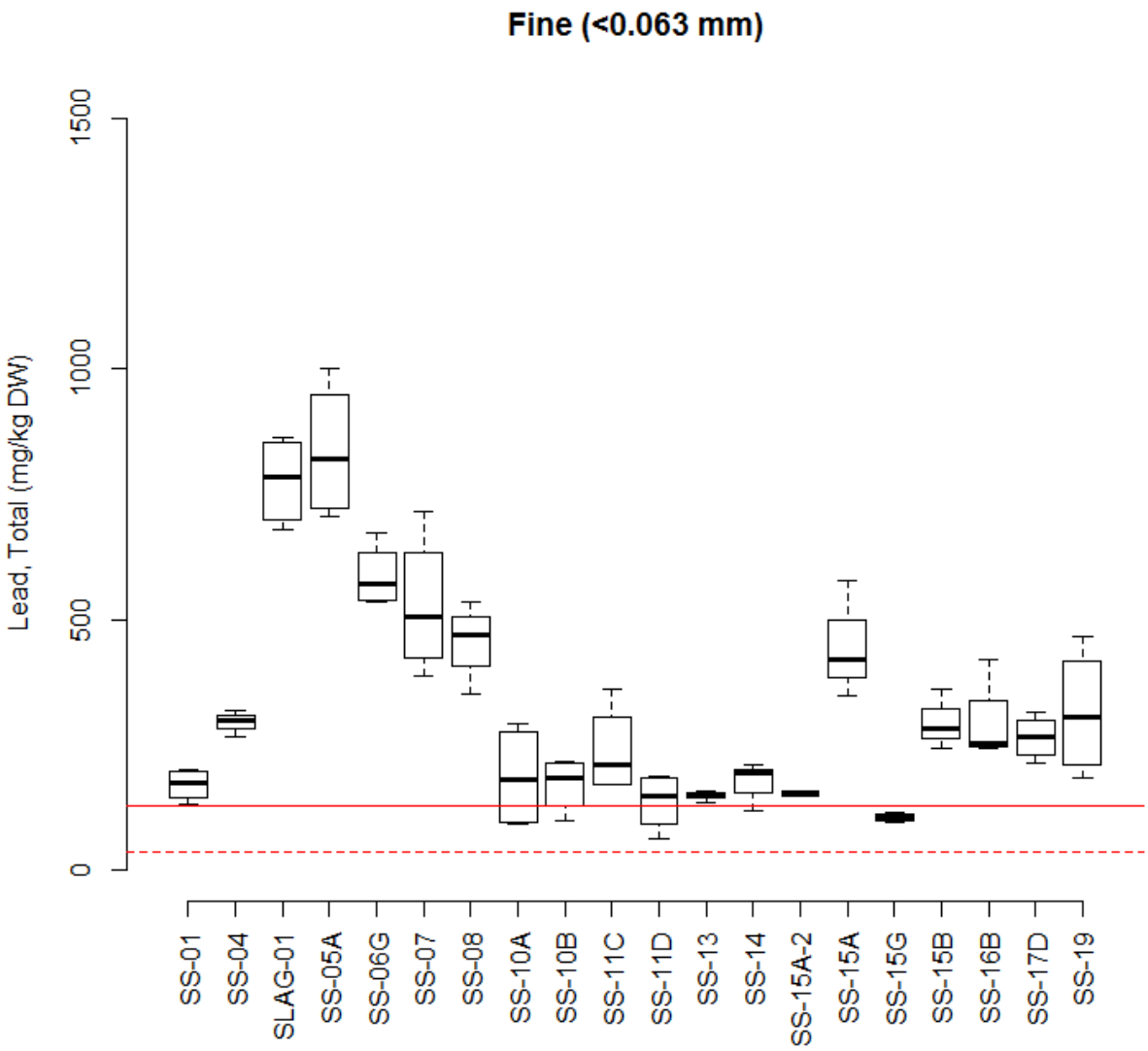

Figure 2-7. Total lead concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2016. Solid red line is the "probable effect concentration" (PEC) and the dashed red line is the "threshold effect concentration" (TEC) [MacDonald et al., 2000].

2.4.2.5 Mercury

Among all samples collected in 2016, sediment mercury concentrations ranged from 0.2-2.8 mg/kg-DW in the <0.063 mm size fraction, from 0.1-2.2 mg/kg-DW in the 0.063-1 mm size fraction, and from 0.1-0.3 mg/kg-DW in the 1-2 mm size fraction [Table 2-10]. Weighted mean concentrations ranged from 0.2-1.4 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions [Table 2-10]. Based on the weighted mean concentrations, exceedances of the TEC occurred in 9 samples and the PEC was exceeded in 1 sample; weighted mean concentrations were not determined for 24 samples because one or more

size fractions for that sample had a concentration below the analytical reporting limit and therefore weighted mean concentrations could not be determined [Table 2-10].

Spatially, fine fraction (<0.063 mm) median mercury concentrations increased between Blacktail Creek at Father Sheehan Park (SS-01) downstream to Silver Bow Creek above the Butte Reduction Works (SS-05A), decreased slightly at Silver Bow Creek above Butte WWTP (SS-06G), increased downstream to Silver Bow Creek at Rocker (SS-08), decreased sharply downstream at Silver Bow Creek above Sand Creek (SS-10A), remained level downstream to the alternate site for Silver Bow Creek above German Gulch (SS-15A-2), increased at the regular site for Silver Bow Creek above German Gulch (SS-15A), decreased at Silver Bow Creek above German Gulch (SS-15B), and then remained relatively level downstream to Silver Bow Creek at Frontage Road (SS-19) [Figure 2-8]. The median concentration at SS-08 and SS-15A were approximately 1.5 times higher than at any other site [Figure 2-8]. Sharp increases in median concentrations occurred between SS-01 and SS-05A, between Silver Bow Creek at Rocker (SS-08) and SS-08, and between SS-15A-2 and SS-15A [Figure 2-8]. Sharp decreases occurred between SS-08 and SS-10A and between SS-15A and SS-15B [Figure 2-8].

In "background" sites (i.e., SS-01 and SS-15G), fine fraction (<0.063 mm) median mercury were slightly above the TEC in both sites [Figure 2-8]. In Subarea 1 and 2 sites (from SS-07 to SS-14), median concentrations were generally about double the levels in the background sites at all Subarea 1 and 2 sites downstream from SS-08 [Figure 2-8]. In Subarea 3 (from SS-15A-2 to SS-15B), median concentrations were highly variable and ranged from approximately 2-9 times higher than the concentrations in the background sites [Figure 2-8]. In Subarea 4, median concentrations were approximately five times higher than the median concentrations in the background sites [Figure 2-8].

Table 2-10. Total mercury concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2016.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	0.31	0.21	0.20	0.22
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	1.60	1.10	1.60	0.89
SS-06G	Silver Bow Creek above Butte WWTP	1.30	0.96	1.00	0.87
SS-07	Silver Bow Creek below Butte WWTP	0.93	1.20	1.10	1.20
SS-08	Silver Bow Creek at Rocker	2.40	1.80	2.80	1.40
SS-10A	Silver Bow Creek above Sand Creek	1.10	0.25	1.40	0.32
SS-10B	Silver Bow Creek below Sand Creek	0.66	0.50	0.61	0.38
SS-11C	Silver Bow Creek above Browns Gulch	0.34	0.41	0.67	0.68
SS-11D	Silver Bow Creek below Browns Gulch	0.62	0.16	0.58	0.47
SS-13	Silver Bow Creek in Reach L	0.94	0.54	0.44	---
SS-14	Silver Bow Creek at Miles Crossing	0.72	0.48	0.57	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	0.48	0.88	---

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-15A	Silver Bow Creek above German Gulch	1.80	2.20	2.10	---
SS-15B	German Gulch at mouth	1.60	1.00	1.10	---
SS-15G	Silver Bow Creek below German Gulch	0.22	0.24	0.29	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	1.10	1.00	1.00	1.90
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1.50	1.40	1.10	1.40
SS-19	Silver Bow Creek at Frontage Road	1.60	1.50	1.30	0.91
Mid fraction (0.063-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	ND	ND	ND	ND
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	0.12	0.16	0.14	0.19
SS-06G	Silver Bow Creek above Butte WWTP	0.13	0.11	ND	ND
SS-07	Silver Bow Creek below Butte WWTP	0.14	0.43	0.28	0.18
SS-08	Silver Bow Creek at Rocker	0.38	0.55	0.34	0.37
SS-10A	Silver Bow Creek above Sand Creek	0.29	0.18	0.37	0.15
SS-10B	Silver Bow Creek below Sand Creek	ND	ND	ND	ND
SS-11C	Silver Bow Creek above Browns Gulch	ND	ND	ND	ND
SS-11D	Silver Bow Creek below Browns Gulch	ND	ND	ND	ND
SS-13	Silver Bow Creek in Reach L	ND	0.15	ND	---
SS-14	Silver Bow Creek at Miles Crossing	ND	ND	ND	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	0.14	0.23	---
SS-15A	Silver Bow Creek above German Gulch	0.71	2.20	0.55	---
SS-15B	German Gulch at mouth	0.16	0.20	0.12	---
SS-15G	Silver Bow Creek below German Gulch	ND	ND	ND	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.10	0.14	0.16	0.14
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	ND	0.17	0.22	0.12
SS-19	Silver Bow Creek at Frontage Road	0.16	0.28	ND	ND
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	ND	ND	ND	ND
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	ND	ND	ND	ND
SS-06G	Silver Bow Creek above Butte WWTP	0.16	ND	ND	ND
SS-07	Silver Bow Creek below Butte WWTP	ND	ND	ND	ND
SS-08	Silver Bow Creek at Rocker	ND	ND	0.27	ND
SS-10A	Silver Bow Creek above Sand Creek	ND	ND	0.11	ND
SS-10B	Silver Bow Creek below Sand Creek	ND	ND	ND	ND
SS-11C	Silver Bow Creek above Browns Gulch	ND	ND	ND	ND
SS-11D	Silver Bow Creek below Browns Gulch	ND	ND	ND	ND
SS-13	Silver Bow Creek in Reach L	ND	ND	ND	---
SS-14	Silver Bow Creek at Miles Crossing	ND	ND	ND	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	ND	0.12	---
SS-15A	Silver Bow Creek above German Gulch	0.11	0.14	0.31	---

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-15B	German Gulch at mouth	ND	0.11	ND	---
SS-15G	Silver Bow Creek below German Gulch	ND	ND	ND	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	ND	ND	0.10	ND
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	ND	ND	ND	ND
SS-19	Silver Bow Creek at Frontage Road	ND	ND	ND	ND
Weighted mean of each size fraction					
SS-01	Blacktail Creek at Father Sheehan Park	DNA	DNA	DNA	DNA
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	DNA	DNA	DNA	DNA
SS-06G	Silver Bow Creek above Butte WWTP	0.25	DNA	DNA	DNA
SS-07	Silver Bow Creek below Butte WWTP	DNA	DNA	DNA	DNA
SS-08	Silver Bow Creek at Rocker	DNA	DNA	0.44	DNA
SS-10A	Silver Bow Creek above Sand Creek	DNA	DNA	0.52	DNA
SS-10B	Silver Bow Creek below Sand Creek	DNA	DNA	DNA	DNA
SS-11C	Silver Bow Creek above Browns Gulch	DNA	DNA	DNA	DNA
SS-11D	Silver Bow Creek below Browns Gulch	DNA	DNA	DNA	DNA
SS-13	Silver Bow Creek in Reach L	DNA	DNA	DNA	---
SS-14	Silver Bow Creek at Miles Crossing	DNA	DNA	DNA	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	DNA	0.35	---
SS-15A	Silver Bow Creek above German Gulch	0.43	1.42	0.57	---
SS-15B	German Gulch at mouth	DNA	0.25	DNA	---
SS-15G	Silver Bow Creek below German Gulch	DNA	DNA	DNA	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	DNA	DNA	0.23	DNA
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	DNA	DNA	DNA	DNA
SS-19	Silver Bow Creek at Frontage Road	DNA	DNA	DNA	DNA

--- Not sampled.

ND Not detected at analytical reporting limit.

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

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

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

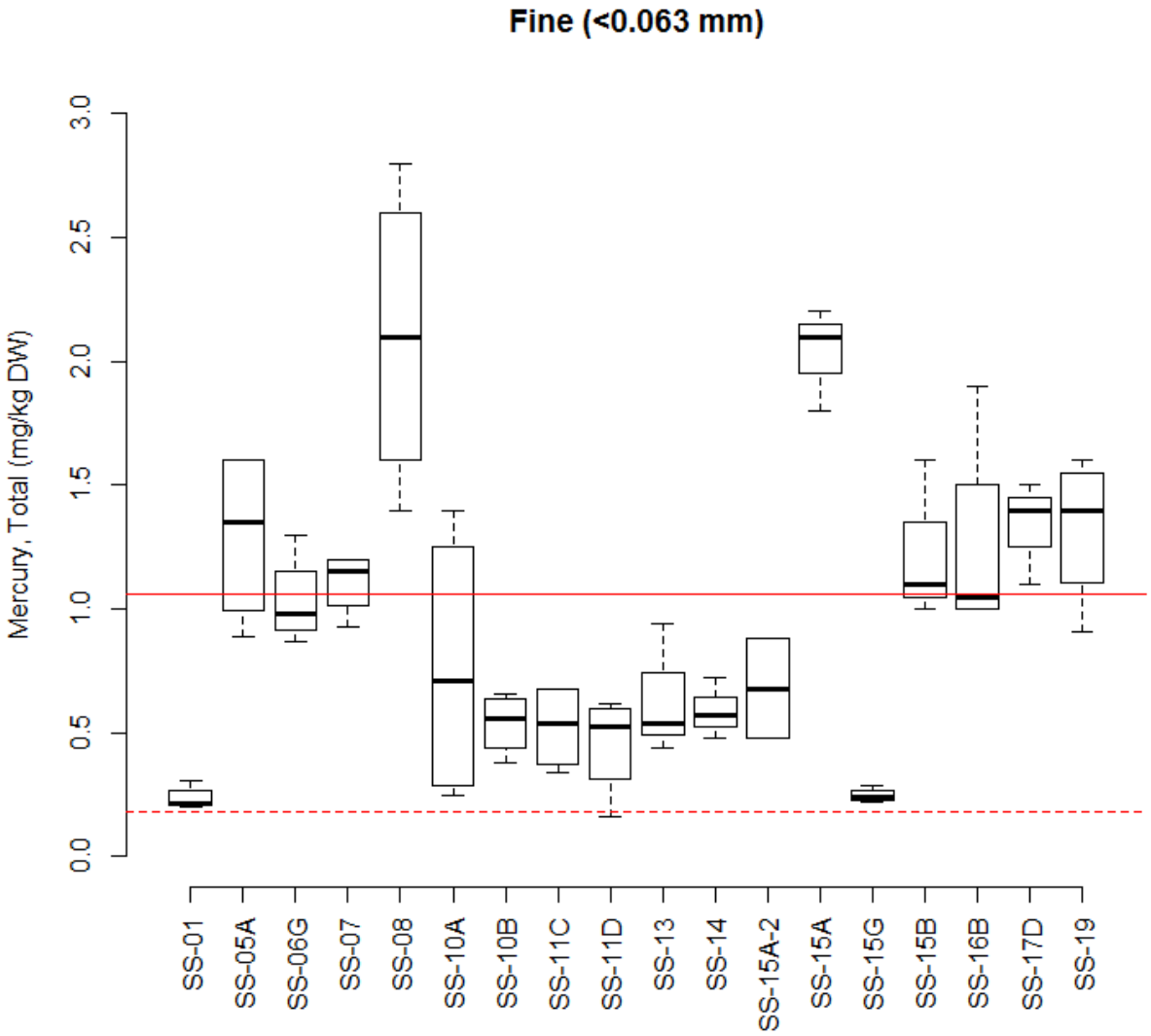

Figure 2-8. Total mercury concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2016. Solid red line is the "probable effect concentration" (PEC) and the dashed red line is the "threshold effect concentration" (TEC) [MacDonald et al., 2000].

2.4.2.6 Zinc

Among all samples collected in 2016, sediment zinc concentrations ranged from 136-3,860 mg/kg-DW in the <0.063 mm size fraction, from 36-3,130 mg/kg-DW in the 0.063-1 mm size fraction, and from 32-2,610 mg/kg-DW in the 1-2 mm size fraction [Table 2-11]. Weighted mean concentrations ranged from 50-2,630 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions [Table 2-11]. Based on the weighted mean concentrations, exceedances of the TEC occurred in 61 samples and the PEC was exceeded in 31 samples [Table 2-11].

Spatially, fine fraction (<0.063 mm) median zinc concentrations generally increased between each site from Blacktail Creek at Father Sheehan Park (SS-01) downstream to Silver Bow Creek above the Butte Reduction Works (SS-05A), decreased downstream to Silver Bow Creek above Sand Creek (SS-10A), remained level downstream to the alternate site for Silver Bow Creek above German Gulch (SS-15A-2), increased at the regular site for Silver Bow Creek above German Gulch (SS-15A), decreased at Silver Bow Creek below German Gulch (SS-15B), and remained relatively level downstream to Silver Bow Creek at Frontage Road (SS-19) [Figure 2-9]. Sharp increases in median concentrations occurred between SS-01 and Blacktail Creek at the Metro Storm Drain (SS-04), between SS-04 and Silver Bow Creek in the Slag Canyon (SLAG-01), and between SS-15A-2 and SS-15A [Figure 2-9]. A sharp decrease occurred between Silver Bow Creek at Rocker (SS-08) and SS-10A [Figure 2-9].

In "background" sites (i.e., SS-01 and SS-15G), fine fraction (<0.063 mm) median zinc concentrations were slightly above the PEC in Blacktail Creek at Father Sheehan Park (SS-01) and slightly above the TEC in German Gulch (SS-15G) [Figure 2-9]. In Subarea 1 and 2 sites (from SS-07 to SS-14), median concentrations were variable and approximately 3-5 times higher than in background site SS-01 [Figure 2-9]. In Subarea 3 (from SS-15A-2 to SS-15B), median concentrations were variable and approximately 3-6 times the median concentration in background site SS-01 [Figure 2-9]. In Subarea 4, median concentrations were approximately four times higher than the median concentration in background site SS-01 lower than in SS-15A and SS-15B but above the median concentrations in the background sites [Figure 2-9].

Table 2-11. Total zinc concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2016.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	576	404	486	520
SS-04	Blacktail Creek at Metro Storm Drain Confluence	1690	1510	1680	1320
SLAG-01	Silver Bow Creek in Slag Canyon	2320	2230	2390	2420
SS-05A	Silver Bow Creek above Butte Reduction Works	3860	3030	2830	2050
SS-06G	Silver Bow Creek above Butte WWTP	2990	2080	3330	3380
SS-07	Silver Bow Creek below Butte WWTP	2900	1890	2680	3410
SS-08	Silver Bow Creek at Rocker	2410	2290	2570	2360
SS-10A	Silver Bow Creek above Sand Creek	2310	971	1610	875
SS-10B	Silver Bow Creek below Sand Creek	1280	1310	1510	1120
SS-11C	Silver Bow Creek above Browns Gulch	832	1730	2230	1920
SS-11D	Silver Bow Creek below Browns Gulch	1230	492	1440	1340
SS-13	Silver Bow Creek in Reach L	2230	2170	2130	---
SS-14	Silver Bow Creek at Miles Crossing	1380	1720	2240	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	1240	1690	---
SS-15A	Silver Bow Creek above German Gulch	1900	3130	2990	---
SS-15B	German Gulch at mouth	2020	1330	3130	---
SS-15G	Silver Bow Creek below German Gulch	136	150	268	---

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-16B	Silver Bow Creek in Reach P near Fairmont	1370	1890	2100	2710
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	2770	1500	2480	1890
SS-19	Silver Bow Creek at Frontage Road	2460	1870	3140	2300
Mid fraction (0.063-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	127	151	396	185
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	1560	1400	1170	1100
SS-06G	Silver Bow Creek above Butte WWTP	471	479	464	374
SS-07	Silver Bow Creek below Butte WWTP	807	778	463	591
SS-08	Silver Bow Creek at Rocker	742	450	578	488
SS-10A	Silver Bow Creek above Sand Creek	504	394	350	245
SS-10B	Silver Bow Creek below Sand Creek	190	121	142	207
SS-11C	Silver Bow Creek above Browns Gulch	126	155	110	221
SS-11D	Silver Bow Creek below Browns Gulch	117	153	104	90
SS-13	Silver Bow Creek in Reach L	206	476	287	---
SS-14	Silver Bow Creek at Miles Crossing	255	181	158	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	1060	551	---
SS-15A	Silver Bow Creek above German Gulch	2740	3130	1180	---
SS-15B	German Gulch at mouth	553	696	308	---
SS-15G	Silver Bow Creek below German Gulch	36	39	69	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	270	280	454	324
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	371	283	304	554
SS-19	Silver Bow Creek at Frontage Road	412	294	284	229
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	52	32	184	63
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	579	546	533	693
SS-06G	Silver Bow Creek above Butte WWTP	260	203	304	298
SS-07	Silver Bow Creek below Butte WWTP	365	288	317	266
SS-08	Silver Bow Creek at Rocker	171	236	211	195
SS-10A	Silver Bow Creek above Sand Creek	250	133	169	105
SS-10B	Silver Bow Creek below Sand Creek	80	49	96	92
SS-11C	Silver Bow Creek above Browns Gulch	70	88	95	163
SS-11D	Silver Bow Creek below Browns Gulch	79	70	88	116
SS-13	Silver Bow Creek in Reach L	145	102	127	---
SS-14	Silver Bow Creek at Miles Crossing	110	129	143	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	321	262	---
SS-15A	Silver Bow Creek above German Gulch	2610	763	1850	---
SS-15B	German Gulch at mouth	162	415	244	---
SS-15G	Silver Bow Creek below German Gulch	161	60	92	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	216	235	270	187

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	170	294	239	591
SS-19	Silver Bow Creek at Frontage Road	300	112	120	1020
Weighted mean of each size fraction					
SS-01	Blacktail Creek at Father Sheehan Park	128	94	320	189
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	1528	1337	1306	1045
SS-06G	Silver Bow Creek above Butte WWTP	647	422	560	404
SS-07	Silver Bow Creek below Butte WWTP	639	1008	533	630
SS-08	Silver Bow Creek at Rocker	597	472	511	826
SS-10A	Silver Bow Creek above Sand Creek	919	632	569	371
SS-10B	Silver Bow Creek below Sand Creek	208	373	328	312
SS-11C	Silver Bow Creek above Browns Gulch	125	192	235	381
SS-11D	Silver Bow Creek below Browns Gulch	202	156	221	196
SS-13	Silver Bow Creek in Reach L	696	539	368	---
SS-14	Silver Bow Creek at Miles Crossing	385	270	433	---
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	---	1089	760	---
SS-15A	Silver Bow Creek above German Gulch	2630	2238	1740	---
SS-15B	German Gulch at mouth	608	703	552	---
SS-15G	Silver Bow Creek below German Gulch	99	50	89	---
SS-16B	Silver Bow Creek in Reach P near Fairmont	320	366	572	306
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	563	550	410	627
SS-19	Silver Bow Creek at Frontage Road	414	316	396	607

--- Not sampled.

ND Not detected at analytical reporting limit.

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

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

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

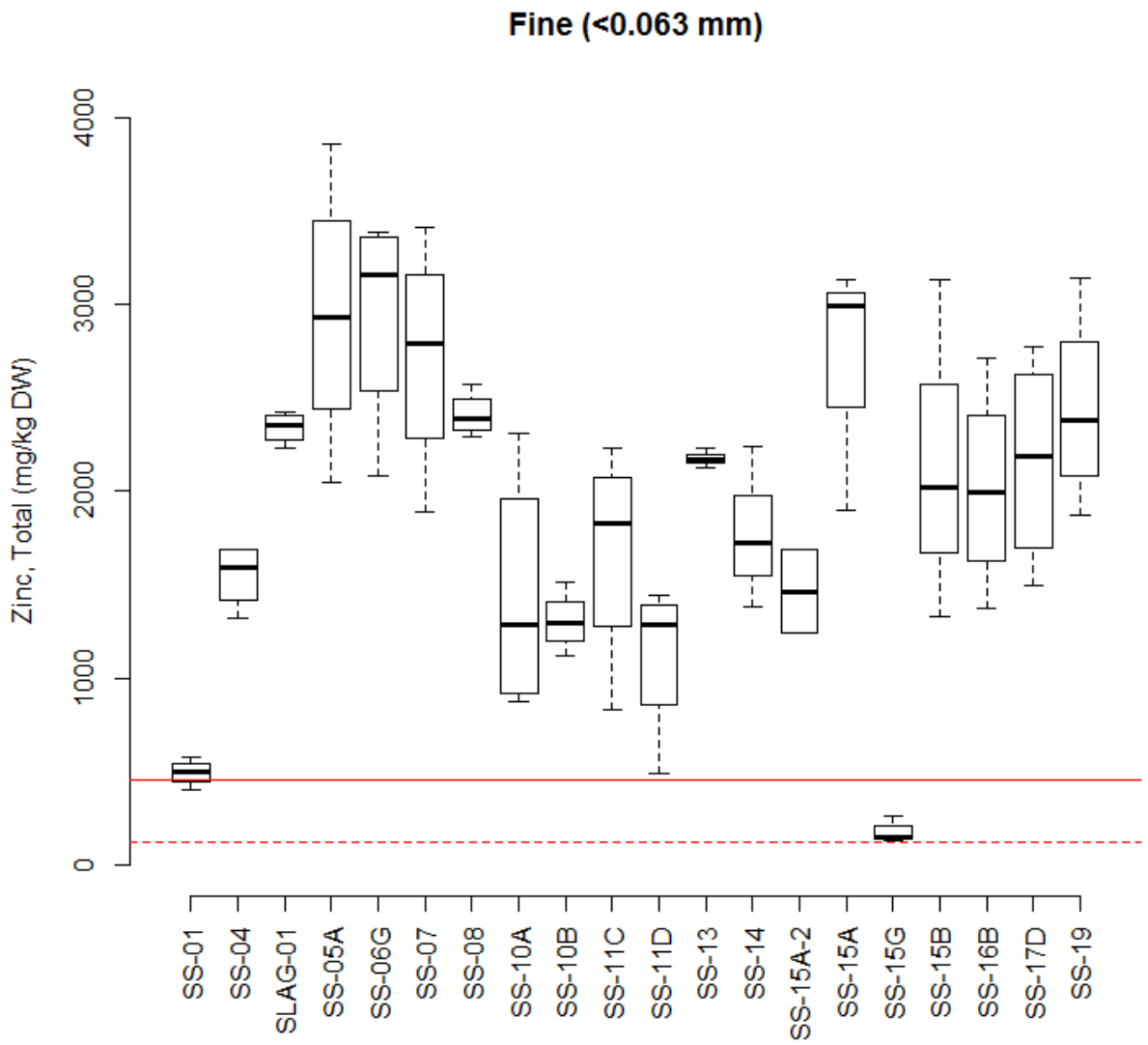

Figure 2-9. Total zinc concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2016. Solid red line is the "probable effect concentration" (PEC) and the dashed red line is the "threshold effect concentration" (TEC) [MacDonald et al., 2000].

2.4.3 Other Metals

Summary statistics for non-COC sediment concentrations are presented by sediment size fraction in Table 2-12. Actual sample concentrations for all non-COCs are available in Appendix D. Two of the non-COCs have identified reference values [MacDonald et al., 2000]; chromium and nickel. Therefore, exceedances of the reference values for chromium and nickel are discussed further.

Chromium exceeded the TEC (43.4 mg/kg-DW) in 69% (45 of 65) of the samples and exceeded the PEC (111 mg/kg-DW) in 8% (45 of 65) of the samples in the fine sediment size fraction

(<0.063 mm). Three (5%) of the samples had chromium concentration exceeding the TEC in the mid sediment size fraction (0.063-1 mm). Exceedances of the chromium TEC in one or both of those size fractions occurred in all SSTOU sample sites except SS-10A, SS-13, and SS-l5A-2.

Nickel exceeded the TEC (22.7 mg/kg-DW) in 74% (48 of 65) of the samples and exceeded the PEC (48.6 mg/kg-DW) in 12% of the samples in the fine sediment size fraction (<0.063 mm). One (2%) of the samples had nickel concentration exceeding the TEC in the mid sediment size fraction (0.063-1 mm). Exceedances of the nickel TEC for one or both of those size fractions occurred at all SSTOU sample sites except SS-10A and SS-l5A-2.

Table 2-12. Summary statistics for dry weight sediment metal concentrations (stratified by size fraction) in the Streamside Tailings Operable Unit (SSTOU), 2016. No metals in this table are contaminants of concern in the SSTOU.

Metal	Sieve Size (mm)	Samples	Reporting Limit (mg/kg)		Sample Concentration (mg/kg-DW)			
			Min	Max	Min	Max	Mean	Standard Deviation
Aluminum	<0.063	65	7	20	15,100	65,800	26,832	7,279
	0.063-1	65	5	10	2,680	18,000	6,429	3,268
	1-2	65	5	10	2,420	13,400	4,983	2,207
Antimony	<0.063	65	5	5	ND	ND	---	---
	0.063-1	65	5	5	ND	ND	---	---
	1-2	65	5	5	ND	ND	---	---
Barium	<0.063	65	5	5	192	1,250	422	167
	0.063-1	65	5	5	40	474	121	59
	1-2	65	5	5	24	211	93	38
Beryllium	<0.063	65	5	5	ND	ND	---	---
	0.063-1	65	5	5	ND	ND	---	---
	1-2	65	5	5	ND	ND	---	---
Boron	<0.063	65	5	10	6	22	14	3
	0.063-1	65	5	5	ND	19	---	---
	1-2	65	5	7	ND	19	---	---
Chromium	<0.063	65	5	10	13	137	57	27
	0.063-1	65	5	5	ND	59	---	---
	1-2	65	5	6	ND	22	---	---
Cobalt	<0.063	65	5	5	7	53	16	6
	0.063-1	65	5	5	ND	21	---	---
	1-2	65	5	5	ND	6	---	---
Iron	<0.063	65	10	40	14,100	65,600	34,915	9,153
	0.063-1	65	8	40	6,900	110,000	23,363	20,424

Metal	Sieve Size (mm)	Samples	Reporting Limit (mg/kg)		Sample Concentration (mg/kg-DW)			
			Min	Max	Min	Max	Mean	Standard Deviation
	1-2	65	7	10	4,030	25,400	9,404	4,175
Manganese	<0.063	65	5	5	676	36,100	4,617	4,761
	0.063-1	65	5	5	146	6,450	783	849
	1-2	65	5	5	105	2,620	741	630
Molybdenum	<0.063	65	5	5	ND	31	---	---
	0.063-1	65	5	5	ND	7	---	---
	1-2	65	5	5	ND	ND	---	---
Nickel	<0.063	65	5	5	8	92	33	16
	0.063-1	65	5	5	ND	39	---	---
	1-2	65	5	5	ND	11	---	---
Selenium	<0.063	65	5	5	ND	6	---	---
	0.063-1	65	5	5	ND	ND	---	---
	1-2	65	5	5	ND	ND	---	---
Silver	<0.063	65	5	5	ND	17	---	---
	0.063-1	65	5	5	ND	6	---	---
	1-2	65	5	5	ND	38	---	---
Uranium	<0.063	65	5	5	ND	15	---	---
	0.063-1	65	5	5	ND	28	---	---
	1-2	65	5	5	ND	6	---	---
Vanadium	<0.063	65	1	5	33	151	80	28
	0.063-1	65	1	3	17	309	56	43
	1-2	65	1	3	7	49	18	7

ND Not detected at analytical reporting limit.

--- Not calculated because one or more samples had concentrations below the reporting limit.

2.4.4 Data Validation

Data quality objectives (DQOs) were evaluated for sampling precision. Seven paired field sample and field duplicate concentrations were compared to evaluate sampling precision. In each field sample and duplicate pair, 63 comparisons were made; comparisons were made for each pair of 21 metals and in three size fractions (<0.063 mm, 0.063–1 mm, and 1–2 mm). In total, there were 441 sample and duplicate pairs. Of those pairs, relative percent difference (RPD) comparisons were made. In total, 34 of 441 (7.8%) had RPDs greater than the DQO

specified for sampling precision (40%). Of the 441 pairs, 235 (53.3%) had concentrations <5 times the RL in one or both samples and therefore RPD calculations were not evaluated.

2.5 DISCUSSION

2.5.1 Sample Size Fraction

Sediment data collected in the SSTOU in 2016 and prior years have demonstrated that the sediment size fraction is strongly related (inversely) to most metal concentrations, and these results are consistent with the findings of others [Horowitz and Ehrlick, 1987; Jain and Ram, 1997]. The reason for this disparity in metal concentrations by size fraction is primarily because finer sediments have greater surface area for adsorption of metals [Horowitz and Ehrlick, 1987]. Therefore, when evaluating weighted mean sample concentrations, samples with higher percentages of fine sediments will generally have higher sample concentrations.

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

2.5.2 Contaminants of Concern

Based on prior sampling [RESPEC, 2015a; 2015b; 2016b], it appears that there is a major source, or sources, of metal contamination to sediments in Butte somewhere between Blacktail Creek at Father Sheehan Park (SS-01) and Silver Bow Creek above the Butte Reduction Works (SS-05A). In 2016, additional sample sites were added between those sites in the vicinity of the Metro Storm Drain and Slag Canyon to identify potential sources. Sites added in between SS-01 and SS-05A included Blacktail Creek above Metro Storm Drain (SS-04) and Silver Bow Creek in the Slag Canyon (SLAG-01). At each site, sediments were analyzed in only the fine (<0.063 mm) fraction and only for the COCs, excluding mercury.

Based on 2016 data, there appear to be COC source, or sources, between each of these sites (SS-01, SS-04, SLAG-01, and SS-05A). However, these data suggest the most significant sources of cadmium, lead, and zinc are between SS-04 and SLAG-01 whereas the most significant sources of arsenic and copper are between SLAG-01 and SS-05A. We recommend continued monitoring of SS-04 and SLAG-01 to provide more data for these sites. If future results are

similar to results in 2016 at these sites, consideration of finer resolution sampling between SS-04 and SS-05A may be warranted.

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

Remediation was recently completed upstream from SS-15A. However, there were some limited tailings in the streambed and streambanks from about 100 m above to 200 m below SS-15A which were left to naturally attenuate. To investigate if these remnant tailings may account for some continuing elevated COC concentrations in sediments at Silver Bow Creek immediately upstream from German Gulch samples were also collected at a site located immediately upstream from SS-15A and upstream of the remnant tailings (SS-15A-2). Although only two paired samples were collected at SS-15A and SS-15A-2, results suggested fairly conclusively that COC concentrations are higher (generally by three times or more) at SS-15A compared to SS-15A-2. Generally, COC concentrations at SS-15A-2 were similar to concentrations in Subarea 2 sites whereas concentrations at SS-15A were typically several times higher. We recommend continued monitoring of both sites. If results consistently demonstrate that SS-15A COC concentrations are anomalous, discontinuation of the site may be appropriate because the site is not representative of the vast majority of Subarea 3 conditions because remediation occurred in virtually all of Subarea 3 except in the immediate vicinity where sites SS-15A (and SS-15B) are located. Prior to 2016, SS-15A and SS-15B were the only sites where monitoring occurred in Subarea 3. Therefore, instream sediments sampled at these particular sites, which were not removed and replaced during remedial activities, are not representative of the vast majority of Subarea 3 sediments which were removed and replaced during remedial activities.

2.5.3 Data Validation

Some DQOs were exceeded for sampling precision. Of the 441 field sample and field duplicate pairs compared, 34 exceeded the specified DQO for sampling precision (RPD >40%). All associated data will be “J” flagged in the project database as described in the quality assurance project plan [RESPEC, 2014].

3.0 GROUNDWATER

3.1 INTRODUCTION

This chapter describes groundwater monitoring data collected in 2016 to assess the effectiveness of remedial actions implemented within the Streamside Tailings Operable Unit (SSTOU) of the Silver Bow Creek/Butte Area National Priorities List site. Data were collected to evaluate the effects of remedial actions on groundwater quality and progress toward attainment of performance goals. Groundwater contamination is among the environmental concerns for Silver Bow Creek and may pose a threat to human health and the environment. An objective of remediation in the SSTOU is to reduce loading of contaminants from floodplain soils to groundwater and surface water.

3.2 PERFORMANCE GOALS

The SSTOU ROD specifies that the final remediation standards for groundwater COC concentrations are to, "Attain compliance with applicable Circular WQB-7 standards, federal MCLs (maximum contaminant levels) and federal nonzero maximum contaminant level goals (MCLGs) for all SSTOU groundwater." Moreover, "The groundwater levels to be attained consist of the more stringent of the MCL, any nonzero MCLG, or the WQB-7 human health standard for each parameter." While more stringent standards promulgated since the issuance of the ROD have not yet been formally adopted as performance standards for this operable unit, this monitoring report uses the more stringent of the ROD's Circular WQB-7 standards [MDHES, 1994] or current Circular DEQ-7 standards [MDEQ, 2012a] as the goal to be attained for purposes of evaluation. The most stringent of these standards for each COC is shown in Table 3-1. The MDEQ [2012a] human health groundwater standards for non-COC metals are shown in Table 3-2.

Table 3-1. Comparison of the state of Montana groundwater standards in July 1994 (effective at the time of issuance of the Streamside Tailings Operable Unit Record of Decision) and October 2012 (effective in 2014) for each contaminant of concern. Gray cells indicate the most restrictive standard.

Contaminant of concern	Human health groundwater standard (mg/L)	
	MDHES [1994]	MDEQ [2012a]
Arsenic	0.018	0.010
Cadmium	0.00500	0.00500
Copper	1.000	1.300
Lead	0.0150	0.0150
Mercury	0.00014	0.000050
Zinc	5.0	2.0

Table 3-2. Montana groundwater standards for metals which are not contaminants of concern in the Streamside Tailings Operable Unit [MDEQ, 2012a].

Metal	Human health groundwater standard (mg/L)
Aluminum	-
Antimony	0.006
Barium	1
Beryllium	0.004
Boron	-
Chromium	0.1
Cobalt	-
Iron	-
Manganese	-
Molybdenum	-
Nickel	0.1
Selenium	0.05
Silver	0.1
Uranium	0.03
Vanadium	-

3.3 METHODS

The purpose of the groundwater monitoring program is to collect data describing the temporal and spatial variation of metal and ion concentrations for groundwater in the SSTOU. These data provide a long-term record of environmental conditions in the SSTOU. As of 2016, 15 years of SSTOU groundwater data (2002-2016) have been collected under this monitoring program. This long-term record provides data to evaluate the effects of remediation on environmental conditions in the SSTOU over time. Improvement to groundwater quality may require long time periods (i.e., decades) following completion of remediation within the SSTOU.

Changes to the groundwater monitoring program have occurred over time and a record of these changes is provided in the program sampling and analysis plan [RESPEC, 2016a]. The program attempts to adhere to monitoring requirements specified in the SSTOU ROD [Table 3-3].

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

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

3.3.1 Monitoring Locations

In 2016, monitoring occurred in nine well cluster areas within the SSTOU. Major remediation was complete in all subareas during 2016 but minor remedial actions occurred in Subarea 1 to remove some remnant tailings [Figure 3-1; Table 3-4]. Each well cluster consisted of three wells; two monitoring wells located within the stream floodplain and one background well located outside the floodplain and adjacent to the monitoring wells.

The Mine Waste Relocation Repository (MWRR) well cluster is located outside the floodplain at a site where approximately 171,900 cubic yards of contaminated soil from Reach A of Subarea 1 were deposited [USEPA, 2011]. The MWRR site consists of five monitoring wells and one background well located up-gradient from the MWRR. Well cluster locations were selected based on SSTOU ROD requirements [Table 3-3].

At the Colorado Tailings well cluster site [Figure 3-1], two monitoring wells were discontinued and removed in 2016 (P-06A and G-1052R) due to damage from inundation (due to beaver activities) or frost heaving. Two new monitoring wells were installed as replacements (GW-WG-NS and BW-WG-SS). The replacement wells were located approximately 200 yards downstream from the original monitoring well locations [Table 3-4].

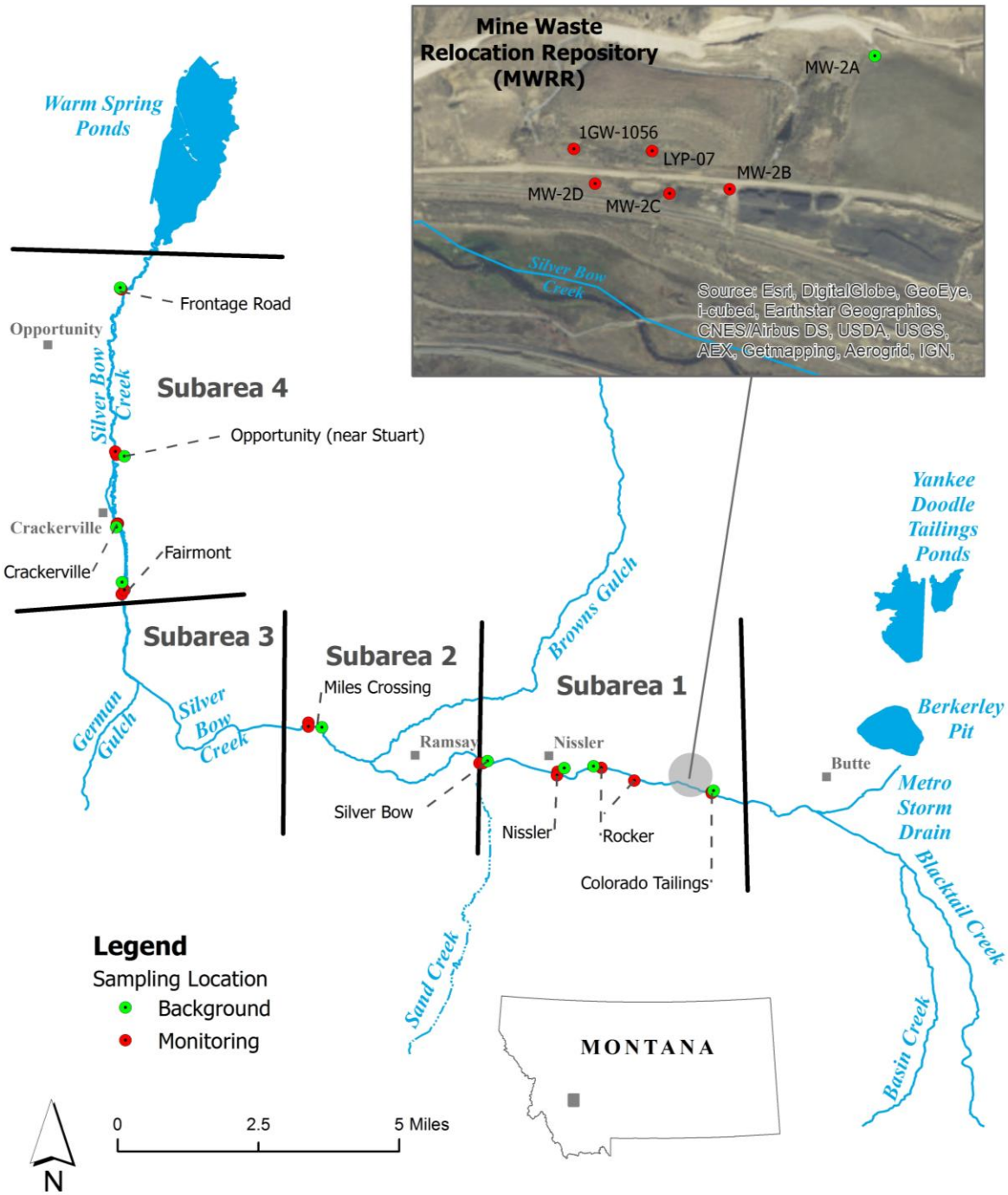

Figure 3-1. Sampling locations for groundwater monitoring in the Streamside Tailings Operable Unit, 2016.

Table 3-4. Sampling locations for groundwater monitoring in the Streamside Tailings Operable Unit, 2016.

Well Cluster	Well ID	Well Purpose	Location (GPS coordinates, NAD 83)	
			Latitude	Longitude
Colorado Tailings	GW-1010R	Background	45.99979	-112.57561
	GW-WG-NS[31]	Floodplain	45.99916	-112.57624
	GW-WG-SS[32]	Floodplain	45.99940	-112.57622
Rocker	GW-RK-BG	Background	46.00483	-112.62020
	MW-10	Floodplain	46.00447	-112.61734
	MW-01	Floodplain	46.00155	-112.60496
Nissler	GW-1003R	Background	46.00405	-112.63095
	1GW-1004A	Floodplain	46.00307	-112.63343
	P-58A	Floodplain	46.00211	-112.63355
Silver Bow	P-39R	Floodplain	46.00440	-112.66235
	P-37A	Floodplain	46.00449	-112.66112
	P-114	Background	46.00508	-112.65941
Miles Crossing	GW-MC-NS	Floodplain	46.01300	-112.72600
	GW-MC-SS	Floodplain	46.01200	-112.72600
	GW-MC-BG	Background	46.01200	-112.72100
Mine Waste Relocation Repository (MWRR)	1GW-1056	Monitoring	46.00263	-112.58615
	LYP-07	Monitoring	46.00264	-112.58483
	MW-2A	Background	46.00386	-112.58114
	MW-2B	Monitoring	46.00223	-112.58350
	MW-2C	Monitoring	46.00215	-112.58451
	MW-2D	Monitoring	46.00223	-112.58577
Fairmont	GW-FM-ES	Floodplain	46.04400	-112.79692
	GW-FM-WS	Floodplain	46.04510	-112.79601
	GW-FM-BG	Background	46.04711	-112.79700
Crackerville	GW-CR-ES	Floodplain	46.06211	-112.79942
	GW-CR-WS	Floodplain	46.06196	-112.79980
	GW-CR-BG	Background	46.06112	-112.79994
Stuart	GW-ST-ES	Floodplain	46.07975	-112.80107
	GW-ST-WS	Floodplain	46.08053	-112.80146
	GW-ST-BG	Background	46.07939	-112.79810
Frontage Road	GW-FR-ES	Floodplain	46.12223	-112.80167
	GW-FR-WS	Floodplain	46.12250	-112.80225
	GW-FR-BG	Background	46.12263	-112.80268

[31] Well GW-WG-NS was installed in 2016 as a replacement for well P-06A (45.99940, -112.57622) which was discontinued.

[32] Well GW-WG-SS was installed in 2016 as a replacement for well GW-1052R (45.99916, -112.57624) which was discontinued.

3.3.2 Monitoring Schedule

Groundwater was monitored during low streamflow periods at all wells from September 19-21, 2016 to describe spatial variation in shallow groundwater chemistry within the SSTOU. At the MWRR well cluster, monitoring also occurred on May 17, 2016 during the spring snowmelt runoff period.

3.3.3 Monitoring Parameters

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

Table 3-5. Sampling parameters and analytes for groundwater monitoring of the Streamside Tailings Operable Unit, 2016.

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

3.3.4 Sample Collection and Analysis

Sample collection and analysis procedures are described in the project sampling and analysis plan (SAP) [RESPEC, 2016a] and quality assurance and quality control procedures are described in the program quality assurance project plan (QAPP) [RESPEC, 2014]. Sample collection methods generally followed standard operating procedures (SOPs) developed for the Clark Fork River [AR, 1992]. Field sampling procedures were in accordance with MDEQ [2012b] and followed “clean hands/dirty hands” procedures as described in USGS [2006]. Dedicated, or disposable, well bailers were used in low yield wells where installation of a submersible pump was impractical. Field parameters (water temperature, pH, dissolved oxygen concentration, and conductivity) were measured during each monitoring event with a field multimeter (YSI Professional Plus). Dissolved metal samples were filtered in the laboratory rather than in the field because some wells had high levels of suspended sediment which made field filtering impractical. Samples were analyzed by Energy Laboratories (Helena, Montana). Laboratory analysis procedures for each analyte are presented in Table 3-6.

Table 3-6. Analytes, methods, and reporting limits for groundwater sampling in the Streamside Tailings Operable Unit, 2016.

Analyte	Requested Method	Requested Reporting Limit (mg/L)[33]	Holding Time (days)	Bottle	Preservative
Water Samples - Physical Properties and Inorganics					
Alkalinity, Total (as CaCO3)	A 2320 B	4	14		
Alkalinity, Bicarbonate (as HCO3)	A 2320 B	4	14		
Chloride	EPA 300.0	1	7		
Sulfate	EPA 300.0	1	7		
Hardness (as CaCO3)	A 2340 B	1	180		
Water Samples - Dissolved Metals (0.45 µm filtered)					
Aluminum	EPA 200.8	0.009	180	250 mL HDPE	HNO3 to pH <2
Antimony	EPA 200.8	0.0005			
Arsenic	EPA 200.8	0.001			
Barium	EPA 200.8	0.003			
Beryllium	EPA 200.8	0.0008			
Boron	EPA 200.7	0.1			
Cadmium	EPA 200.8	0.00003			
Calcium	EPA 200.7	1			
Chromium	EPA 200.8	0.01			
Cobalt	EPA 200.8	0.01			
Copper	EPA 200.8	0.001			
Iron	EPA 200.7	0.02			
Lead	EPA 200.8	0.0003			
Magnesium	EPA 200.7	1			
Manganese	EPA 200.8	0.001			
Mercury	EPA 245.1	0.000005			
Molybdenum	EPA 200.8	0.005			
Nickel	EPA 200.8	0.002			
Potassium	EPA 200.7	1			
Selenium	EPA 200.8	0.001			
Silver	EPA 200.8	0.0002			
Sodium	EPA 200.7	1			
Uranium	EPA 200.8	0.0002			
Vanadium	EPA 200.8	0.1			
Zinc	EPA 200.8	0.008			

3.3.5 Data Analysis

3.3.5.1 Metal Contaminants of Concern

For each sample, the concentration for each metal COC in 2016 was compared to the state of Montana groundwater standards [Table 3-1]. Additionally, to provide the temporal trend for each COC concentration in each well, all COC concentrations throughout the monitoring period of record were plotted through time[34]. In each well cluster, COC concentrations were grouped

[33] Requested reporting limits are either the required reporting limit of MDEQ [2012a] or the lowest reporting limit previously provided by the analytical laboratory, whichever is lower.

[34] Groundwater monitoring methods and data from prior years may be found in Confluence [2007; 2008; 2009, 2010], Atkins [2011; 2013a; 2013b] and RESPEC [2013; 2015b].

according to the well purpose (i.e., background or monitoring) and narrative discussions are focused on the comparison of conditions in the background wells to those observed in the monitoring wells in each cluster.

3.3.5.2 Other Metals and Common Ions

Concentrations of non-COC metals and common ions from 2016 were tabulated. For those metals with MDEQ [2012a] groundwater standards, the 2016 samples are compared to those standards.

3.3.6 Data Validation

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

3.4 RESULTS

3.4.1 Mine Waste Relocation Repository

3.4.1.1 Contaminants of Concern

In May and September 2016, no MWRR monitoring wells had samples with metal COC concentrations exceeding any MDEQ [2012a] groundwater standards [Table 3-7]. During both quarters, the background well (MW-2A) in the MWRR cluster had an arsenic concentration that was at or slightly above the arsenic groundwater standard but no other COCs exceeded standards in the background well [Table 3-7].

Table 3-7. Dissolved metal (contaminant of concern) concentrations (mg/L) in groundwater monitoring wells of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2016.

Site	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
May						
MW-2A*	0.010	ND	ND	ND	ND	ND
1GW-1056	0.007	ND	ND	ND	ND	0.013
LYP-07	0.003	0.00003	ND	ND	ND	0.043
MW-2B	0.009	ND	ND	ND	ND	ND
MW-2C	0.006	ND	ND	ND	ND	ND
MW-2D	0.007	ND	ND	ND	ND	ND
September						
MW-2A*	0.011	ND	ND	ND	ND	ND
1GW-1056	0.008	0.00018	ND	ND	ND	ND
LYP-07	0.007	ND	ND	ND	ND	ND
MW-2B	0.010	ND	0.001	ND	ND	ND
MW-2C	0.007	ND	ND	ND	ND	ND
MW-2D	0.007	ND	ND	ND	ND	ND

ND Not detected at analytical reporting limit.

* Background well.

Exceeds human health groundwater standard [MDEQ, 2012a].

3.4.1.1.1 Arsenic

Based on the monitoring period of record in the MWRR, arsenic concentrations have been generally consistent at each well since monitoring began in 2006 [Figure 3-2]. All monitoring wells have had arsenic concentrations which were less than or similar to the background well concentration throughout the period of record [Figure 3-2]. There does not appear to be an increasing trend at any well with the possible exception of MW-2B and 1GW-1056 [Figure 3-2]. However, these trends do not appear likely to be statistically significant as of 2016. Well MW-2B does appear to have a slightly increasing trend through time, although concentrations in MW-2B have not exceeded the concentrations in the background well during any sample period [Figure 3-2]. Similarly, there may be an increasing trend in well 1GW-1056 since approximately 2013. However, similar to well MW-2B, no arsenic concentrations in well 1GW-1056 have exceeded those in the background well during any sample period [Figure 3-2].

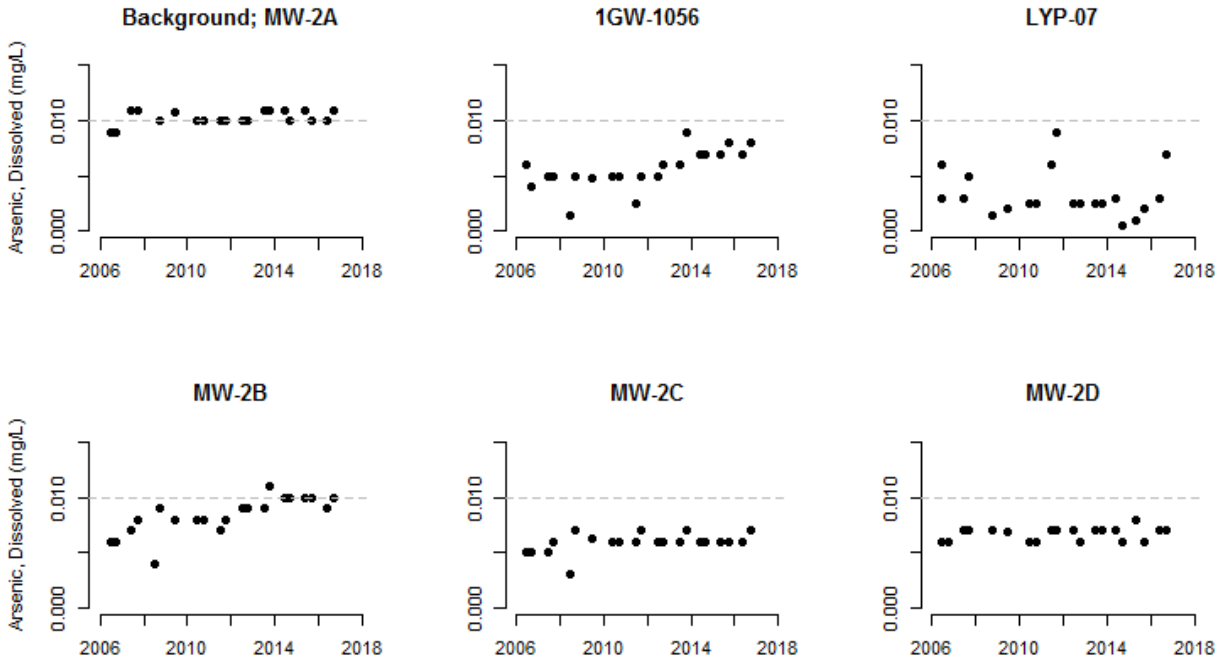

Figure 3-2. Arsenic concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.1.1.2 Cadmium

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

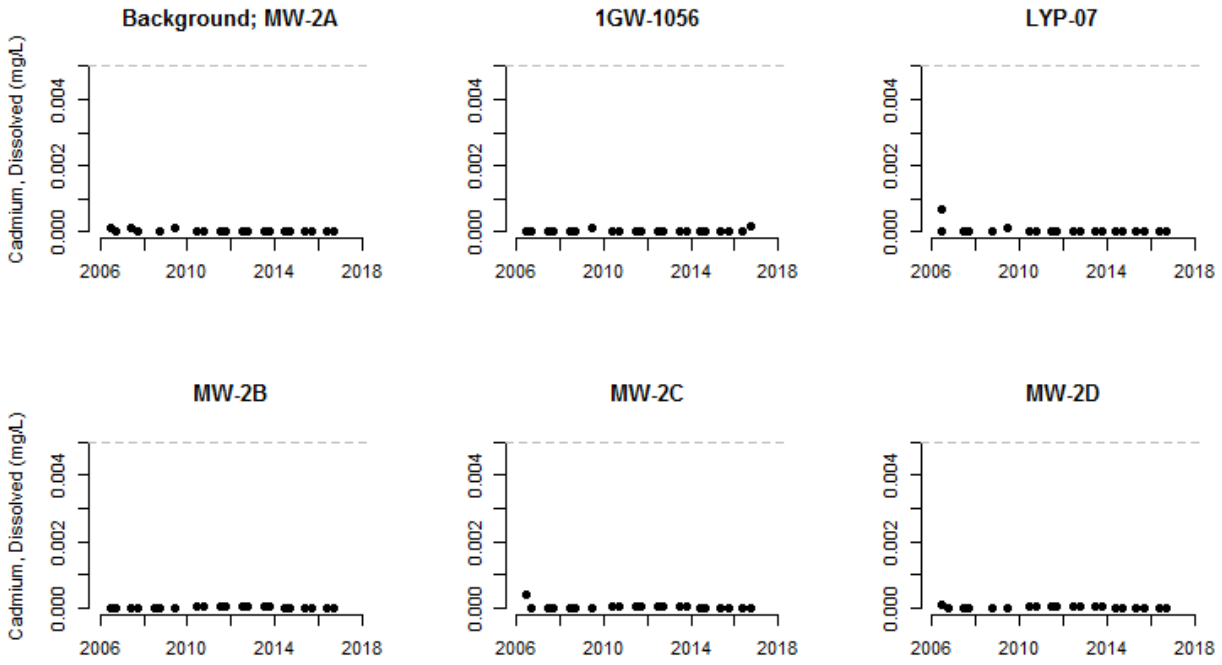

Figure 3-3. Cadmium concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.1.1.3 Copper

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

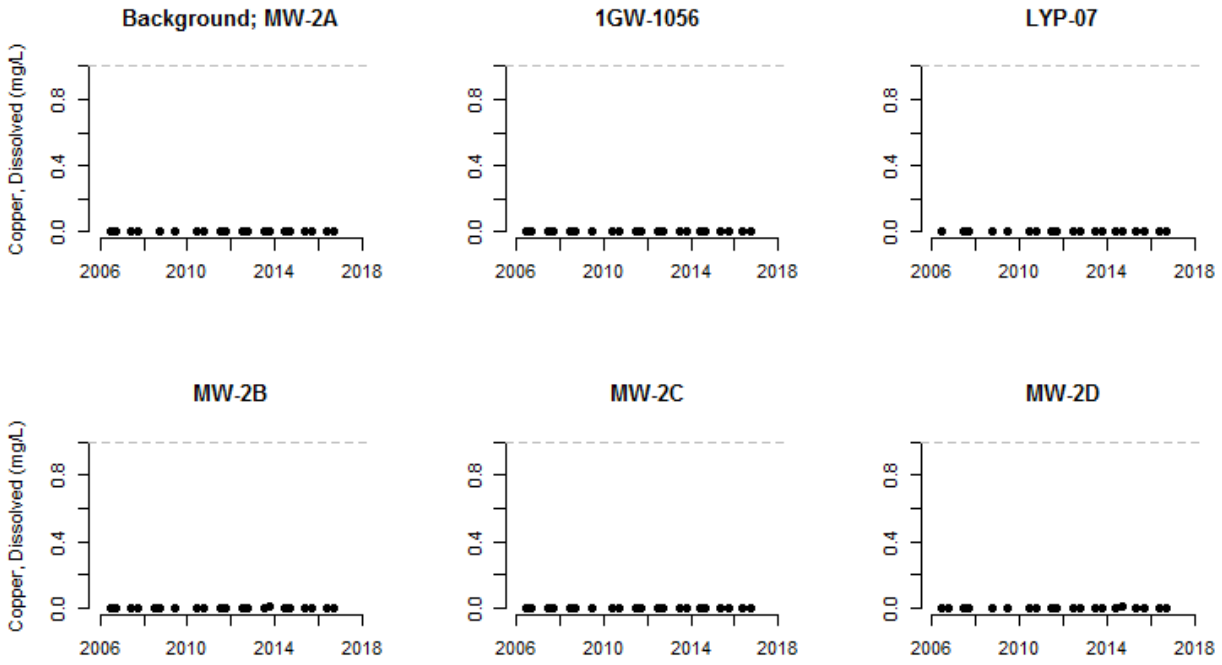

Figure 3-4. Copper concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDHES, 1994]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.1.1.4 Lead

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

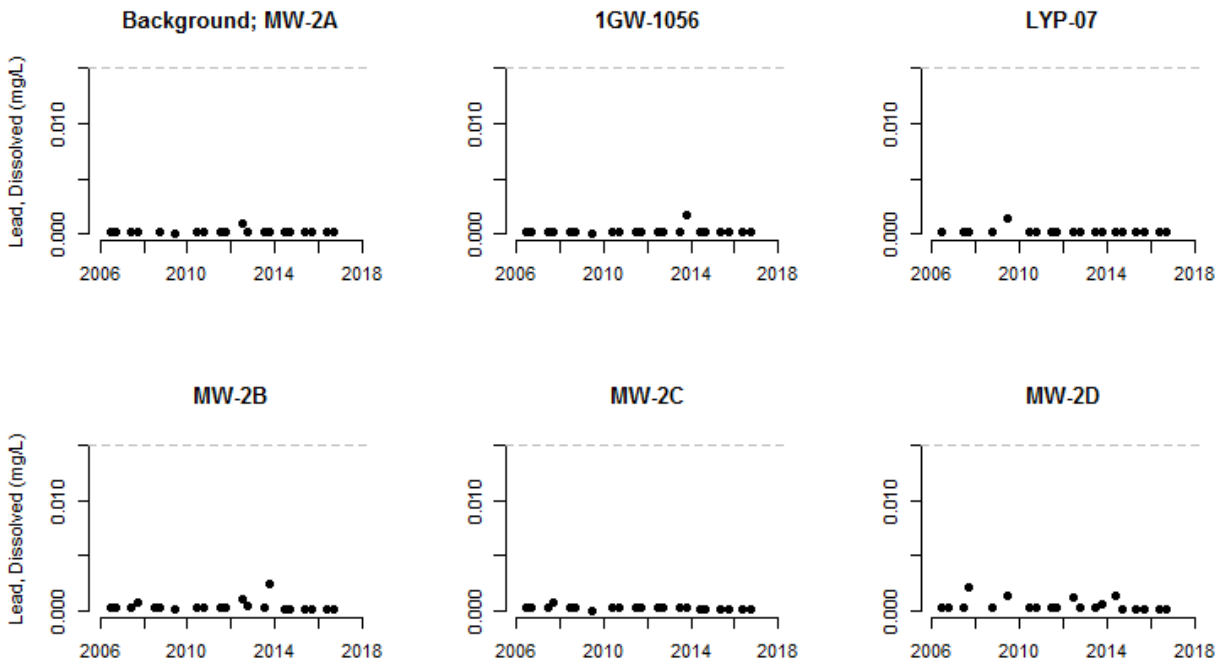

Figure 3-5. Lead concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.1.1.5 Mercury

Based on the monitoring period of record in the MWRR, all mercury concentrations were near or below the analytical reporting limit during all sample periods Figure 3-6]. There is no indication that mercury concentrations are increasing in any monitoring wells [Figure 3-6]. Nearly all variance among samples in Figure 3 6 is due to variance in the reporting limit.

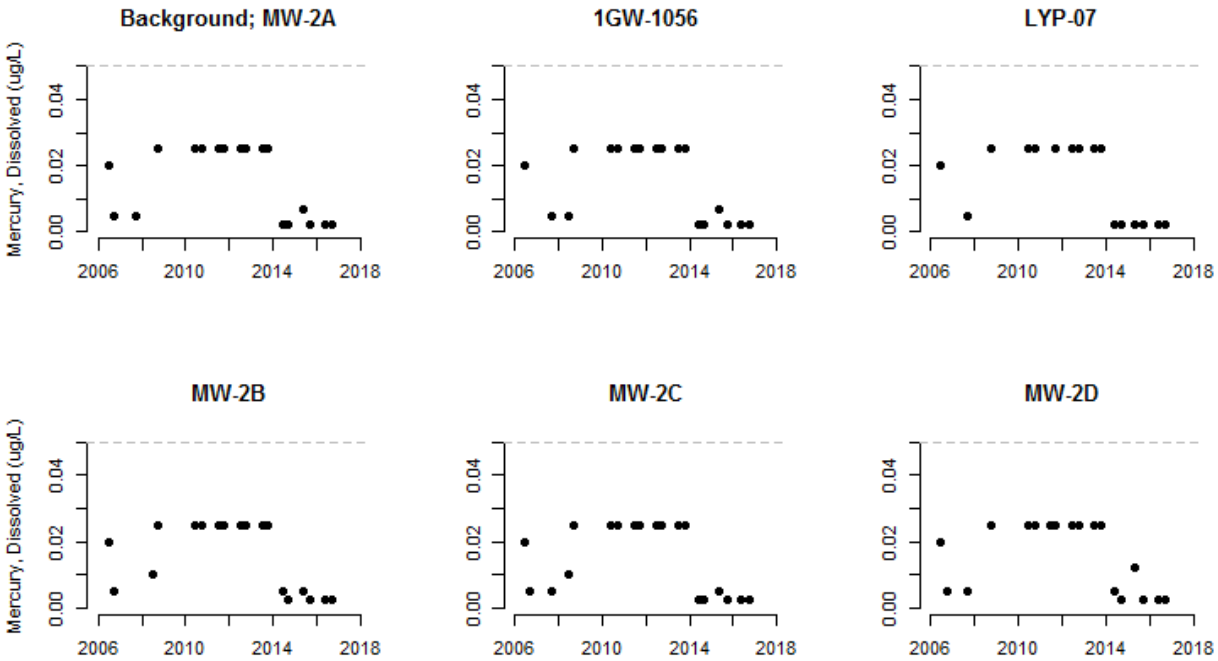

Figure 3-6. Mercury concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDHES, 1994]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.1.1.6 Zinc

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

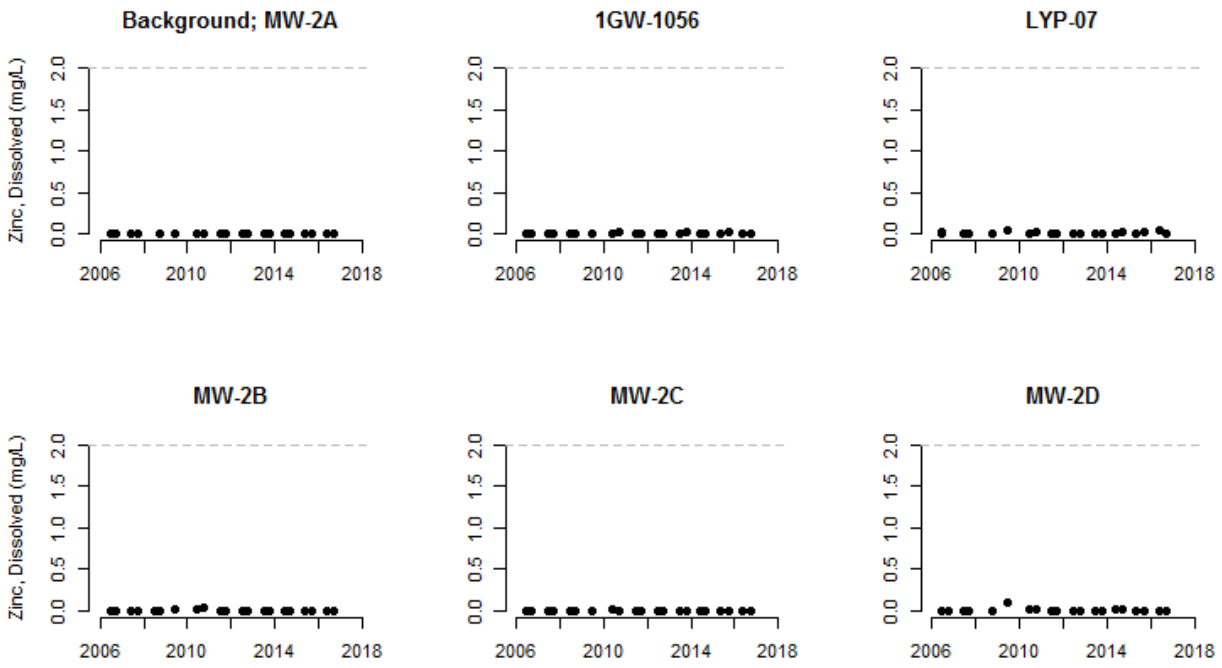

Figure 3-7. Zinc concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.1.2 Other Metals

In the MWRR in 2016, uranium concentrations exceeded the MDEQ [2012a] standard in the background well (MW-2A) and in three monitoring wells (1GW-1056, LYP-07, and MW-2D) in May and September [Table 3-8]. No other non-COC metals exceeded MDEQ [2012a] standards in any MWRR wells in 2016.

Table 3-8. Dissolved metal (non-contaminant of concern) concentrations (mg/L) in groundwater monitoring wells of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2016.[35]

Site	Al	Sb	Ba	Be	B	Cr	Co	Fe	Mn	Mb	Ni	Se	Ag	U	V
May															
MW-2A*	ND	ND	0.014	ND	ND	ND	ND	ND	ND	0.008	ND	0.011	ND	0.0470	ND
1GW-1056	ND	ND	0.030	ND	ND	ND	ND	ND	ND	0.006	ND	0.004	ND	0.0368	ND
LYP-07	ND	0.0033	0.066	ND	ND	ND	ND	ND	0.168	0.011	0.005	0.003	ND	0.0721	ND
MW-2B	ND	ND	0.030	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	0.0043	ND
MW-2C	ND	ND	0.021	ND	ND	ND	ND	ND	ND	ND	ND	0.003	ND	0.0088	ND
MW-2D	ND	ND	0.044	ND	ND	ND	ND	ND	ND	0.005	ND	0.004	ND	0.0526	ND
September															
MW-2A*	ND	ND	0.012	ND	ND	ND	ND	ND	0.001	0.008	ND	0.010	ND	0.0434	ND
1GW-1056	ND	ND	0.031	ND	ND	ND	ND	ND	0.002	0.009	ND	0.005	ND	0.0387	ND
LYP-07	ND	0.0031	0.074	ND	ND	ND	ND	0.06	1.090	0.02	0.006	0.001	ND	0.1350	ND
MW-2B	ND	ND	0.033	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	0.0063	ND
MW-2C	ND	ND	0.021	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	0.0085	ND
MW-2D	ND	ND	0.045	ND	ND	ND	ND	ND	ND	0.01	ND	0.004	ND	0.0533	ND

ND Not detected at analytical reporting limit.

* Background well.

Exceeds human health groundwater standard [MDEQ, 2012a].

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

3.4.1.3 Common Ions

Common ion concentrations in the MWRR wells in 2016 are presented in Table 3-9.

Table 3-9. Common ion concentrations (mg/L) in groundwater wells located of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2016.

Site	Alkalinity (as CaCO3)	Bicarbonate Alkalinity (as HCO3)	Calcium	Chloride	Hardness (as CaCO3)	Magnesium	Potassium	Sodium	Sulfate
May									
MW-2A*	130	160	4	222	287	91	14	4	27
1GW-1056	120	140	19	185	260	77	16	3	27
LYP-07	180	220	22	155	280	85	17	6	33
MW-2B	80	97	24	147	210	59	15	4	24
MW-2C	100	130	24	182	249	72	17	3	32
MW-2D	150	180	26	199	315	93	20	4	28
September									
MW-2A*	120	150	4	217	266	86	14	4	27
1GW-1056	120	150	19	190	263	79	16	3	27
LYP-07	270	330	29	100	316	97	18	8	34
MW-2B	94	110	26	164	233	66	16	4	25
MW-2C	110	130	25	185	254	74	17	3	32
MW-2D	160	190	26	197	317	94	20	4	27

* Background well.

3.4.2 Floodplain

3.4.2.1 Contaminants of Concern

In the Silver Bow Creek floodplain monitoring wells in 2016, four of six COCs had concentrations exceeding the most restrictive human health groundwater standard of MDHES [1994] or MDEQ [2012a] in at least one well [Table 3-10]. Five wells exceeded the arsenic standard, three of which were background wells [Table 3 10]. Seven floodplain monitoring wells, in five separate well clusters, exceeded the cadmium standard but no background wells exceeded the standard [Table 3 10]. One sample from a monitoring well in the Stuart cluster exceeded the copper standard [Table 3 10]. Seven floodplain monitoring wells, in four separate well clusters, exceeded the zinc standard but no background wells exceeded the standard [Table 3 10].

Table 3-10. Dissolved metal (contaminant of concern) concentrations (mg/L) in groundwater monitoring wells located along Silver Bow Creek in the Streamside Tailings Operable Unit, September 2016.

Cluster	Site	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
Colorado Tailings	GW-1010R*	0.002	ND	ND	ND	ND	ND
	GW-WG-NS	0.005	0.00008	ND	ND	ND	0.806
	GW-WG-SS	0.009	0.00021	ND	ND	ND	ND
Rocker	GW-RK-BG*	0.006	ND	ND	ND	ND	ND
	MW-01	0.012	0.00082	0.071	ND	ND	0.132
	MW-10	ND	0.00363	0.128	ND	ND	3.610
Nissler	GW-1003R*	0.011	ND	ND	ND	ND	ND
	1GW-1004A	ND	0.00089	0.026	0.0062	ND	7.030
	P-58A	ND	0.00680	0.594	ND	ND	5.370
Silver Bow	P-114*	0.003	ND	ND	ND	0.000016	ND
	P-37A	0.002	0.01100	0.024	ND	0.000014	0.519
	P-39R	0.014	0.00008	0.031	ND	ND	ND
Miles Crossing	GW-MC-BG*	0.036	0.00004	ND	ND	ND	ND
	GW-MC-NS	0.001	0.02800	0.234	ND	0.000011	7.140
	GW-MC-SS	0.001	0.00715	0.029	ND	0.000008	3.160
Fairmont	GW-FM-BG*	0.001	0.00032	ND	ND	0.000009	ND
	GW-FM-ES	0.002	0.00021	0.002	ND	ND	0.333
	GW-FM-WS	0.002	0.00003	0.002	0.0009	ND	0.078
Crackerville	GW-CR-BG*	0.038	ND	0.002	ND	0.000008	ND
	GW-CR-ES	ND	0.00208	0.003	ND	ND	0.455
	GW-CR-WS	0.005	0.03360	0.054	ND	0.000008	0.298
Stuart	GW-ST-BG*	0.002	0.00146	ND	ND	ND	0.868
	GW-ST-ES	ND	0.02120	1.140	0.0011	ND	2.940
	GW-ST-WS	0.002	0.02710	0.153	ND	ND	3.920
Frontage Road	GW-FR-BG*	0.010	0.00005	0.003	ND	ND	ND
	GW-FR-ES	0.001	0.00007	0.001	ND	ND	ND
	GW-FR-WS	0.009	0.00008	0.002	ND	ND	ND

ND Not detected at analytical reporting limit.

* Background well.

Exceeds the most restrictive human health groundwater standard from MDHES [1994] or MDEQ [2012a].

3.4.2.1.1 Arsenic

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

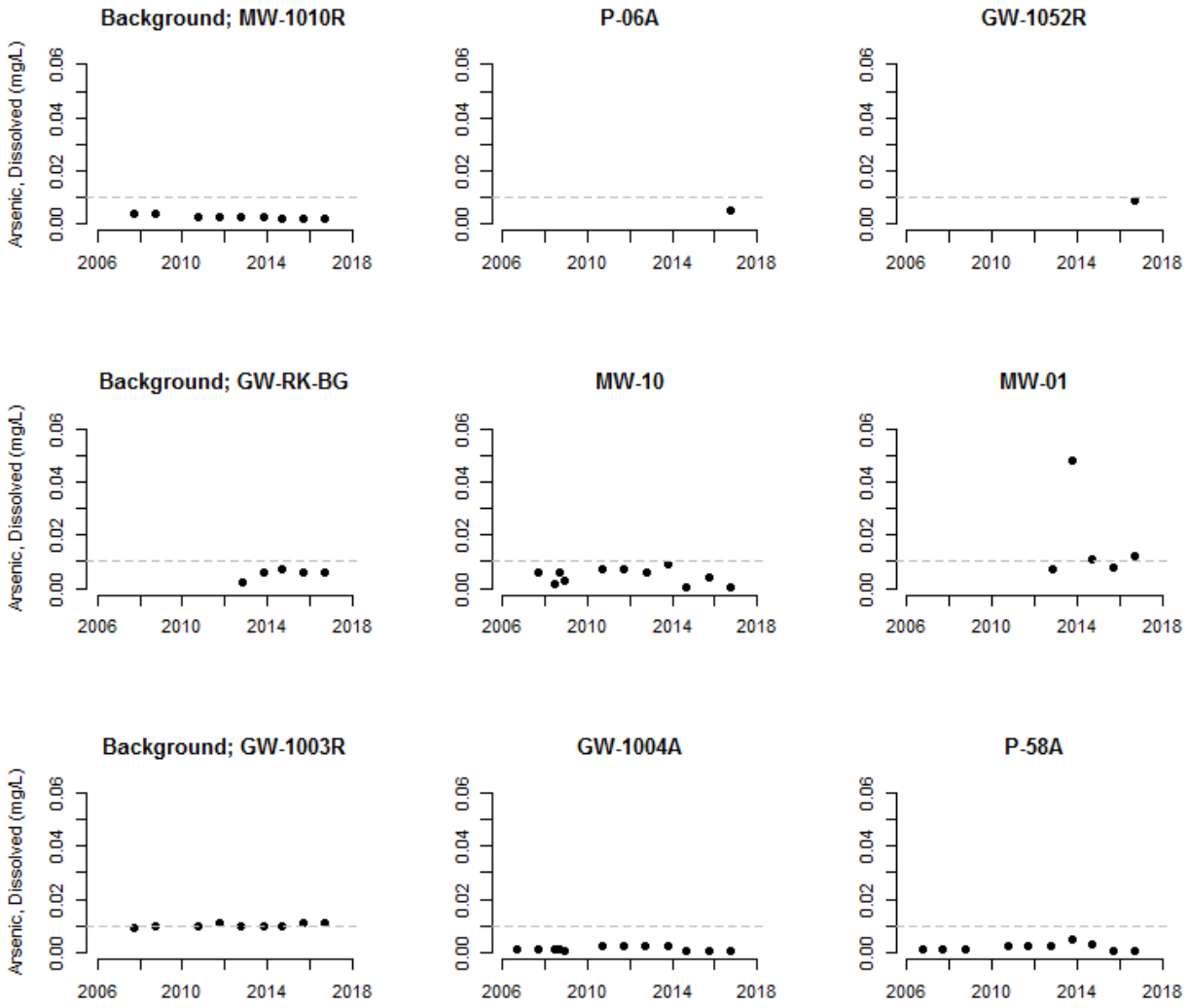

Figure 3-8. Arsenic concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Colorado Tailings cluster (upper row), Rocker cluster (middle row), and Nissler cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

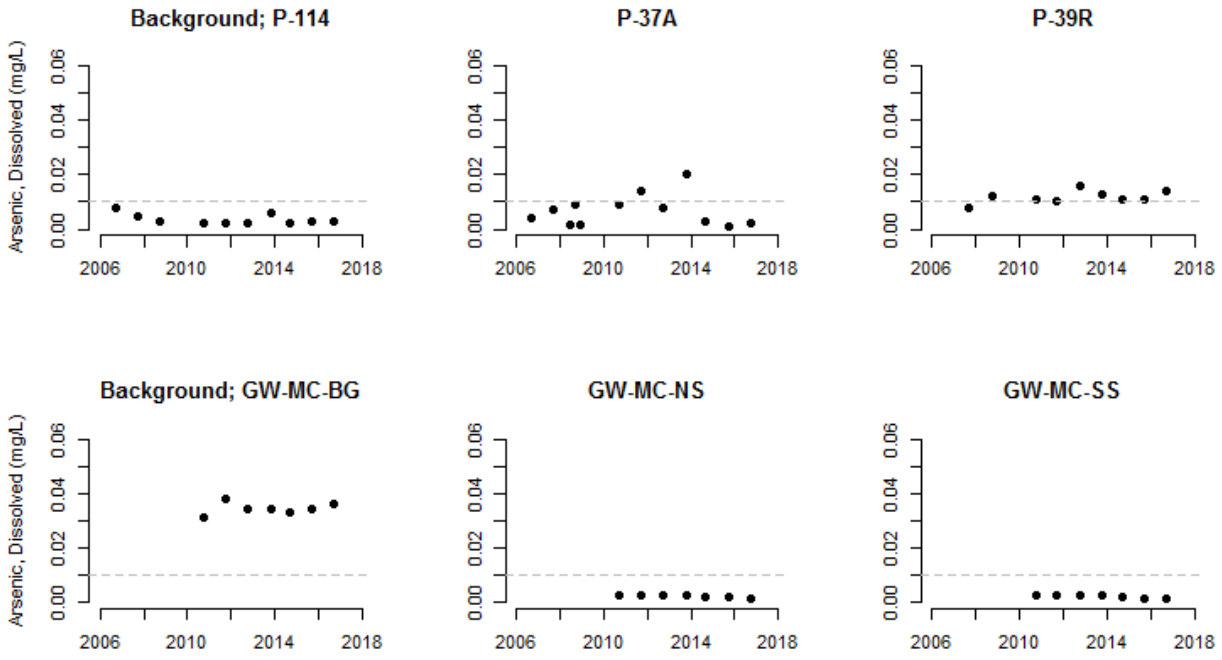

Figure 3-9. Arsenic concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit, 2006-2015. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Silver Bow cluster (upper row) and Miles Crossing cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

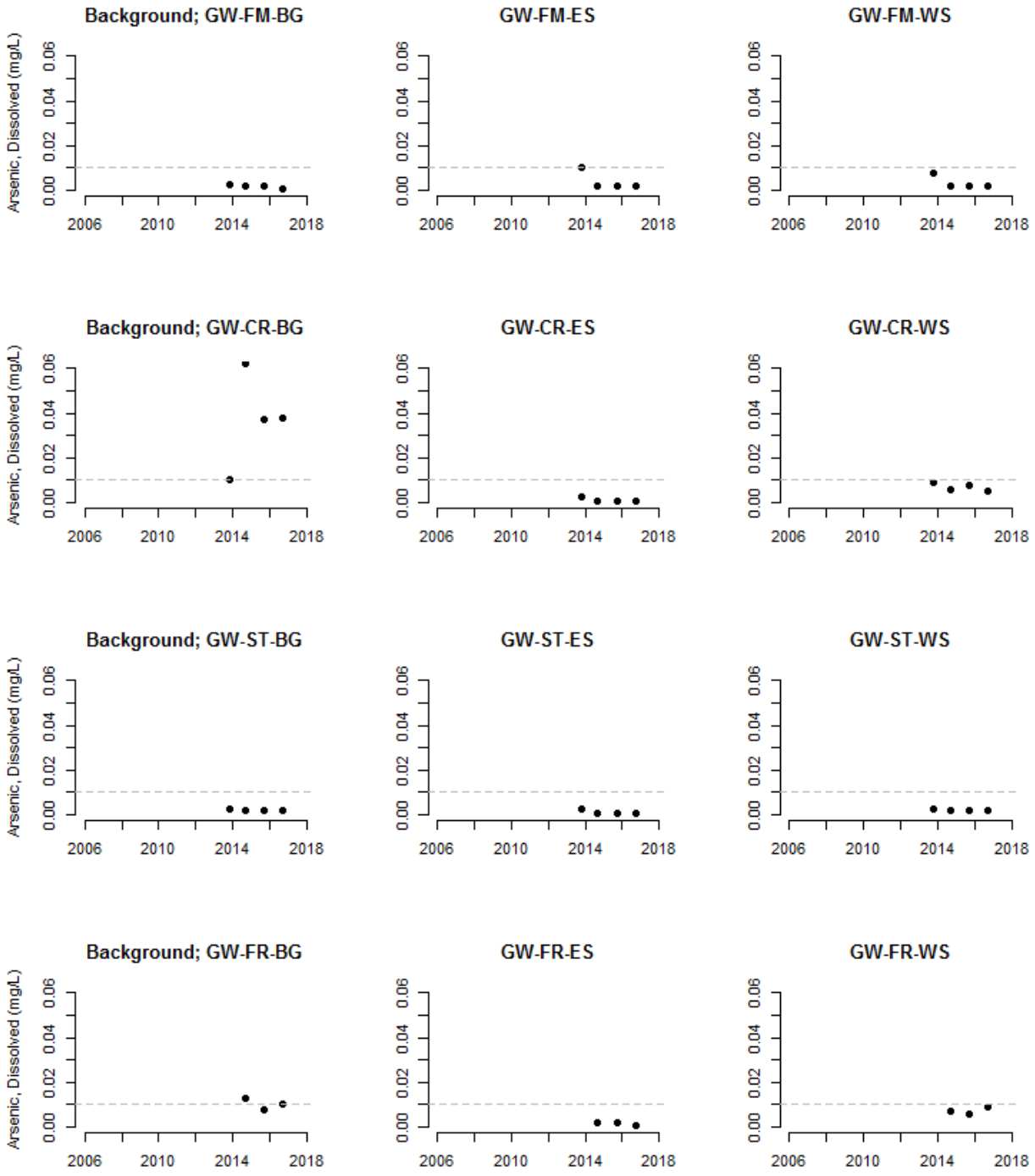

Figure 3-10. Arsenic concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Fairmont cluster (upper row), Crackerville cluster (upper middle row), Stuart cluster (lower middle row), and Frontage Road cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.2.1.2 Cadmium

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

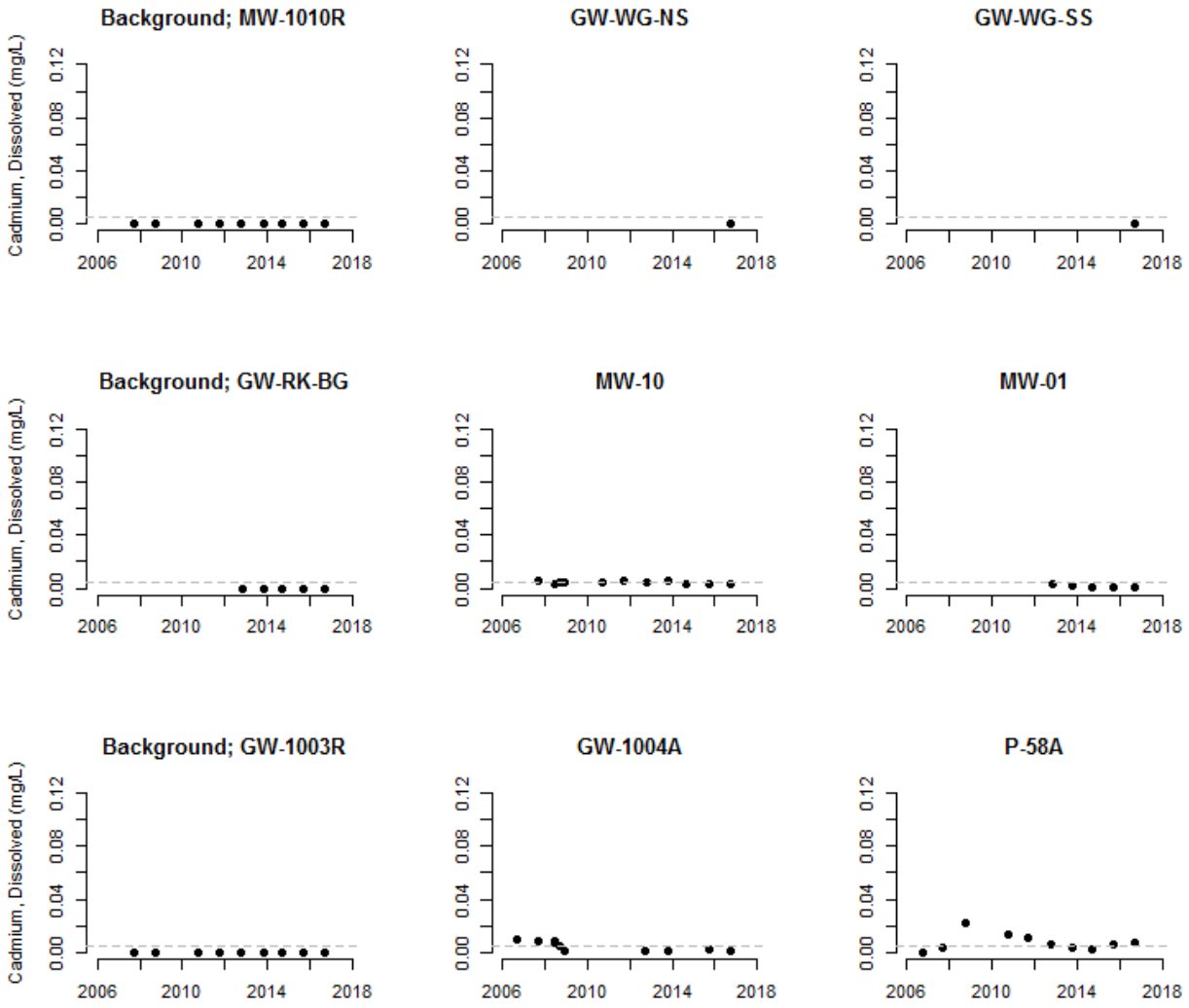

Figure 3-11. Cadmium concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Colorado Tailings cluster (upper row), Rocker cluster (middle row), and Nissler cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

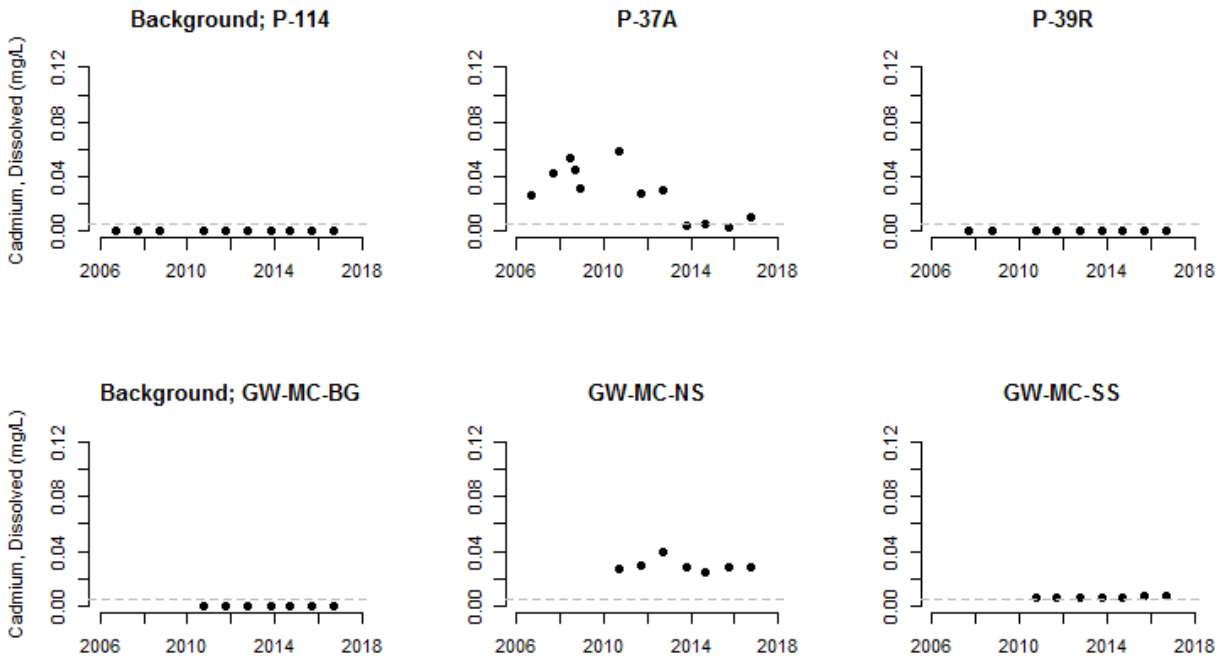

Figure 3-12. Cadmium concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Silver Bow cluster (upper row) and Miles Crossing cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

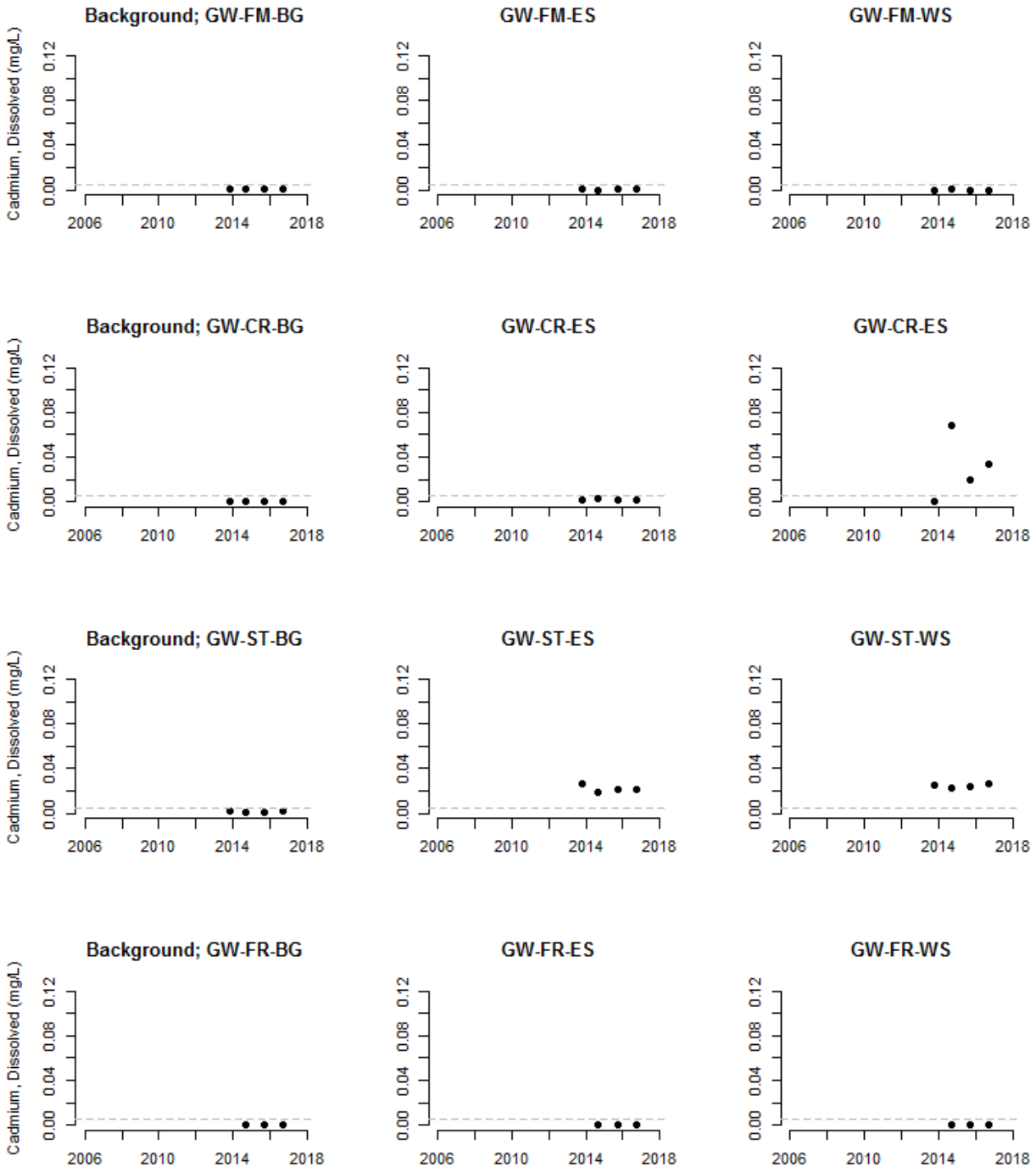

Figure 3-13. Cadmium concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Fairmont cluster (upper row), Crackerville cluster (upper middle row), Stuart cluster (lower middle row), and Frontage Road cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.2.1.3 Copper

Based on the monitoring period of record in the Silver Bow Creek floodplain, copper concentrations in floodplain monitoring wells were elevated relative to the background well in three Subarea 1 floodplain monitoring wells: wells MW-10 and MW-01 (Rocker Cluster); and P-58A (Nissler Cluster) [Figure 3-14]. Concentrations in some Subarea 1 wells have been variable (MW-10 P-58A) [Figure 3-14]. In Subarea 2, copper concentrations were elevated relative to the background well in one monitoring well (GW-MC-NS; Miles Crossing cluster) [Figure 3-15]. However, concentrations in GW-MC-NS appear to be decreasing substantially through time [Figure 3-15]. In Subarea 4, both monitoring wells located in the Stuart cluster (GW-ST-ES and GW-ST-WS) had elevated copper concentrations relative to the background well [Figure 3-16]. Concentrations in monitoring well GW-ST-ES have exceeded the MDHES [1994] groundwater standard during all sample periods (2013-2015) [Figure 3-16].

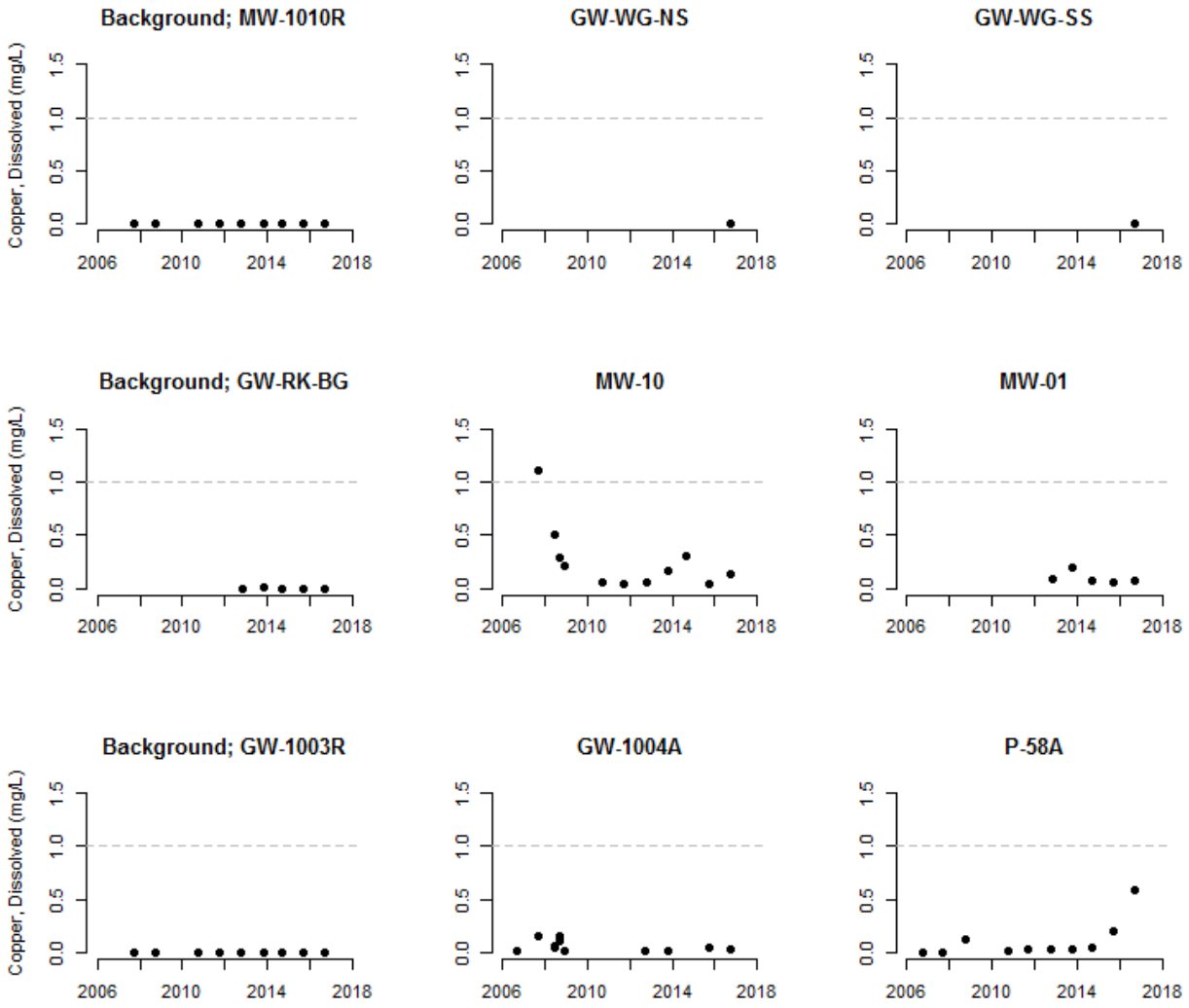

Figure 3-14. Copper concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDHES, 1994]. Each row of plots represents a well cluster: Colorado Tailings cluster (upper row), Rocker cluster (middle row), and Nissler cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

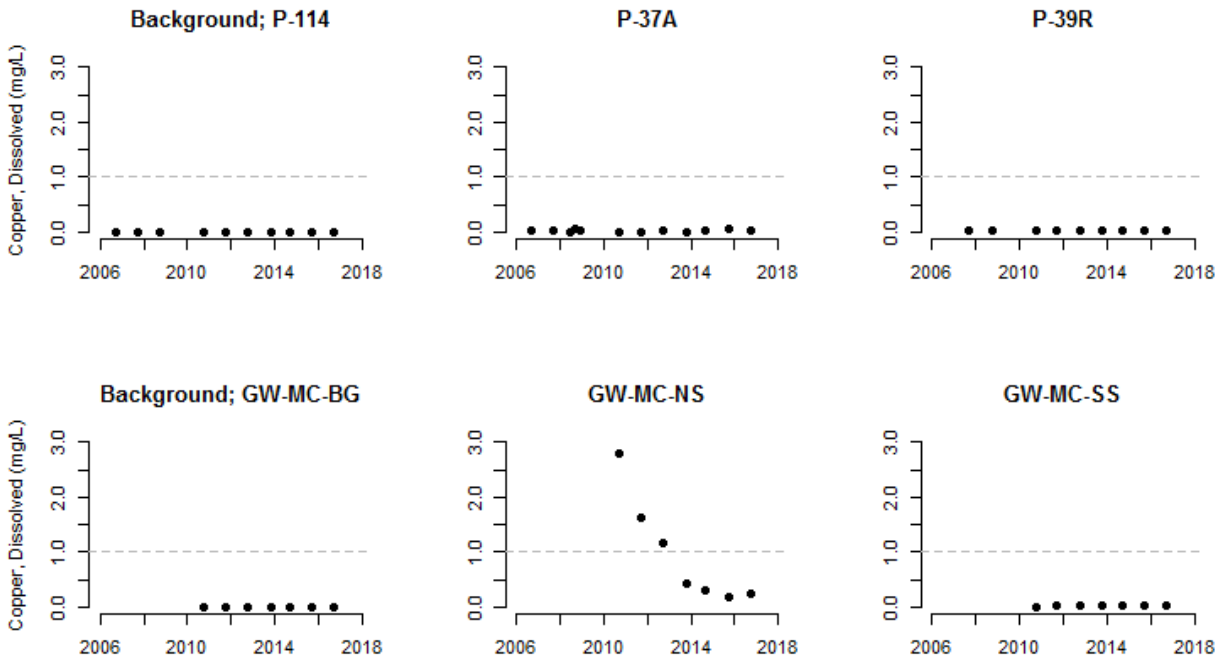

Figure 3-15. Copper concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDHES, 1994]. Each row of plots represents a well cluster: Silver Bow cluster (upper row) and Miles Crossing cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

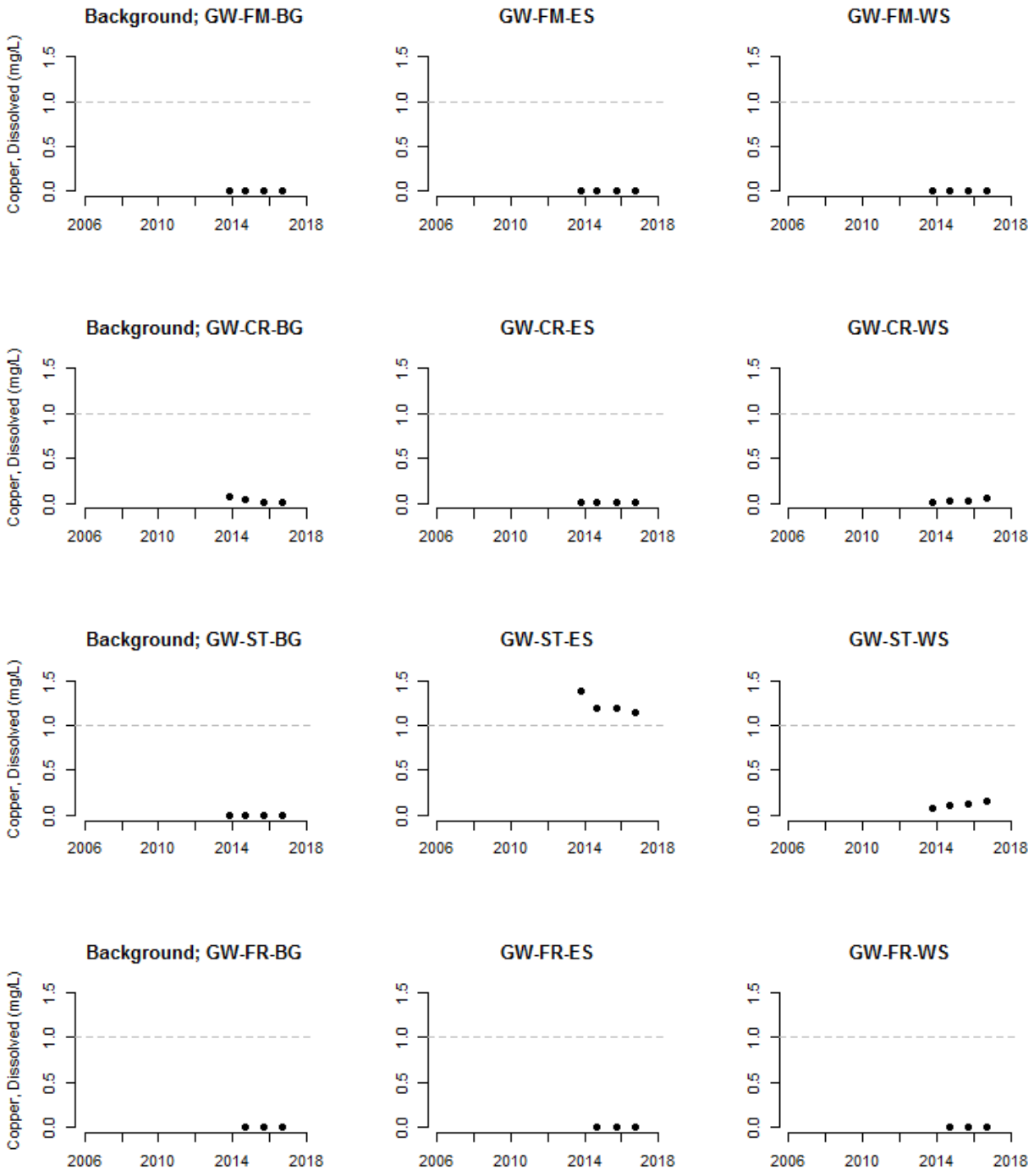

Figure 3-16. Copper concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDHES, 1994]. Each row of plots represents a well cluster: Fairmont cluster (upper row), Crackerville cluster (upper middle row), Stuart cluster (lower middle row), and Frontage Road cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.2.1.4 Lead

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

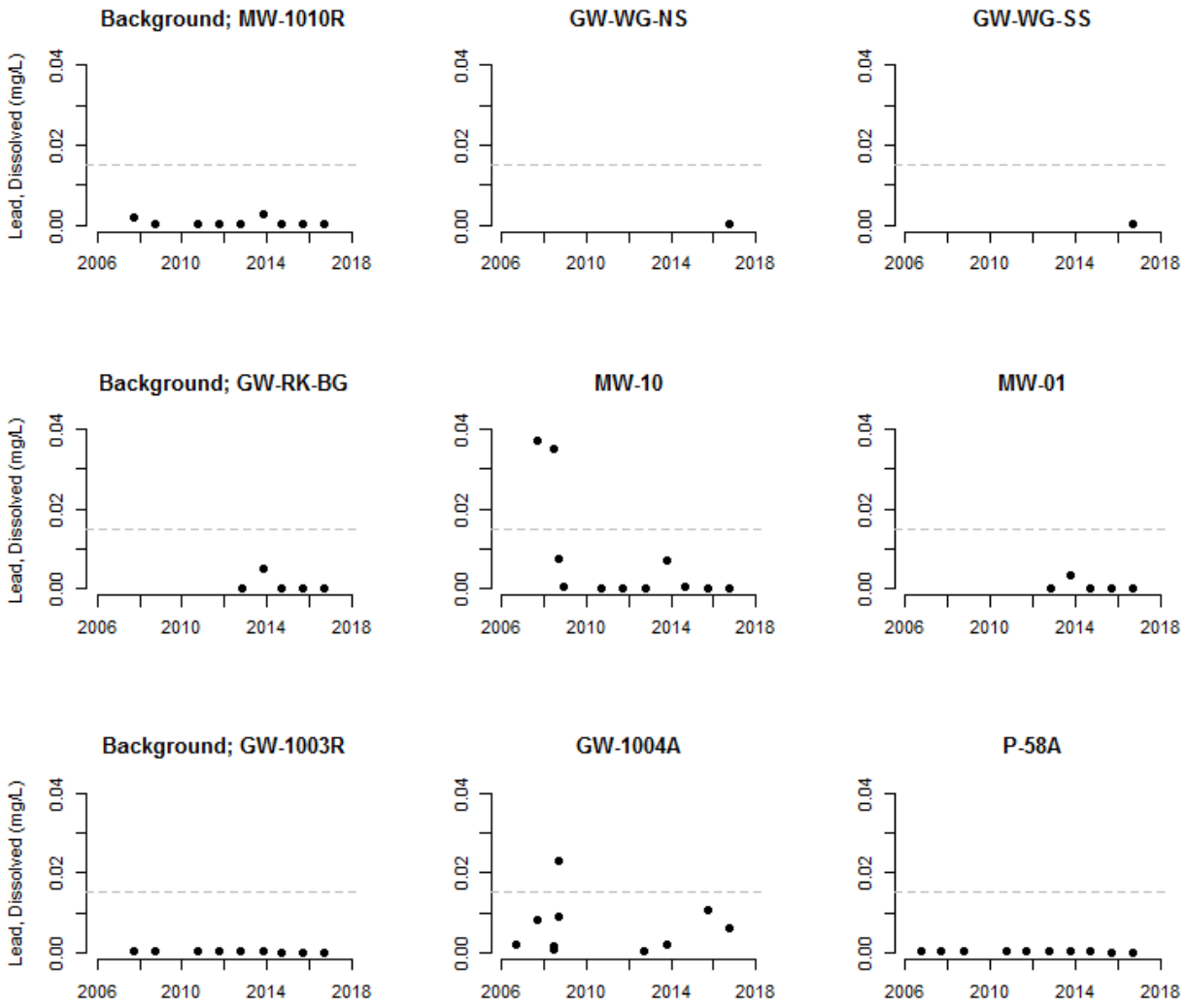

Figure 3-17. Lead concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Colorado Tailings cluster (upper row), Rocker cluster (middle row), and Nissler cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

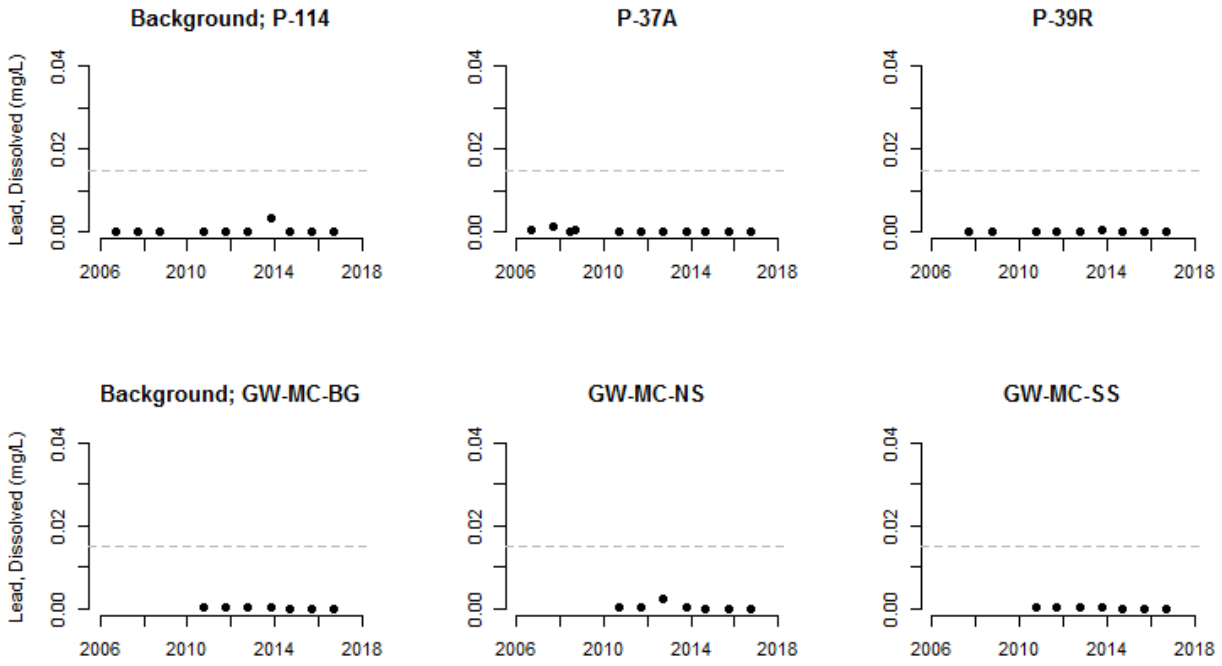

Figure 3-18. Lead concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Silver Bow cluster (upper row) and Miles Crossing cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

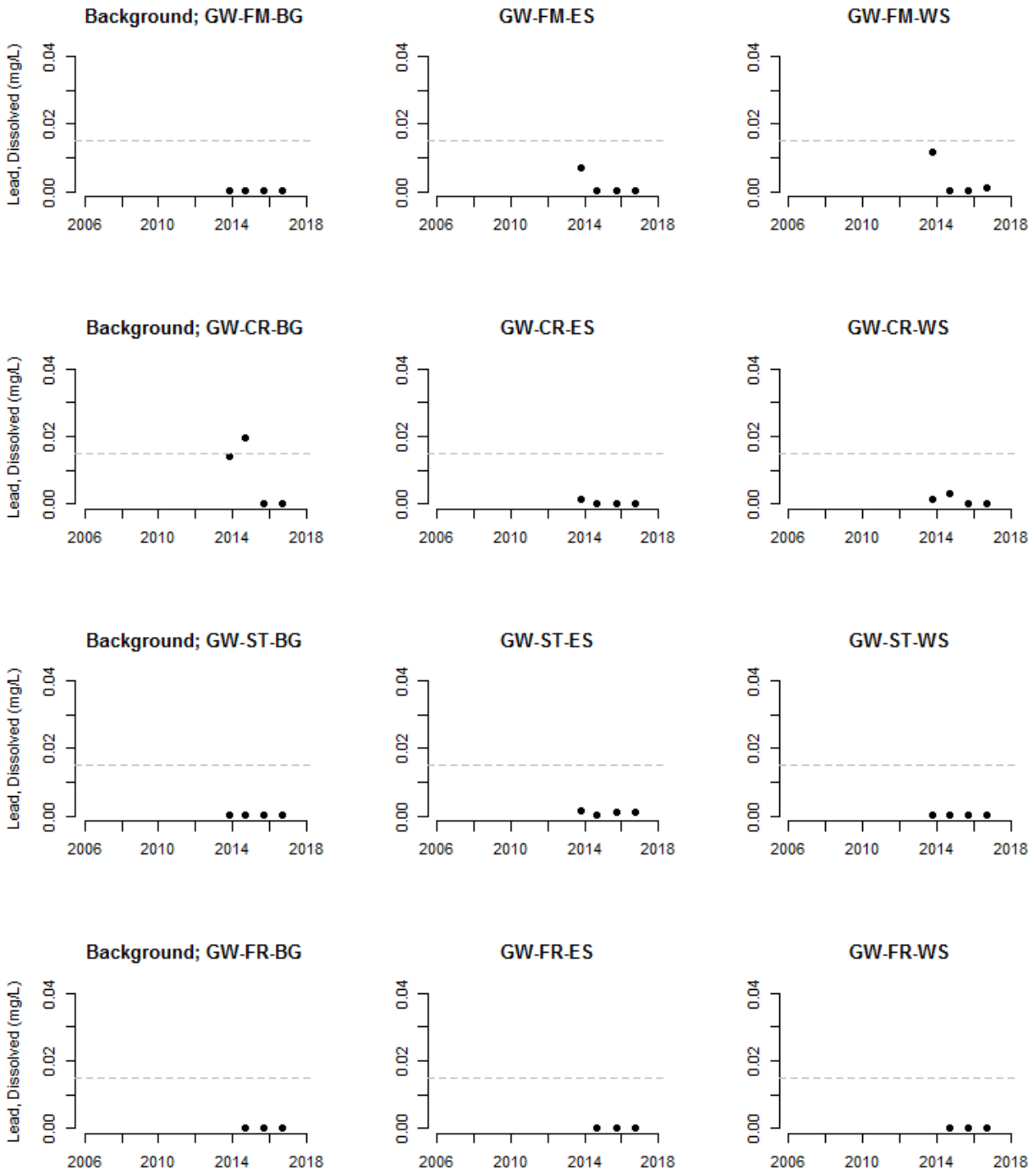

Figure 3-19. Lead concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Fairmont cluster (upper row), Crackerville cluster (upper middle row), Stuart cluster (lower middle row), and Frontage Road cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.2.1.5 Mercury

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

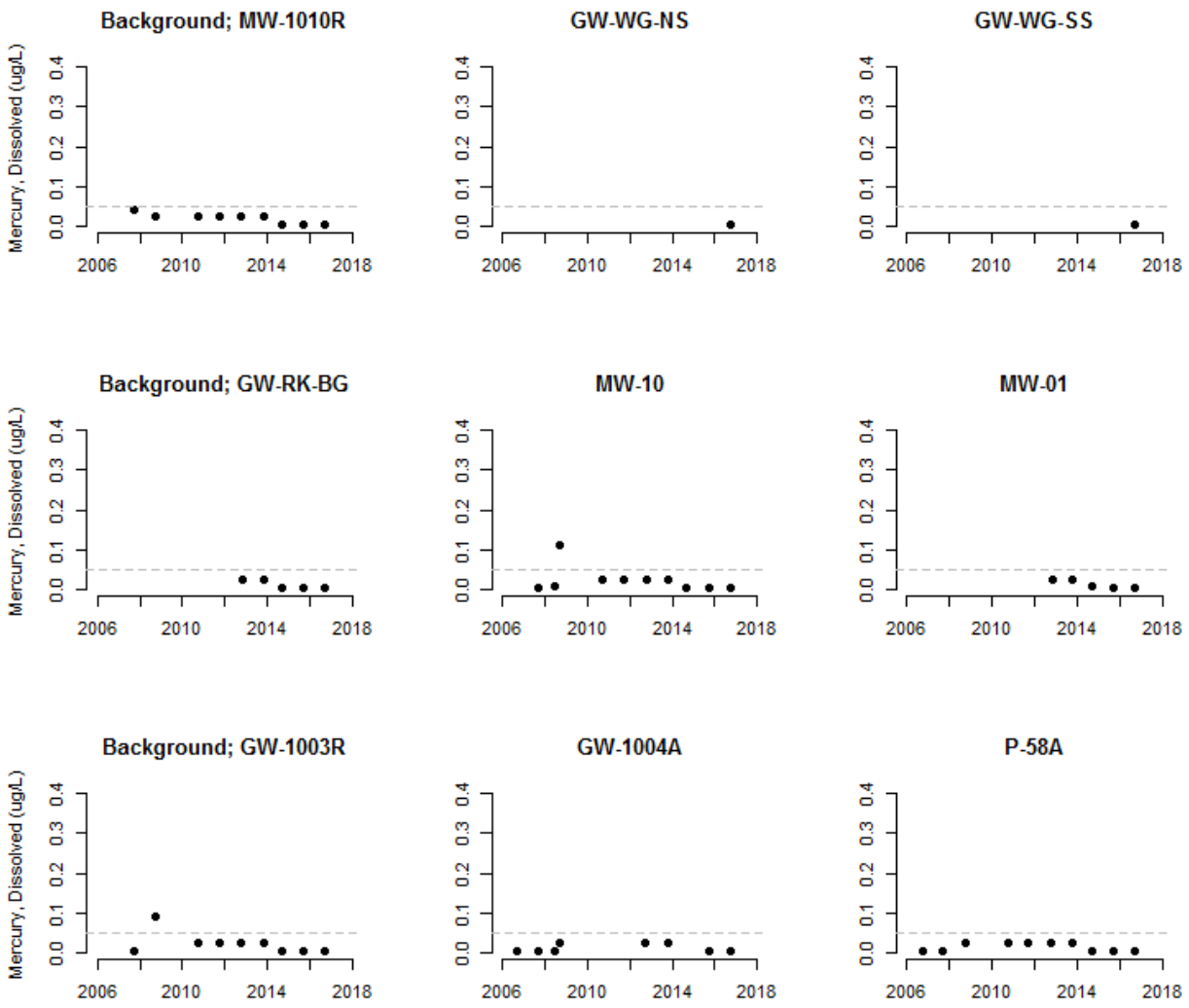

Figure 3-20. Mercury concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Colorado Tailings cluster (upper row), Rocker cluster (middle row), and Nissler cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

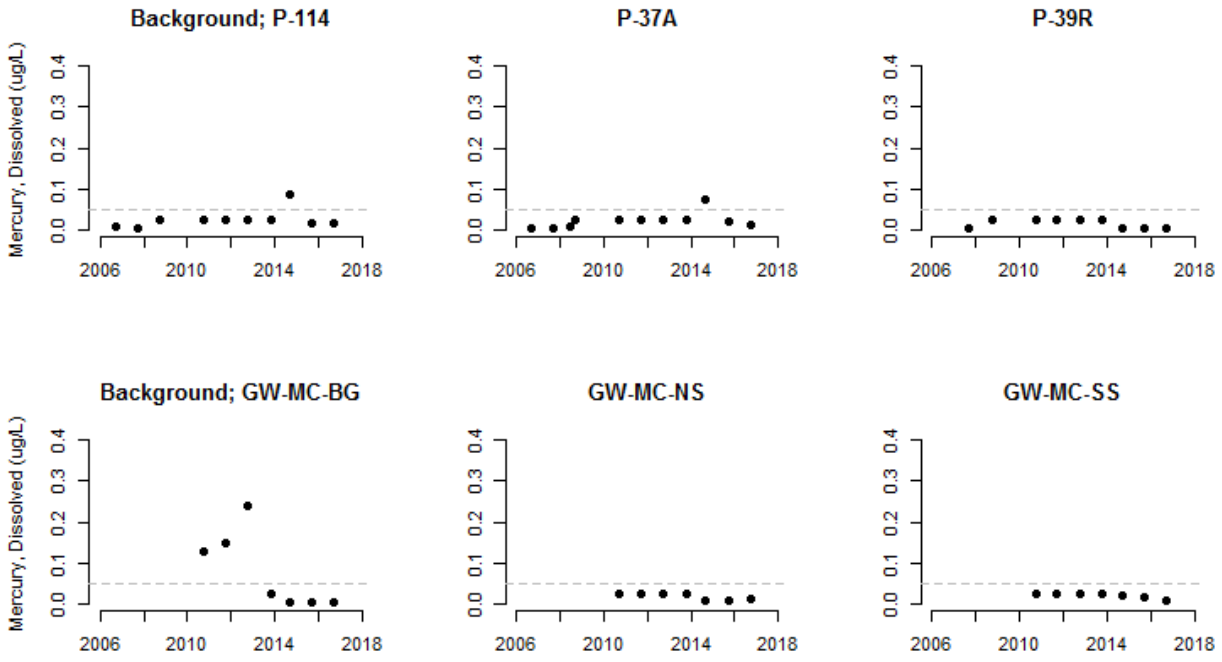

Figure 3-21. Mercury concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Silver Bow cluster (upper row) and Miles Crossing cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

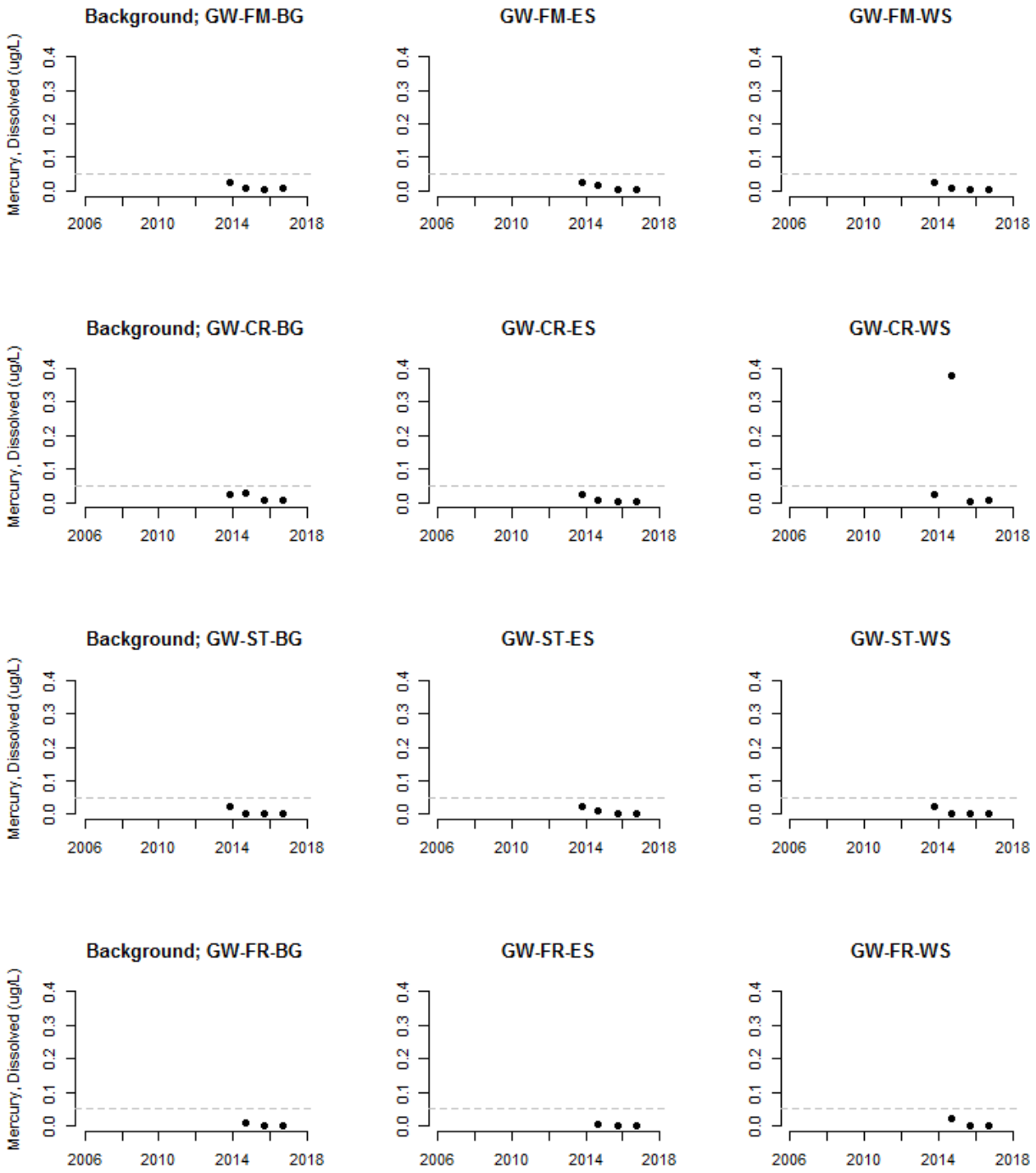

Figure 3-22. Mercury concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Fairmont cluster (upper row), Crackerville cluster (upper middle row), Stuart cluster (lower middle row), and Frontage Road cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.2.1.6 Zinc

Based on the monitoring period of record in the Silver Bow Creek floodplain, zinc concentrations in one or both monitoring well ls of the Rocker and Nissler clusters (Subarea 1) [Figure 3-23], the Miles Crossing cluster (Subarea 2) [Figure 3-24], and the Stuart cluster (Subarea 4) [Figure 3-25]. In particular monitoring wells, zinc concentrations have routinely exceeded the groundwater standard [MDEQ, 2012a] including: GW-1052R (Colorado Tailings cluster), MW-10 (Rocker cluster), GW-1004A (Nissler cluster), and P-58A (Nissler cluster) in Subarea 1 [Figure 3-23]; GW-MC-NS (Miles Crossing cluster) and GW-MC-SS (Miles Crossing cluster) in Subarea 2; and GW-ST-ES (Stuart cluster) and GW-ST-WS (Stuart cluster) in Subarea 4 [Figure 3-25].

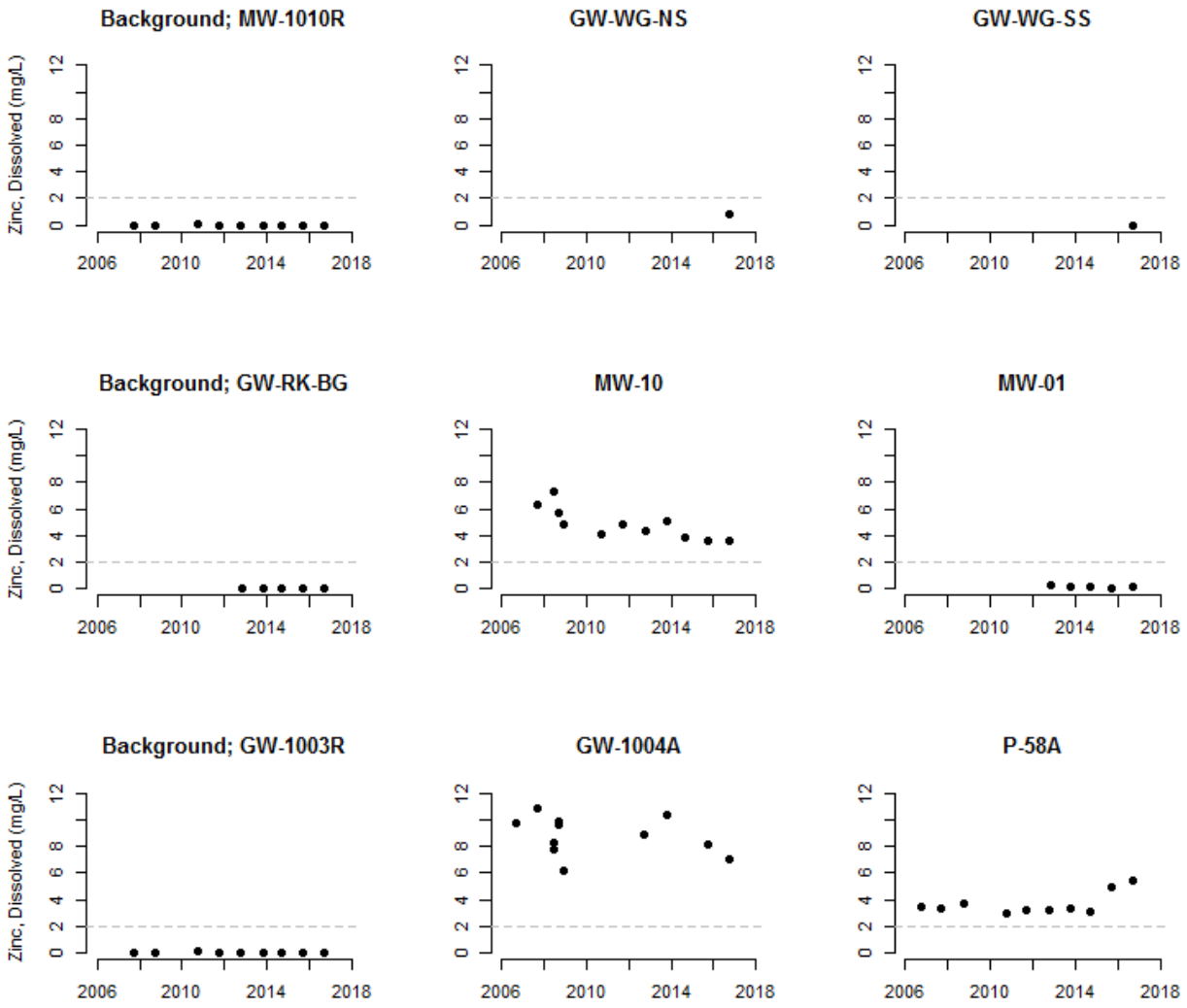

Figure 3-23. Zinc concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Colorado Tailings cluster (upper row), Rocker cluster (middle row), and Nissler cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

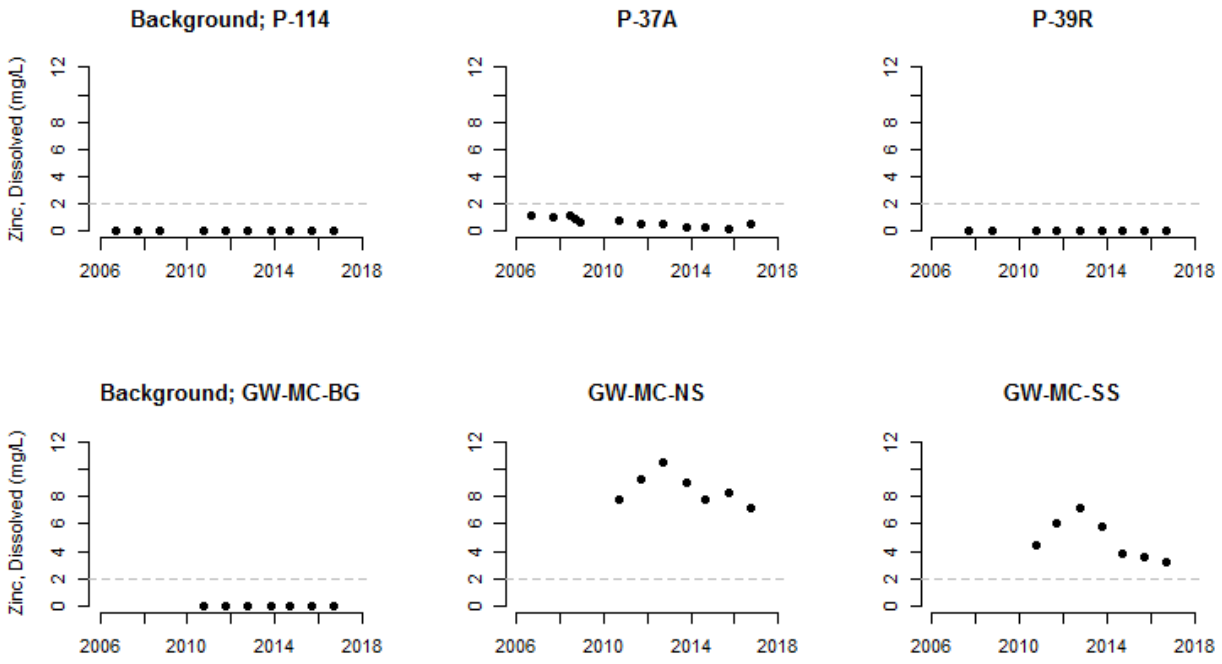

Figure 3-24. Zinc concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Silver Bow cluster (upper row) and Miles Crossing cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

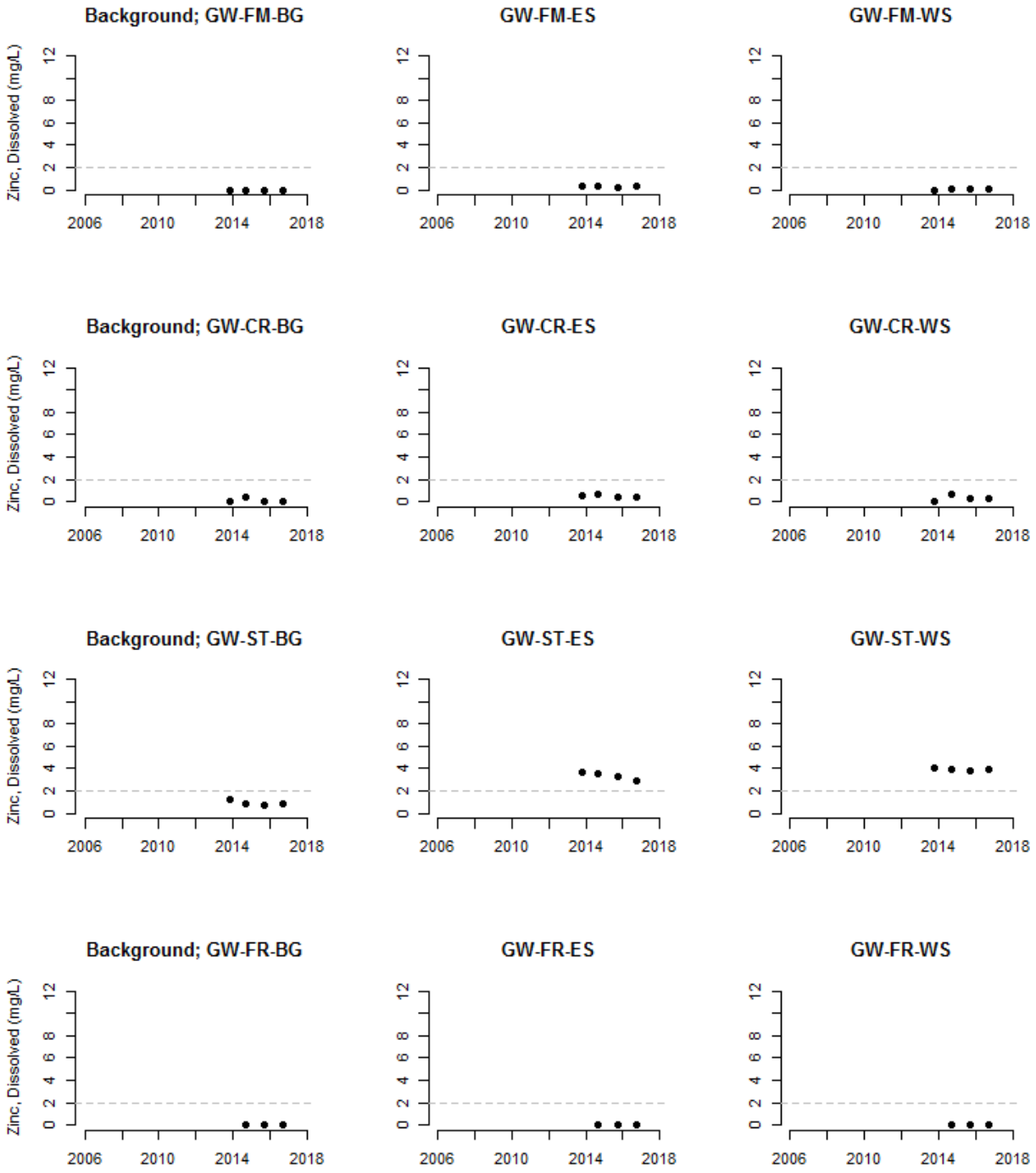

Figure 3-25. Zinc concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit, 2006-2016. Gray dashed line represents the human health groundwater standard [MDEQ, 2012a]. Each row of plots represents a well cluster: Fairmont cluster (upper row), Crackerville cluster (upper middle row), Stuart cluster (lower middle row), and Frontage Road cluster (lower row) [Figure 3-1]. Samples below the analytical reporting limit (RL) are represented as half the RL.

3.4.2.2 Other Metals

Concentrations of non-COC metals in the Silver Bow Creek floodplain wells in 2016 are displayed in Table 3-11. One monitoring well in the Colorado Tailings cluster (Subarea 1) had an antimony concentration exceeding the MDEQ [2012a] human health groundwater standard. Three samples had uranium concentrations exceeding the MDEQ [2012a] human health groundwater standard: one monitoring well (GW-WG-NS) and the background well (GW-1010R) in the Colorado Tailings cluster (Subarea 1) and one monitoring well (P-39R) in the Silver Bow cluster (Subarea 1) [Table 3-11].

Table 3-11. Dissolved metal (non-contaminant of concern) concentrations (mg/L) in groundwater monitoring wells located along Silver Bow Creek in the Streamside Tailings Operable Unit, September 2016.[36]

Cluster	Site	Al	Sb	Ba	Be	B	Cr	Co	Fe	Mn	Mb	Ni	Se	Ag	U	V
Colorado Tailings	GW-1010R*	0.013	ND	0.026	ND	0.1	ND	ND	ND	0.001	0.010	ND	ND	ND	0.0968	ND
	GW-WG-NS	ND	0.0011	0.047	ND	0.1	ND	ND	ND	4.040	0.018	0.003	ND	ND	0.0372	ND
	GW-WG-SS	ND	0.0074	0.021	ND	0.2	ND	ND	ND	0.993	0.063	0.009	ND	ND	0.0266	ND
Rocker	GW-RK-BG*	ND	ND	0.071	ND	ND	ND	ND	ND	ND	0.012	ND	ND	ND	0.0069	ND
	MW-01	ND	ND	0.023	ND	0.1	ND	ND	ND	0.274	ND	ND	ND	ND	0.0091	ND
	MW-10	0.203	ND	0.021	ND	ND	ND	0.02	ND	5.900	ND	0.008	ND	ND	0.0004	ND
Nissler	GW-1003R*	ND	ND	0.041	ND	ND	ND	ND	ND	ND	0.012	ND	ND	ND	0.0031	ND
	1GW-1004A	0.23	ND	0.015	ND	ND	ND	0.06	49.40	27.300	ND	0.020	ND	ND	ND	ND
	P-58A	0.804	ND	0.035	ND	ND	ND	0.03	3.13	9.630	ND	0.012	ND	ND	0.0006	ND
Silver Bow	P-114*	ND	ND	0.021	ND	ND	ND	ND	ND	ND	0.007	ND	ND	ND	0.0029	ND
	P-37A	ND	ND	0.061	ND	ND	ND	ND	ND	5.510	ND	0.004	ND	ND	0.0041	ND
	P-39R	ND	ND	0.115	ND	0.4	ND	ND	ND	0.003	ND	ND	0.002	ND	0.0762	ND
Miles Crossing	GW-MC-BG*	ND	ND	0.028	ND	ND	ND	ND	ND	0.003	0.050	ND	ND	ND	0.0034	ND
	GW-MC-NS	0.018	ND	0.036	ND	ND	ND	0.01	ND	5.420	0.007	0.015	ND	ND	0.0040	ND
	GW-MC-SS	ND	ND	0.045	ND	ND	ND	ND	ND	4.700	0.035	0.013	ND	ND	0.0017	ND
Fairmont	GW-FM-BG*	ND	ND	0.043	ND	ND	ND	ND	ND	0.290	ND	0.005	ND	ND	0.0003	ND
	GW-FM-ES	ND	ND	0.046	ND	ND	ND	ND	ND	1.170	0.006	0.002	ND	ND	0.0014	ND
	GW-FM-WS	0.185	0.0006	0.147	ND	ND	ND	ND	0.26	2.240	0.008	0.002	ND	ND	0.0057	ND
Crackerville	GW-CR-BG*	ND	0.0017	0.015	ND	0.2	ND	ND	ND	0.032	0.025	ND	ND	ND	0.0034	ND
	GW-CR-ES	0.02	ND	0.022	ND	ND	ND	ND	ND	0.012	ND	0.003	ND	ND	0.0012	ND
	GW-CR-WS	ND	0.0006	0.044	ND	0.1	ND	ND	ND	2.030	0.015	0.002	ND	ND	0.0051	ND
Stuart	GW-ST-BG*	0.044	ND	0.024	ND	ND	ND	ND	ND	0.402	ND	0.023	ND	ND	ND	ND
	GW-ST-ES	0.388	ND	0.027	0.001	ND	ND	ND	ND	1.200	ND	0.009	ND	ND	0.0017	ND

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

Cluster	Site	Al	Sb	Ba	Be	B	Cr	Co	Fe	Mn	Mb	Ni	Se	Ag	U	V
	GW-ST-WS	0.133	ND	0.031	ND	ND	ND	0.01	ND	2.200	ND	0.016	ND	ND	0.0007	ND
Frontage Road	GW-FR-BG*	0.139	0.0011	0.032	ND	ND	ND	ND	0.07	0.009	ND	ND	ND	ND	0.0050	ND
	GW-FR-ES	ND	0.0005	0.052	ND	ND	ND	ND	ND	0.195	0.007	ND	ND	ND	0.0133	ND
	GW-FR-WS	ND	0.0028	0.056	ND	ND	ND	ND	ND	0.141	0.007	ND	ND	ND	0.0232	ND

ND Not detected at analytical reporting limit.

* Background well.

Exceeds human health groundwater standard [MDEQ, 2012a].

3.4.2.3 Common Ions

Common ion concentrations in floodplain monitoring wells are depicted in Table 3-12.

Table 3-12. Common ion concentrations (mg/L) in groundwater monitoring wells located along Silver Bow Creek in the Streamside Tailings Operable Unit, September 2016.

Cluster	Site	Alkalinity (as CaCO3)	Bicarbonate Alkalinity (as HCO3)	Calcium	Chloride	Hardness (as CaCO3)	Magnesium	Potassium	Sodium	Sulfate
Colorado Tailings	GW-1010R*	280	340	21	357	329	100	19	6	138
	GW-1052R	200	250	34	372	406	127	21	8	76
	P-06A	330	410	26	179	182	59	8	9	74
Rocker	GW-RK-BG*	140	170	32	110	194	56	13	5	36
	MW-01	180	220	18	191	327	101	18	7	25
	MW-10	17	21	41	156	128	36	9	5	26
Nissler	GW-1003R*	120	150	12	54	111	33	7	6	30
	1GW-1004A	8	9	60	603	349	77	38	7	46
	P-58A	15	18	54	282	223	67	14	8	33
Silver Bow	P-114*	200	240	35	144	170	58	6	4	95
	P-37A	160	190	142	357	439	139	24	9	90
	P-39R	320	390	58	280	526	163	29	13	85
Miles Crossing	GW-MC-BG*	270	330	78	273	124	36	8	5	225
	GW-MC-NS	55	66	56	125	135	38	10	6	33
	GW-MC-SS	97	120	56	107	172	48	13	6	34
Fairmont	GW-FM-BG*	47	57	25	119	130	39	8	6	25
	GW-FM-ES	110	130	44	87	175	53	10	5	28
	GW-FM-WS	130	150	39	85	185	55	11	5	25
Crackerville	GW-CR-BG*	160	200	22	141	53	17	3	4	125
	GW-CR-ES	90	110	48	117	147	45	9	3	51
	GW-CR-WS	120	150	46	104	142	45	7	5	56
Stuart	GW-ST-BG*	16	19	50	220	233	68	16	4	23
	GW-ST-ES	4	5	40	97	90	29	4	4	20
	GW-ST-WS	24	28	42	100	109	33	7	5	22
Frontage Road	GW-FR-BG*	230	280	ND	21	117	35	7	1	8
	GW-FR-ES	140	160	11	188	276	83	17	3	16
	GW-FR-WS	220	270	ND	24	135	41	8	2	8

ND Not detected at analytical reporting limit.

* Background well.

3.4.3 Data Validation

Four field blank samples were collected in 2016 and each was analyzed for 30 analytes. All analyte concentrations in all field blanks were below the analytical reporting limits.

Four field duplicate samples were collected in 2016 and each analyte concentration in those samples was compared to the analyte concentration in the paired field sample. The relative percent difference (RPD) between each analyte pair (30 analytes per sample) was calculated on a total of 120 sample pairs. Of those 120 pairs, two which had at least one sample concentration >5 times the analytical reporting limit (RL) had RPDs >25%: dissolved iron from well MW-2C on May 17, 2016 (RPD >177%) and dissolved nickel from well GW-ST-WS on September 19, 2016 (RPD = 75%).

A completed quality assurance and quality control checklist, summary tables of field duplicate and field blank results, and assessments of data quality objectives are included in Appendix A. Results from the analytical laboratory are included in Appendix B. The 2016 groundwater monitoring data are included in Appendix E.

3.5 DISCUSSION

3.5.1 Mine Waste Relocation Repository

Monitoring in 2016 provided no evidence that COCs were leaching from the MWRR into nearby groundwater during wet (May) or dry periods (September). With the exception of arsenic, all COC concentrations in the monitoring wells were either below the analytical reporting limits or near the reporting limits. For arsenic, concentrations were consistently highest in the background monitoring well and these results are consistent with prior monitoring years. There does not appear to be any evidence that substantial increases in COC concentrations are occurring through time in any of the MWRR monitoring wells as would be expected if leaching of COC from the repository were occurring.

3.5.2 Floodplain

In the floodplain well clusters in 2016, several samples from monitoring wells had COC concentrations above the background well concentration, above the most restrictive MDHES [1994] or MDEQ [2012a] groundwater standard, or both. Arsenic concentrations were generally highest in the background wells, particularly in the Miles Crossing (Subarea 2) and Crackerville (Subarea 4) cluster. However, cadmium copper, and zinc concentrations in certain monitoring wells were commonly one to several orders of magnitude higher than the concentration in the background well. In addition, cadmium and zinc concentrations in monitoring wells were also frequently several times greater than the groundwater standard and one sample from a monitoring well exceeded the copper standard. These results indicate that portions of the shallow groundwater aquifer in the SSTOU remain contaminated by COC. Uranium concentrations in groundwater wells also exceeded the MDEQ [2012a] groundwater standard in three wells, one of which was a background well. Monitoring results in 2016 were generally

similar to prior years, although at certain wells some COC concentrations have been variable through time.

3.5.3 Data Validation

Quality assurance and quality control results suggested that field procedures in 2016 resulted in little or no sample contamination. All field blank analyte concentrations were below reporting limits suggesting that decontamination procedures were adequate. All but two comparisons of field samples and field duplicates were within the data quality objectives for the project.

4.0 VADOSE ZONE WATER

4.1 INTRODUCTION

This chapter describes vadose zone water quality monitoring data collected in 2016 to evaluate the effectiveness of the mine waste relocation repository (MWRR) at isolating the vadose zone from metal contaminants of concern (COC) in waste materials stored at the MWRR. If leaching of metal COCs from the MWRR occurs there is a potential for contamination of groundwater and surface water in the Streamside Tailings Operable Unit (SSTOU) of the Silver Bow Creek/Butte Area National Priorities List site.

The vadose zone is the area between the soil surface and the groundwater table. Water present in the vadose zone is soil moisture and has the ability to transport colloidal and dissolved nutrients, minerals, and contaminants through the soil column. Typically, constituent concentrations are higher in vadose zone water compared to groundwater. Therefore, existing groundwater standards are not applicable to vadose zone water. In lieu of groundwater exceedance analysis, COC concentrations in vadose zone water at lysimeters located down-gradient from the repository were evaluated and compared to concentrations in one background lysimeter.

Two questions are of primary interest in assessing potential leaching of COCs from the MWRR. First, are COC concentrations in monitoring lysimeters higher than concentrations in the background lysimeter? If so, contamination of the soil by COCs stored in the repository has potentially occurred. Second, are COC concentrations increasing through time in the monitoring lysimeters? If so, leaching of COCs from the repository may be occurring.

4.2 METHODS

The purpose of the vadose zone monitoring program is to collect data describing the temporal and spatial variation of metal and ion concentrations in vadose zone water near the MWRR in the SSTOU. These data provide a long-term record of vadose zone water COC and ion concentrations near the MWRR. These long-term data will be used to assess if leaching of COCs from the MWRR to groundwater and surface water in the SSTOU is occurring. A record of changes to the vadose zone monitoring program is provided in the program monitoring plan [RESPEC, 2016a]. The program attempts to fully adhere to monitoring requirements specified in the SSTOU ROD [Table 4-1].

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

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

4.2.1 Monitoring Locations

Vadose zone water chemistry was monitored at eight lysimeters located in the vicinity of the MWRR in 2016 [Figure 4-1; Table 4-2]. The MWRR lysimeter cluster included a background monitoring lysimeter located up-gradient from the MWRR.

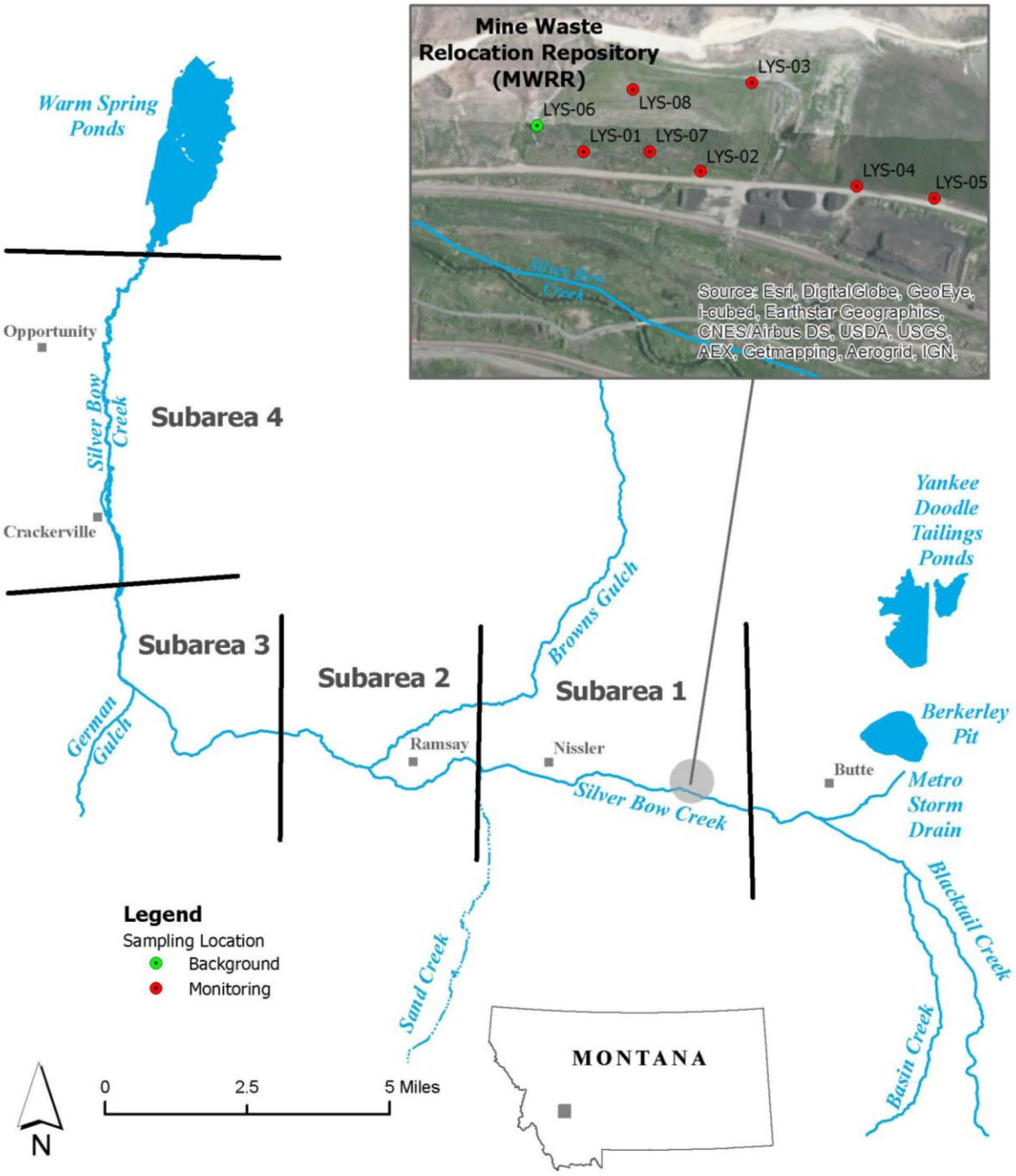

Figure 4-1. Sampling locations for vadose zone water monitoring in the Streamside Tailings Operable Unit, 2016.

Table 4-2. Lysimeter locations for vadose zone water monitoring of the Mine Waste Relocation Repository (MWRR) in the Streamside Tailings Operable Unit, 2016.

Lysimeter ID	Purpose	Location (GPS coordinates, NAD 83)	
		latitude	longitude
LYS-01	Monitoring	46.00261	-112.58599
LYS-02	Monitoring	46.00244	-112.58403
LYS-03	Monitoring	46.00349	-112.58323
LYS-04	Monitoring	46.00233	-112.58141
LYS-05	Monitoring	46.00223	-112.58011
LYS-06	Background	46.00289	-112.58679
LYS-07	Monitoring	46.00264	-112.58489
LYS-08	Monitoring	46.00336	-112.58521

4.2.2 Monitoring Schedule

In 2016, vadose zone water was monitored on May 17 and September 19. During both sample periods, vadose zone water was monitored at each lysimeter in the MWRR cluster. The May 17 sampling date was scheduled near the peak of the spring snowmelt hydrograph. The September 19 sampling date was scheduled to approximate base streamflow conditions.

4.2.3 Monitoring Parameters

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

Table 4-3. Sampling parameters and analytes for vadose zone water monitoring in the vicinity of the Mine Waste Relocation Repository of the Streamside Tailings Operable Unit, 2016.

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

4.2.4 Sample Collection and Analysis Procedures

Sample collection, analysis, and quality assurance procedures are described in the project sampling and analysis plan [RESPEC, 2016a]. Methods generally followed standard operating procedures (SOPs) developed for the Clark Fork River [AR, 1992]. Field sampling procedures were in accordance with MDEQ [2012b] and followed "clean hands/dirty hands" procedures as described in USGS [2006]. Dedicated, or disposable, well bailers were used in low yield wells where installation of a submersible pump was impractical.

Due to low sample volume in the lysimeters, some deviations from the standard operating procedures previously described occurred. First, sample bottles were not triple rinsed with each sample prior to collection. Second, samples were not field filtered but were instead lab filtered. Third, when sample volume was very limited, dissolved metals were prioritized over common ions for laboratory analysis. Finally, field parameters (water temperature, pH, dissolved oxygen concentration, and conductivity) were not measured.

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

Table 4-4. Analytes, methods, and reporting limits for groundwater sampling in the Streamside Tailings Operable Unit, 2016.

Analyte	Requested Method	Requested Reporting Limit (mg/L)[37]	Holding Time (days)	Bottle	Preservative
Water Samples - Physical Properties and Inorganics					
Alkalinity, Total (as CaCO3)	A 2320 B	4	14	500 mL HDPE	4 ± 2 C
Alkalinity, Bicarbonate (as HCO3)	A 2320 B	4	14		
Chloride	EPA 300.0	1	28		
Sulfate	EPA 300.0	1	28		
Hardness (as CaCO3)	A 2340 B	1	180		
Water Samples - Dissolved Metals (0.45 µm filtered)					
Aluminum	EPA 200.8	0.009	180	250 mL HDPE	HNO3 to pH <2
Antimony	EPA 200.8	0.0005			
Arsenic	EPA 200.8	0.001			
Barium	EPA 200.8	0.003			
Beryllium	EPA 200.8	0.0008			
Boron	EPA 200.7	0.1			
Cadmium	EPA 200.8	0.00003			
Calcium	EPA 200.8	1			
Chromium	EPA 200.8	0.01			
Cobalt	EPA 200.8	0.01			
Copper	EPA 200.8	0.001			
Iron	EPA 200.8	0.02			
Lead	EPA 200.8	0.0003			
Magnesium	EPA 200.7	1			
Manganese	EPA 200.8	0.001			
Molybdenum	EPA 200.8	0.005			
Nickel	EPA 200.8	0.002			
Potassium	EPA 200.7	1			
Selenium	EPA 200.8	0.001			
Silver	EPA 200.8	0.0002			
Sodium	EPA 200.7	1			
Uranium	EPA 200.8	0.0002			
Vanadium	EPA 200.8	0.1			
Zinc	EPA 200.8	0.008			
Mercury	EPA 245.1	0.000005	28		

[37] Requested reporting limits are either the required reporting limit from MDEQ [2012a] or MDEQ [2014] (for nutrients), or the lowest reporting limit previously provided by the analytical laboratory, whichever is lower.

4.2.5 Data Analysis

Dissolved metal and common ion concentrations from 2016 are tabulated for each sampling event in each monitoring lysimeter. In addition, all metal COC concentrations are plotted through time for the monitoring period from 2010-2016 for visual assessment of temporal trends at each site.

4.2.6 Data Validation

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

4.3 PERFORMANCE GOALS

There are no specific numeric concentration cleanup goals for vadose zone water COC concentrations in the SSTOU Record of Decision (ROD) [MDEQ and USEPA, 1995]. The ROD specifies that metals and common ion concentrations are to be monitored in vadose zone water at each waste relocation repository to assess the mobility of contaminants from the repository sites to underlying groundwater or to the Silver Bow Creek floodplain down-gradient from any repositories. Only one waste repository (the MWRR) has been established in the SSTOU.

4.4 RESULTS

Dissolved metal COC concentrations in MWRR lysimeters in 2016 are presented in Table 4-5. Concentrations of dissolved metals which are not COCs in MWRR lysimeters are presented in Table 4-6. Common ion concentrations in MWRR lysimeters are presented in Table 4-7.

In May 2016, sample volumes were sufficient for analysis of dissolved metals in all lysimeters [Table 4-5; Table 4-6] but sample volumes were insufficient to analyze all common ions in LYS-07 [Table 4-7]. In September 2016, sample volumes were sufficient for analysis of dissolved metals in all lysimeters except LYS-08 [Table 4-5; Table 4-6] but insufficient for analysis of some common ions in LYS-07 and all ions in LYS-08 [Table 4-7].

4.4.1 Arsenic

In 2016, arsenic concentrations in each MWRR lysimeter were similar to prior years [Figure 4-2]. No lysimeters appeared to have increasing arsenic concentrations through time [Figure 4-2]. Arsenic concentrations in LYS-02, LYS-03, and LYS-04 appeared to be higher than in the background lysimeter (LYS-06) [Figure 4-2].

4.4.2 Cadmium

In 2016, cadmium concentrations in each MWRR lysimeter were similar to prior years with the exception of LYS-08 which had relatively high cadmium concentration (0.00021 mg/L) in May 2016 [Figure 4-3]. No lysimeters appeared to have increasing cadmium concentrations [Figure 4-3]. Cadmium concentrations in LYS-05 appeared to be slightly higher than in the background lysimeter (LYS-06) [Figure 4-3].

4.4.3 Copper

In 2016, copper concentrations in each MWRR lysimeter were similar to prior years [Figure 4-4]. One lysimeter (LYS-02) appears to have modestly increasing copper concentrations since 2010 (approximately 0.001 mg/L per year) [Figure 4-4]. However, this apparent trend may be by chance and no other lysimeter demonstrated any evidence of an increasing trend [Figure 4-4]. Copper concentrations in all monitoring lysimeters appear to be similar to, or lower than, the background lysimeter (LYS-06) [Figure 4-4].

4.4.4 Lead

In 2016, lead concentrations in each MWRR lysimeter were similar to prior years [Figure 4-5]. No lysimeters appeared to have increasing lead concentrations [Figure 4-5]. All 2016 samples, except one (LYS-04 in September 2016), had lead concentrations below the analytical reporting limit [Table 4-5]. Of all the samples collected in these lysimeters since 2010, 83% (85 of 102) have had lead concentrations below analytical reporting limits [Table 4-8]. Lead concentrations in all monitoring lysimeters appear to be similar to, or lower than, the background lysimeter (LYS-06) [Figure 4-5].

4.4.5 Mercury

In 2016, mercury concentrations in each MWRR lysimeter were similar to prior years [Figure 4-6]. No lysimeters appeared to have increasing mercury concentrations [Figure 4-6]. All 2016 samples, except two (LYS-05 and LYS-07 in September 2016), had mercury concentrations below the analytical reporting limit [Table 4-5]. Of all the samples collected in these lysimeters since 2010, 64% (65 of 102) have had mercury concentrations below analytical reporting limits [Table 4-8]. Mercury concentrations in all monitoring lysimeters appear to be similar to, or lower than, the background lysimeter (LYS-06) [Figure 4-6].

4.4.6 Zinc

In 2016, zinc concentrations in each MWRR lysimeter were similar to prior years [Figure 4-7]. Two lysimeters (LYS-04 and LYS-07) had zinc concentrations in 2016 which were high relative to prior samples collected at that particular lysimeter [Figure 4-7]. Zinc concentrations in LYS-04 in September 2016 were approximately five times higher than any samples collected at that site from 2010-2015 [Figure 4-7]. At site LYS-07, zinc concentration in May 2016 were

relatively high compared to concentrations at that site during previous sampling periods, although zinc concentrations at that site have been variable over time [Figure 4-7]. With the exception of LYS-04, zinc concentrations in all monitoring lysimeters appear to be similar to, or lower than, the background lysimeter (LYS-06) [Figure 4-7]. Zinc concentrations had been consistently low in LYS-04 until the 2016 samples [Figure 4-7].

Table 4-5. Dissolved metal (contaminant of concern) concentrations (mg/L) in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2016.

Site	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
May						
LYS-06*	0.002	ND	0.006	ND	ND	0.018
LYS-01	0.003	ND	0.006	ND	ND	0.023
LYS-02	0.027	0.0001	0.010	ND	ND	0.009
LYS-03	0.084	ND	0.002	ND	ND	0.009
LYS-04	0.069	0.00005	0.007	ND	ND	0.044
LYS-05	0.017	0.00018	0.010	ND	ND	0.017
LYS-07	0.006	0.00009	0.005	ND	ND	0.077
LYS-08	0.005	0.00004	0.001	ND	ND	0.010
September						
LYS-06*	0.003	0.00004	0.018	ND	ND	0.041
LYS-01	0.004	ND	0.001	ND	ND	0.008
LYS-02	0.041	0.00014	0.011	ND	ND	ND
LYS-03	0.142	0.00005	0.002	ND	ND	ND
LYS-04	0.071	0.00009	0.010	0.0003	ND	0.111
LYS-05	0.019	0.00018	0.012	ND	0.000006	0.016
LYS-07	0.007	0.00012	0.004	ND	0.000007	ND
LYS-08	DNA	DNA	DNA	DNA	DNA	DNA

* Background lysimeter.

DNA Not sampled due to insufficient sample volume.

ND Not detected at analytical reporting limit.

Table 4-6. Dissolved metal (not contaminants of concern) concentrations (mg/L) in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2016[38].

Site	Al	Sb	Ba	Be	B	Cr	Co	Fe	Mn	Mb	Ni	Se	Ag	U	V
May															
LYS-06*	ND	ND	0.009	ND	0.2	ND	ND	ND	0.002	0.011	ND	ND	ND	0.0020	ND
LYS-01	ND	ND	0.031	ND	ND	ND	ND	0.67	0.008	ND	ND	0.005	ND	0.0527	ND
LYS-02	ND	0.0007	0.011	ND	0.4	ND	ND	ND	ND	0.048	ND	0.025	ND	1.1300	ND
LYS-03	ND	0.0005	0.028	ND	0.1	ND	ND	ND	0.002	0.017	ND	ND	ND	0.0031	ND
LYS-04	ND	0.0014	0.066	ND	ND	ND	ND	ND	0.002	ND	ND	0.003	ND	0.0278	ND
LYS-05	ND	0.0012	0.014	ND	1.9	ND	ND	ND	ND	0.025	ND	0.009	ND	1.8600	ND
LYS-07	ND	ND	0.007	ND	0.2	ND	ND	ND	0.002	0.102	ND	0.002	ND	0.2420	ND
LYS-08	ND	ND	0.022	ND	0.1	ND	ND	ND	0.006	0.007	ND	0.013	ND	0.1300	ND
September															
LYS-06*	ND	ND	0.013	ND	0.3	ND	ND	ND	0.011	0.024	ND	0.001	ND	0.0079	ND
LYS-01	ND	ND	0.048	ND	ND	ND	ND	ND	0.001	ND	ND	0.006	ND	0.1140	ND
LYS-02	ND	0.0009	0.019	ND	0.7	ND	ND	ND	ND	0.076	ND	0.066	ND	2.3700	ND
LYS-03	ND	0.0009	0.059	ND	0.2	ND	ND	ND	0.004	0.038	ND	0.002	ND	0.0108	ND
LYS-04	ND	0.0018	0.077	ND	0.1	ND	ND	ND	0.003	ND	ND	0.002	ND	0.0277	ND
LYS-05	ND	0.0014	0.016	ND	2.2	0.01	ND	ND	0.003	0.026	ND	0.009	ND	1.8200	ND
LYS-07	ND	ND	0.007	ND	0.3	ND	ND	ND	0.002	0.122	ND	0.004	ND	0.3190	ND
LYS-08	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA

* Background lysimeter.

DNA Not sampled due to insufficient sample volume.

ND Not detected at analytical reporting limit.

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

Table 4-7. Common ion concentrations (mg/L) in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2016.

Site	Alkalinity (as $CaCO_3$)	Bicarbonate Alkalinity (as HCO_3)	Calcium	Chloride	Hardness (as $CaCO_3$)	Magnesium	Potassium	Sodium	Sulfate
May									
LYS-06*	53	64	7	1000	529	168	27	ND	218
LYS-01	140	170	21	194	279	82	18	3	29
LYS-02	600	730	48	6560	1730	341	214	3	2330
LYS-03	160	190	ND	90	140	42	8	3	47
LYS-04	250	310	4	496	456	116	40	13	164
LYS-05	260	320	5	4050	1870	508	147	22	1140
LYS-07	DNA	DNA	49	2330	953	269	69	10	677
LYS-08	320	390	55	1120	1160	247	131	6	140
September									
LYS-06*	88	110	27	811	437	131	26	ND	208
LYS-01	190	230	27	259	391	117	24	3	37
LYS-02	930	1100	137	9970	2740	503	361	4	3600
LYS-03	260	300	ND	220	282	83	18	3	80
LYS-04	260	310	4	518	468	121	40	14	161
LYS-05	270	330	4	3710	1690	459	132	22	1050
LYS-07	DNA	DNA	89	2710	1060	304	74	10	729
LYS-08	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA

* Background lysimeter.

DNA Not sampled due to insufficient sample volume.

ND Not detected at analytical reporting limit.

Table 4-8. Frequency of samples having contaminant of concern concentrations below analytical reporting limits for samples collected from lysimeters in the vicinity of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2010-2016.

Lysimeter	Samples						
	Total[39]	Number with concentrations below reporting limit					
		Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
LYS-01	14	8	12	3	12	12	6
LYS-02	14	0	5	0	11	6	4
LYS-03	9	0	7	0	7	4	4
LYS-04	14	0	8	0	12	10	4
LYS-05	14	0	0	0	12	9	0
LYS-06	14	8	12	0	11	10	6
LYS-07	14	3	5	0	12	8	4
LYS-08	9	0	7	0	8	6	6

[39] Due to insufficient sample volumes during some sample periods, mercury was not analyzed in all samples at LYS-03, LYS-07, and LYS-08. The total number of mercury samples at those lysimeters were: LYS-03 (8 mercury samples), LYS-07 (11 mercury samples), and LYS-08 (8 mercury samples).

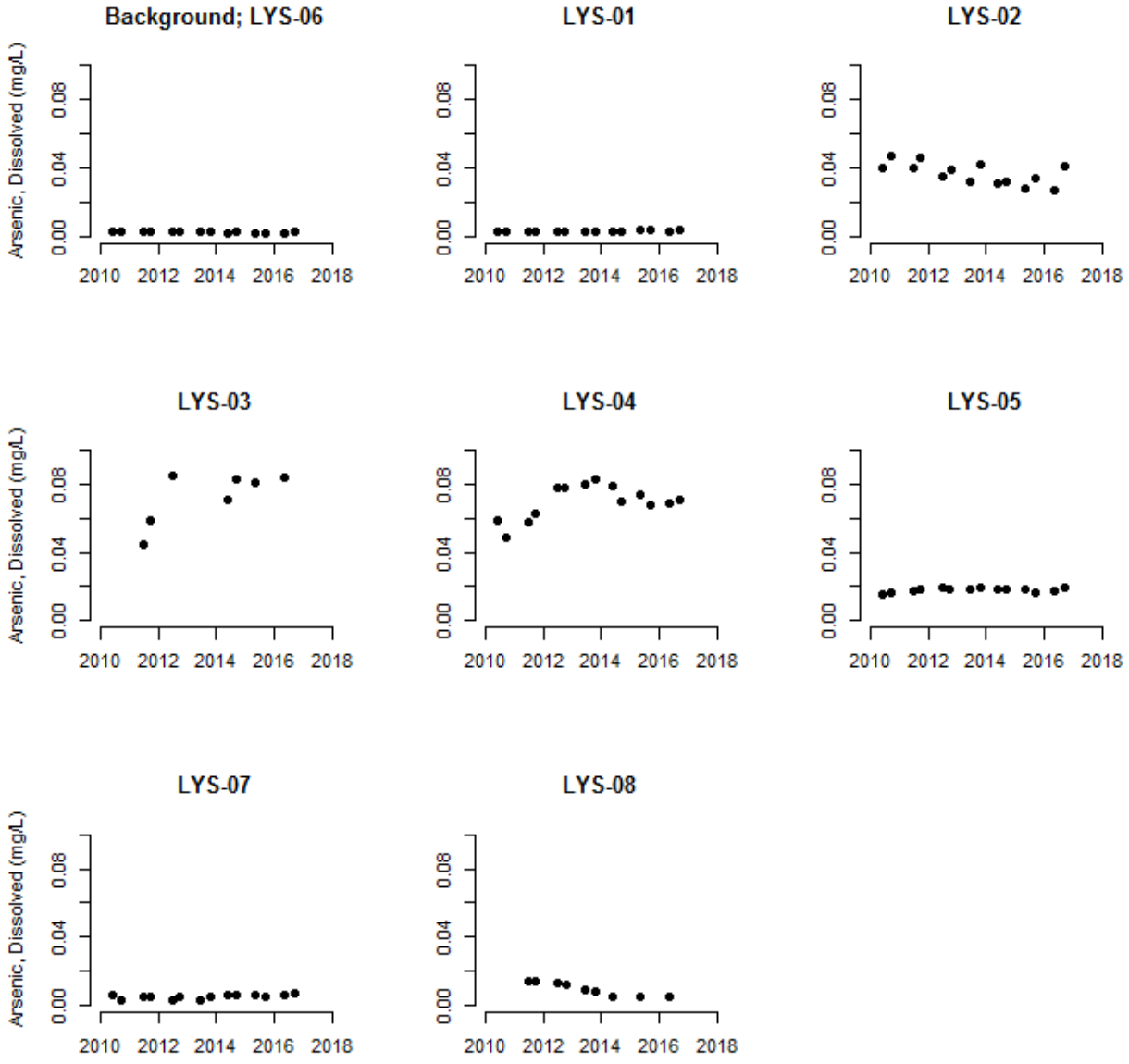

Figure 4-2. Arsenic concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2010-2016. Samples below the analytical reporting limit (RL) are represented as half the RL.

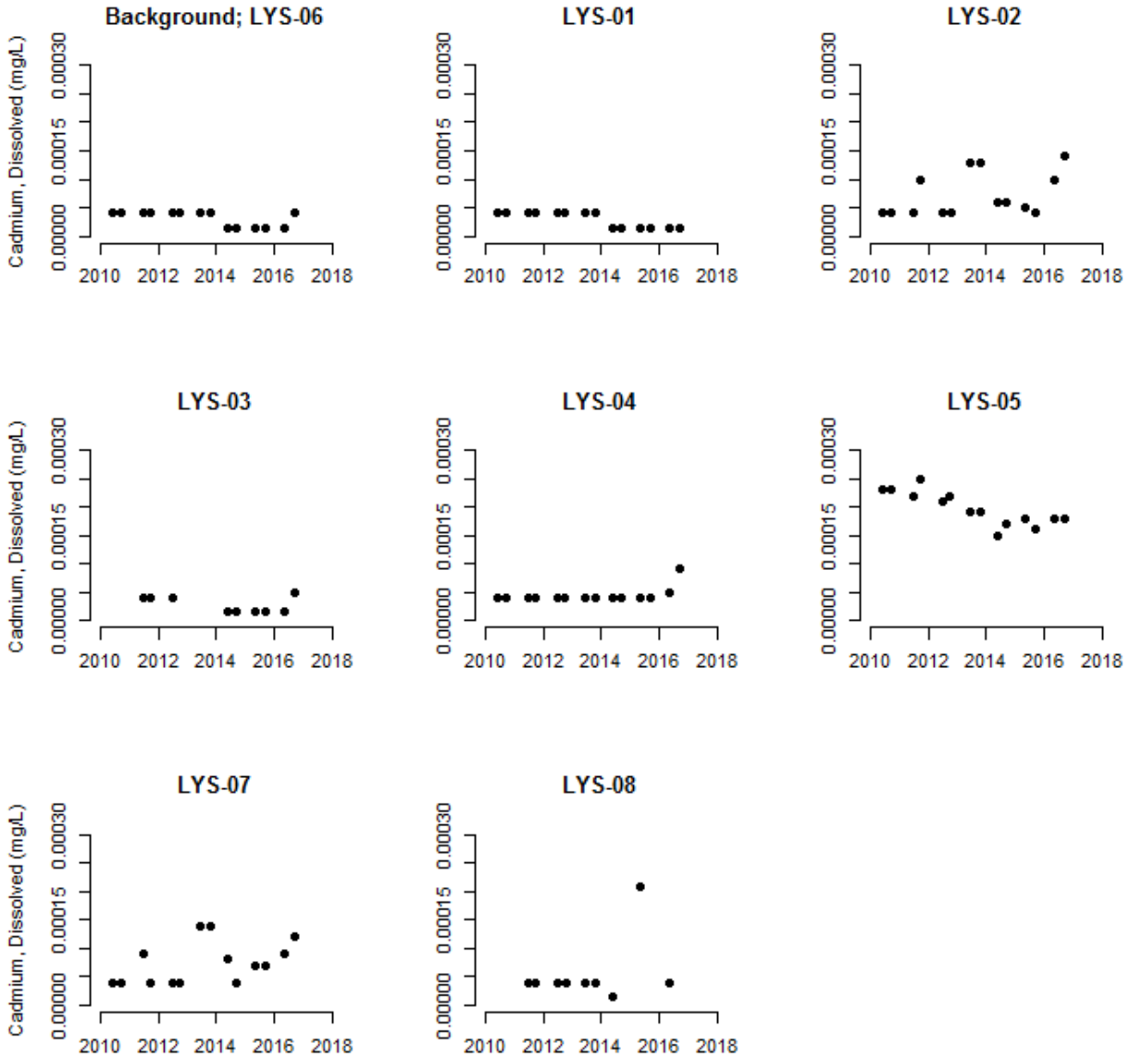

Figure 4-3. Cadmium concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2010-2015. Samples below the analytical reporting limit (RL) are represented as half the RL.

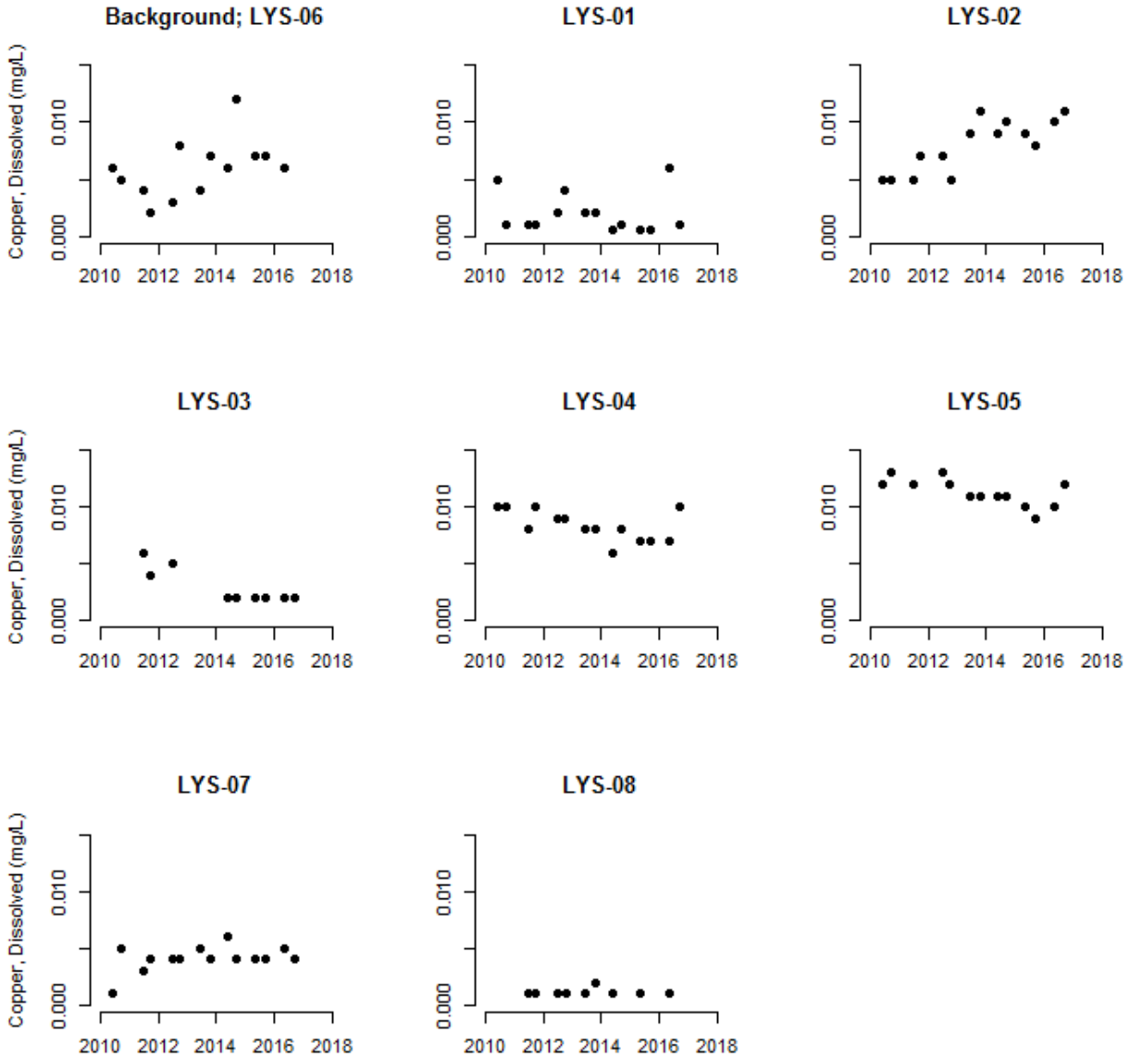

Figure 4-4. Copper concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2010-2015. Samples below the analytical reporting limit (RL) are represented as half the RL.

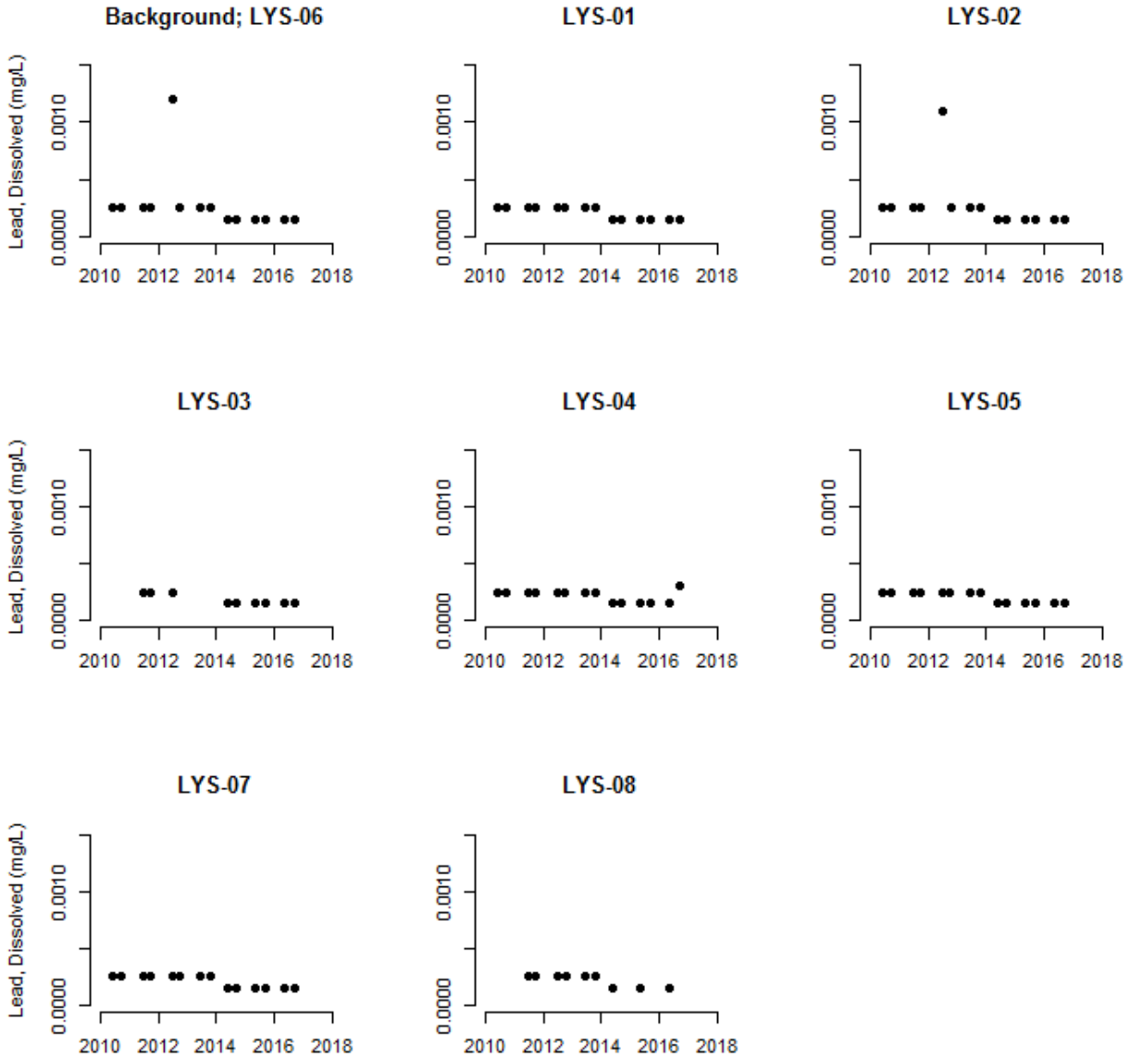

Figure 4-5. Lead concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2010-2015. Samples below the analytical reporting limit (RL) are represented as half the RL.

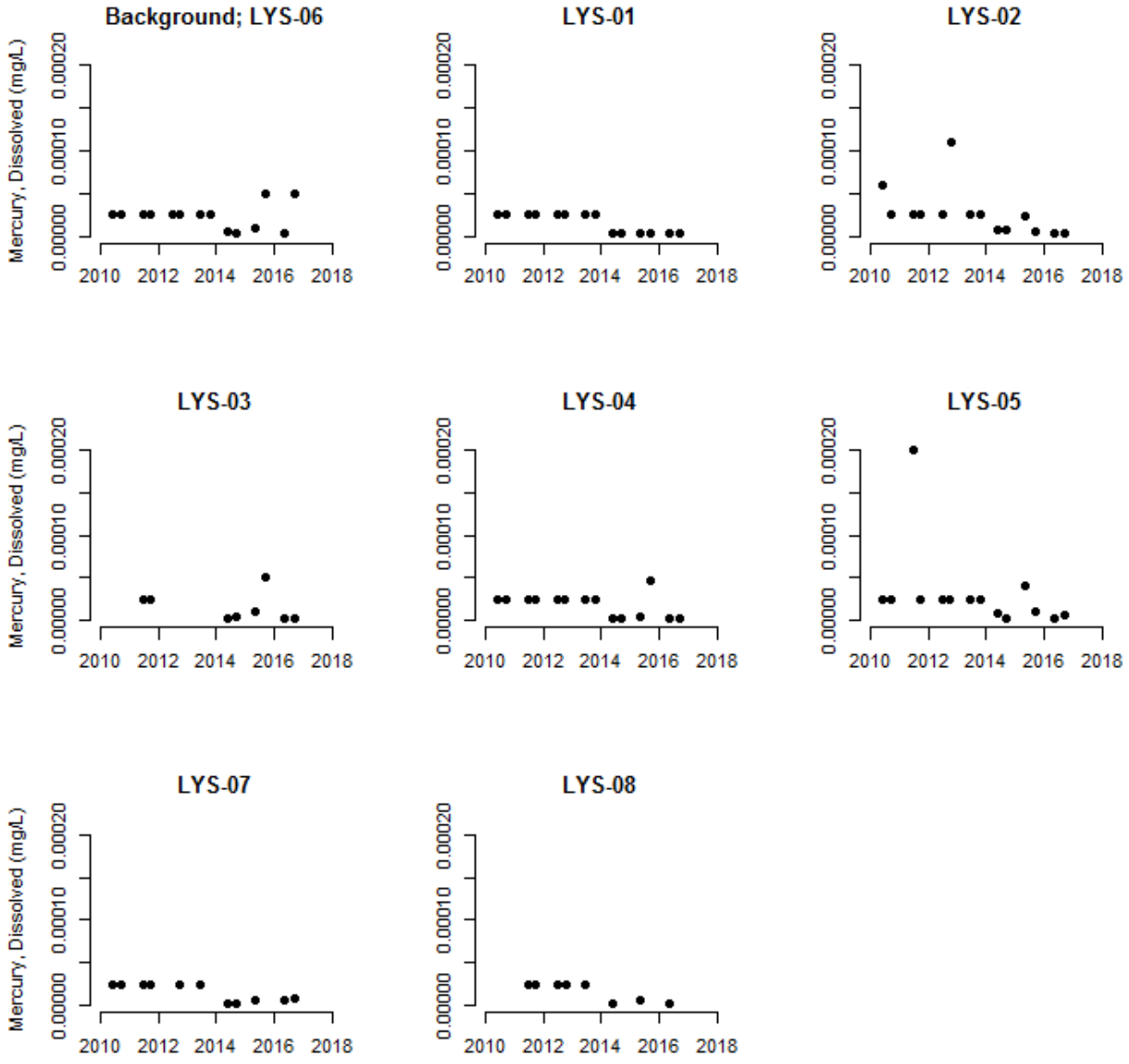

Figure 4-6. Mercury concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2010-2015. Samples below the analytical reporting limit (RL) are represented as half the RL.

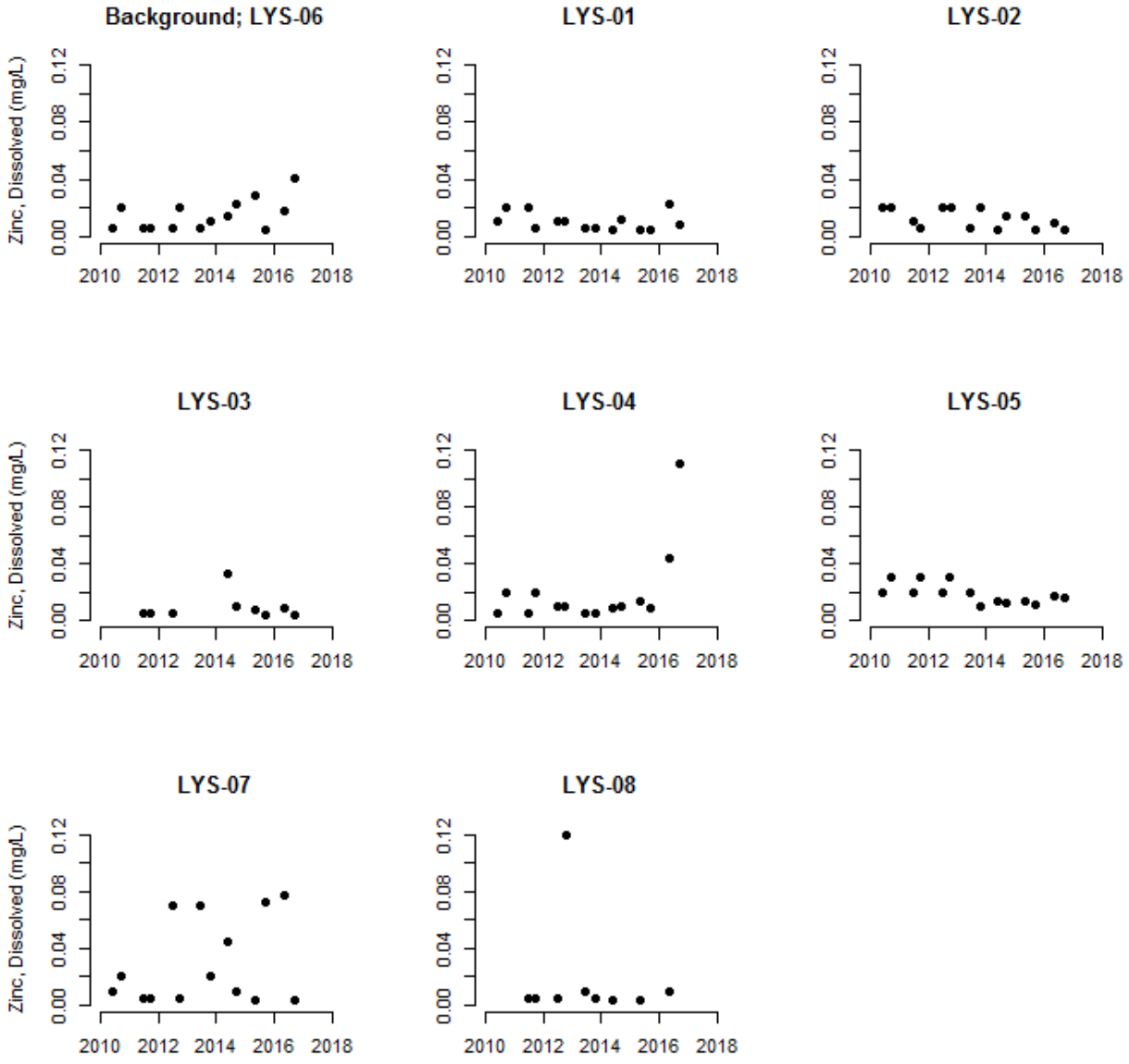

Figure 4-7. Zinc concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2010-2015. Samples below the analytical reporting limit (RL) are represented as half the RL.

4.5 DISCUSSION

4.5.1 Contaminants of Concern

Vadose zone sampling is conducted to provide advance notice in the event that there are releases of COCs from the repository which might threaten groundwater or surface water. In general, each COC concentration in each lysimeter was similar in 2016 to prior monitoring

years indicating that there is relatively little inter-annual variability in vadose zone COC concentrations in the MWRR. One exception to this trend was zinc in LYS-04, which was considerably higher in September 2016 than in prior monitoring periods. Concentrations in LYS-04 will be monitored in 2017 and future years to determine if the 2016 sample concentrations were anomalous or represent a stark change in zinc concentrations in the soil pore water chemistry monitored by that lysimeter.

Based on the seven year time series at each lysimeter, there generally do not appear to be increasing COC concentrations at any of these lysimeters with the exception of possibly copper concentration at LYS-02. A formal statistical analysis (e.g., simple linear regression or Mann-Kendall trend test) might provide some insight about whether these apparent relationships (between COC concentrations and time) in these lysimeters were statistically significant. However, it would be important to understand that such an analysis would only apply to the observed time period and therefore would provide limited insight into the likelihood that those trends would continue through time. Extrapolation of temporal trends in COC concentrations from the 2010-2016 time period to more extended time periods (e.g., through 2030) may not be appropriate.

Some monitoring lysimeters appear to have mean concentrations which are higher than in the paired background lysimeter for particular COCs. In particular, arsenic concentrations in LYS-02, LYS-03, and LYS-04; cadmium concentrations in LYS-05; and possibly zinc concentration in LYS-04 due to the abnormally high 2016 sample concentrations. Although these data support the conclusion that arsenic, cadmium, and zinc concentrations are elevated in some monitoring lysimeters compared to the background lysimeter, the question of whether or not a single background lysimeter adequately represents background COC concentrations in the soil outside of the MWRR is not addressed. One method to reduce potential bias in the background COC concentrations associated with the small number of background sample sites (n = 1) would be to increase the number of background lysimeters. However, increasing the number of background lysimeters would not address the issue of causation. Even with additional background lysimeters, the question of whether differences in COC concentrations between background and monitoring samples were caused by leaching of COCs from the MWRR or by inherent differences in concentrations in soils sampled by those particular lysimeters would remain uncertain.

4.5.2 Data Validation

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

5.0 MACROINVERTEBRATES[40]

5.1 INTRODUCTION

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

Remedial actions in the SSTOU have included excavation of tailings and contaminated soils from the Silver Bow Creek floodplain, removal of those soils to a local repository or to the Opportunity Ponds, replacement of removed tailings with clean fill material, native grass seeding, willow and shrub plantings, and complete channel reconstruction [USEPA, 2011]. Restoration actions have involved various habitat improvements including the addition of organic matter to the borrow soils and additional plant revegetation and aquatic habitat components [NRDP, 2005]. As of the end of 2016, major remedial activity was complete in all Subareas of the SSTOU. Additional repairs of remnant tailings areas in Subarea 1 occurred in 2016 and will be ongoing in 2017.

A plan was established to monitor several factors as remediation progressed including surface water, instream sediments, geomorphology, groundwater, and aquatic biologic resources. Aquatic invertebrates are major components of the biota present in Silver Bow Creek and thus play important roles in the comprehensive monitoring plan. General performance goals have been stated for aquatic invertebrates in Silver Bow Creek: the assemblages should reflect a "balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of the natural habitat of the region" [Karr and Dudley, 1981].

This report describes the analysis of a subset of the aquatic invertebrate monitoring program, specifically the samples collected from Silver Bow Creek in 2016. The benthic invertebrate fauna was analyzed with a number of biointegrity metrics which were combined into three indices, the Montana Valley and Foothill Prairies (MVFP) bioassessment index which was developed to evaluate the biological integrity of montane streams [Bollman, 1998], the

[40] Chapter 5 was completed by Billie Kerans and Wease Bollman of Rhithron Associates with minor editing and formatting by RESPEC.

Hilsenhoff Biotic Index [Hilsenhoff, 1987], which has a long history in biomonitoring studies, and the metals tolerance index [McGuire, 2009], which is specifically designed to examine metal pollution. In addition, the taxonomic and functional composition of the benthic fauna was investigated to gain information about probable stressors to water quality and habitat integrity. This information is described in a series of site-specific narratives.

5.2 METHODS

5.2.1 Sampling

Aquatic invertebrates were sampled at 17 sites in the Silver Bow Creek watershed [Table 5-1] from September 14-15, 2016. Samples were delivered to Rhithron Associates, (Missoula, Montana) for processing and identification.

Table 5-1. Macroinvertebrate sampling locations in the Streamside Tailings Operable Unit, September 8-9, 2016.

Site ID	Site Location	Location (GPS coordinates, NAD 83)	
		Latitude	Longitude
SS-01	Blacktail Creek at Father Sheehan Park	45.98532	-112.50772
SS-05A	Silver Bow Creek above Butte Reduction Works	45.99653	-112.54343
SS-06G	Silver Bow Creek above Butte WWTP	45.99458	-112.55146
SS-07	Silver Bow Creek below WWTP	45.99648	-112.56316
SS-08	Silver Bow Creek at Rocker	45.99679	-112.56470
SS-10A	Silver Bow Creek above Sand Creek	46.00167	-112.60490
SS-10B	Silver Bow Creek below Sand Creek	46.00375	-112.66084
SS-11C	Silver Bow Creek above Browns Gulch	46.00429	-112.66160
SS-11D	Silver Bow Creek below Browns Gulch	46.00336	-112.70172
SS-13	Silver Bow Creek in Reach L	46.00342	-112.70304
SS-14	Silver Bow Creek at Miles Crossing	46.00647	-112.71394
SS-15A	Silver Bow Creek above German Gulch	46.01142	-112.72270
SS-15B	Silver Bow Creek below German Gulch	46.02170	-112.78969
SS-15G	German Gulch near confluence	46.02263	-112.79175
SS-16B	Silver Bow Creek in Reach P near Fairmont	46.02170	-112.79029
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	46.05494	-112.79611
SS-19	Silver Bow Creek at Frontage Road	46.10787	-112.80553

5.2.2 Laboratory Analysis

Subsamples of 300 (±20%) organisms were obtained using methods consistent with previous Silver Bow Creek studies: Caton sub-sampling devices [Caton, 1991], divided into 30 grids, each approximately 6 cm by 6 cm were used. Each individual sample was thoroughly mixed in its

jar(s), poured out and evenly spread into the Caton tray, and individual grids were randomly selected. The contents of each grid were examined under stereoscopic microscopes (Leica S6 and EZ4) using 10x-30x magnification. All aquatic invertebrates from each selected grid were sorted from the substrate, and placed in 80% ethanol for subsequent identification. Grid selection, examination, and sorting continued until at least 300 (±20%) organisms were sorted. The final grid was completely sorted of all organisms. All unsorted sample fractions were retained and stored at the Rhithron laboratory.

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

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

5.2.3 Quality Assurance Systems

Quality control (QC) procedures for initial sample processing and subsampling involved checking sorting efficiency. These checks were conducted on about 20% (3) of the samples by independent technicians who microscopically re-examined at least 25% of sorted substrate from each sample. Quality control procedures for each sample proceeded as follows:

The quality control technician poured the sorted substrate from a processed sample out into a Caton tray, redistributing the substrate so that 25% of it could be accurately lifted out by removing entire grids in a random fashion. Grids were selected, and re-examined until 25% of the substrate was re-sorted. All organisms that were missed were counted and this number was added to the total number obtained in the original sort. Sorting efficiency was evaluated by applying the following calculation:

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

where: SE is the sorting efficiency (%), n_1 is the total number of specimens in the first sort, and n_2 is the total number of specimens expected in the second sort, based on the results of the re-sorted 25%.

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

5.2.4 Data Analysis

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

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

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

Six calculated metrics [Table 5-3] were combined into the Montana Valley and Foothill Prairies (MVFP) bioassessment index [Bollman, 1998]. The MVFP index is a quantitative measure which may be useful in assessing progress toward attainment of the general goal of a "balanced, integrated, adaptive community" of aquatic invertebrates, as envisioned by Karr and Dudley [1981]. To arrive at an MVFP index score and impairment classification, each component metric value is calculated, based on the taxonomic, functional, and tolerance attributes of the aquatic invertebrate assemblage, and categorical scores are assigned to each metric. Metric scores are summed for a total score, which is expressed as a percentage of the maximum total score.

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

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

5.2.5 Ecological Interpretations: Approach

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

Attributes of invertebrate taxa that are well substantiated in diverse literature and that are generally accepted by regional aquatic ecologists as evidence of water quality and instream and reach-scale habitat conditions were used. The approach to this analysis uses some assemblage attributes that are interpreted as evidence of water quality and other attributes that are interpreted as evidence of habitat integrity. To arrive at impairment classifications, attributes are considered individually, so information is maximized by not relying on a single cumulative score, which may mask stress on the biota. Such an approach also minimizes the possibility of using inappropriate assessment strategies when the biota at a site is atypical of "characteristic" sites in a region. Below we describe the invertebrate attributes that were used and their relationships to water quality and habitat conditions.

Mayfly taxa richness, the Hilsenhoff Biotic Index (HBI) value [Hilsenhoff, 1987], the richness and abundance of hemoglobin-bearing taxa and the richness of pollution sensitive taxa are often used as indicators of water quality. Mayfly taxa richness has been demonstrated to be significantly correlated with chemical measures of dissolved oxygen, pH, and conductivity (e.g., Fore et al. [1996], Wisseman [1996]; Bollman [1998]). The HBI has a long history of use and validation [Cairns and Pratt, 1993; Smith and Tran, 2010; Johnson and Ringler, 2014]. In Montana foothills, the HBI was demonstrated to be significantly associated with conductivity,

pH, water temperature, sediment deposition, and the presence of filamentous algae [Bollman, 1998]. Nutrient enrichment in Montana streams often results in large crops of filamentous algae [Watson, 1988]. Thus in these samples, when macroinvertebrates associated or dependent on filamentous algae (e.g., LeSage and Harrison [1980]; Anderson [1976]) are abundant, the presence of filamentous algae and nutrient enrichment are also suspected. Pollution sensitive taxa exhibit intolerance to a wide range of stressors (e.g., Wisseman [1996]; Hellawell [1986]; Friedrich [1990]; Barbour et al. [1999]), including nutrient enrichment, acidification, thermal stress, sediment deposition, habitat disruption, and others. These taxa are expected to be present in predictable numbers in functioning montane and foothills streams (e.g., Bollman [1998]). Although the abundance of invertebrates in Hess samples can be highly variable, reflecting the patchy and dynamic areal distribution of the benthos in stony-bottomed streams, McGuire's thresholds for environmental perturbation [McGuire, 2010] are cited as evidence of enrichment or impairment.

The absence of invertebrate groups known to be sensitive to metals and the Metals Tolerance Index [Bukantis, 1998] are considered signals of possible metals contamination. Metals sensitivity for some groups, especially the heptageniid mayflies, is well-known (e.g., Kiffney and Clements [1994]; Clements [1999]; Clements [2004]; Montz et al. [2010]; Iwasaki et al. [2013]). In the present approach, the absence of these groups in environs where they are typically expected to occur is considered a signal of possible metals contamination, but only when combined with a measure of overall assemblage tolerance of metals. The Metals Tolerance Index ranks taxa according to their sensitivity to metals. Weighting taxa by their abundance in a sample, assemblage tolerance is estimated by averaging the tolerance of all sampled individuals. The richness and abundance of cold stenotherm taxa [Clark, 1997] and calculation of the temperature preference of the macroinvertebrate assemblage [Brandt, 2001] can predict the thermal characteristics of the sampled site. Hemoglobin-bearing taxa are also indicators of warm water temperatures [Walshe, 1947], since dissolved oxygen is directly associated with water temperature; oxygen concentrations can also vary with the degree of nutrient enrichment. Increased temperatures and high nutrient concentrations can, alone or in concert, create conditions favorable to hypoxic sediments, habitats preferred by hemoglobin-bearers.

Characteristics of the macroinvertebrate assemblages can also reveal the condition of instream and streamside habitats. Stress from sediment is evaluated by caddisfly richness and by "clinger" richness [Kleindl, 1995; Bollman, 1998; Karr and Chu, 1999; Wagenhoff et al., 2012; Leitner et al., 2015]. A newer tool, the Fine Sediment Biotic Index (FSBI) [Relyea et al., 2012] shows promise when applied to the montane and foothills regions. This index and its interpretation are modified in this report, based on the authors' professional judgment, to more effectively characterize the SSTOU in the sampled reaches. In addition, characteristics of assemblages can suggest whether other disturbances might influence stream-side vegetation, if disturbances other than sedimentation could influence stream fauna, or if stream bottoms have diverse habitats that support diverse invertebrate assemblages.

Finally, the functional characteristics of macroinvertebrate assemblages are based on the morphology and behaviors associated with feeding, and are interpreted in terms of the River Continuum Concept [Vannote et al., 1980] in the narratives. Alterations from predicted patterns

in montane and foothills streams may be interpreted as evidence of water quality or habitat disruption. For example, shredders and the microbes they depend on are sensitive to modifications of the riparian zone [Plafkin et al., 1989].

5.3 RESULTS

5.3.1 Quality Assurance Systems

Results of internal quality control procedures for subsampling and taxonomy for aquatic invertebrate samples are given in Table 5-4. Sorting efficiency averaged 98.1% over the 17 samples in this project. The similarity between original identifications and enumerations for the two quality control samples averaged 98.2%. Percent taxonomic disagreement (PTD) averaged 2.7%, and the Percent difference in enumeration (PDE) averaged 1.0%. Rhithron's internal quality standards, consistent with industry norms are: for sorting efficiency, ≥95%; for Bray-Curtis similarity, ≥95%; for PTD, ≤5%; and for PDE, ≤5% [Stribling et al., 2003].

Table 5-4. Results of quality assurance systems parameters for aquatic invertebrate samples. Silver Bow Creek watershed, September 14-15, 2016.

Site ID	Station name	Sorting efficiency (%)	Bray-Curtis similarity (%)	Percent taxonomic disagreement (%)	Percent difference in enumeration (%)
SS-01	Blacktail Creek at Father Sheehan Park				
SS-05A	Silver Bow Creek above Butte Reduction Works	99.07			
SS-06G	Silver Bow Creek above Butte WWTP				
SS-07	Silver Bow Creek below Butte WWTP				
SS-08	Silver Bow Creek at Rocker				
SS-10A	Silver Bow Creek above Sand Creek	97.77	97.35	4.50	1.94
SS-10B	Silver Bow Creek below Sand Creek				
SS-11C	Silver Bow Creek above Browns Gulch				
SS-11D	Silver Bow Creek below Browns Gulch				
SS-13	Silver Bow Creek in Reach L	97.58			
SS-14	Silver Bow Creek at Miles Crossing				
SS-15A	Silver Bow Creek above German Gulch				
SS-15B	Silver Bow Creek below German Gulch				
SS-15G	German Gulch near confluence				
SS-16B	Silver Bow Creek in Reach P near Fairmont		99.10	0.90	0.00
SS-17D	Silver Bow Creek below Stewart St Opportunity				
SS-19	Silver Bow Creek at Frontage Road				

5.3.2 Bioassessment

Values for the six MVFP aquatic invertebrate metrics are shown in Table 5 5. MVFP scores and associated impairment classifications are given in Table 5 6. Figure 5-1 graphs the 2016 MVFP scores, as percent of maximum possible score, for all sites in the study. One site, SS-15G (German Gulch near confluence) was rated slightly impaired. Fourteen of the 17 sites were moderately impaired, and two sites were severely impaired. Sites with severe impairment (SS-10A and SS-10B) generally exhibited very low richnesses among mayflies, stoneflies, caddisflies and sensitive taxa.

When compared to the sites with severe impairment, the assemblages at sites with moderate impairment (SS-01, SS-05A, SS-06G, SS-07, SS-08, SS-11C, SS-11D, SS-13, SS-14, SS-15A, SS-15B, SS-16B, SS-17D, and SS-19) had slightly higher mayfly, stonefly, stonefly, caddisfly, and sensitive taxa richnesses.

In 2016, HBI metric values were elevated relative to the impact threshold for nutrients determined by McGuire [2010] at all but five sites [Figure 5-2]. Sites SS-15A14D, SS-15B, SS-15G, SS-16B and SS-17D were below the threshold value. Exceptionally high (>6.0) values for the HBI were found at five sites (SS-05A, SS -08, SS-10A and SS-10B) suggesting moderate to severe impairment by organic nutrients [McGuire, 2010].

MTI metric values for nine sites (SS-01, SS-05A, SS-06G, SS-07, SS-08, SS-10A, SS-11C, SS-11D, SS-13) were elevated relative to the impact threshold for metals determined by McGuire [2010] [Figure 5-3]. Eight sites (SS-10B, SS-14D, SS-15A, SS-15B, SS-15G, SS-16B, SS-17D, SS-19) generated MTI values that indicated no impact from metals contamination, according to McGuire's guidance.

Table 5-5. Montana Valley and Foothill Prairies [Bollman, 1998] metric results: Silver Bow Creek, September 14-15, 2016.

Site ID	Site Location	Metric					
		Ephemeroptera richness	Plecoptera richness	Trichoptera richness	Number of sensitive taxa	Percent filterers	Percent tolerant taxa
SS-01	Blacktail Creek at Father Sheehan Park	1	0	3	1	16.4	26.2
SS-05A	Silver Bow Creek above Butte Reduction Works	1	0	5	0	5.6	30.8
SS-06G	Silver Bow Creek above Butte WWTP	1	0	5	1	26.4	46
SS-07	Silver Bow Creek below Butte WWTP	1	0	4	0	22.6	32.1
SS-08	Silver Bow Creek at Rocker	0	0	3	0	17	20.5
SS-10A	Silver Bow Creek above Sand Creek	0	0	3	0	28.3	21.7
SS-10B	Silver Bow Creek below Sand Creek	1	0	2	0	11.6	60.1
SS-11C	Silver Bow Creek above Browns Gulch	1	0	6	0	55.5	32.5
SS-11D	Silver Bow Creek below Browns Gulch	3	0	6	0	54.2	43.4
SS-13	Silver Bow Creek in Reach L	2	0	5	0	60.4	29.6
SS-14	Silver Bow Creek at Miles Crossing	3	0	5	0	54.6	27
SS-15A	Silver Bow Creek above German Gulch	2	0	6	0	60.4	5.4
SS-15B	Silver Bow Creek below German Gulch	3	1	7	1	20.3	29.1
SS-15G	German Gulch near confluence	4	3	5	3	11.2	6.7
SS-16B	Silver Bow Creek in Reach P near Fairmont	2	0	6	1	29.1	24.8
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1	1	5	0	59.3	26.7
SS-19	Silver Bow Creek at Frontage Road	1	1	5	0	42.2	37.2

Table 5-6. Bioassessment scores and values for selected metrics calculated for Silver Bow Creek sites: MFVP [Bollman, 1998] aquatic invertebrate biointegrity scores, expressed as percent of maximum possible score, with impairment classifications; the Hilsenhoff Biotic Index (HBI) metric values; and the metals tolerance index [McGuire, 2009] metric values. Silver Bow Creek watershed, September 14-15, 2016.

Site ID	Site Location	MVFP score (% of max. score)	MVFP impairment classification	HBI	MTI
SS-01	Blacktail Creek at Father Sheehan Park	27.8	moderate	5.17	4.63
SS-05A	Silver Bow Creek above Butte Reduction Works	33.3	moderate	6.26	4.68
SS-06G	Silver Bow Creek above Butte WWTP	22.2	moderate	5.62	4.82
SS-07	Silver Bow Creek below Butte WWTP	22.2	moderate	5.84	4.69
SS-08	Silver Bow Creek at Rocker	22.2	moderate	6.44	4.32
SS-10A	Silver Bow Creek above Sand Creek	16.7	severe	6.54	4.39
SS-10B	Silver Bow Creek below Sand Creek	11.1	severe	7.47	3.52
SS-11C	Silver Bow Creek above Browns Gulch	22.2	moderate	5.68	4.48
SS-11D	Silver Bow Creek below Browns Gulch	22.2	moderate	5.41	4.34
SS-13	Silver Bow Creek in Reach L	27.8	moderate	5.02	4.45
SS-14	Silver Bow Creek at Miles Crossing	27.8	moderate	3.93	3.74
SS-15A	Silver Bow Creek above German Gulch	33.3	moderate	4.47	3.76
SS-15B	Silver Bow Creek below German Gulch	44.4	moderate	3.26	3.12
SS-15G	German Gulch near confluence	66.7	slight	2.80	2.63
SS-16B	Silver Bow Creek in Reach P near Fairmont	33.3	moderate	2.92	3.08
SS-17D	Silver Bow Creek below Stewart St Opportunity	27.8	moderate	3.90	3.69
SS-19	Silver Bow Creek at Frontage Road	22.2	moderate	4.39	3.43

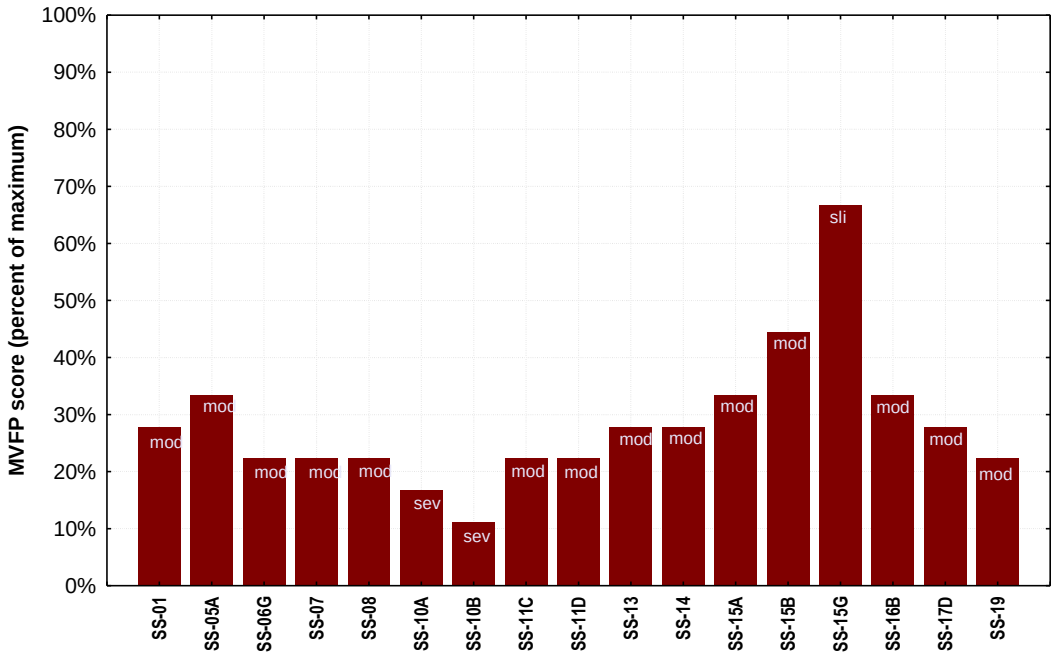

Figure 5-1. Montana Valley and Foothill Prairies (MVFP) aquatic invertebrate biointegrity scores [Bollman, 1998], expressed as percent of maximum possible score: comparison among sites. Bars are labeled with MVFP index impairment classifications. Silver Bow Creek watershed, September 14-15, 2016.

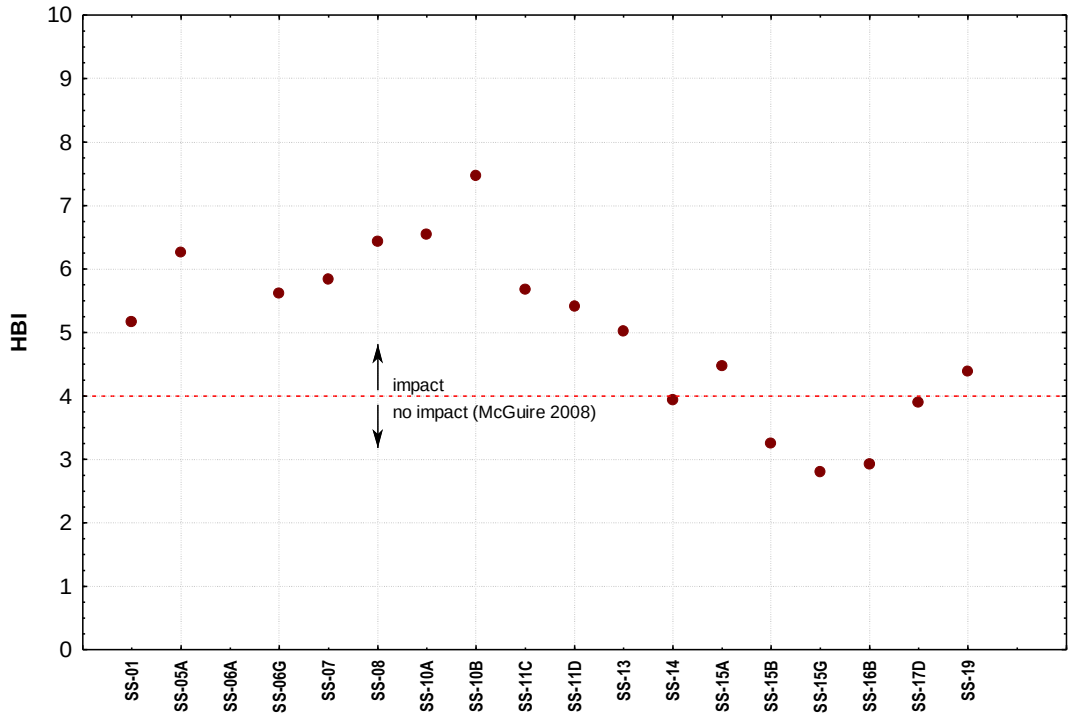

Figure 5-2. Hilsenhoff Biotic Index (HBI) values: comparison among sites. The red dashed line represents the presumed impact threshold determined for the Clark Fork River basin [McGuire, 2009]. Silver Bow Creek watershed, September 14-15, 2016.

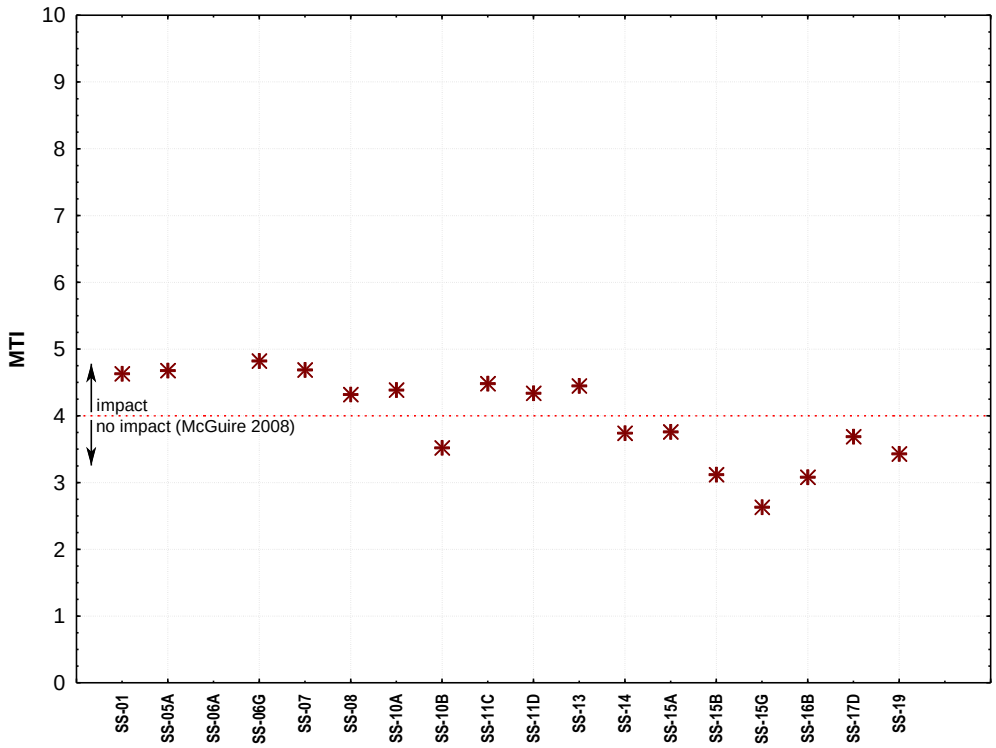

Figure 5-3. Metals tolerance index (MTI) values: comparison among sites. The red dashed line represents the presumed impact threshold determined for the Clark Fork River basin [McGuire, 2009]. (Site SS-06A was not sampled in 2015.) Silver Bow Creek watershed, September 14-15, 2016.

5.3.3 Ecological Interpretation of Aquatic Assemblages

5.3.3.1 SS-01: Blacktail Creek at Father Sheehan Park

5.3.3.1.1 Comparisons among years

MVFP bioassessment scores [Figure 5-4] varied from year to year at site SS-01. However, the 2016 score was identical to the scores in 2014 and 2015, all of which indicated moderate impairment. According to McGuire's guidance, the MTI indicated slight impairment from metals in every year since 2010 [Figure 5-5]. In most years of the same time period, the HBI indicated mild-to-moderate nutrient enrichment [Figure 5-5].

5.3.3.1.2 2016 Data

5.3.3.1.2.1 Water quality

Water quality appears to be impaired at this site. Only one mayfly taxon (*Baetis* sp.) was collected representing 3.8% (12 specimens) of the assemblage. Only one pollution-sensitive taxon (one specimen; 3% of the assemblage) of the chironomid *Potthastia longimanus* Gr.) was collected and pollution-tolerant organisms (mostly the elimid beetle, *Optioservus* (22.7%)) composed 26.2% of the assemblage. Both the biotic index (HBI, 5.17) and the percentage of collector-filterers (16.4%) were higher than expected for a low-order Middle Rockies stream. Organisms containing hemoglobin (3.5%) were relatively common, suggesting that hypoxic sediments cannot be ruled out. In addition, abundant midges in the genus *Orthocladius* (>23%) suggest that filamentous algae were present, large crops of which may be associated with nutrient enrichment. The high HBI, high percentage of collector-filterers, high relative abundance of orthoclad midges, and the commonness of hemoglobin-bearing organisms suggest that the impaired conditions may be related to nutrient enrichment. The data suggest little evidence for metals contamination here because the MTI (4.63) was lower than the HBI.

5.3.3.1.2.2 Thermal condition

No cold-stenotherm taxa were collected in this reach. The thermal preference of the aquatic invertebrate assemblage was 14.4 C and some warm-water loving taxa like the snails *Stagnicola* sp. and *Gyraulus* sp. were collected

5.3.3.1.2.3 Sediment deposition

Sediment-induced habitat disruption seems likely here as neither "clingers" (seven taxa) nor caddisflies (three taxa) were as diverse as expected. This result is supported by the FSBI (3.51) which indicated a moderately sediment-tolerant assemblage.

5.3.3.1.2.4 Habitat diversity and integrity

Overall taxa richness (37) was low, which may reflect monotonous or disrupted instream habitats, poor water quality, or both. No stoneflies were collected at this site, which may be related to altered channel morphology, unstable streambanks, or disturbed riparian function. Although only three semivoltine taxa were collected from this site, the elimid beetle Optioservus

was abundant and the caddisfly *Brachycentrus americanus* (4.7%) was common making catastrophic dewatering or thermal extremes unlikely. All expected functional groups were present with collectors (55.5%) dominating, which indicates the importance of fine particulate organic matter to the assemblage. In addition, scrapers (26.2%) were also abundant, which may indicate an open canopy and the importance of autochthonous algal production in the reach.

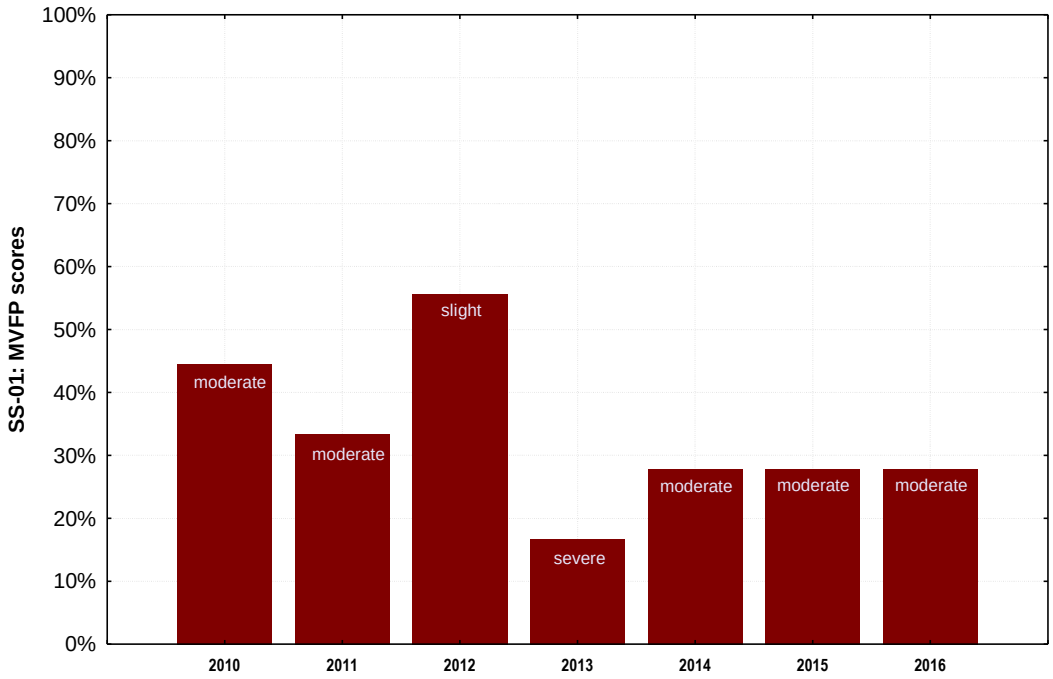

Figure 5-4. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-01. Bars are labeled with impairment classifications.

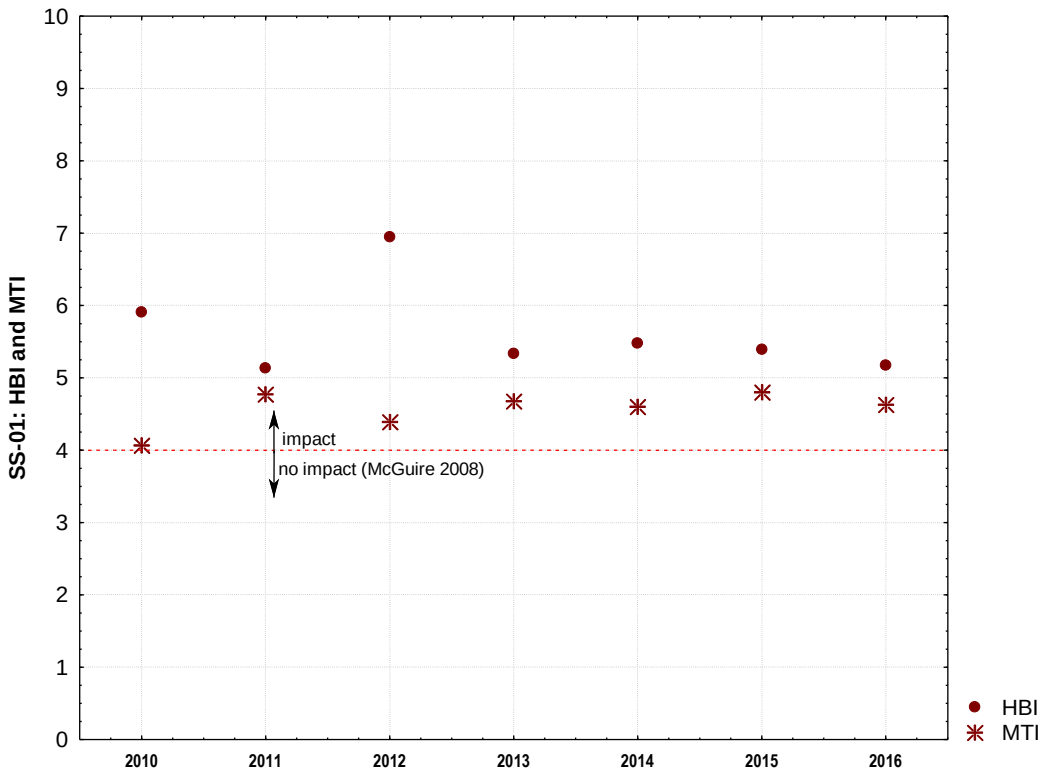

Figure 5-5. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-01. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

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

5.3.3.2.1 Comparisons among Years

In 2016, moderate impairment was indicated at site SS-05A using the MVFP bioassessment score [Figure 5-6]. Both scores in 2015 and 2016 indicated an improvement over the severe impacts detected in 2013 and 2014, although the percentage of the maximum score was somewhat lower in 2016 than in 2015. According to McGuire's guidance, the MTI indicated slight impairment from metals in each year since 2012, and the HBI indicated moderate nutrient enrichment [Figure 5-7].

5.3.3.2.2 2016 Data

5.3.3.2.2.1 Water quality

Based on the ecological characteristics of the invertebrate assemblage, it appears water quality was severely impaired in this reach. Mayflies were represented by only one specimen of the ubiquitous *Baetis tricaudatus* complex. The biotic index value (6.26) was high, although a portion of the elevation was probably due to the aquatic mites *Lebertia* sp. and *Hygrobates* sp., which accounted for >20% of the assemblage. These mites are assigned high HBI values; however, the values for aquatic mites ought to be considered provisional, because there has been little research into differences among genera with regard to pollution tolerance. Pollution-tolerant organisms composed 30.8% of the sample and were represented primarily by the elmid beetle *Optioservus* (22.7%, the dominant organism in the sample) and no pollution-sensitive taxa were collected. In addition, hemoglobin-bearing organisms (3.1%) were common, thus hypoxic sediments cannot be dismissed. The abundance of worms in the subfamily Naidinae (10.6%) also suggests an abundance of filamentous algae that may indicate nutrient enrichment. The high HBI, commonness of hemoglobin-bearing organisms, and abundance of Naidinae suggest that nutrient enrichment is the cause of the reduction in water quality in this reach. Impact by metals is not well supported as the MTI (4.68) was much lower than the HBI.

5.3.3.2.2.2 Thermal condition

As in all but one of the sites in 2016, no cold-stenotherm taxa were collected in this reach. Indeed, the warm-water preferring snails *Stagnicola* sp. (2.2%) and *Gyraulus* sp. (1.6%) were common. The thermal preference of the aquatic invertebrate assemblage was 17.0 C.

5.3.3.2.2.3 Sediment deposition

Five caddisfly taxa (three of which were common) and 11 "clinger" taxa were collected from this reach. A sediment-tolerant assemblage was suggested by the FSBI of 3.14. These data indicate that disruption on invertebrate colonization of stony sediments cannot be dismissed here.

5.3.3.2.2.4 Habitat diversity and integrity

Overall taxa richness (34) was low, which may reflect monotonous or disrupted instream habitats, poor water quality, or both. The absence of stoneflies may be related to reach-scale

disturbances: unstable streambanks, loss of riparian function, or channel alteration are examples of such disturbances. Five long-lived taxa were present including the abundant elimid beetle *Optioservus*, (22.7%). Given these data, disturbances as the result of periodic scour, dewatering, thermal stress, or toxic pollutants appear to be unlikely. The functional composition of the invertebrate assemblage was strongly dominated by predators (45.0%) of which the mite predators, *Lebertia sp*., *Hygobates* sp., and *Sperchon* sp., were the most abundant. Dominance by non-insect predators is sometimes interpreted as evidence for limited and unbalanced energy resources. Other functional groups, except shredders (0.6%), were well represented. Both collectors (25.8%) and scrapers (26.7%), were abundant suggesting that both fine particulate organic matter and autochthonous algal production were important to the energy flow in this system. The lack of shredders may indicate lack of riparian zone inputs or little retention of such inputs in the system.

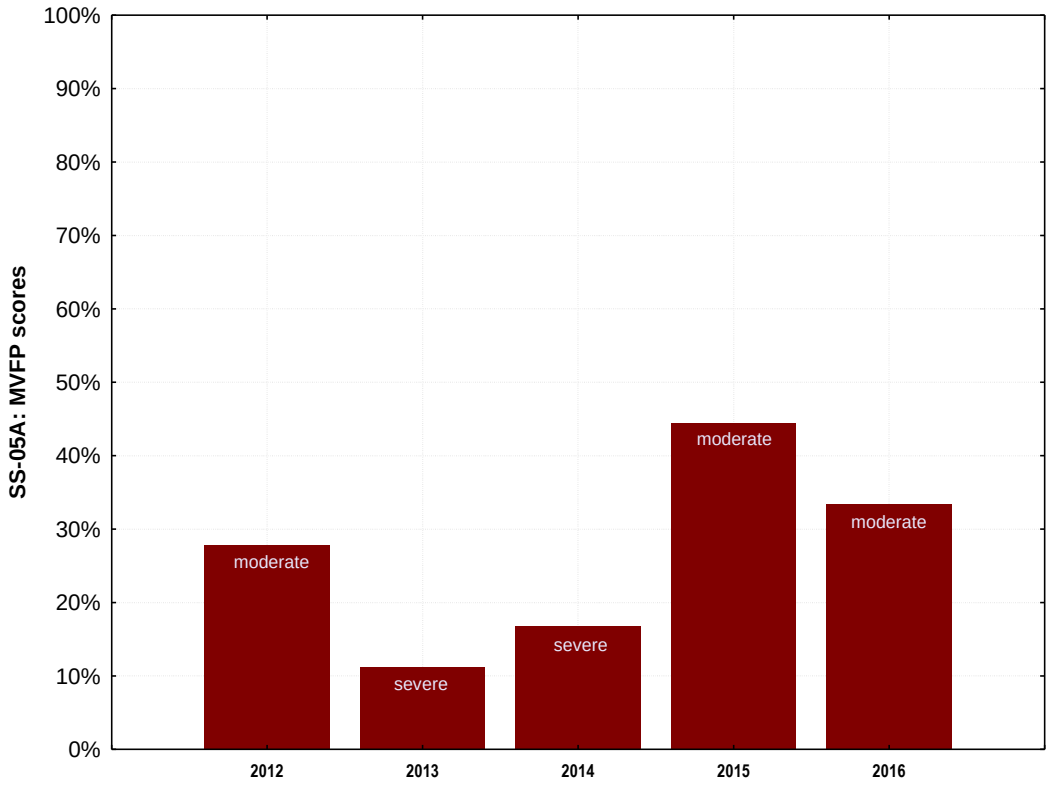

Figure 5-6. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-05A. Bars are labeled with impairment classifications.

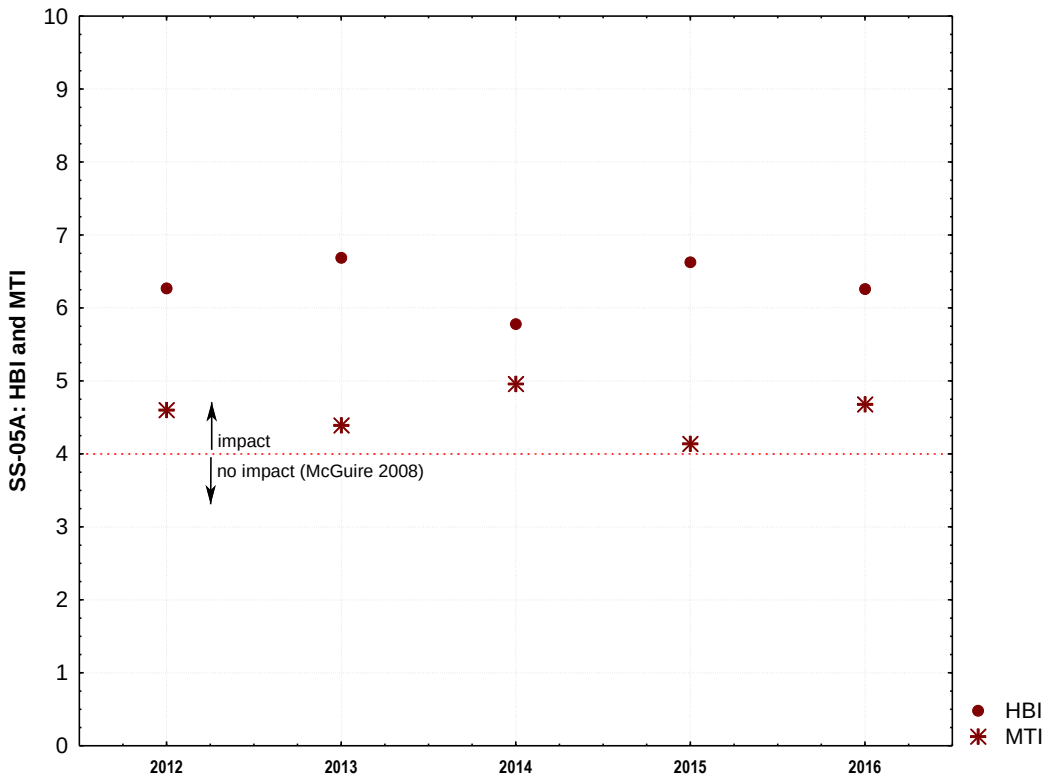

Figure 5-7. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-05A. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

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

5.3.3.3.1 Comparisons among Years

Moderate impairment was indicated by the MVFP bioassessment score [Figure 5-8] at site SS-06G in 2016. Moderate impairment was indicated at this site only one other time (2011) since 2010. Thus, the 2016 score indicated an improvement in condition over the conditions from 2012 through 2015. According to McGuire's guidance, the MTI indicated slight impairment from metals in each year since 2012, and the HBI indicated mild-to-moderate nutrient enrichment since 2010 [Figure 5-9].

5.3.3.3.2 2016 Data

5.3.3.3.2.1 Water quality

It appears that water quality is impaired at this site. The ubiquitous *Baetis tricaudatus* complex was the only mayfly taxon found in the sample, although it was common (3.7%). *Potthastia longimanus* Gr. was the only pollution-sensitive taxon collected and it was represented by only one specimen (0.3% of the assemblage). The assemblage was strongly dominated by pollution-tolerant organisms (46.0%) including the elmid beetle *Optioservus* (32.5%, the dominant organism in the sample) and the snail *Stagnicola* (3.7%). The HBI (5.62) was above expectations. Collector-filterers (26.4%), including the caddisflies *Hydropsyche* (16.0%) and *Cheumatopsyche* (7.4%), were abundant. These results suggest that the impairment was related to nutrient enrichment. Naidid worms (8.6%) were abundant and hydroptilid caddisflies were present in the sample, suggesting that filamentous algae occur at this site. This observation supports the contention that nutrient enrichment impacts this site. The MTI (4.82) was lower than the HBI, so metals contamination is not indicated here.

5.3.3.3.2.2 Thermal condition

The characteristics of the biota indicated that the thermal preference of the assemblage was 16.8 C. The warm-water preferring snail *Stagnicola* sp. (3.7%) was also common. No cold-stenotherm taxa were recorded from this reach.

5.3.3.3.2.3 Sediment deposition

Five caddisfly taxa were found in this sample and only the filtering-collectors *Cheumatopsyche* sp. and *Hydropsyche* sp. were common. The "clingers" were represented by 11 taxa. These characteristics as well as an FSBI of 3.52 indicate that limitation of invertebrate colonization of this site through sedimentation cannot be ruled out.

5.3.3.3.2.4 Habitat diversity and integrity

Total taxa richness (30) of the benthic fau na was low at this site and as with many of the other Silver Bow sites no stoneflies were collected. Low overall taxa and stonefly diversities could be related to instream habitat disruption, reach-scale disturbances (e.g., altered channel morphology, unstable stream banks or disrupted riparian zones), impaired water quality, or all three. Three semivoltine taxa were collected, but only one of those was common (*Optioservus*),

thus thermal extremes or scour cannot be ruled out. Collectors (43.6%) and scrapers (36.8%) dominated the functional composition of the benthic assemblage indicating the importance of both fine particulate organic matter and autochthonous algal production in the energy flow in this reach. Lack of channel shading may have benefited the well-developed algal films that are suggested by the high relative abundance of scrapers. All other functional groups were well represented.

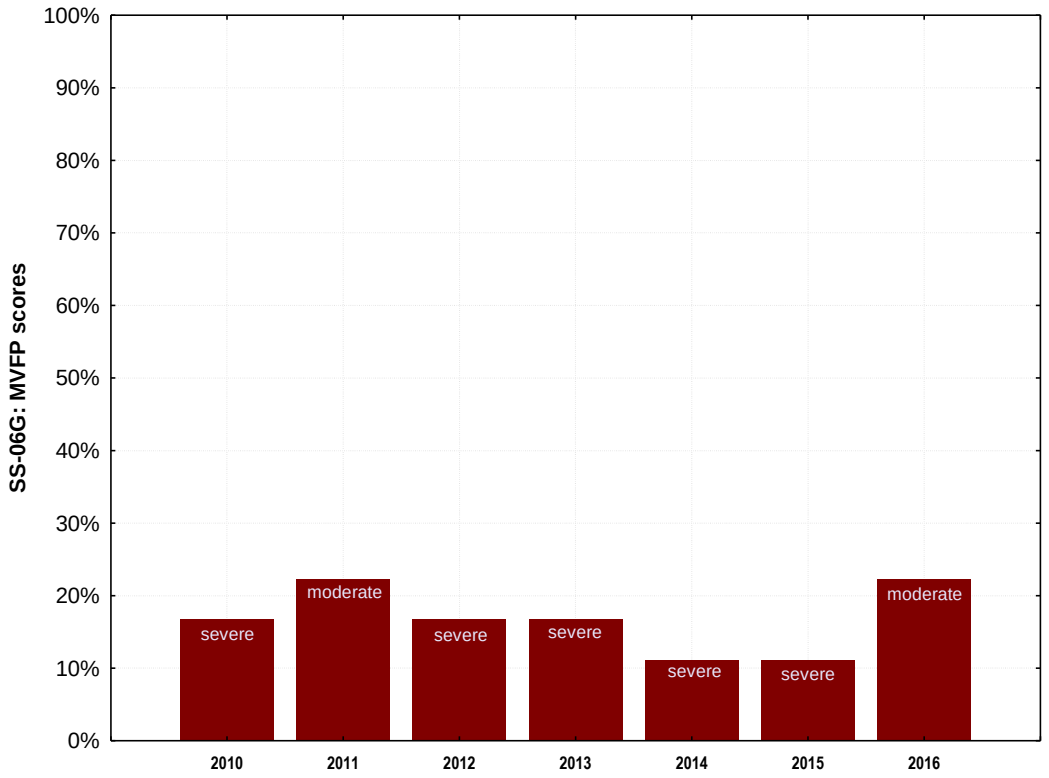

Figure 5-8. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-06G. Bars are labeled with impairment classifications.

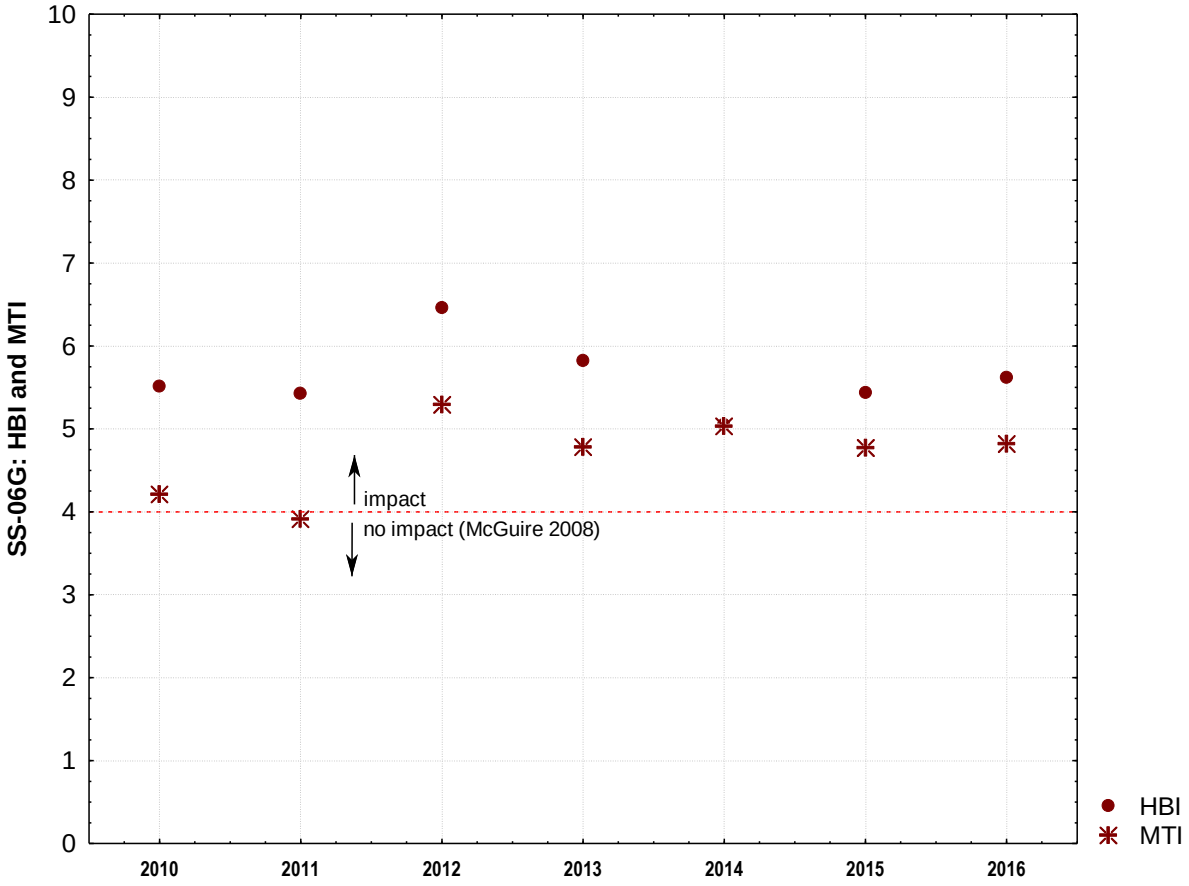

Figure 5-9. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-06G. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.4 SS-07: Silver Bow Creek below Butte WWTP

5.3.3.4.1 Comparisons among Years

Site SS-07 has been scored as severely impaired from 2010 until 2015, as measured by the MVFP bioassessment index [Figure 5-10]. However, improvement was indicated in 2016 as the MVFP indicated moderate impairment. According to McGuire's guidance, the MTI indicated slight impairment from metals in each year since 2012, and the HBI indicated moderate-to-severe nutrient enrichment since 2010 [Figure 5-11].

5.3.3.4.2 2016 Data

5.3.3.4.2.1 Water quality

Most indicators of water quality suggested impaired conditions in this reach. Only one mayfly taxon (the common *Baetis tricaudatus* complex (2.2%)) and no pollution-sensitive taxa were collected. Pollution-tolerant organisms (32.1%), like the elmid beetle *Optioservus* sp. (20.1%, the dominant taxon in the sample), the filtering caddisfly *Cheumatopsyche* sp. (7.2%), and leeches (1.6%) and snails (2.8%), were either abundant or common. The HBI (5.84) indicated impaired water quality and the relative abundance of collector-filterers (22.6%) was higher than expected, which may indicate that the fauna was impacted by high nutrient levels. Hemoglobin-bearing organisms (1.9%) were a small, but significant portion of the assemblage. These results suggest that water quality was impaired by nutrient enrichment and that hypoxia in the sediments cannot be ruled out. In addition, abundant oligochaetes in the subfamily Naidinae (7.2%) and the commonness of chironomids in the genera *Orthocladius* sp. (3.5%) and *Micropsectra* sp. (4.7%) suggest that filamentous algae may have been present, also a possible sign of nutrient enrichment. The MTI (4.69) suggests no impact from metals.

5.3.3.4.2.2 Thermal condition

No cold-stenotherm taxa were found in this sample; however, several warm-water loving taxa (e.g., snails) were present. The thermal preference of the assemblage was 16.7 C.

5.3.3.4.2.3 Sediment deposition

Eleven "clinger" taxa and four caddisfly taxa were recorded from this site. As with site SS06G, the filterers *Cheumatopsyche* sp. and *Hydropsyche* sp. were the only caddisfly taxa that were abundant. The FSBI of 3.51 indicates an assemblage that is moderately tolerant of fine sediment. Thus, hindrance of invertebrate colonization by fine sediment deposition cannot be dismissed.

5.3.3.4.2.4 Habitat diversity and integrity

Only 33 taxa were sampled at this site none of which were stoneflies. These results suggest that both instream and reach-scale habitats were disrupted. Poor water quality could also contribute to reduced taxa richness. Two semivoltine taxa were collected; both of them elmid beetles: *Optioservus* sp. was abundant, whereas *Zaitzevia* sp. (0.6%) was rare. Catastrophic events such as thermal extremes or scour cannot be ruled out in this reach. The functional

composition of the assemblage was dominated by collector-gatherers (27.0%) followed closely by collector-filterers (22.6%) and scrapers (23.0%) suggesting that fine particulate organic matter and autochthonous algal production are both important in the energy flow of this reach. The other functional groups were well represented.

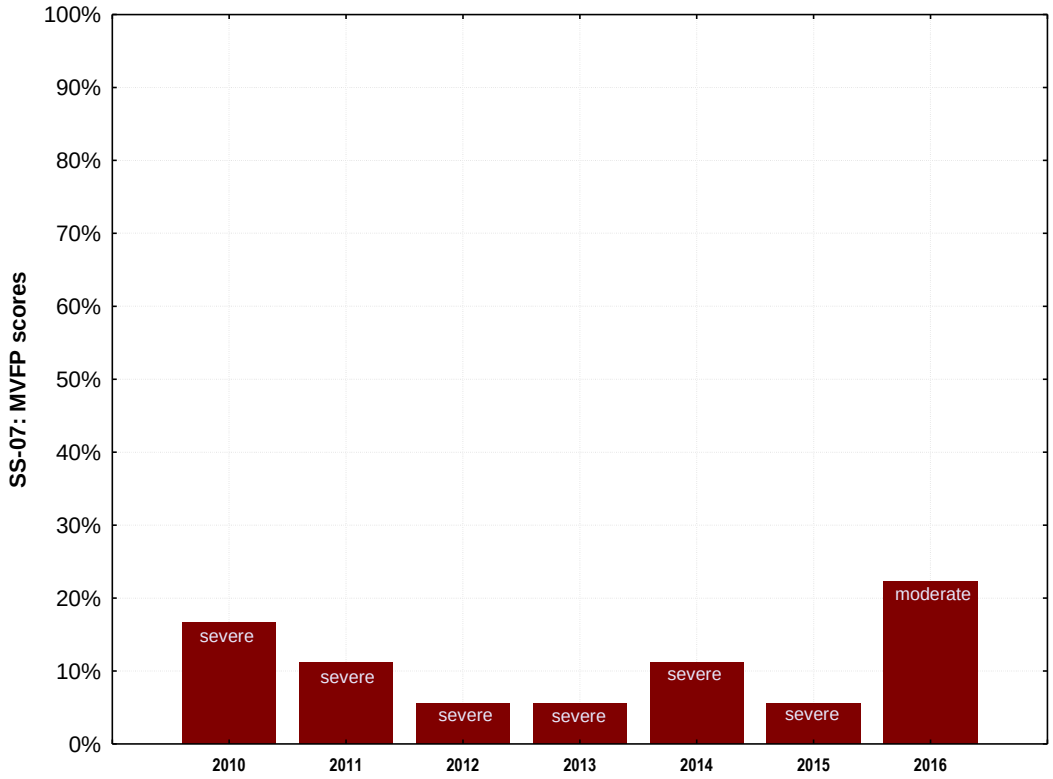

Figure 5-10. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-07. Bars are labeled with impairment classifications.

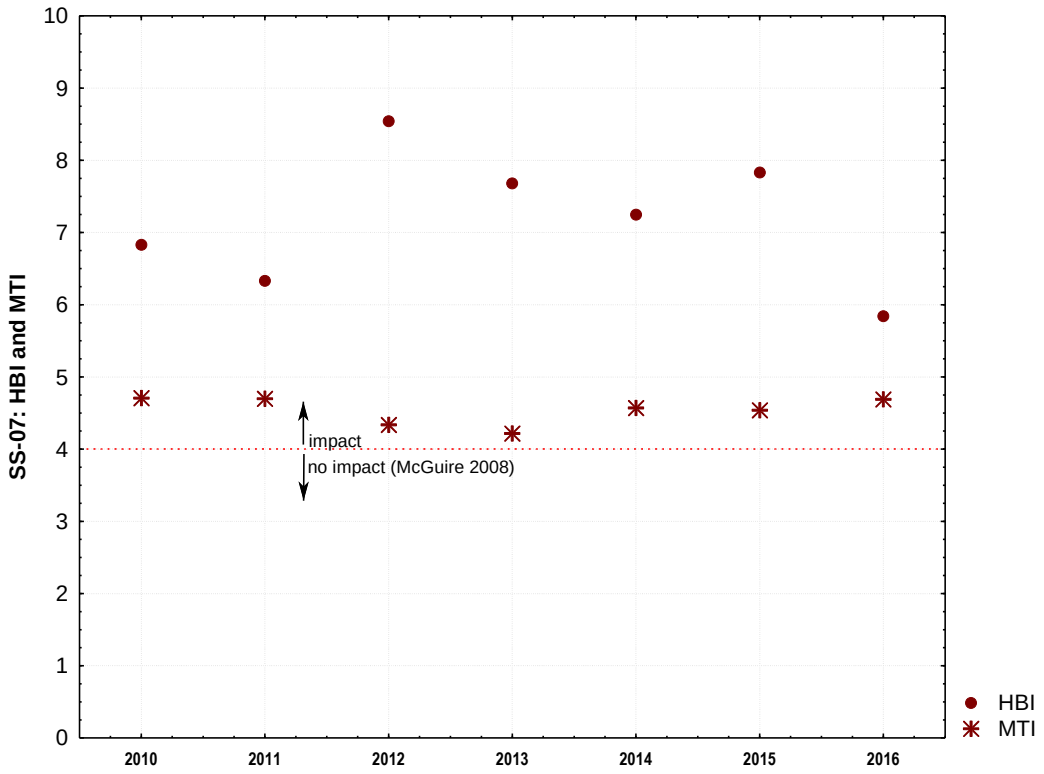

Figure 5-11. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-07. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.5 SS-08: Silver Bow Creek at Rocker

5.3.3.5.1 Comparisons among Years

As in 2014 and 2015, moderate impairment was measured by the MVFP index at site SS-08 in 2016 [Figure 5-12]. According to McGuire's guidance, the MTI indicated slight impairment from metals in 2016. The MTI varied between slight and no impairment in all other years. The HBI indicated mild-to-moderate nutrient enrichment since 2010. HBI and MTI scores are graphed in Figure 5-13.

5.3.3.5.2 2016 Data

5.3.3.5.2.1 Water quality

The very high HBI (6.54), the lack of mayflies and pollution-sensitive taxa as components of the biota, the higher than expected percentage of collector-filterers (17.0%), and the high relative abundance of pollution-tolerant organisms (20.5%) suggest that water quality at this site was severely impaired. A portion of the elevation of the HBI may have been the result of the high relative abundance of mites (e.g., *Hygrobates* sp. (9.3%)) that have high biotic index values that should be considered provisional, as mentioned previously. Non-insects (61.9%) dominated the assemblage at this site. Non-insect taxa included mites (e.g., *Sperchon* sp. (30.8%), the dominant taxon in the sample), leeches in the genera *Erpobdella* (7.7%) and *Helobdella* (1.0%), and oligochaete worms (8.7%). The commonness of naidid worms (4.2%) and midges in the genera *Micropsectra* (2.6%) and *Orthocladius* (2.2%) suggest that large crops of filamentous algae may have been present supporting the contention that nutrient enrichment affected this reach. The MTI (4.32) was below the HBI, thus metals contamination was not likely here.

5.3.3.5.2.2 Thermal condition

Warm-water loving taxa, including the leeches in the genus *Erpobdella* and caddisflies in the genus *Oecetis* (2.2%) were commonly collected from this site. No cold-stenotherm taxa were collected. The temperature preference of the assemblage was 17.3 C.

5.3.3.5.2.3 Sediment deposition

The FSBI (2.35) indicated an assemblage that tolerated the presence of fine sediments. Only three caddisfly and nine "clinger" taxa were collected. These results suggest that the colonization of the stony sediments was impeded by fine sediment at this site.

5.3.3.5.2.4 Habitat diversity and integrity

The sample yielded only 30 taxa, which may be an indication of impaired water quality, disrupted habitats, or both. Stoneflies were not among the taxa collected suggesting that reach-scale habitat features were impaired; however, poor water quality could have limited the colonization of stoneflies as well. Only one long-lived taxon was collect (the elimid *Optioservus* sp. (1.6%)) thus, catastrophes such as toxic pollutants, dewatering, scouring sediment pulses, or thermal extremes may occur here. The functional composition of the assemblage was dominated by predators (59.3%), primarily as a result of the large number of mites in the sample. Collector-

gatherers (15.4%) and collector-filterers (17.0%) were also abundant. These results suggest that the energy flow was dominated by fine particulate organic matter. Scrapers (3.5%) and shredders (4.5%) were underrepresented.

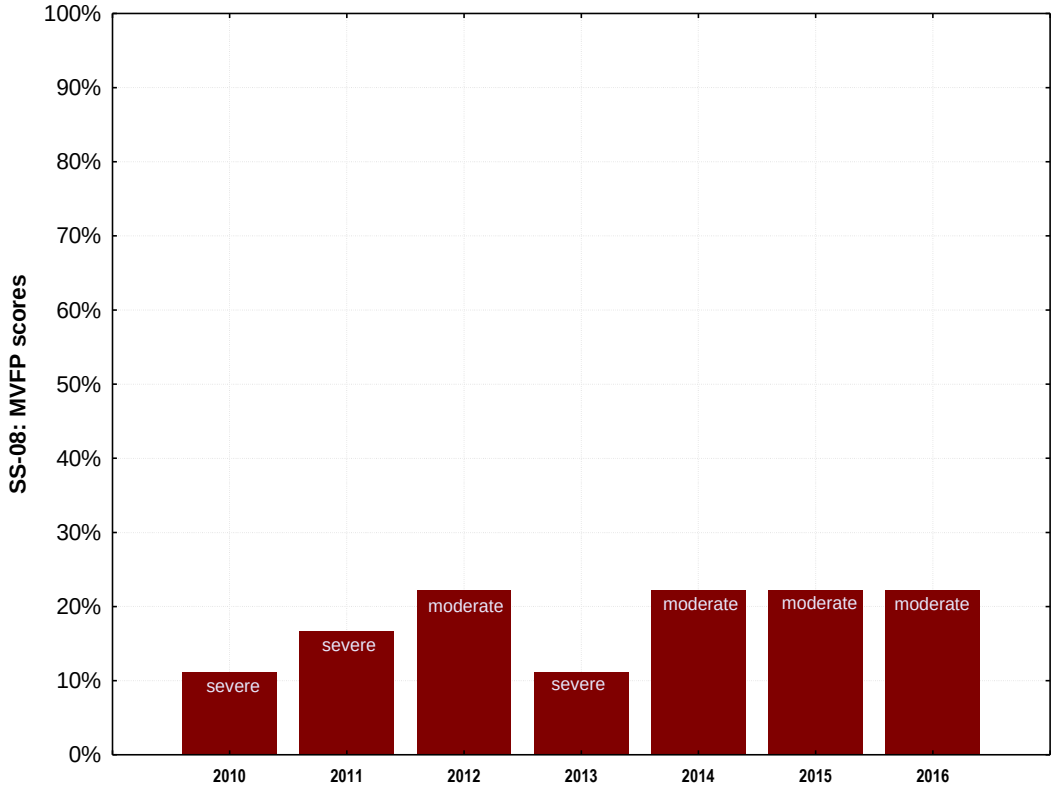

Figure 5-12. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-08 Bars are labeled with impairment classifications.

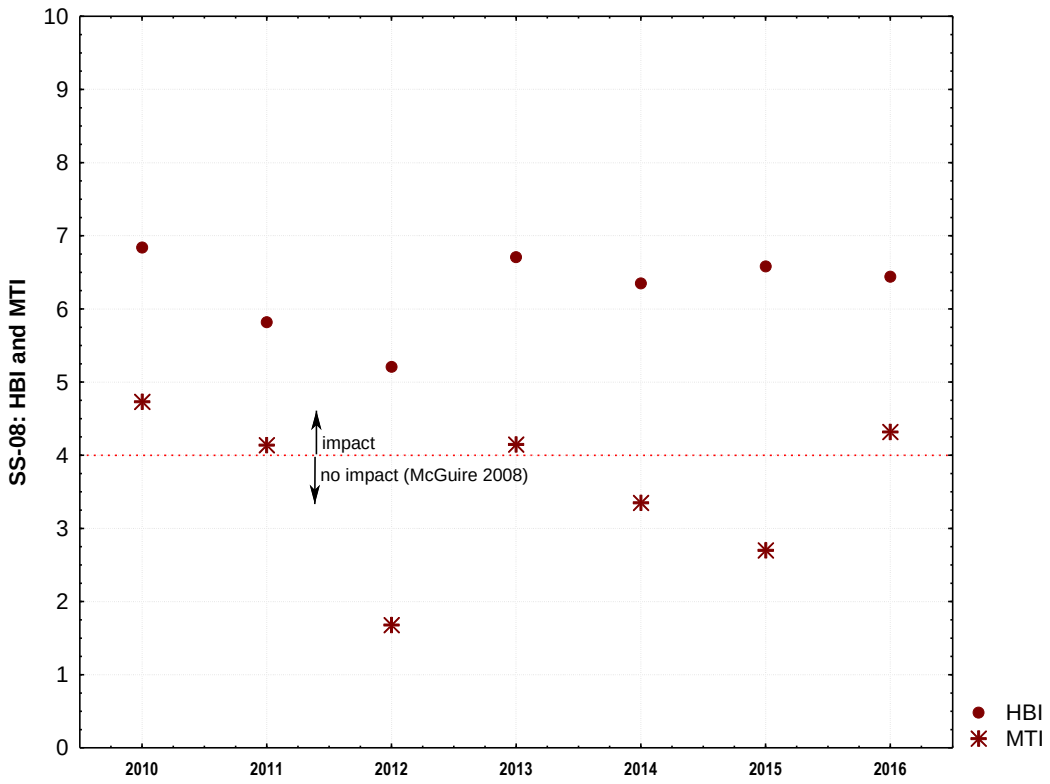

Figure 5-13. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-08. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

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

5.3.3.6.1 Comparisons among Years

Severe impairment was indicated by the MVFP score in 2016. This score was lower than the scores in 2010, 2011, 2014 and 2015, which indicated moderate impairment, but similar to scores in 2012 and 2013 [Figure 5-14]. The MTI value was slightly above McGuire's threshold for impairment by metals in 2016, and the HBI indicated moderate nutrient enrichment since 2010 [Figure 5-15].

5.3.3.6.2 2016 Data

5.3.3.6.2.1 Water quality

Similar to site SS-08 in 2016, neither mayflies nor sensitive taxa were found in the sample from site SS-10A and the composition of the fauna suggests that water quality is impaired. Pollution-tolerant organisms (21.7%), primarily the caddisflies *Cheumatopsyche* sp. (10.7%) and *Oecetis* sp. (5.0%), were a large component of the assemblage. The HBI (6.54) and the percentage of collector-filterers (28.3%) were both elevated above expectations. However as with some of the other sites in 2016, some of the elevation of the HBI could be related to the abundance of mites with high biotic index values (i.e., *Hygrobates* sp. (13.0%)). Thus, water quality appears to be impaired, probably by nutrient enrichment. In support of this contention, filamentous algae (often thought to indicate nutrient enrichment) may have been present as a specimen of a hydroptilid caddisfly was collected and worms in the subfamily Naidinae (5.0%) were common. In addition, hemoglobin-bearing organisms (9.0%), primarily the midges *Microtendipes* sp. (5.0%) and *Cryptochironomus* sp. (2.0%) and the snail *Gyraulus* sp. (1.7%), were common, raising the possibility that hypoxic sediments may occur in this reach. The MTI of 4.39 indicated little potential for metals contamination as it was below the HBI.

5.3.3.6.2.2 Thermal condition

Similar to all but one site in 2016, no cold-stenotherm taxa were found in this sample. Warm-water preferring taxa were present, including leeches in the genus *Helobdella*. In addition, the snails *Stagnicola* sp. (1.3%) and *Gyraulus* sp. (1.7%) were common. The temperature preference of the assemblage was 17.5 C.

5.3.3.6.2.3 Sediment deposition

Both caddisfly taxa richness (3) and "clinger" taxa richness (7) were well below expectations for a low order stream in the Middle Rockies ecoregion. The FSBI of 2.24 suggests that the fauna at this site are extremely sediment-tolerant. Consequently, the data suggest that the deposition of fine sediments could prohibit the colonization of the stony stream bottom here.

5.3.3.6.2.4 Habitat diversity and integrity

Taxa richness was below expectations as only 29 taxa were recorded from this site. Disrupted instream habitats may have contributed to low invertebrate diversity. The absence of stoneflies and semivoltine taxa may be related to reach-scale habitat disturbances and catastrophes like

periodic thermal extremes, scour, dewatering, or toxic pollutants. Poor water quality may also contribute to the low diversity of all of these groups. The functional composition was dominated by predators (50.7%) of which the mites (e.g., *Sperchon* sp. (24.7%) was the dominant organism in the sample) were a large contributor. Collector-filterers (28.3%, primarily the caddisfly *Cheumatopsyche* sp. 10.7%) were the next most common functional group followed by collector-gatherers (11.7%) indicating the importance of fine particulate organic matter to the energy flow in this reach. Other functional groups were not well represented.

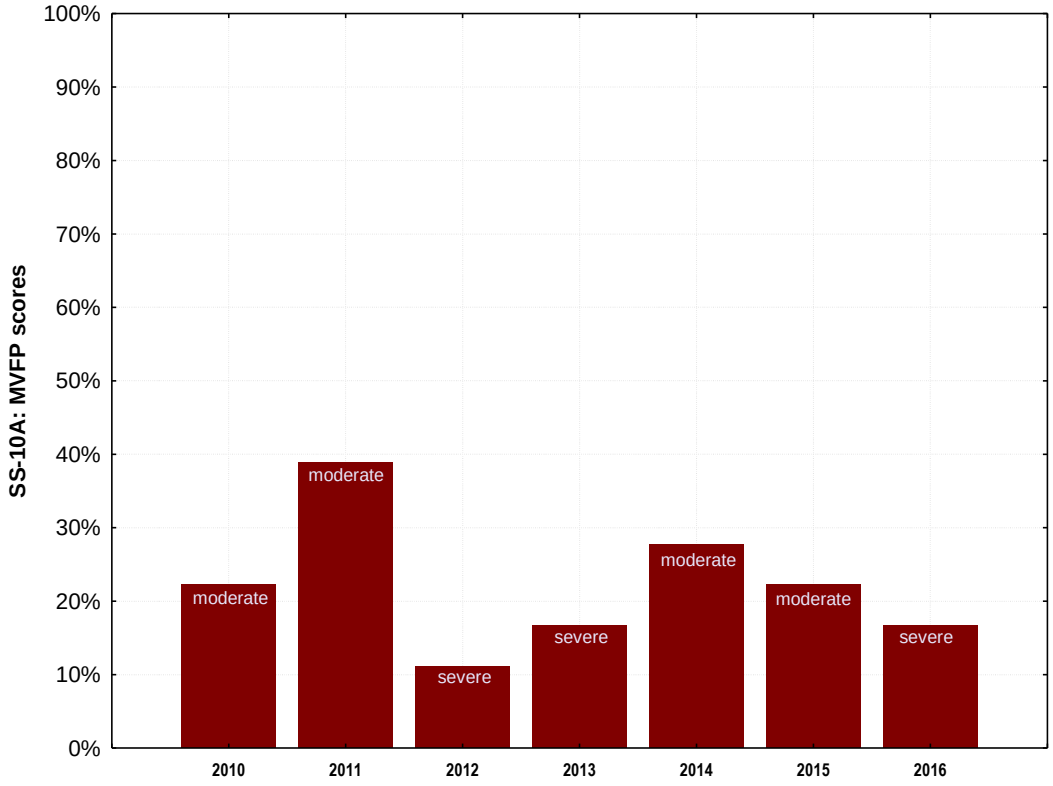

Figure 5-14. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-10A. Bars are labeled with impairment classifications.

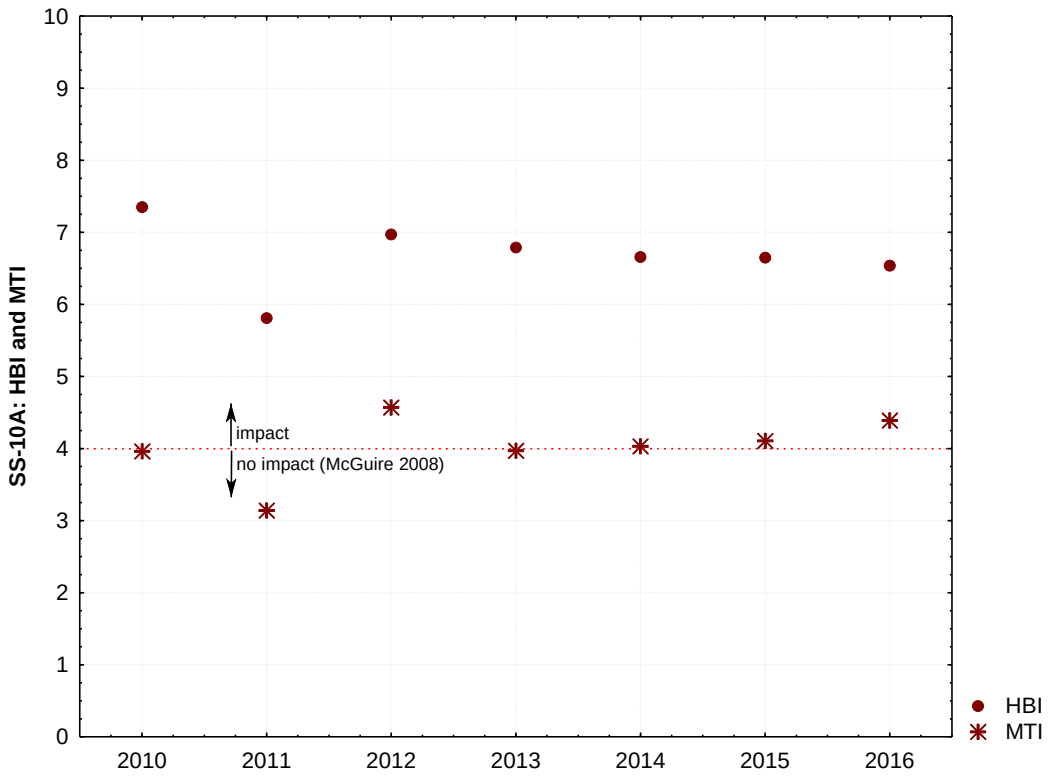

Figure 5-15. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-10A. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.7 SS-10B: Silver Bow Creek below Sand Creek

5.3.3.7.1 Comparisons among Years

Severe impairment was indicated by the MVFP bioassessment score in 2016, which was similar to the score in 2012. Moderate impairment was indicated in all other years since 2010. MVFP scores are graphed in Figure 5-16. According to McGuire's guidance, the MTI indicated no impairment in 2016. MTI values in previous years varied between slight and no impairment [Figure 5-17]. The HBI indicated moderate-to-severe nutrient enrichment since 2010 [Figure 5-17].

5.3.3.7.2 2016 Data

5.3.3.7.2.1 Water quality

The ecological characteristics of the organisms collected in this sample clearly indicate that the water quality of the assemblage may be impaired. Mayfly diversity was extremely low: only one mayfly taxon (*Baetis* sp.), which was represented by only one specimen, was collected. No pollution-sensitive taxa were collected. The assemblage was strongly dominated by pollution-tolerant organisms (60.1%), including the leech *Helobdella stagnalis* (9.7%), the snails *Gyraulus* sp. (14.2%, the dominant organism in the sample) and *Stagnicola* sp. (9.3%), and the filtering caddisfly *Cheumatopsyche* sp. (7.1%). Indeed, non-insects composed >70% of this sample. The percentage of hemoglobin-bearing organisms (14.2%) was high suggesting high biological oxygen demand in the sediments. The very high HBI (7.47) and somewhat elevated percentage of collector-filterers (11.6%) also indicated poor water quality. Thus, the data suggest that nutrient enrichment probably influences the biota at this site. The MTI (3.52) provides little evidence of metals contamination.

5.3.3.7.2.2 Thermal condition

No cold-stenotherm taxa were recorded from this site. The calculated thermal preference (20.0 C) of the assemblage was the highest of all the sites sampled in 2016. As would be expected, warm-water preferring invertebrates were common and included the snails *Stagnicola* sp. and *Gyraulus* sp., leeches, and the caddisfly *Oecetis* sp. (13.8%).

5.3.3.7.2.3 Sediment deposition

Only two caddisfly and two "clinger" taxa were collected from this site: both indicators fell short of expectations. The FSBI (2.09) indicated a sediment tolerant assemblage. Thus, deposition of fine sediment could impede invertebrate colonization of the benthos here.

5.3.3.7.2.4 Habitat diversity and integrity

No stonefly taxa and only 25 taxa overall were found in this sample, consequently, instream and reach-scale habitats might be disturbed, although poor water quality cannot be ruled out as the cause. Only one long-lived taxon, the beetle *Haliplus* sp., was collected here and it was represented by only two individuals (0.6%). The collection of only one semivoltine taxon that was represented by so few specimens suggests that catastrophes like periodic thermal extremes,

scour, dewatering, or toxic pollutants are common enough to not allow complete development of the life cycle of such long-lived organisms. As with some other sites, predators (56.3%) were the most abundant functional group. The abundance of predators can be attributed to the high abundance of leeches and mites. The scrapers (26.4%) were the next most common functional group followed by the collectors (16.1%). Thus, both autochthonous algal production and fine particulate matter appear to be important to the energy flow in this reach. Interestingly, there were no shredders found in this sample. The lack of shredders suggests that little allochthonous material enters from the riparian zone or that if such material does enter it is not retained.

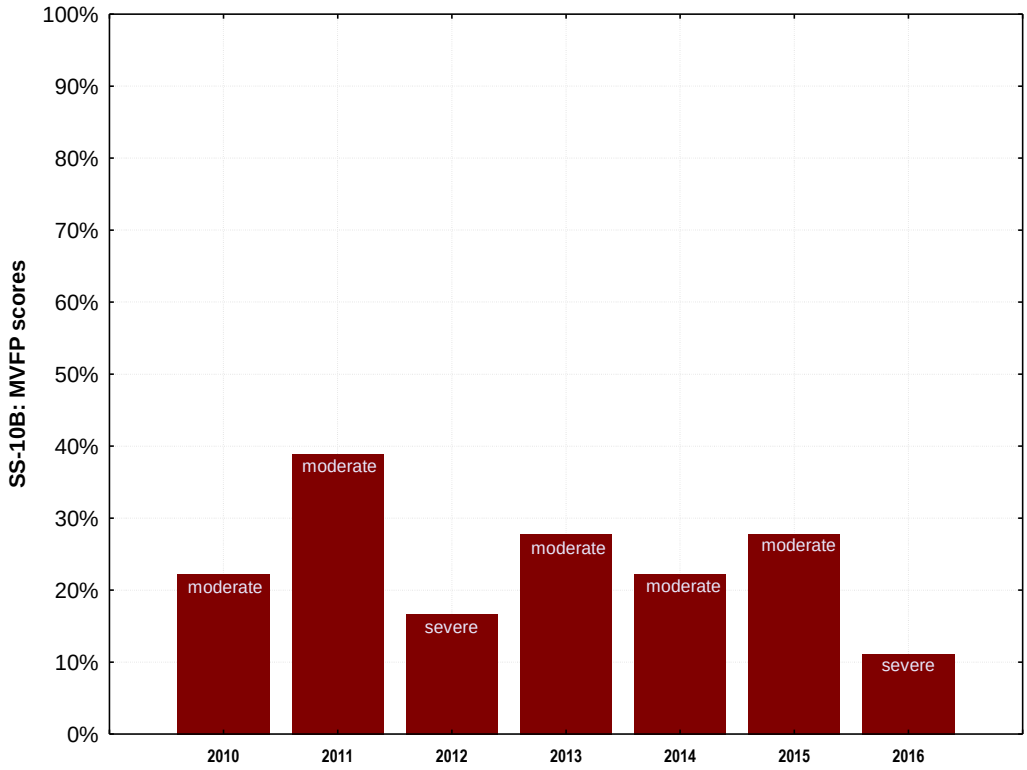

Figure 5-16. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-10B. Bars are labeled with impairment classifications.

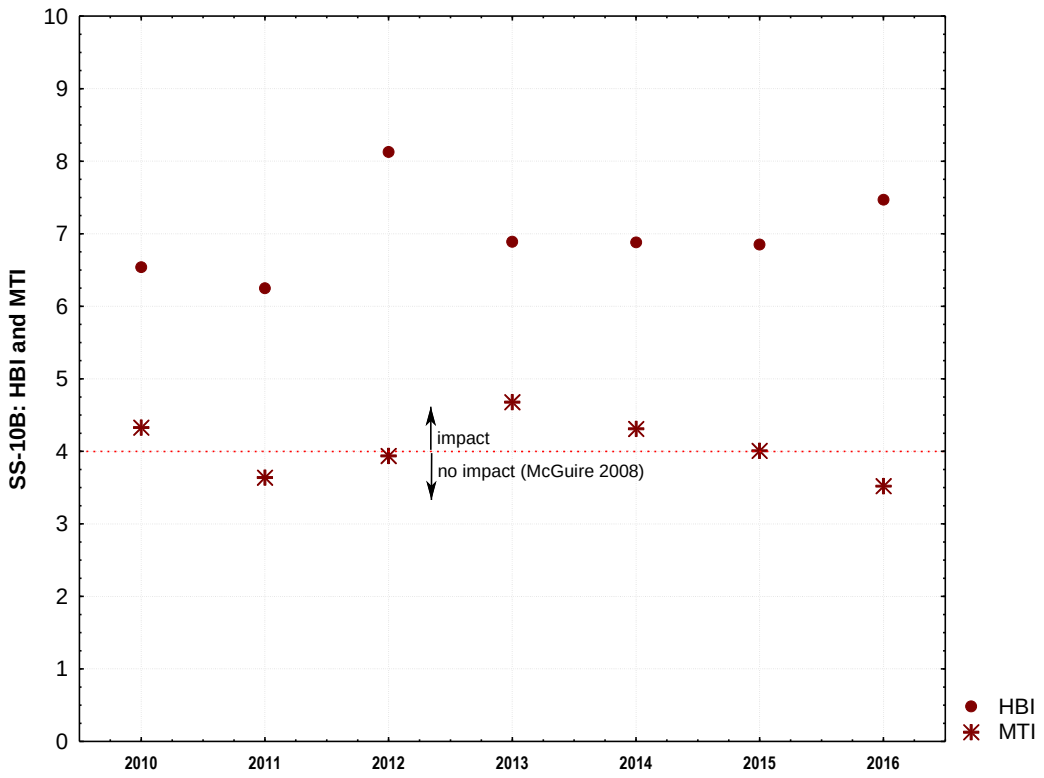

Figure 5-17. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-10B. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

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

5.3.3.8.1 Comparisons among Years

Since 2014, MVFP bioassessment scores [Figure 5-18] have improved slightly at site SS-11C with moderate impairment indicated in 2015 and 2016. In 2016, the MTI was slightly higher than the threshold for impairment, according to McGuire's guidance, and it vacillated between slightly above and below that threshold since 2010. The HBI indicated moderate nutrient enrichment in 2016, which is similar to the mild-to-moderate nutrient enrichment detected since 2010 [Figure 5-19].

5.3.3.8.2 2016 Data

5.3.3.8.2.1 Water quality

In this reach, mayflies were represented by only two specimens (0.6%) in one taxon (*Iswaeon* sp.). No pollution-sensitive taxa were collected and pollution-tolerant organisms (32.5%) were a large component of the fauna. Tolerant taxa included the net-spinning caddisfly *Cheumatopsyche* sp. (22.4%, the dominant taxon in this reach) and the scraping caddisfly *Helicopsyche* sp. (5.1%). The HBI (5.68) suggested mild to moderate impairment. Sediments may be hypoxic in this reach as hemoglobin-bearing organisms (19.6%), primarily the midge *Microtendipes* sp. (18.9%), were a large component of the assemblage. As would be expected given that *Cheumatopsyche* sp. was the dominant taxon and that the relative abundance of *Hydropsyche* sp. (11.0%) was also high, collector-filterers (55.5%) overwhelmed the functional mix. These characteristics support the contention that nutrient enrichment plays a role in the impairment of the fauna at this site. The MTI (4.48) provides little evidence for metals contamination.

5.3.3.8.2.2 Thermal condition

No cold-stenotherm taxa were found in this sample; however, warm-water loving taxa were collected (e.g., *Helicopsyche* sp. 5.1%)). The temperature preference of the assemblage was 17.2 C.

5.3.3.8.2.3 Sediment deposition

Six caddisfly taxa and 10 "clinger" taxa were counted in this sample. An FSBI of 3.02 suggested that the assemblage contained many sediment-tolerant organisms. Thus, some reduction in invertebrate colonization of this reach as the result of the deposition of fine sediments cannot be ruled out.

5.3.3.8.2.4 Habitat diversity and integrity

Overall taxa richness (31) was low, which may reflect monotonous or disrupted instream habitats, poor water quality, or both. The absence of stoneflies may be related to reach-scale disturbances: unstable streambanks, loss of riparian function, or channel alteration are examples of such disturbances. Only three non-pioneer semivoltine taxa were present and they were uncommon (*Brachycentrus occidentalis* (one specimen, 0.3%) *Optioservus* sp. (two

specimens, 0.6%), *Haliplus* sp. (one specimen, 0.3%)). Given these data, catastrophes such as periodic scour, dewatering, thermal stress, or toxic pollutants could have occurred here. Collector-filterers (55.5%) dominated and collector-gatherers (7.6%) were a large component of the functional composition of the assemblage, which suggests that organic material as fine particulates and bacteria in suspension were an important energy source in the reach. Predators (26.5%) were also common primarily a result of the large population of predatory mites, including *Hygrobates* sp. (9.2%) and *Sperchon* sp. (12.6%), suggesting limited sources of energy in the reach. Scrapers (7.3%), mostly *Helicopsyche* sp., were common, whereas shredders (2.2%) were uncommon. Consequently, it appears that algal production contributes somewhat to the energy flow in the reach and litter fall from riparian zones contributes little to the energy flow in the reach.

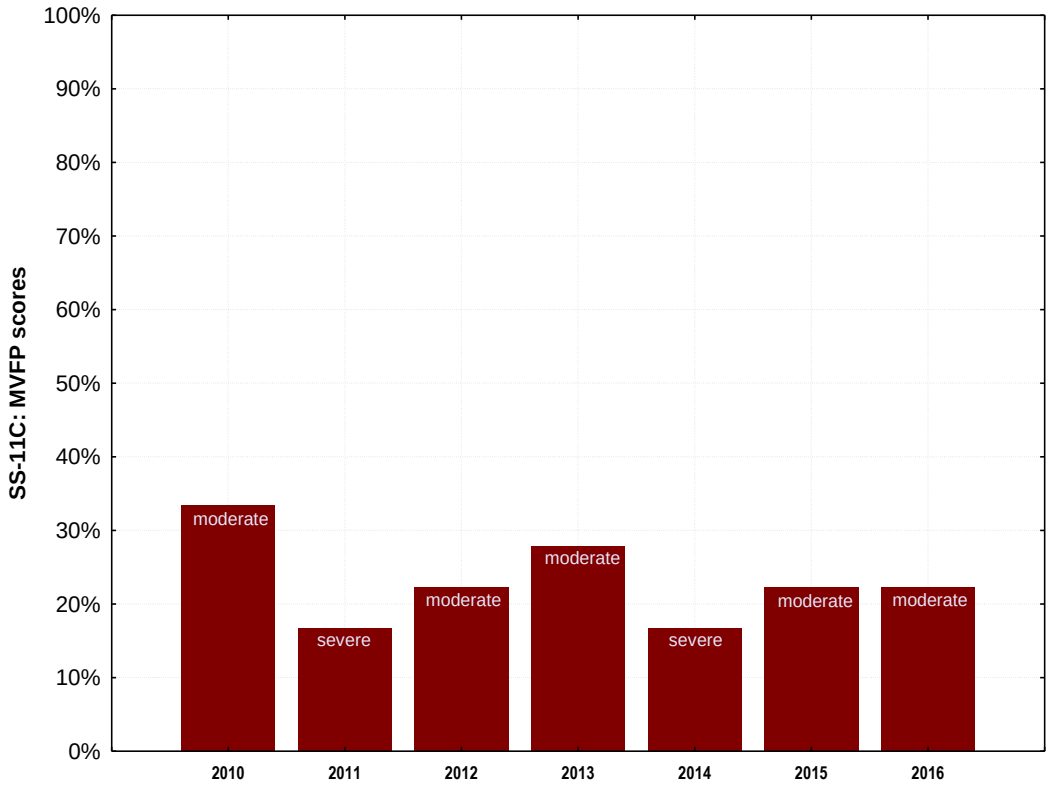

Figure 5-18. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-11C. Bars are labeled with impairment classifications.

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

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

5.3.3.9.1 Comparisons among Years

The MVFP score indicated moderate impairment at site SS-11D in 2016, which is an improvement in score over 2015 and similar to scores in most other years [Figure 5-20]. According to McGuire's guidance, the MTI indicated slight evidence of impairment from metals in 2016, which was similar to 2015, and the HBI indicated mild-to-moderate nutrient enrichment since 2010 [Figure 5-21].

5.3.3.9.2 2016 Data

5.3.3.9.2.1 Water quality

Mayflies were represented by three taxa (more than any of the previous sites); however, none of them were very common (*Baetis tricaudatus* complex (0.9%), *Iswaeon* sp. (1.9%), and *Tricorythodes* sp. (0.3%)). The HBI was 5.41 indicating an assemblage that was somewhat tolerant of organic pollution. The sample contained no sensitive taxa and a very high percentage of pollution tolerant taxa (43.4%). The most abundant pollution tolerant organism was the net-spinning caddisfly *Cheumatopsyche* sp. (22.2%), which was also the most abundant taxon in the sample. Thus, it is not unexpected that the assemblage was dominated by collector-filterers (54.2%), which may also indicate that nutrient enrichment occurs in this reach. In addition, hemoglobin-bearing organisms (18.8%) were abundant and were represented primarily by the midge *Microtendipes* sp. (18.5%). These results suggest that nutrient enrichment and hypoxic sediments may be problems in this reach. There appeared to be little evidence of metals contamination as the MTI (4.34) was lower than the HBI.

5.3.3.9.2.2 Thermal condition

The temperature preference of the assemblage was 17.0 C. No cold-stenotherm taxa were collected. There were also several warm-water loving taxa present including the caddisfly *Helicopsyche* sp. (12.0%).

5.3.3.9.2.3 Sediment deposition

The caddisflies were represented by six taxa (three of which were abundant) and the "clingers" were represented by nine taxa, both lower than expectations. These characteristics as well as an FSBI of 3.03 indicated that limitation of invertebrate colonization by the deposition of fine sediment cannot be dismissed at this site.

5.3.3.9.2.4 Habitat diversity and integrity

Overall taxa richness (30) was low, and may reflect a dearth of instream habitats. No stoneflies were collected, suggesting reach-scale habitat disruption: unstable streambanks, loss of riparian zone integrity, or alteration of natural channel morphology may be indicated. Three long-lived taxa were counted and only one, the elmid beetle *Optioservus* sp., was common (3.7%). Scour, dewatering, toxic pollutants, thermal extremes or other severe events that would prevent the completion of long life cycles cannot be ruled out here. Collector-filterers (54.2%)

overwhelmed the functional groups, suggesting the importance of fine particulate organic matter in the energy flow in this reach. Algal films may also have been important autochthonous energy sources, since the scrapers (17.2%), mostly *Helicopsyche* sp., were also abundant. On the other hand, the dearth of shredders (0.6%) suggested that large organic materials such as leaves and woody debris from riparian sources were very limited or not retained in the reach. Predators (18.2%) were also abundant with the mites *Hygrobates* sp. (6.8%) and *Sperchon* sp. (7.1%) being the most common predators.

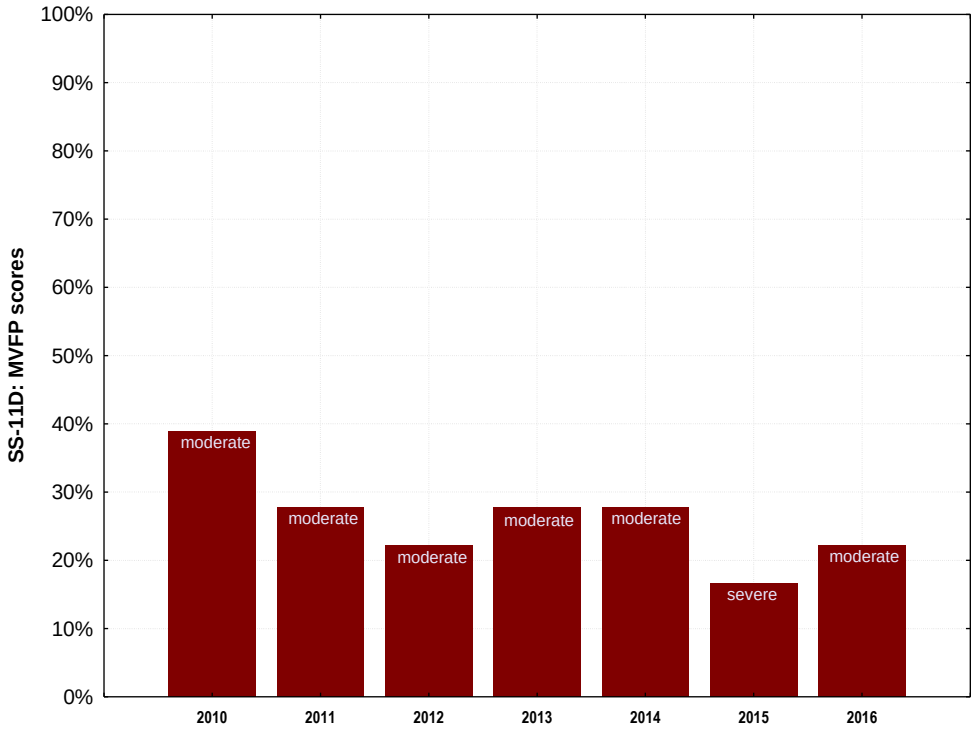

Figure 5-20. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-11D. Bars are labeled with impairment classifications.

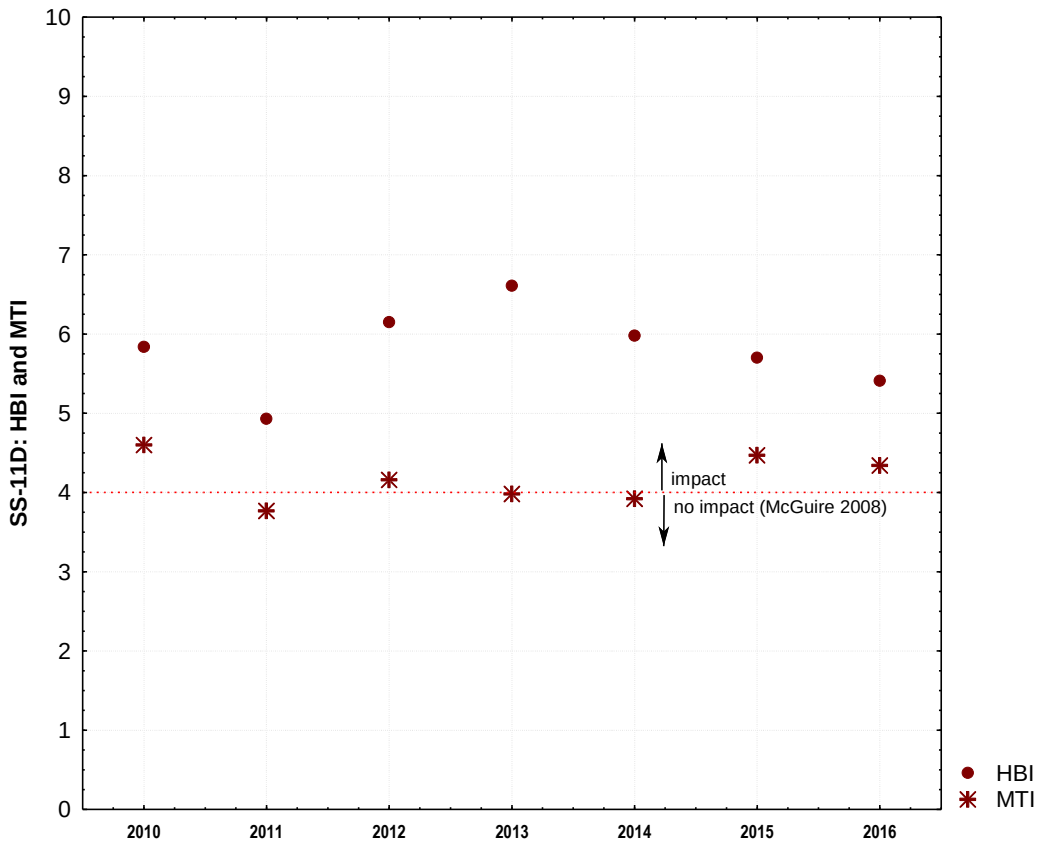

Figure 5-21. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-11D. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.10 SS-13: Silver Bow Creek in Reach L

5.3.3.10.1 Comparisons among Years

MVFP bioassessment index scores continued to indicate moderate impairment at site SS-13 in 2016 [Figure 5-22]; however, the score increased slightly over those recorded since 2013. According to McGuire's guidance, the MTI indicated slight metals contamination in 2016, and the HBI indicated mild-to-moderate nutrient enrichment from 2013 to 2016 [Figure 5-23].

5.3.3.10.2 2016 Data

5.3.3.10.2.1 Water quality

The ubiquitous *Baetis tricaudatus* complex (1.9%) and *Iswaeon* sp. (0.3%) were the only mayfly taxa collected at this site. The HBI was 5.02, which indicated moderate impairment from organic pollution. Collector-filterers, mostly the caddisflies *Hydropsyche* sp. (29.3%, the dominant organism in the sample) and *Cheumatopsyche* sp. (17.3%), composed over 60% of the assemblage. No pollution-sensitive taxa were counted in this sample and pollution-tolerant organisms (29.6%) were very abundant. Hypoxic sediments were suggested because organisms that tolerate low oxygen conditions in the sediments were common (8.5%, mainly the midge *Microtendipes* sp. (7.9%)). Consequently, impairment through nutrient enrichment was suggested in this reach. No metals contamination was indicated by the MTI of 4.45.

5.3.3.10.2.2 Thermal condition

The calculated thermal preference of the assemblage was 16.7 C and no cold-loving taxa were collected from this site. The relative abundance of the scraping caddisfly *Helicopsyche* sp. (10.1%) along with the presence of several other warm-water taxa collected here (especially amphipods and snails) also suggested warm water temperatures.

5.3.3.10.2.3 Sediment deposition

Five caddisfly taxa were found in this sample. Indeed, the filtering collectors *Hydropsyche* sp. and *Cheumatopsyche* sp. and the scraper *Helicopsyche* sp. were the three most abundant taxa in the sample. However, the "clingers" were represented by only nine taxa, which is well below expectations. The FSBI (3.99) indicated a moderately sediment-tolerant fauna. Thus, inhibition of invertebrate colonization of stony substrates by fine sediment cannot be dismissed.

5.3.3.10.2.4 Habitat diversity and integrity

Overall taxa richness (30) was low, suggesting limited instream habitats or poor water quality or both. The absence of stoneflies may also be related to poor water quality, but could also reflect disturbed reach-scale habitat features. There were three semivoltine taxa collected and only *Brachycentrus occidentalis* (2.8%) was common: catastrophes such as toxic pollutants, scour, dewatering, or thermal extremes cannot be ruled out. Collector-filterers (60.4%) were extremely abundant suggesting that fine particulate organic matter and its associated bacteria are important to the energy flow in this reach. Other functional groups were well represented.

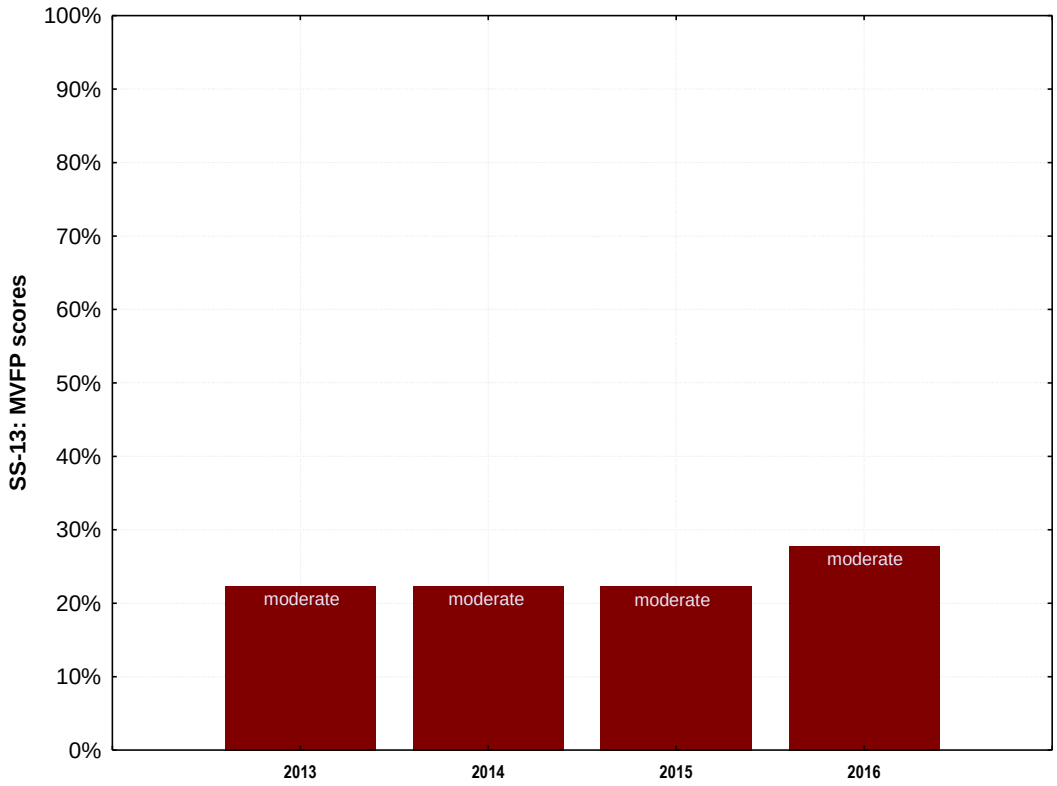

Figure 5-22. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-13. Bars are labeled with impairment classifications.

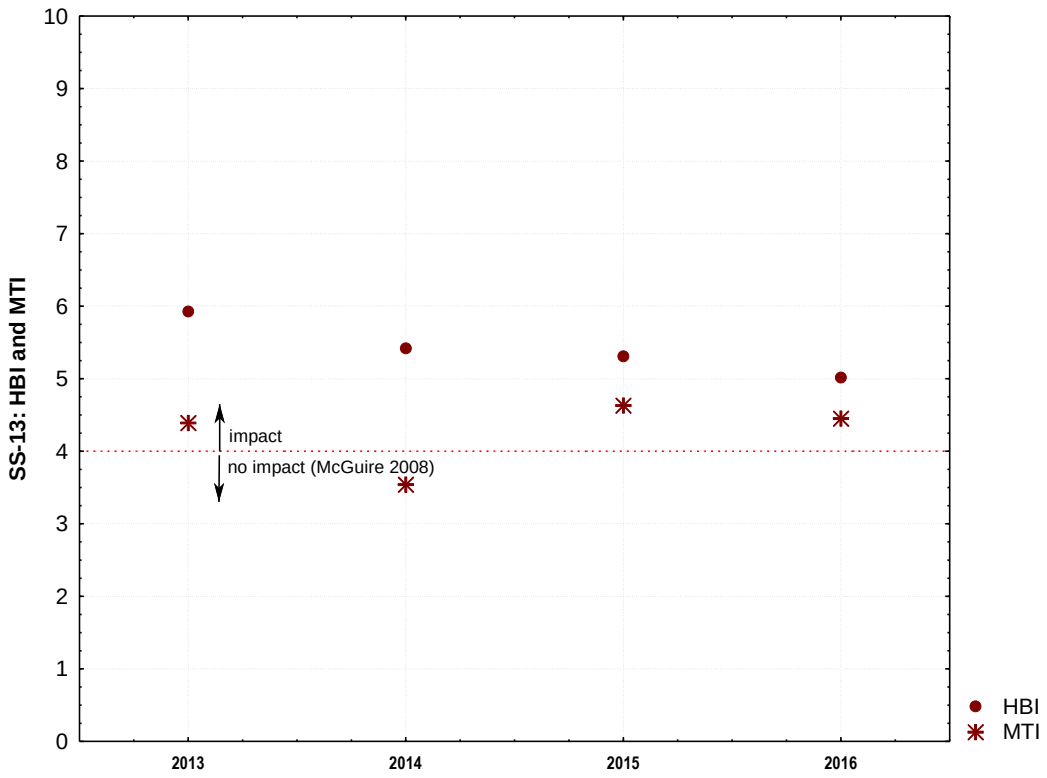

Figure 5-23. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-13. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.11 SS-14: Silver Bow Creek at Miles Crossing

5.3.3.11.1 Comparisons among Years

Since 2010, MVFP scores have consistently indicated moderate impairment at site SS-14, a trend that was continued in 2016 [Figure 5-24]. According to McGuire's guidance, the MTI indicated no metals contamination in 2016. The HBI indicated no impact from nutrient enrichment in 2016, although mild-to-moderate enrichment was indicated in all previous years [Figure 5-25].

5.3.3.11.2 2016 Data

5.3.3.11.2.1 Water quality

Results are mixed as far as water quality is concerned at this site. The HBI was only 3.93, which was within expectations for a low order stream in the Middle Rockies ecoregion and lower than any of the previously discussed sites. However, mayfly taxa richness (3) was below expectations: only *Baetis tricaudatus* complex (2.6%), *Iswaeon* sp. (0.7%), and *Tricorythodes* sp. (1.3%) were collected. No sensitive taxa were counted, pollution-tolerant organisms (27.0%) were a large component of the assemblage, hemoglobin-bearing organisms (6.9%, mostly the midge *Microtendipes* sp.) were common, and collector-filterers (54.6%, mainly *Brachycentrus occidentalis*, 30.3%) dominated the functional mix. Impacts to water quality through nutrient enrichment cannot be dismissed here because most indicators seemed to suggest it. The MTI (3.74) indicated no impact from metals contamination.

5.3.3.11.2.2 Thermal condition

The temperature preference of the assemblage was 17.5 C and the warm-water loving taxon *Helicopsyche* sp. (18.1%) was abundant: other warm-water loving taxa were present (e.g., *Oecetis* sp.). No cold-stenotherms were found in this sample.

5.3.3.11.2.3 Sediment deposition

Five caddisfly taxa, four of which were abundant or common, and nine "clinger" taxa were present in the sample. Consequently, sediment deposition limiting invertebrate colonization of stony substrates cannot be ruled out in this reach. The FSBI (5.39) indicated a moderately sediment-tolerant assemblage.

5.3.3.11.2.4 Habitat diversity and integrity

Low overall taxa richness (30) may have been associated with water quality impairment or limited habitats, or both. Low diversity among the stoneflies may also reflect poor water quality or disrupted reach-scale habitat features, such as unstable streambanks, loss of riparian function, or altered channel morphology. At least four distinct semivoltine taxa were collected: three of them, *Ophiogomphus* sp., *Zaitzevia* sp. and *Optioservus* sp., were uncommon, whereas *Brachycentrus occidentalis* was the dominant organism in the sample. Catastrophes that disrupt the life cycles of long-lived organisms are unlikely here. Collector-filterers (54.6%) followed by scrapers (22.0%) were the most abundant functional groups indicating the

importance of fine particulate organic matter and instream algal production to the energy flow in this system. Shredders (0.7%) were underrepresented and may reflect a lack of riparian inputs to the stream, or the lack of retention of such material.

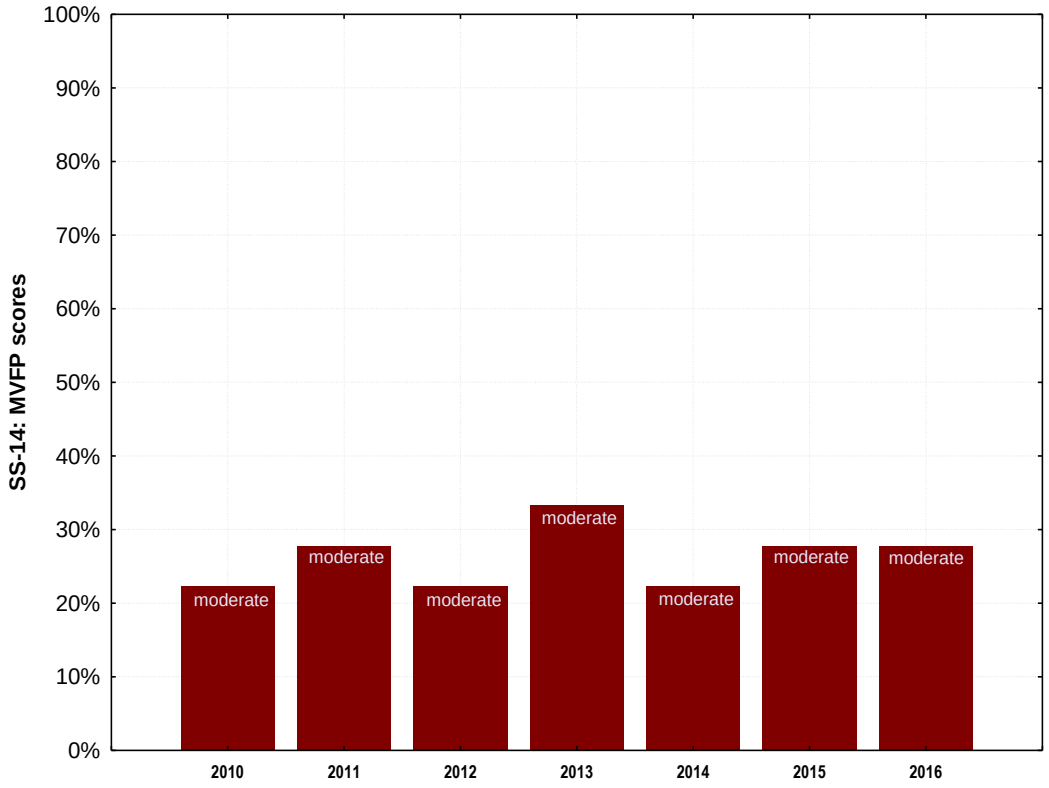

Figure 5-24. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-14. Bars are labeled with impairment classifications.

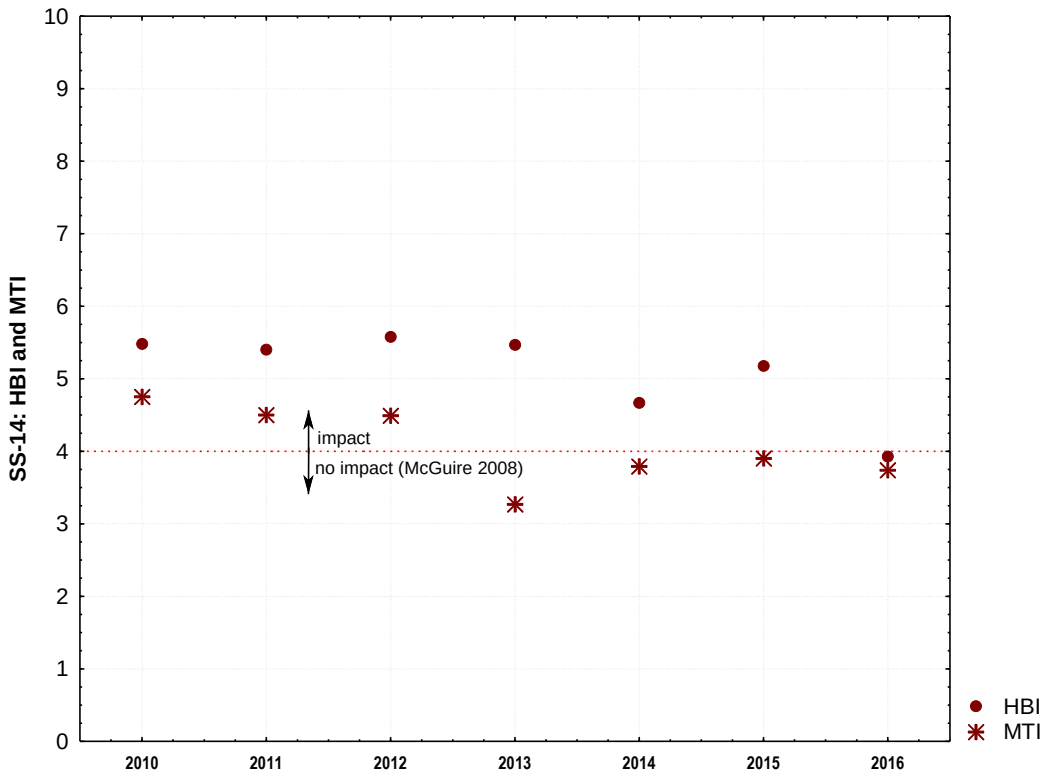

Figure 5-25. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-14. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.12 SS-15A: Silver Bow Creek above German Gulch

5.3.3.12.1 Comparisons among Years

Site SS-15A was moderately impaired in 2016, as measured by the MVFP bioassessment index, suggesting that the site improved from the severe impairment detected in 2015 and returned to conditions similar to those found between 2011 and 2014. Scores since 2010 at this site are graphed in Figure 5-26. However, the HBI increased from 2015 to 2016, indicating slight nutrient enrichment in 2016 [Figure 5-27]. According to McGuire's guidance, the MTI indicated no impairment from metals in both 2015 and 2016, which is an improvement over all previously sampled years.

5.3.3.12.2 2016 Data

5.3.3.12.2.1 Water quality

Baetis rhodani Gr. (two specimens, 0.6%) and *Ephemerella* sp. (one specimen, 0.3%) were the only mayfly taxa found in this sample and the HBI (4.47) was slightly elevated over expectations. Collector-filterers (60.4%), mainly the filtering blackfly *Simulium* sp. (49.2%), inundated the functional composition of the assemblage. Thus, water quality seems to be somewhat impaired by nutrient enrichment in this reach. No pollution-sensitive taxa were collected; however, pollution-tolerant organisms composed only 5.4%, and hemoglobin-bearing organisms composed only 1.3% of the invertebrate assemblage. The MTI (3.76) was not indicative of metals pollution. In fact, the metals-intolerant caddisfly *Lepidostoma* sp. (24.9%) was abundant.

5.3.3.12.2.2 Thermal condition

No cold-stenotherm taxa were found in this sample. The temperature preference of the assemblage was 17.2 C. A few warm-water preferring taxa were present (i.e., *Helicopsyche, Oecetis*).

5.3.3.12.2.3 Sediment deposition

Six caddisfly taxa and 10 "clinger" taxa were counted. Thus, limitation of colonization of stony sediments by the deposition of fine sediments cannot be dismissed. This result was supported by an FSBI value (3.05) that indicated a sediment-tolerant assemblage.

5.3.3.12.2.4 Habitat diversity and integrity

The overall taxa richness (23) was lower than expected for a low-to-mid order stream in the Middle Rockies ecoregion and no stoneflies were collected. Low overall diversity and the absence of stoneflies may be related to poor water quality or to depauperate instream habitats and disrupted reach-scale habitat features, or both. Long-lived taxa (2, *Brachycentrus occidentalis* and *Optioservus* sp.) were poorly represented: catastrophic scour, thermal extremes, dewatering, or toxic pollutants may stress the fauna here. Filterers (60.4%) strongly dominated the functional composition of the assemblage. Unlike any of the previously discussed sites, shredders (25.6%) were also abundant. It seems likely that both allochthonous fine and coarse

organic particulate matter, probably a result of algal decomposition in upstream reaches and litter-fall from stream side vegetation, were important energy sources here. Other functional groups were well represented.

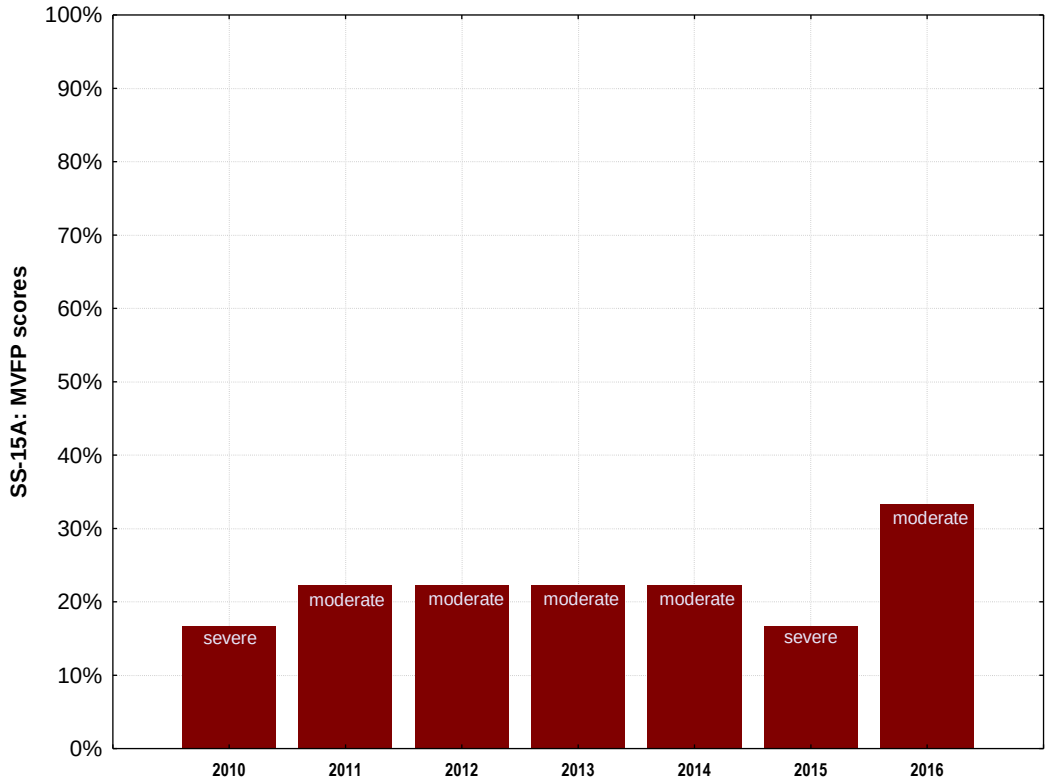

Figure 5-26. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-15A. Bars are labeled with impairment classifications.

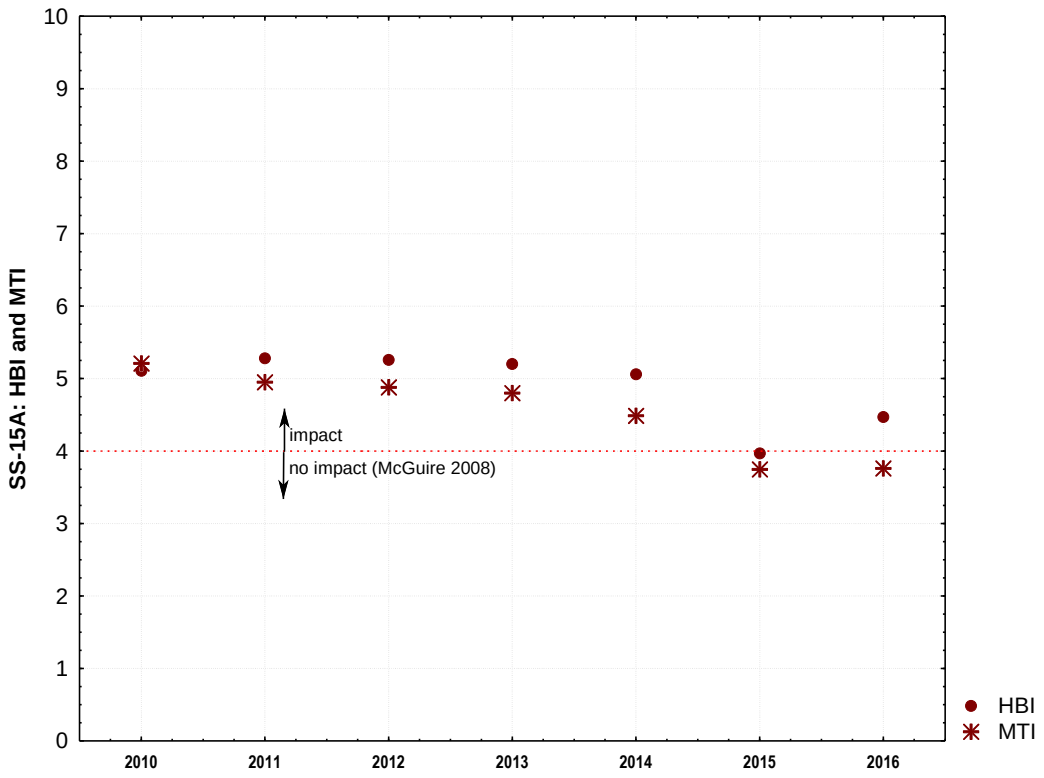

Figure 5-27. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-15A. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

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

5.3.3.13.1 Comparisons among Years

The MVFP score indicated moderate impairment in 2016 at site SS-15B and scores have remained relatively stable since 2014 [Figure 5-28]. Both the MTI (according to McGuire's guidance) and HBI indicated no impairment in 2016 [Figure 5-29]. Both metrics continued the trend of consistent improvement in recent years.

5.3.3.13.2 2016 Data

5.3.3.13.2.1 Water quality

As with site SS-14, indicators of the water quality at Silver Bow Creek site below German Gulch site provided mixed results. The site supported only three mayfly taxa (*Baetis rhodani* Gr. 0.3%), *Drunella grandis* (0.6%), and *Tricorythodes* sp. (0.3%) none of which were common. However, the HBI (3.26) indicated an assemblage that was probably not impacted by organic pollution and there were few hemoglobin-bearing organisms (0.6%) in the sample. The percentage of collector-filterers (20.3%) was somewhat above expectations, but they did not overwhelm the functional composition of the assemblage. Thus, most indicators suggest water quality was improved over the previous sites; however, nutrient enrichment cannot be ruled out because of the low mayfly diversity and elevated percentage of filterers. In addition, only one pollution-sensitive taxon (*Drunella grandis*) was collected and the abundance of pollution-tolerant organisms (29.1%) was still high. A low MTI (3.12) and the abundance of the metals intolerant caddisfly *Lepidostoma* sp. (36.9%, the dominant organism in the sample) suggests no evidence for metals contamination.

5.3.3.13.2.2 Thermal condition

No cold-stenotherm taxa were collected and the temperature preference calculated for this assemblage was (16.8 C). In addition, a few warm-water loving taxa were collected (e.g., the caddisflies *Helicopsyche* sp. and *Oecetis* sp.).

5.3.3.13.2.3 Sediment deposition

Seven caddisfly taxa, many of which were either common or abundant, and 13 "clinger" taxa were collected from this site indicating that sediment deposition probably did not appreciably limit colonization of stony substrates in this reach. The FSBI (3.38) indicated an assemblage with moderate sediment tolerance.

5.3.3.13.2.4 Habitat diversity and integrity

Taxa richness (29) was lower than expected and the perlid stonefly *Hesperoperla pacifica* was the only stonefly taxon collected although it was common (1.9%, six specimens). Thus, instream habitats may have been monotonous or disrupted and streambanks may be unstable, channel morphology may be altered, or riparian function may be poor. It seems likely that catastrophes that would limit long life cycles were not influential here because five semivoltine taxa were counted in the sampled assemblage. Of the long-lived taxa, the elmid beetle *Optioservus* sp.

(16.9%) was abundant and the caddisfly *Brachycentrus occidentalis* (2.2%) was common. Interestingly, shredders (37.5%), primarily the caddisfly *Lepidostoma* sp., dominated the functional mix. This site had the highest percentage of shredders of all the sites in 2016. In addition, all other functional groups were well represented. These results suggest that autochthonous (algal production within the reach) and allochthonous (fine particulate & coarse particulate matter from sources outside the reach) were all important energy sources here.

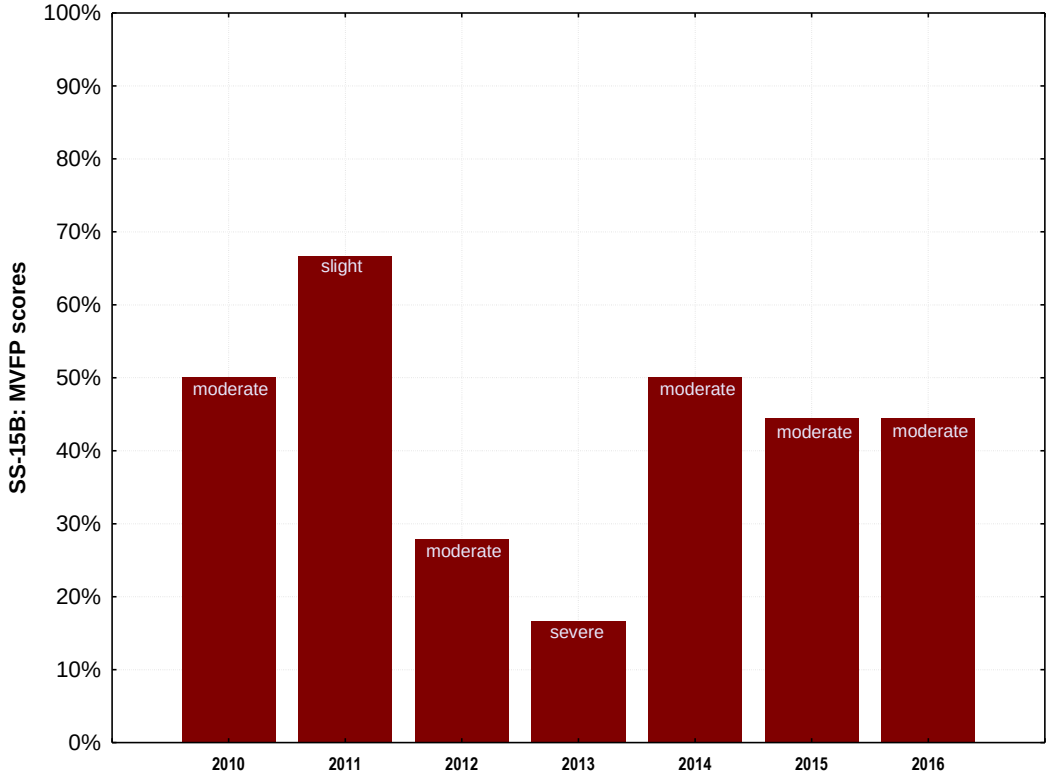

Figure 5-28. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-15B. Bars are labeled with impairment classifications.

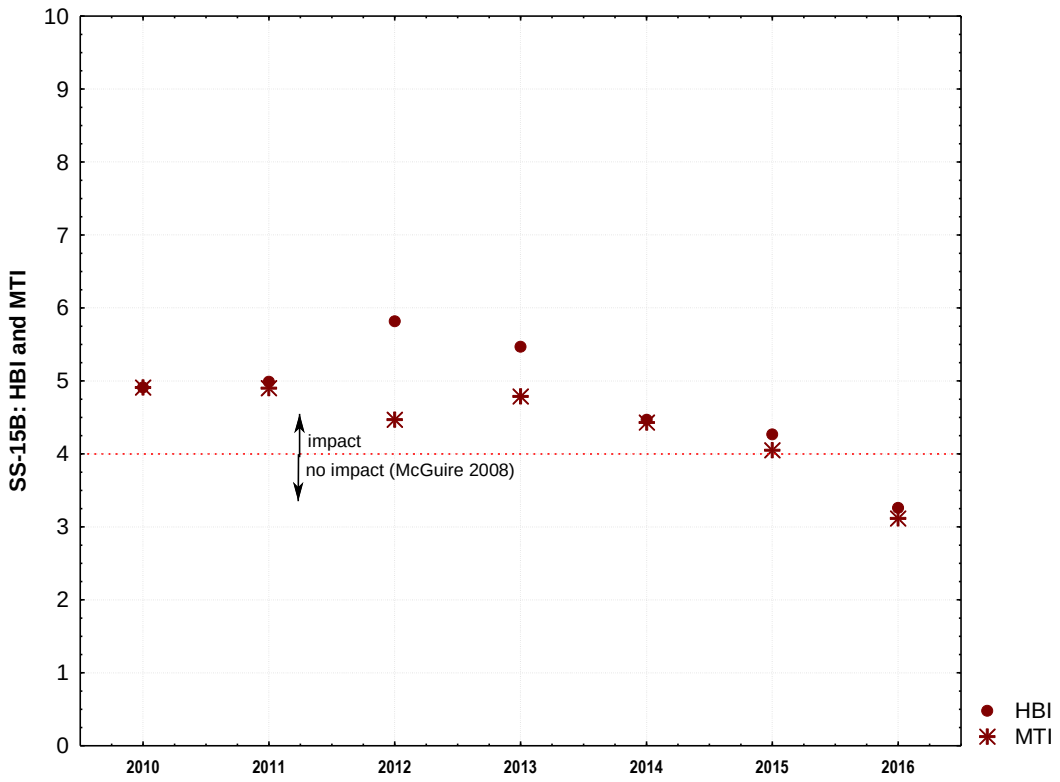

Figure 5-29. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-15B. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.14 SS-15G: German Gulch near Confluence

5.3.3.14.1 Comparisons among Years

Consistent with data beginning in 2013, MVFP scores at site SS-15G continued to indicate slight impairment. Scores are graphed in Figure 5-30. Since 2010, the HBI has consistently indicated no evidence of nutrient enrichment and the MTI, according to McGuire's guidance, has also indicated no evidence of impairment by metals contamination [Figure 5-31].

5.3.3.14.2 2016 Data

5.3.3.14.2.1 Water quality

As in 2015, water quality, although probably slightly impaired, appeared to be the best of any of the sites sampled in 2016. Although still below expectations for a low order stream in the Middle Rockies ecoregion, four mayfly taxa were collected here: the heptageniids *Cinygmula* sp. (6.4%) and *Rhithrogena* sp. (0.3%), the baetid *Baetis rhodani* Gr. (6.4%), and the pollution sensitive ephemerellid *Drunella doddsii* (0.3%). The HBI (2.80) indicated little impact from organic pollution and was also the lowest of any site in 2016. Hemoglobin-bearing organisms (0.3%) were uncommon. Collector-filters (11.2%) made up only a relatively small percentage of the functional composition of the assemblage. Three pollution-sensitive taxa (the mayfly, *Drunella doddsii*; the tipulid, *Rhabdomastix* sp., and the stonefly, *Doroneuria* sp.) were obtained from this sample; however, each were represented by only one specimen. Although pollution-tolerant organisms (6.7%) were common, they made up a relatively small percentage of the assemblage. The MTI (2.63) was the lowest of any site in 2016. This fact combined with the commonness of organisms with demonstrated sensitivity to metals, including the heptageniid mayflies and the caddisfly *Lepidostoma* sp. (21.1%, the dominant organism in the sample), suggest metals did not influence this reach.

5.3.3.14.2.2 Thermal condition

Doroneuria sp. and *Drunella doddsii* were the two cold-stenotherm taxa collected, but each were represented by only one individual. However, no cold-loving taxa occurred at any of the other sites sampled in 2016. Thus, it is not surprising that the temperature preference of this assemblage (13.7 C) was the lowest of any site studied in 2016.

5.3.3.14.2.3 Sediment deposition

Five caddisfly taxa and 16 "clinger" taxa were found in this sample. Consequently, sediment deposition probably did not appreciably limit colonization of stony substrates in this reach. The FSBI (4.24) indicated an assemblage with moderate sediment tolerance.

5.3.3.14.2.4 Habitat diversity and integrity

Overall taxa richness (39) was somewhat lower than expected, which may be related to limited instream habitats. However, all other ecological characteristics indicated little impact to habitat diversity and integrity. Three stonefly taxa were collected and *Zapada cinctipes* (4.5%) and *Hesperoperla pacifica* (6.7%) were common. Thus, it seems likely that reach-scale habitat

features such as streambanks, channel morphology, and riparian zone function were largely intact. Catastrophes that would abort long life cycles were probably not influential here as eight semivoltine taxa were found in this sample and some of them were common (*Arctopsyche* sp. (2.2%), *Heterlimnius corpulentus* (12.1%)). All expected functional components were represented in apparently appropriate proportions with collector-gatherers (35.8%) being the dominant group.

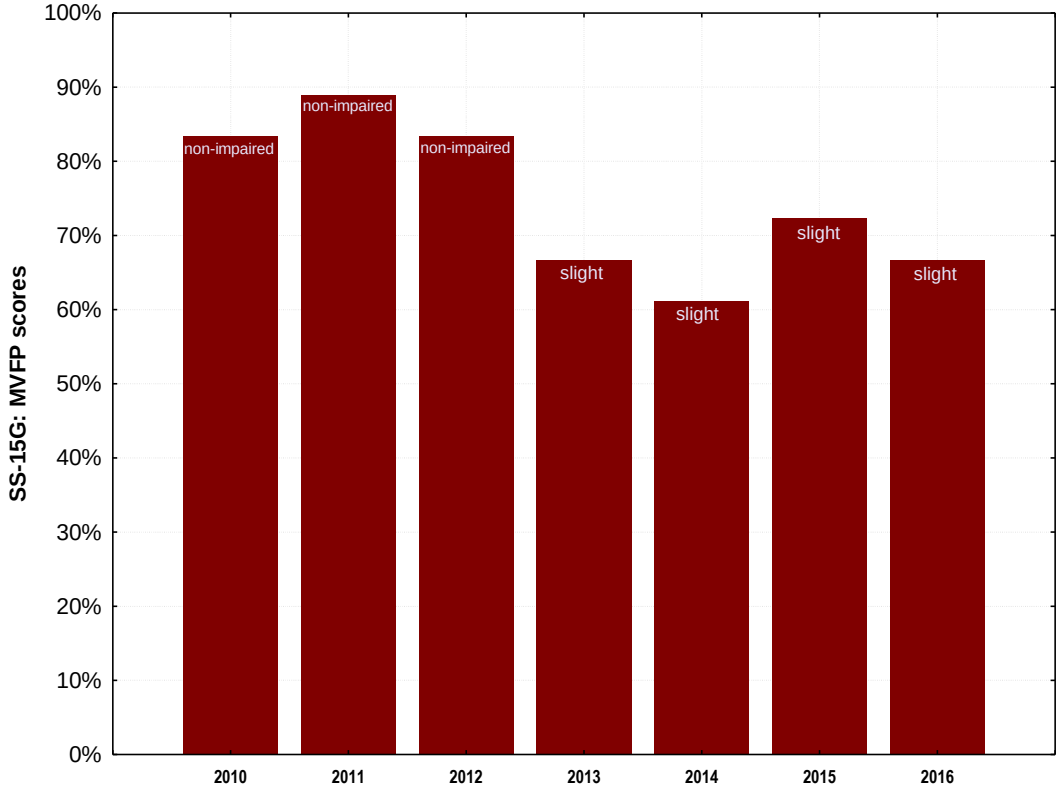

Figure 5-30. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-15G. Bars are labeled with impairment classifications.

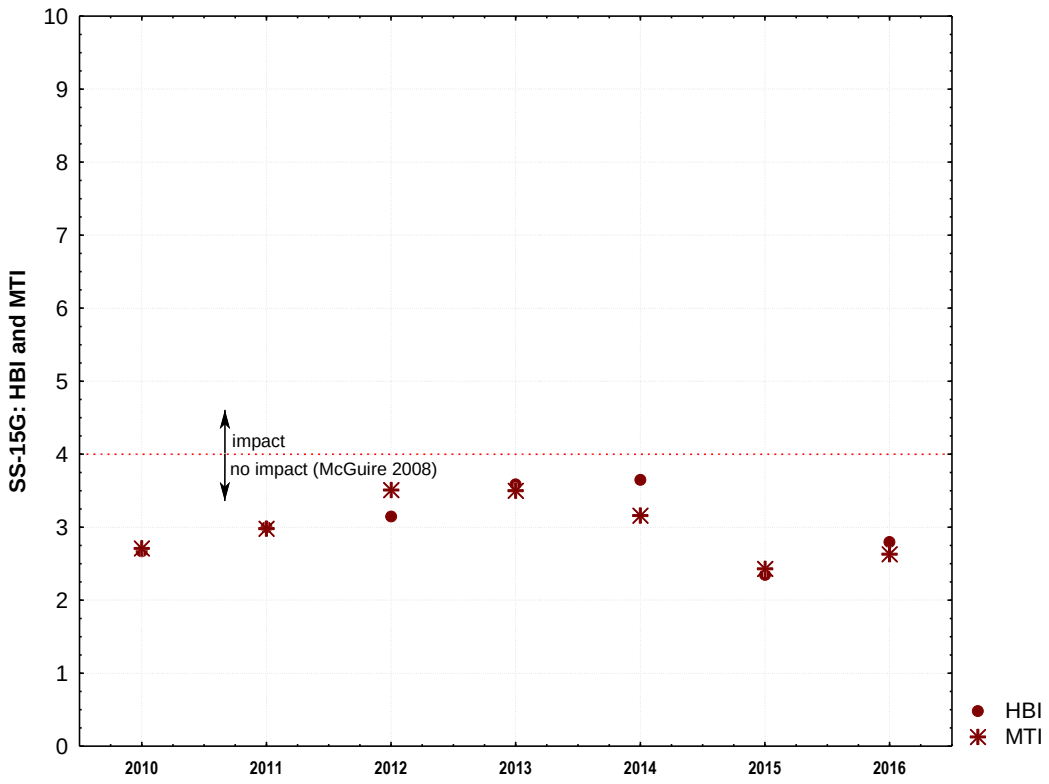

Figure 5-31. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-15G. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

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

5.3.3.15.1 Comparisons among Years

The MVFP index indicated improved conditions at site SS-16B in 2016: this site was rated as severely impaired from 2013 to 2015 and only moderately impaired in 2016 [Figure 5-32]. Both the HBI and MTI (according to McGuire's guidance) metrics have consistently indicated no evidence of impairment by metals contamination or nutrient enrichment at this site [Figure 5-33].

5.3.3.15.2 2016 Data

5.3.3.15.2.1 Water quality

Results were mixed concerning water quality impairment at this site. Mayflies were represented by only two taxa: the ubiquitous *Baetis tricaudatus* complex (2.8%) was common, whereas only one specimen of the pollution sensitive *Drunella grandis* (0.3%) was collected. Collector-filterers (29.1%) and hemoglobin-bearing organisms (2.5%) were also common. However, the HBI (2.92) was low and not indicative of impairment through organic pollution. Given the low number of mayfly taxa, importance of collector-filterers in the functional mix, and the commonness of hemoglobin-bearing organisms in the sample, nutrient enrichment cannot be ruled out in this reach even though the HBI was low. In addition, only one pollution-sensitive taxon, the aforementioned *Drunella grandis*, was collected and the assemblage was dominated by pollution-tolerant organisms (24.8%). The MTI (3.08) was slightly higher than the HBI; however, its low value and the high abundance of *Lepidostoma* sp. (34.4%, the most abundant organism in the sample) suggested metals contamination did not influence this reach.

5.3.3.15.2.2 Thermal condition

The temperature preference calculated for the assemblage at this site was 15.9 C. No cold-stenotherm taxa were found in the sample and organisms that prefer warm water, including the caddisflies *Helicopsyche* sp. (13.3%) and *Brachycentrus occidentalis* (13.3%), were abundant.

5.3.3.15.2.3 Sediment deposition

Six caddisfly taxa and 10 "clinger" taxa were found at this site. An FSBI of 3.08 suggested that the assemblage contained many sediment-tolerant organisms. Thus, some reduction in invertebrate colonization of this reach as the result of the deposition of fine sediments cannot be ruled out.

5.3.3.15.2.4 Habitat diversity and integrity

Overall taxa richness (23) was very low: instream habitats may have been monotonous or disrupted. Similar to many other Silver Bow Creek sites, stoneflies were absent here: this may be related to altered channel morphology, loss of riparian function, or unstable streambanks. There were four long-lived taxa collected here including *Optioservus* sp. (10.5%) and *Brachycentrus occidentalis* that were both abundant. Consequently, catastrophes such as dewatering, scour, toxic pollutants, or thermal extremes were unlikely at this site. Shredders

(34.4%, all *Lepidostoma* sp.) were the dominant functional group and were followed closely in abundance by collector-filterers (29.1%, including *B. occidentalis*) and scrapers (25.4%, including *Helicopsyche* sp.). These results suggest that both autochthonous (instream algal production) and allochthonous (fine and coarse particulate organic matter from upstream and riparian zones) energy sources were important in this reach. Other functional groups occurred in expected proportions

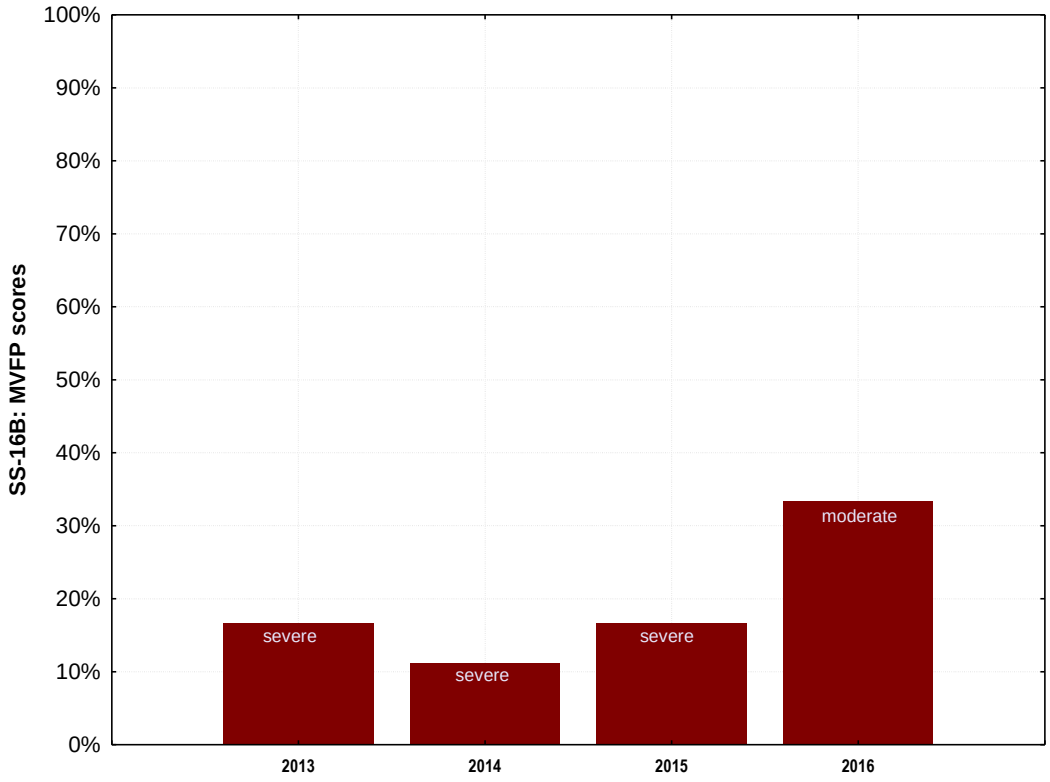

Figure 5-32. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-16B. Bars are labeled with impairment classifications.

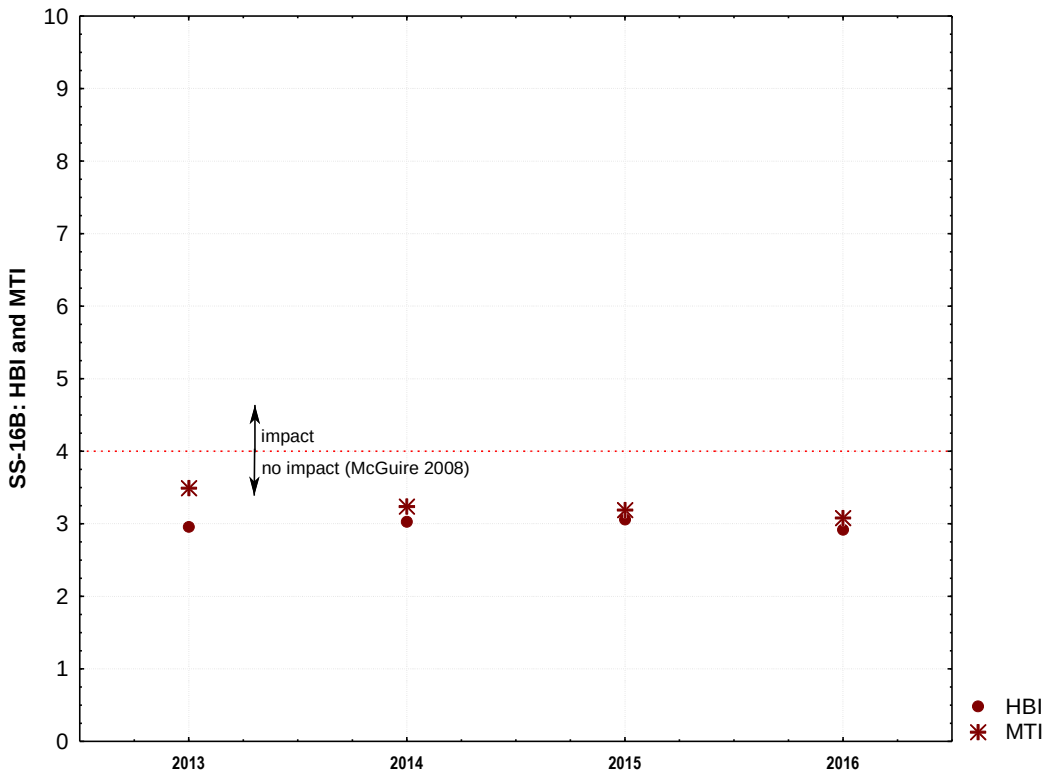

Figure 5-33. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-16B. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

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

5.3.3.16.1 Comparisons among Years

The MVFP indicated moderate impairment at site SS-17D in 2016 and in 6 out of the 7 years the site has been sampled: only in 2012 was the site rated as severely impaired [Figure 5-34]. According to McGuire's guidance, the HBI and MTI metrics indicated no impairment by metals contamination or nutrient enrichment at this site in both 2015 and 2016 [Figure 5-35].

5.3.3.16.2 2016 Data

5.3.3.16.2.1 Water quality

Most indicators of water quality suggest impaired conditions at this site: only one mayfly taxon (*Baetis rhodani* Gr., represented by only two specimens (0.6%)) and no pollution-sensitive taxa were collected, pollution-tolerant organisms (26.7%) were a large component of the assemblage, the hemoglobin-bearing midge *Microtendipes* sp. (4.4%) was common, and collector-filterers (59.3%) overwhelmed the functional composition of the assemblage. The pattern of high abundance of collector-filterers is sometimes interpreted as evidence of nutrient enrichment. The abundance of hemoglobin-bearers suggests that hypoxic sediments cannot be ruled out in

this reach. In contrast, the HBI (3.90) indicated little impact from organic pollution. Given these results, impairment through nutrient enrichment cannot be dismissed at this site. The MTI (3.70) does not indicate impairment by metals, a conclusion that is also supported by the abundance of organisms that are sensitive to metals (i.e., *Lepidostoma* sp. (10.6%)).

5.3.3.16.2.2 Thermal condition

The temperature preference of the assemblage was calculated at 16.9 C. No cold-stenotherm taxa were collected and organisms that prefer warm water, including the caddisflies *Helicopsyche* sp. (18.9%) and *Brachycentrus occidentalis* (21.7%), were abundant.

5.3.3.16.2.3 Sediment deposition

The FSBI value (3.91) indicates a moderately sediment-tolerant assemblage. Five caddisfly taxa (most of which were abundant), but only eight "clinger" taxa were counted, which is below expectations. Limitation of colonization of stony substrate cannot be ruled out in this reach.

5.3.3.16.2.4 Habitat diversity and integrity

Site SS-17D had the lowest taxa richness (16) of any site sampled in 2016 suggesting that instream habitats may be monotonous or disturbed in this reach. One stonefly taxon, the perlodid *Skwala* sp. (0.3%), was found in this sample; however, it was represented by only one specimen. Thus, reach-scale habitat features such as streambanks, channel morphology, or riparian function may have been disturbed. Only two semivoltine taxa occurred in the sample: *Brachycentrus occidentalis* was abundant and *Optioservus* sp. (4.7%) was common. Consequently, catastrophes that interrupted the long life cycles of some organisms cannot be ruled out here. Collector-filterers (59.3%), especially the blackfly *Simulium* sp. (28.9%, the dominant organism in the sample), strongly dominated the functional composition of the assemblage suggesting that fine organic particulates in suspension were an important energy source in the reach. Scrapers (27.0%) were also common suggesting that autochthonous production was also important in this reach. Other functional groups were within expectations.

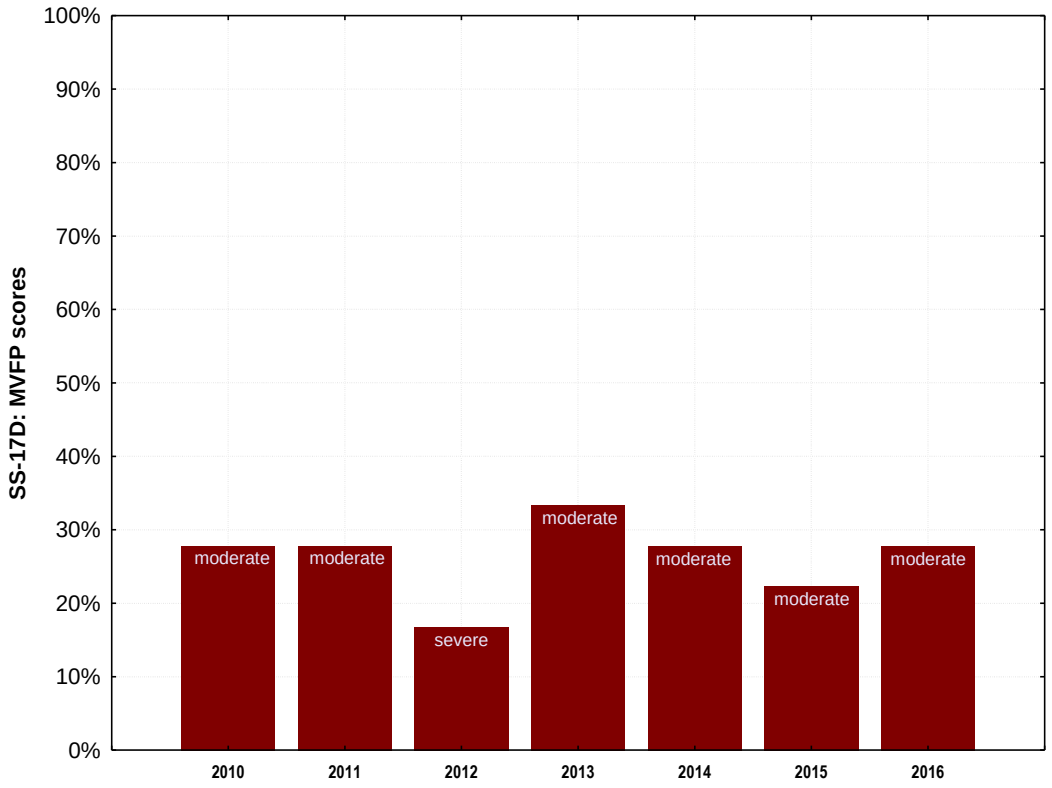

Figure 5-34. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-17D. Bars are labeled with impairment classifications.

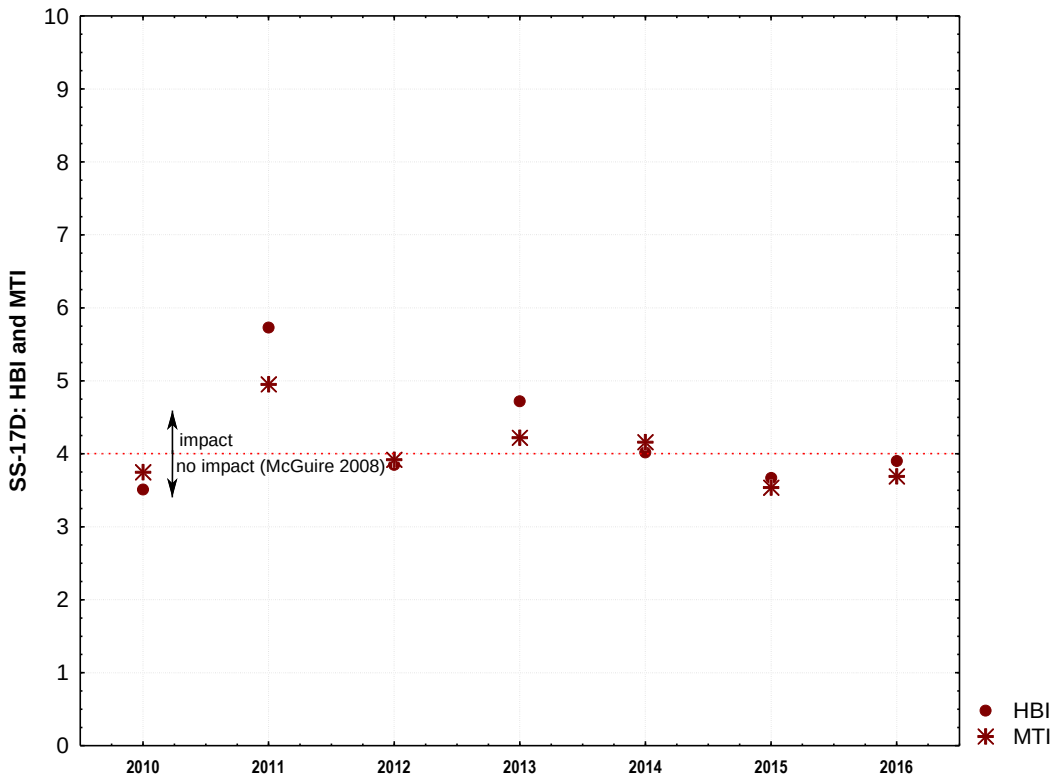

Figure 5-35. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-17D. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.17 SS-19: Silver Bow Creek at Frontage Road

5.3.3.17.1 Comparisons among Years

Moderate impairment continued to be indicated by the MVFP index at site SS-19 in 2016 [Figure 5-36]. According to McGuire's guidance, the MTI metric indicated no evidence of impairment by metals contamination in 2016 [Figure 5-31]. Slight impairment by nutrient enrichment was indicated by the HBI in 2016 [Figure 5-37].

5.3.3.17.2 2016 Data

5.3.3.17.2.1 Water quality

Similar to site SS-17D, only one mayfly taxon, *Baetis rhodani* Gr. (0.3%), represented by only one individual, and no sensitive taxa were found in this sample. The biotic index value (4.39) reflected an assemblage having slight impact from organic pollution. Filter-feeders (42.2%), especially the chironomid *Microtendipes* sp. (30.3%) that was the dominant organism in the sample, and hemoglobin-bearing taxa (30.6%, again mostly *Microtendipes* sp.) were very common in this assemblage. These findings suggest that water quality was impaired through nutrient enrichment and that there was additional stress associated with hypoxic conditions in the sediment. In addition, pollution-tolerant organisms composed 37.2% of the sample. Contamination by metals was not indicated because the MTI (3.43) was lower than the HBI and the caddisfly *Lepidostoma* sp. (8.8%) was common in the sample.

5.3.3.17.2.2 Thermal condition

As with most other sites in 2016, no cold-stenotherm taxa were recorded from this site. The temperature preference of the assemblage was 17.5 C.

5.3.3.17.2.3 Sediment deposition

Five caddisfly and eight "clinger" taxa were found in this sample. The FSBI value (3.91) indicated a moderately sediment-tolerant assemblage. Fine sediment deposition on stony sediments that may negatively influence colonization of macroinvertebrates cannot be dismissed here.

5.3.3.17.2.4 Habitat diversity and integrity

Overall taxa richness (20) was lower than expected. The stonefly *Skwala* sp. was present, but only two individuals were counted. Consequently, monotonous or disturbed instream habitats and unstable streambanks, loss of riparian function, or altered channel morphology are suggested. Catastrophic dewatering, thermal extremes, sediment pulses or toxic inputs cannot be ruled out, because long-lived taxa (2, *Brachycentrus occidentalis* (8.4%) and *Optioservus* sp. (5.3%)) were not diverse although both were abundant. Collector-filterers (42.2%) and scrapers (36.9%) dominated the functional composition of the assemblage suggesting that both fine particulate matter and instream algal production were the dominant energy source in this reach. All other functional groups were found in appropriate proportions.

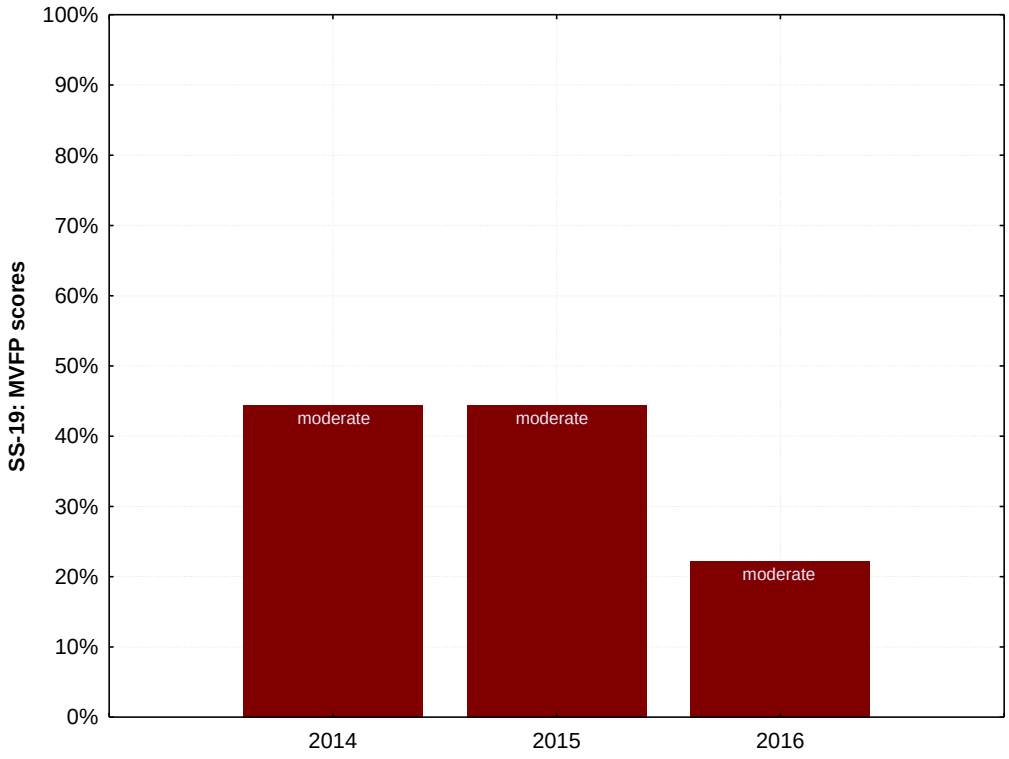

Figure 5-36. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for site SS-19. Bars are labeled with impairment classifications.

Figure 5-37. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for site SS-19. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.4 CONCLUSIONS

Based on the evidence apparent in aquatic invertebrate assemblages, biological integrity was impaired at all sites in this study in 2016. Moderate or severe impairment was generally indicated; however, the fauna at one site (SS-15G) indicated only slight impairment [Table 5-5; Table 5-6; Figure 5-1]. Table 5-7 summarizes the probable stressors judged to be influential, based on the taxonomic composition and attributes (function, tolerance, physiology, habitus, etc.) of organisms identified at each site.

Aquatic invertebrate assemblages generally suggested that at least a portion of the impaired biological integrity indicated at all sites was the result of nutrient enrichment. From the upstream-most reach (SS-01) through Silver Bow Creek in Reach L (SS-13) water quality appeared impaired by nutrient enrichment. There was some indication of nutrient enrichment above Miles Crossing (SS-14D), below German Gulch (SS-15B), and in reach P near Fairmont (SS-16B); however, not all invertebrate indicators suggested nutrient enrichment at these locations. Nutrient enrichment was indicated at three more sites (below German Gulch (SS-15A), below Stewart St Opportunity (SS-17D), and at Frontage Road (SS-19)). Nutrient enrichment was not indicated at German Gulch (SS-15G). In addition, hypoxia was indicated at several sites in this stretch of stream (5 sites from Silver Bow Creek above Sand Creek (SS-10A) through SS-14D and SS-19. There was some suggestion of hypoxia at sites SS-01, SS-05A (above the Butte reduction works), SS-07 (below the Butte water treatment plant), SS-16B and SS-19.

Based on the performance of the metals tolerance index (MTI) and the taxonomic composition of the aquatic invertebrate fauna, the influence of metals contamination was not detected at any site in 2016.

The Fine Sediment Biotic Index (FSBI) indicated sediment-tolerant assemblages at all sites, other evidence in assemblages collected below German Gulch (SS-15B) and at German Gulch near confluence (SS-15G) suggested that colonization of stony substrates was not appreciably affected by deposited sediments.

Only in German Gulch (SS-15G) was the fauna equivocal about whether or not habitat disruption was influential.

Table 5-7. Predicted stressors at each site, based on the taxonomic composition and attributes of biological assemblages.[41]

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

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

6.0 PERIPHYTON

6.1 INTRODUCTION

This chapter describes results of periphyton (benthic algae) monitoring within the Streamside Tailings Operable Unit (SSTOU) of the Silver Bow Creek/Butte Area National Priorities List site in 2016. A total of 17 sites were sampled, including 15 sites on the Silver Bow Creek, one site on German Gulch and one site on Blacktail Creek. Periphyton monitoring is one element of the Montana Department of Environmental Quality program for evaluating the influence of remediation on the ecology of Silver Bow Creek.

Periphyton samples were analyzed for non-diatom (soft-bodied) algae, and diatom algae taxonomy and community structure. A suite of analytical metrics was applied to the diatom data to assess the degree of impairment from metals, nutrients, and sediment. These metrics included a stressor-specific tool developed for the Middle Rockies Ecoregion [Teply, 2010] and adopted by MDEQ as a periphyton standard operating procedure for determining the probability of sediment impairment [MDEQ, 2011]. In addition, a variety of diatom metrics developed for Montana mountain streams were used [Bahls, 1993; Teply and Bahls, 2005] which are based on autecological preferences or requirements of freshwater diatoms [Lowe, 1974; Van Dam et al., 1994; Bahls, 2006].

Potential water quality or habitat stressors at each site, indicated by the taxonomic and functional composition of the algal flora, are described in a series of site-specific narratives.

6.2 METHODS

6.2.1 Sampling

In September 2016, the periphyton community was sampled at fifteen sites on Silver Bow Creek, one site on German Gulch, and one site on Blacktail Creek [Table 6-1]. Project staff collected periphyton samples on September 14-15, 2016. One composite periphyton sample was collected from multiple substrates and habitat types at each monitoring site. Periphyton samples were collected following the MDEQ PERI-1 method for flowing streams where a defined reach has not been established [MDEQ, 2012c]. Periphyton samples were preserved in the field with Lugols IKI solution and were transported to the laboratory on ice.

Table 6-1. Periphyton sampling locations in the Streamside Tailings Operable Unit, 2016.

Site ID	Site Location	Location (GPS coordinates, NAD 83)	
		Latitude	Longitude
SS-01	Blacktail Creek at Father Sheehan Park	45.98532	-112.50772
SS-05A	Silver Bow Creek above Butte Reduction Works	45.99653	-112.54343
SS-06G	Silver Bow Creek above Butte WWTP	45.99648	-112.56316
SS-07[42]	Silver Bow Creek below Butte WWTP	45.99679	-112.56470
SS-08	Silver Bow Creek at Rocker	46.00167	-112.60490
SS-10A	Silver Bow Creek above Sand Creek	46.00375	-112.66084
SS-10B	Silver Bow Creek below Sand Creek	46.00429	-112.66160
SS-11C	Silver Bow Creek above Browns Gulch	46.00336	-112.70172
SS-11D	Silver Bow Creek below Browns Gulch	46.00342	-112.70304
SS-13	Silver Bow Creek in Reach L	46.00647	-112.71394
SS-14	Silver Bow Creek at Miles Crossing	46.01142	-112.72270
SS-15A	Silver Bow Creek above German Gulch	46.02170	-112.78969
SS-15G	German Gulch near confluence	46.02170	-112.79029
SS-15B	Silver Bow Creek below German Gulch	46.02263	-112.79175
SS-16B	Silver Bow Creek in Reach P near Fairmont	46.05494	-112.79611
SS-17D [43]	Silver Bow Creek below Stewart Street at Opportunity	46.10787	-112.80553
SS-19	Silver Bow Creek at Frontage Road	46.12247	-112.80032

6.2.2 Laboratory Analysis

6.2.2.1 Non-Diatom Algae

To prepare samples for analysis of soft-bodied algae, raw periphyton samples were vigorously shaken in the original sample container to homogenize the sample. The contents were then emptied into a porcelain evaporating dish. A small, random subsample of the liquid fraction containing suspended algal material (approximately 3-5 drops) was dispensed onto a welled glass microscope slide using a disposable plastic dropper. Visible (i.e., macroscopic) soft-bodied algae were teased apart and subsampled in proportion to their estimated importance relative to the total volume of algal material in the sample, and this material was added to the liquid fraction on the slide. The assembled subsample was then covered with a 22x30 mm cover slip,

[42] Co-located with USGS streamflow gauge 12323250.

[43] Co-located with USGS streamflow gauge 12323600.

and the completed wet mount was analyzed for soft-bodied algae using an Olympus BHT compound microscope as described below.

The cover slip was scanned at 100X following a set pattern in the approximate shape of an hourglass (upper and lower horizontal transects linked by diagonal transects); magnification was increased to 200X or 400X as necessary to resolve detail in smaller specimens. All soft-bodied algae were identified to genus. The relative abundance of each soft-bodied algal genus (and of all diatom genera collectively) was estimated for comparative purposes, according to the following system:

- rare (r): represented by a single occurrence in the subsample;
- occasional (o): represented by multiple occurrences, but infrequently observed;
- common (c): represented by multiple occurrences, regularly observed;
- frequent (f): present in nearly every field of view;
- abundant (a): multiple occurrences in every field of view;
- dominant (d): multiple occurrences in every field of view in abundances beyond practical limits of enumeration.

Soft-bodied genera (and the diatom component) also were ranked numerically according to their estimated contribution to the total algal biovolume present in each sample.

6.2.2.2 Diatom Algae

To prepare samples for diatom analysis, organic matter was oxidized and permanent fixed mounts of cleaned diatom material were prepared. Each raw periphyton sample was vigorously shaken in the original sample container to thoroughly homogenize the material, and a subsample of approximately 20 mL was poured into a 250 mL Pyrex beaker. Each beaker was treated with 30-50 mL of concentrated sulfuric acid (H_2SO_4), and a small quantity of 5% hydrogen peroxide (H_2O_2) and granulated potassium dichromate ($K_2Cr_2O_7$) was added to each beaker. Samples were then covered with a Pyrex watch glass and gently heated to near-boiling for 1-2 hours to completely oxidize all organic matter in the sample. Samples were allowed to cool, and then were topped off with deionized water. The diatom material was allowed to settle for at least eight hours, and the clear supernatant decanted; this process was repeated at least five times to thoroughly flush all traces of oxidants from the diatom material.

Subsample volumes were adjusted to ensure manageable densities of diatom cells in suspension, and a small amount of each sample was dispersed onto clean 22-mm square glass cover slips. The cover slips were air dried, heated to 150 F, and affixed onto standard glass microscope slides with Naphrax mounting medium to create a permanent mount of diatom cells (frustules). To ensure a high quality mount for diatom identification and to make replicates available for archiving, at least two slide mounts were made from each sample; one of the replicates was selected from each sample batch for analysis. An Olympus BHT compound microscope with a SPlan oil immersion objective (1000X total magnification) was used for diatom identifications and counts. A proportional count of 800 diatom valves (400 frustules) was performed along a vertical transect line across the exact center of the fixed cover slip. The starting point on the top edge was determined with the aid of the microscope's stage micrometer

and recorded, and all diatoms observed within a one-field-of-view width were identified and counted. Diatoms were identified to the lowest practical taxonomic level, generally to species.

6.2.3 Data Analysis

6.2.3.1 Non-Diatom Algae Taxonomy

The estimated relative abundance and estimated biovolume rank of each non-diatom algal division were tabulated by site and summarized with stacked histograms to compare results between sites. In addition, all diatom taxa within the division Bacillariophyta were included in one group and compared to each non-diatom algal division for overall biovolume rank,

6.2.3.2 Diatom Algae Taxonomy

Based on the diatom counts in each sample, species richness, Shannon diversity, percent relative abundance, and percent community similarity scores were calculated. Scores for these metrics were tabulated by site and also summarized in histograms.

6.2.3.3 Diatom Bioassessment Indices

6.2.3.3.1 Increaser Taxa

Diatom taxa counts were evaluated to determine the probability of impairment from sediment, nutrients, and metals. Sediment impairment was evaluated by using a list of sediment tolerant diatoms recognized for cold water streams in the Middle Rockies Ecoregion [Teply, 2010]. Sediment increaser taxa identified by Teply [2010] are species with autecological preferences for sediment impaired conditions. To calculate a sediment impairment score at each site, the relative abundance proportion of all identified sediment increaser taxa was combined. If the relative abundance of all combined sediment increaser taxa exceeded 15.34% the site was considered "sediment impaired". In addition, the relative abundance proportion was transformed following recommendations of Teply [2010] to an impairment probability score. Similarly, Teply and Bahls [2005] proposed lists of diatom taxa that would increase in relative abundance in response to impairment from metals or nutrients in Montana mountain streams. Although these bioindices are informative, the nutrient and metals increaser taxa bioindices of Teply and Bahls [2005] were not adopted as standard operating procedures (SOPs) by MDEQ because the likelihood for meeting performance criteria may be low, and because these bioindices may have limited ability to differentiate between specific causes of impairment. The relative abundance proportions and impairment probabilities of the sediment, nutrient, and metals increaser taxa are summarized with histograms.

6.2.3.3.2 Association Metrics

In addition to the increaser taxa bioindices, we have selected seven diatom association metrics to provide additional assessments of environmental quality at these sites [Table 6-2] as well as an evaluation of overall biointegrity at each site. Results of these metrics from each site

were tabulated and sites with impaired conditions have been highlighted. The following paragraphs describe each metric.

Species richness is a common measure of environmental impairment with greater diversity reflecting more heterogeneous environmental conditions whereas low diversity reflects environmental homogeneity potentially due to impairment from a specific stressor such as metal contamination. Bahls [1979] utilized species richness as a measure of diatom biointegrity.

The diversity index [Bahls, 1993] is based on the Shannon diversity index which includes measures of species evenness and species richness and is sensitive to variation in water quality [Bahls, 1993].

The pollution index [Bahls, 1993] synthesizes the three pollution tolerance groups defined by Lange-Bertalot [1979] with diatom autecological profiles described by Lowe [1974] and unpublished Montana diatom data described in Bahls [2006]. Diatom species are assigned on an ordinal scale from 1-3 with a score of 1 corresponding to "most-tolerant", 2 corresponding to "less-tolerant", and 3 corresponding to "sensitive" for tolerance to nutrient enrichment, mineral salts, elevated temperatures, or metal toxicity.

A large number of diatom taxa are motile (i.e., capable of locomotion). The siltation index [Bahls, 1993] is calculated as the total percent abundance of motile diatom taxa which include species belonging to the genera *Navicula, Nitzschia, Surirella* and other closely related taxa. Motility may be an adaptation to siltation, as a mechanism that allows individual diatom cells to avoid inundation by deposited sediment.

The disturbance index [Barbour et al., 1999] considers the percent relative abundance of the diatom *Achnanthidium minutissimum*, which is highly specialized in the post-disturbance recolonization of stream substrates. Elevated numbers may be indicative of recent environmental stress caused by elevated or highly variable stream flows, water velocities, and water temperatures at a site.

In addition to the metrics described [Table 6-2], an overall biointegrity rating was assigned for each SSTOU monitoring site. This rating essentially provides a summary of the seven metrics from Table 6-2 and is determined in a series of steps. First, at each site, scores were assigned for each diatom association metric [Table 6-2] on an ordinal scale: "excellent" = 3, "good" = 2, "fair" = 1, and "poor" = 0. Second, the mean score of those seven metrics at each site was calculated. The mean score of the seven metrics was then used as the overall biointegrity rating on another ordinal scale: "excellent" >2.7, "good" = 1.7-2.7, "fair" = 0.7-1.7, and "poor" <0.7.

Table 6-2. Diatom association metrics to evaluate biological integrity in mountain streams: references range of values, expected response to increasing impairment or natural stress, and criteria for rating levels of biological integrity.

Metric	Biological Integrity				Range	Expected Response	Reference
	Excellent	Good	Fair	Poor			
	Impairment or Stress						
	None	Minor	Moderate	Severe			
	Use Support						
	Full	Full	Partial	None			
Species Richness[44]	>29	20-29	19-10	<10	0-100+	decrease[45]	Bahls, 1979
Diversity Index[46]	>2.99	2.00-2.99	1.00-1.99	<1.00	0-5+	decrease[47]	Bahls, 1993
Pollution Index[48]	>2.50	2.01-2.50	1.50-2.00	<1.5	1-3	decrease	Bahls, 1993
Siltation Index[49]	<20.0	20.0-39.9	40.0-59.9	>59.9	0-90+	increase	Bahls, 1993
Disturbance Index[50]	<25.0	25.0-49.9	50.0-74.9	>74.9	0-100	increase	Barbour et al., 1999
Dominant Species (%)[51]	<25.0	25.0-49.9	50.0-74.9	>74.9	~5-100	increase	Barbour et al., 1999
Abnormal Valves (%)[52]	0	>0.0, <3.0	3.0-9.9	>9.9	0-30+	increase	McFarland et al., 1997

6.2.3.3.3 Additional Association Metrics

Van Dam et al. [1994] developed specific metrics to evaluate the response of periphyton assemblages to nutrient enrichment. Three of these nutrient enrichment metrics have been applied to the diatom count data from the SSTOU and these results are summarized in histograms. First, the degree to which the diatom assemblage had been structured by variation in trophic state from nutrient enrichment was determined by assessment of the percent relative abundance of diatom taxa which are tolerant of nutrient enriched conditions.

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[44] Based on a proportional count of 400 cells (800 valves).

[45] May increase somewhat in mountain streams in response to slight to moderate increases in nutrients or sediment

[46] Base 2 [bits].

[47] May increase somewhat in mountain streams in response to slight to moderate increases in nutrients or sediment

[48] Composite numeric expression of the pollution tolerances assigned by Lange-Bertalot [1979] to the common diatom species.

[49] Sum of the percent abundances of all species in the genera Navicula, Nitzschia and Surirella.

[50] Percent abundance of *Achnanthidium minutissimum* (synonym: *Achnanthes minutissima*).

[51] Percent abundance of the species with the largest number of valves in the proportional count.

[52] Valves with an irregular outline, with abnormal ornamentation, or both.

Second, the degree to which the diatom assemblage had been structured by metabolic nitrogen processes, which determines the degree of organic nitrogen tolerance for those organisms, was evaluated by the percent relative abundance of diatom taxa tolerant of enriched organic nitrogen conditions. Enrichment by organically-derived nitrogen compounds can influence the composition of the algal community. Diatoms exhibit a broad range of tolerance to organic nitrogen. Most diatoms are nitrogen autotrophs that are unable to directly utilize organic nitrogen, and for these organisms elevated nitrogen levels may be toxic. Some diatoms are metabolic specialists and are able to directly assimilate organic nitrogen in addition to, or as an alternative to, inorganic nitrogen (i.e., facultative nitrogen heterotrophs). The presence of nitrogen-heterotrophic diatom species does not necessarily indicate elevated organic nitrogen; however, a scarcity of nitrogen-autotrophic diatom species with a low tolerance to organic nitrogen, relative to more tolerant forms, may indicate the likelihood of organic nitrogen pollution.

Third, the degree to which the diatom assemblage had been structured by hypoxic (low dissolved oxygen concentrations) conditions was determined by assessing the percent abundance of taxa intolerant to elevated biochemical oxygen demand (BOD) and hypoxia. Additionally, the relative abundance of diatoms requiring oligosaprobous to ß-mesosaprobous conditions was assessed. Oligosaprobous to ß-mesosaprobous conditions are low to moderately-low levels of organic matter decomposition, moderately-high to high dissolved oxygen concentrations, and predominantly inorganic forms of nitrogen.

6.2.3.4 Ecological Interpretations

Finally, at each site the diatom assemblage data are interpreted and potential water quality impairments are discussed. These narrative interpretations are based on the taxonomic composition, autecological preferences, and functional organization of non-diatom and diatom components of the periphyton assemblage at each monitoring site

Varying tolerance to inorganic and organic nutrients has been established among non-diatom and diatom algae; some taxa are sensitive to nutrient enrichment, and other taxa are indifferent to, or tolerant of nutrient enrichment [Wehr and Sheath, 2003; Bahls, 2006].

Many soft-bodied algae are sensitive to dissolved metals, particularly copper. Filamentous green algae (Chlorophyta) generally are more sensitive to copper than are colonial (i.e., mat-forming) blue-green algae (Cyanobacteria). Colonial blue-green algae (e.g., *Nostoc* and *Rivularia*) can tolerate metals due to a protective gelatinous mucilage (i.e., slime coating). However, some green algae (e.g., *Cladophora, Mougeotia, Scenedesmus, Stigeoclonium* and *Ulothrix* sp.) have demonstrated high tolerances to dissolved metals.

Diatom assemblages may also indicate metal contamination. Diatom species that increase in abundance in response to heavy metals pollution were identified by Teply and Bahls [2005] and Stoermer and Smol [1999]. Elevated metals can cause teratological growth forms (i.e., abnormalities in cell walls) in diatoms [Falasco et al., 2009].

6.3 RESULTS

6.3.1 Non-Diatom Algae Taxonomy

A total of 23 genera of non-diatom algae representing five algal divisions were identified from the SSTOU and tributary sites monitored in September 2016.

From 3 to 16 genera of non-diatom algae were present at individual sites in 2016 [Table 6-3].

At site SS-01 (Blacktail Creek at Father Sheehan Park), 16 genera of non-diatom algae were identified in September 2016 [Table 6-3; Figure 6-1] which represented the greatest diversity of non-diatom genera of all sites in 2016. The large number of non-diatom genera observed in 2016 at SS-01 was a substantial increase over 2015 (three non-diatom algae genera). Eight of the non-diatom algae genera present at site SS-01 in 2016 were green algae (division Chlorophyta) and six were blue-green algae (division Cyanobacteria) [Table 6-3; Figure 6-1]. Green algae, diatoms and blue-green algae, in that order, contributed most of the algal biovolume at site SS-01 [Figure 6-2]. The filamentous green algae *Cladophora, Oedogonium* and *Spirogyra* and the filamentous blue-green algae *Phormidium* and *Oscillatoria* were the most important (by biovolume rank) non-diatom macroalgae taxa at this headwater tributary to Silver Bow Creek.

Seven genera of non-diatom algae representing two algal divisions were present at site SS-05A (Silver Bow Creek above Butte Reduction Works) [Table 6-3; Figure 6-1]. Five genera of green algae contributed most of the biovolume at site SS-05A [Figure 6-2]. The diatom assemblage, combined with two genera of blue-green algae, contributed about the same amount of estimated biovolume as the green algae [Figure 6-2]. The filamentous green algae *Cladophora* and *Oedogonium* and the filamentous blue-green alga *Phormidium* were the most important (by biovolume rank) non-diatom taxa at SS-05A.

Four genera of non-diatom algae representing two algal divisions were present at site SS-06G (Silver Bow Creek above Butte WWTP) [Table 6-3; Figure 6-1]. Three genera were green algae and contributed about the same biovolume as the diatoms at site SS-06G but no blue-green algae were observed at SS-06G [Figure 6-2]. The filamentous green algae *Cladophora* and *Oedogonium* were the most important non-diatom taxa (by biovolume rank) at SS-06G.

Six genera of non-diatom algae representing three algal divisions were present at site SS-07 (Silver Bow Creek below Butte WWTP) [Table 6-3; Figure 6-1]. Three genera of green algae contributed nearly as much biovolume as the diatoms at site SS-07 whereas two genera of yellow-green algae (division Xanthophyta) together contributed about half as much biovolume as the diatoms [Figure 6-2]. The filamentous green algae *Cladophora,* and *Oedogonium,* and the filamentous yellow-green algae *Tribonema* and *Vaucheria* were the predominant non-diatom genera and the blue-green genus *Heterleibleinia* was relatively unimportant (by biovolume rank) at site SS-07.

Nine genera of non-diatom algae representing three algal divisions were present at site SS-08 (Silver Bow Creek at Rocker) [Table 6-3; Figure 6-1]. Green algae dominated the non-diatom algae at site SS-08 with seven genera and a combined biovolume that was about equal to the biovolume of diatoms, blue-green, and yellow-green algae combined [Figure 6-2]. The filamentous green algae *Oedogonium, Cladophora* and *Stigeoclonium,* and the filamentous yellow-green alga *Vaucheria* were the predominant non-diatom genera at site SS-08 whereas

the lone blue-green alga *Chamaesiphon* was relatively unimportant (by biovolume rank) at SS-08.

Six genera of non-diatom algae were present in samples from sites SS-10A (Silver Bow Creek above Sand Creek) and SS-10B (Silver Bow Creek below Sand Creek) [Table 6-3; Figure 6-1] representing one algal division at site SS-10A and two algal divisions at site SS-10B [Table 6-3; Figure 6-1]. All non-diatom genera at site SS-10A and all but one at SS-10B were green algae [Table 6-3; Figure 6-1]. The three dominant non-diatom algae at site SS-10A and site SS-10B were *Cladophora, Oedogonium* and *Stigeoclonium* [Figure 6-2]. The blue-green alga *Phormidium,* identified only at site SS-10B, was rare.

Six genera of non-diatom algae representing two algal divisions were present at site SS-11C (Silver Bow Creek above Browns Gulch) and five genera representing one division was present at site SS-11D (Silver Bow Creek below Browns Gulch) [Table 6-3; Figure 6-1]. Five genera of green algae and one genus of blue-green algae were present at site SS-11C and five genera of green algae were present at site SS-11D [Table 6-3; Figure 6-1]. The dominant non-diatom algae at site SS-11C and site SS-11D were *Cladophora*, *Oedogonium*, and *Stigeoclonium*. *Cladophora*, *Oedogonium*, and *Stigeoclonium* were the top three taxa in estimated abundance (after the diatoms) at both sites [Figure 6-2]. The blue-green alga *Chamaesiphon*, identified only at SS-11D, was rare.

Six genera of non-diatom algae representing one algal division were present at site SS-13 (Silver Bow Creek in Reach L) [Table 6-3; Figure 6-1]. All six of the genera were green algae including *Cladophora, Oedogonium* and *Stigeoclonium, Cosmarium, Staurastrum*, and *Closterium*. The combined biovolume of the green algae exceeded the biovolume of diatoms at site SS-13 [Figure 6-2].

Six genera of non-diatom algae representing two algal divisions were identified at site SS-14 (Silver Bow Creek at Miles Crossing) [Table 6-3; Figure 6-1]. Four genera of green algae contributed a combined biovolume that exceeded the biovolume of diatoms at site SS-14 [Figure 6-2]. *Cladophora* and *Oedogonium* were the predominant green algae. The desmids *Cosmarium* and *Closterium* and the blue-green algae *Chamaesiphon* and *Oscillatoria* were scarce at site SS-14.

Four genera of non-diatom algae, consisting of green algae, were present at site SS-15A (Silver Bow Creek above German Gulch) and site SS-15B (Silver Bow Creek below German Gulch) [Table 6-3; Figure 6-1]. The diversity of non-diatom algae at both of these sites was substantially higher in 2015 [RESPEC, 2016b] compared to 2016. In 2016, the green algae present at both sites included *Cladophora*, *Oedogonium,* and *Closterium*. The combined biovolume of the green algae exceeded the biovolume of diatom algae at both sites [Figure 6-2]. Blue-green algae were nearly absent from these sites in 2016 [Table 6-3; Figure 6-1].

Six genera of non-diatom algae representing four algal divisions were present at site SS-15G (German Gulch near confluence), including three genera of green algae, one genus of brown algae (division Phaeophyta), and one genus of red algae (division Rhodophyta) [Table 6-3; Figure 6-1]. Taxa included the red alga *Audouinella,* the brown alga *Heribaudiella,* and the green algae *Cladophora* and *Stigeoclonium*, and *Closterium*. Diatom algae contributed more biovolume than the combined green algae genera, or the combined red and brown algae [Figure

6-2]. Blue-green algae were absent from site SS-15G [Table 6-3]. In contrast, the blue-green genera *Nostoc* and *Phormidium* were the most abundant algae at site SS-15G in 2015 and had the greatest estimated biovolume.

Nine genera of non-diatom algae representing two algal divisions were present at site SS-16B (Silver Bow Creek in Reach P near Fairmont) [Table 6-3; Figure 6-1]. Six genera of green algae, including *Cladophora, Oedogonium*, *Stigeoclonium* and *Closterium,* contributed more total algal biovolume than the diatoms at site SS-16B [Figure 6-2]. Three genera of blue-green algae comprised the remainder of non-diatom genera at site SS-16B [Figure 6-1]. The genus *Chamaesiphon,* occurring as an epiphyte on filamentous green algae, was the most common blue-green alga at site SS-16B but *Chamaesiphon* contributed relatively little to the total biovolume [Figure 6-2].

Four genera of non-diatom algae representing two algal divisions were present at site SS-17D (Silver Bow Creek below Stewart Street at Opportunity) including two genera of green algae and two genera of blue-green algae [Table 6-3; Figure 6-1]. The colonial green alga *Protococcus* was the most numerous non-diatom taxon at site SS-17D. The colonial green alga *Scenedesmus* accounted more algal biovolume than blue-green algae or diatoms [Figure 6-2]. The filamentous blue-green algae *Leptolyngbya* and *Heteroleibleinia* together contributed about the same biovolume as diatoms at site SS-17 [Figure 6-2]. *Cladophora* and *Oedogonium,* which were present at essentially all upstream Silver Bow Creek sites, were absent at SS-17D.

Seven genera of non-diatom algae representing two algal divisions were present at site SS-19 (Silver Bow Creek at Frontage Road) including four genera of green algae and three genera of blue-green algae [Table 6-3; Figure 6-1]. The green alga *Cladophora* and *Protococcus* were the most numerous taxa present at site SS-19, and along with *Stigeoclonium* and *Scenedesmus,* accounted for the majority of algal biovolume [Figure 6-2]. The three filamentous blue-green algae identified at site SS-19 (*Chamaesiphon, Leptolyngbya* and *Heteroleibleinia)* together contributed more algal biovolume than the diatoms [Figure 6-2]

Table 6-3. Number of non-diatom algae genera, by algal division, present at Streamside Tailings Operable Unit monitoring sites, 2016.

Site ID	Site Location	Algal Division					
		Chlorophyta (Green Algae)	Cyanobacteria (Blue-green Algae)	Phaeophyta (Brown Algae)	Rhodophyta (Red Algae)	Xanthophyta (Yellow-green Algae)	Total Genera
SS-01	Blacktail Creek at Father Sheehan Park	8	6	0	1	1	16
SS-05A	Silver Bow Creek above Butte Reduction	5	2	0	0	0	7
SS-06G	Silver Bow Creek above Butte WWTP	3	0	0	0	1	4
SS-07	Silver Bow Creek below Butte WWTP	3	1	0	0	2	6
SS-08	Silver Bow Creek at Rocker	7	1	0	0	1	9
SS-10A	Silver Bow Creek above Sand Creek	6	0	0	0	0	6
SS-10B	Silver Bow Creek below Sand Creek	5	1	0	0	0	6
SS-11C	Silver Bow Creek above Browns Gulch	5	1	0	0	0	6
SS-11D	Silver Bow Creek below Browns Gulch	5	0	0	0	0	5
SS-13	Silver Bow Creek in Reach L	6	0	0	0	0	6
SS-14	Silver Bow Creek at Miles Crossing	4	2	0	0	0	6
SS-15A	Silver Bow Creek above German Gulch	3	0	0	0	0	3
SS-15G	German Gulch near confluence	3	0	1	1	1	6
SS-15B	Silver Bow Creek below German Gulch	4	0	0	0	0	4
SS-16B	Silver Bow Creek in Reach P near	6	3	0	0	0	9
SS-17D	Silver Bow Creek below Stewart Street at	2	2	0	0	0	4
SS-19	Silver Bow Creek at Frontage Road	4	3	0	0	0	7

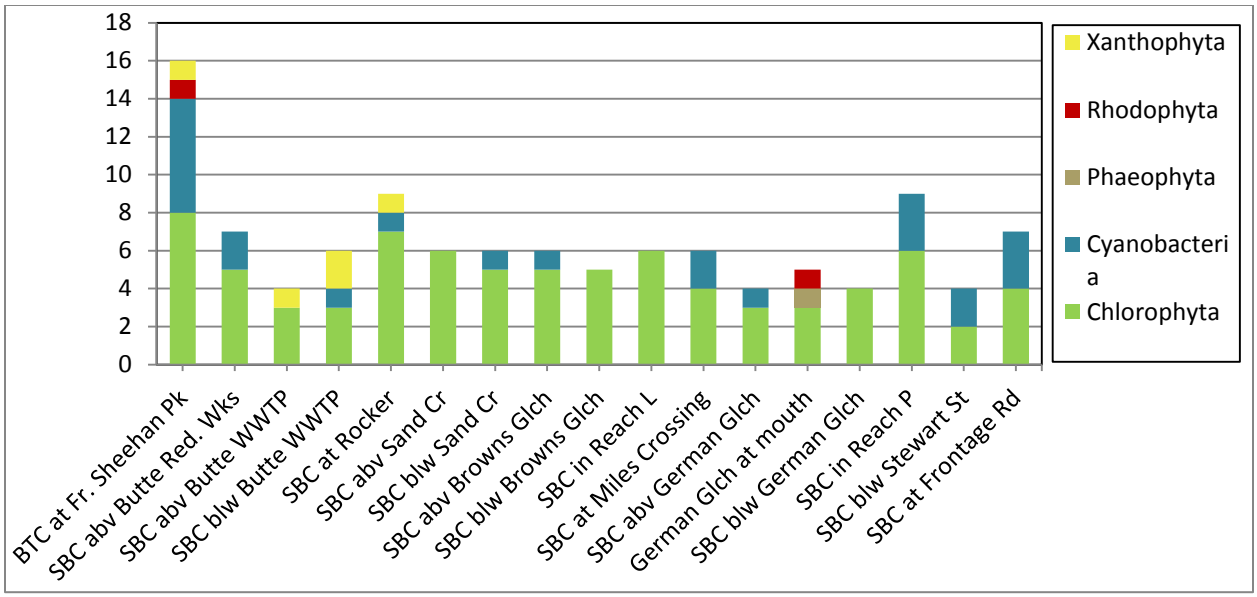

Figure 6-1. Number of non-diatom algae genera, by algal division, at Streamside Tailings Operable Unit sites in 2016.

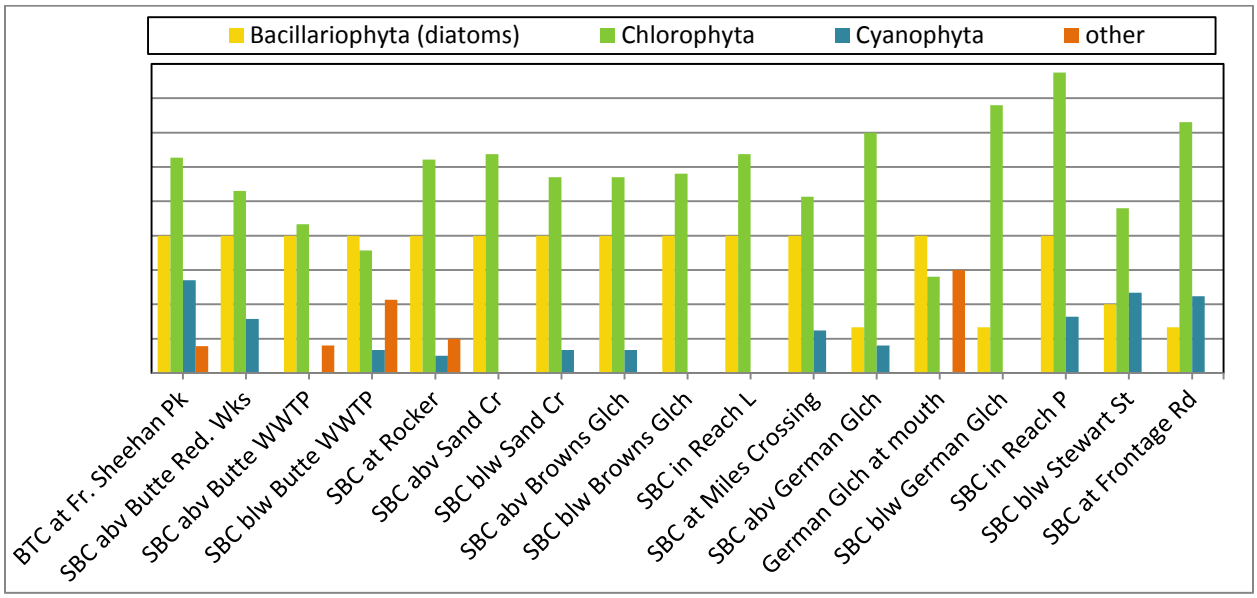

Figure 6-2. Relative importance (by biovolume rank) of non-diatom algal divisions and diatoms at Streamside Tailings Operable Unit sites in 2016.

6.3.2 Diatom Taxonomy

A total of 129 species of diatom algae, including varieties and subspecies, were identified in periphyton samples collected at the 17 SSTOU sites monitored in September 2016.

At site SS-01 (Blacktail Creek at Father Sheehan Park), 68 species of diatom algae were identified [Figure 6-3] and Shannon diversity was 3.52 [Figure 6-4]. Dominant taxa included

Eolimna minima, Nitzschia inconspicua, Staurosira construens var. binodis, S. construens var. pumila, S. construens var. venter, and *Stephanocyclus meneghiniana.*

At site SS-05A (Silver Bow Creek above Butte Reduction Works), 53 species of diatom algae were identified [Figure 6-3], Shannon diversity was 2.87 [Figure 6-4], and community similarity with upstream site SS-01 was of 42.5% [Figure 6-5]. Dominant taxa included *Diatoma vulgaris, Melosirea varians, Staurosira. construens var. binodis, S. construens var. pumila,* and *S. construens var. venter.*

At site SS-06G (Silver Bow Creek above Butte WWTP), 44 species of diatom algae were identified [Figure 6-3], Shannon diversity was 2.26 [Figure 6-4], and community similarity with upstream site SS-05 was 54.5% [Figure 6-5]. Dominant taxa included *Diatoma vulgaris, Rhoicosphenia abbreviata, Staurosira construens var. binodis,* and *S. construens var. pumila.*

At site SS-07 (Silver Bow Creek below Butte WWTP), 58 species of diatom algae were identified [Figure 6-3], Shannon diversity was 2.26 [Figure 6-4], and community similarity with upstream site SS-06G was 55.4% [Figure 6-5]. Dominant taxa included *Diatoma vulgaris, Rhoicosphenia abbreviate, Staurosira construens var. binodis, S. construens var pumila,* and *Staurosirella leptostauron.*

At site SS-08 (Silver Bow Creek at Rocker), 52 species of diatom algae were identified [Figure 6-3], Shannon diversity was 3.19 [Figure 6-4], and community similarity with upstream site SS-07 was 56.9% [Figure 6-5]. Dominant taxa included *Cocconeis placentula, Encyonema silesiacum, Eolimna minima, Nitzschia amphibia, Nitzschia inconspicua, Staurosira construens var. binodis,* and *S. construens var. pumila.*

At site SS-10A (Silver Bow Creek above Sand Creek), 42 species of diatom algae were identified [Figure 6-3], Shannon diversity was 2.86 [Figure 6-4], and community similarity with upstream site SS-08 was 58.8%[Figure 6-5]. Dominant taxa included *Cocconeis placentula, Diatoma vulgaris, Nitzschia amphibia, N. inconspicua, Staurosira construens var. binodis,* and *S. construens var. pumila.*

At site SS-10B (Silver Bow Creek below Sand Creek), 34 species of diatom algae were identified [Figure 6-3], Shannon diversity was 2.74 [Figure 6-4], and community similarity with upstream site SS-10A was 67.6% [Figure 6-5]. Dominant taxa included *Cocconeis placentula, Diatoma vulgaris, Eolimna minima, Mayamaea atomus, Nitzschia amphibia, N. inconspicua,* and *Staurosira construens var. binodis.*

At site SS-11C (Silver Bow Creek above Browns Gulch), 38 species of diatom algae were identified [Figure 6-3], Shannon diversity was 2.79 [Figure 6-4], and community similarity with upstream site SS-10B was 60.4% [Figure 6-5]. Dominant taxa included *Cocconeis placentula, Fragilaria vaucheriae, Mayamaea atomus, Nitzschia amphibia, N. inconspicua,* and three varieties of *Staurosira construens* and *Ulnaria ulna.*

At site SS-11D (Silver Bow Creek below Browns Gulch), 41 species of diatom algae were identified [Figure 6-3], Shannon diversity was 2.72 [Figure 6-4], and community similarity with upstream site SS-11C was 74.4% [Figure 6-5]. Dominant taxa included *Fragilaria vaucheriae, Mayamaea atomus, Nitzschia amphibia, N. inconspicua, N. paleacea, Staurosira construens var. binodis,* and *S. construens var. pumila.*

At site SS-13 (Silver Bow Creek in Reach L), 35 species of diatom algae were identified [Figure 6-3], Shannon diversity was 2.87 [Figure 6-4], and community similarity with upstream site SS-11D was 72.4% [Figure 6-5]. Dominant taxa included *Fragilaria vaucheriae, Mayamaea atomus, Nitzschia amphibia, N. inconspicua, Staurosira construens var. pumila,* and *Ulnaria ulna.*

At site SS-14 (Silver Bow Creek at Miles Crossing), 43 species of diatom algae were identified [Figure 6-3], Shannon diversity was 3.11 [Figure 6-4], and community similarity with upstream site SS-13 was 71.0% [Figure 6-5]. Dominant taxa included *Cocconeis placentula, Fragilaria vaucheriae, Nitzschia inconspicua, N. paleacea, Staurosira construens var. binodis, S. construens var. pumila,* and *Ulnaria ulna.*

A site SS-15A (Silver Bow Creek above German Gulch), 46 species of diatom algae were identified [Figure 6-3], Shannon diversity was 2.74 [Figure 6-4] , and community similarity with upstream site SS-14 was 67.4% [Figure 6-5]. Dominant taxa included *Cocconeis placentula, Encyonema silesiacum, Fragilaria vaucheriae, Nitzschia amphibia, N. inconspicua, Staurosira construens var. binodis, and S. construens var. pumila.*

At site SS-15G (German Gulch near confluence), 49 species of diatom algae were identified [Figure 6-3] and Shannon diversity was 3.26 [Figure 6-4]. Dominant taxa included *Achnanthidium minutissimum, Cocconeis placentula, Encyonema silesiacum, Navicula cryptotenella, N. reichardtiana, N. tripunctata,* and *Nitzschia archibaldii.*

At site SS-15B (Silver Bow Creek below German Gulch), 57 species of diatom algae were identified [Figure 6-3], Shannon diversity was 3.20 [Figure 6-4], and community similarity with upstream site SS-15A was 78.3% [Figure 6-5]. Dominant taxa included *Cocconeis placentula, Encyonema silesiacum, Eolimna minima, Fragilaria vaucheriae, Nitzschia inconspicua, Staurosira construens var. binodis, and S. construens var. pumila.*

At site SS-16B (Silver Bow Creek in Reach P near Fairmont), 46 species of diatom algae were identified [Figure 6-3], Shannon diversity was 3.13 [Figure 6-4], and community similarity with upstream site SS-15B was 60.5% [Figure 6-5]. Dominant taxa included *Cocconeis placentula, Eolimna minima, Mayamaea atomus, Nitzschia inconspicua, N. paleacea, Rhoicosphenia abbreviata,* and *Staurosira construens var. binodis* .

At site SS-17D (Silver Bow Creek below Stewart Street at Opportunity), 31 species of diatom algae were identified SS-16B of 37.3% [Figure 6-3], Shannon diversity was 1.92 [Figure 6-4], and community similarity with upstream site SS-16B was 37.3% [Figure 6-5]. Dominant taxa included *Mayamaea atomus, Nitzschia archibaldii,* and *N. paleacea.*

At site SS-19 (Silver Bow Creek at Frontage Road), 30 species of diatom algae were identified [Figure 6-3], Shannon diversity was 1.60 [Figure 6-4], and community similarity with upstream site SS-17D was 46.5% [Figure 6-5]. Dominant taxa included *Mayamaea atomus* and *Nitzschia paleacea.*

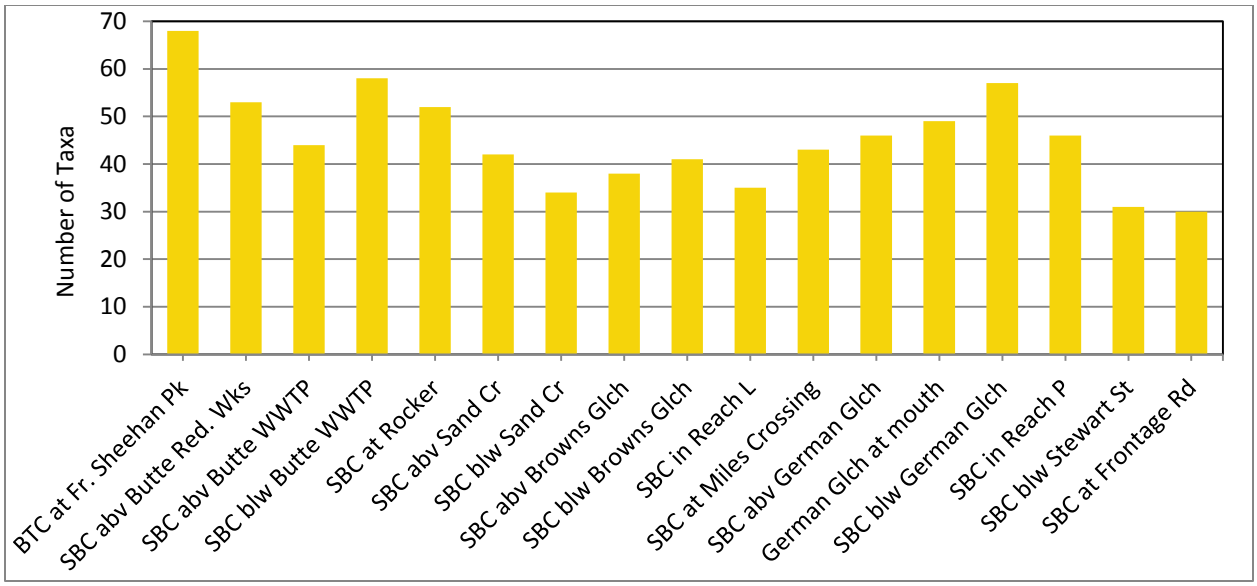

Figure 6-3. Diatom species richness at Streamside Tailings Operable Unit sites, 2016.

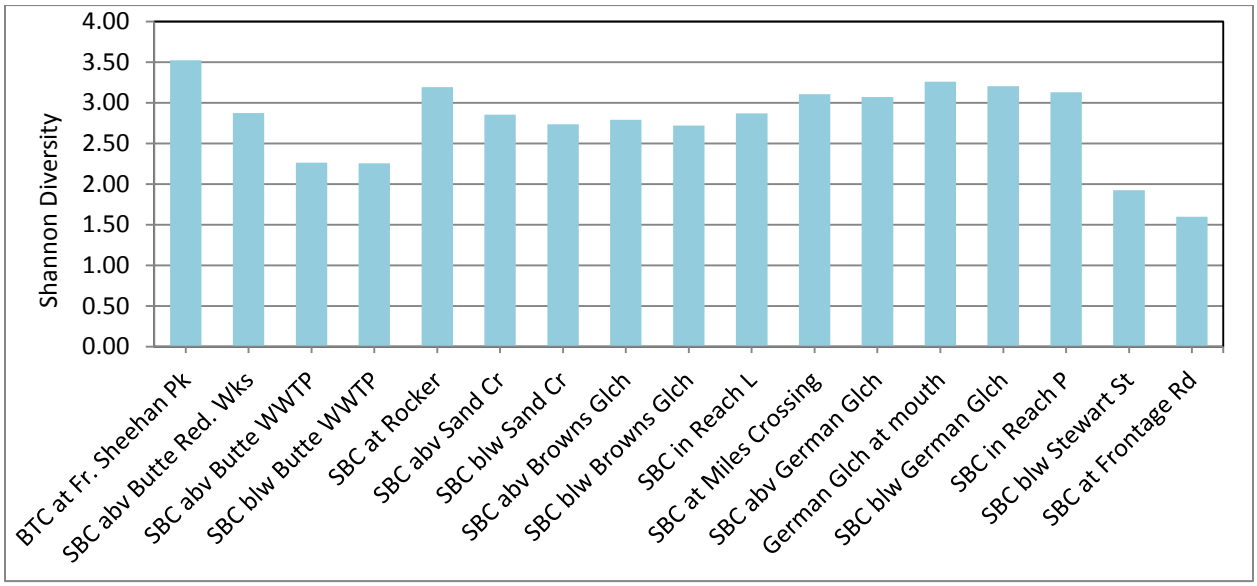

Figure 6-4. Shannon diversity values for diatom assemblages at Streamside Tailings Operable Unit sites, 2016.

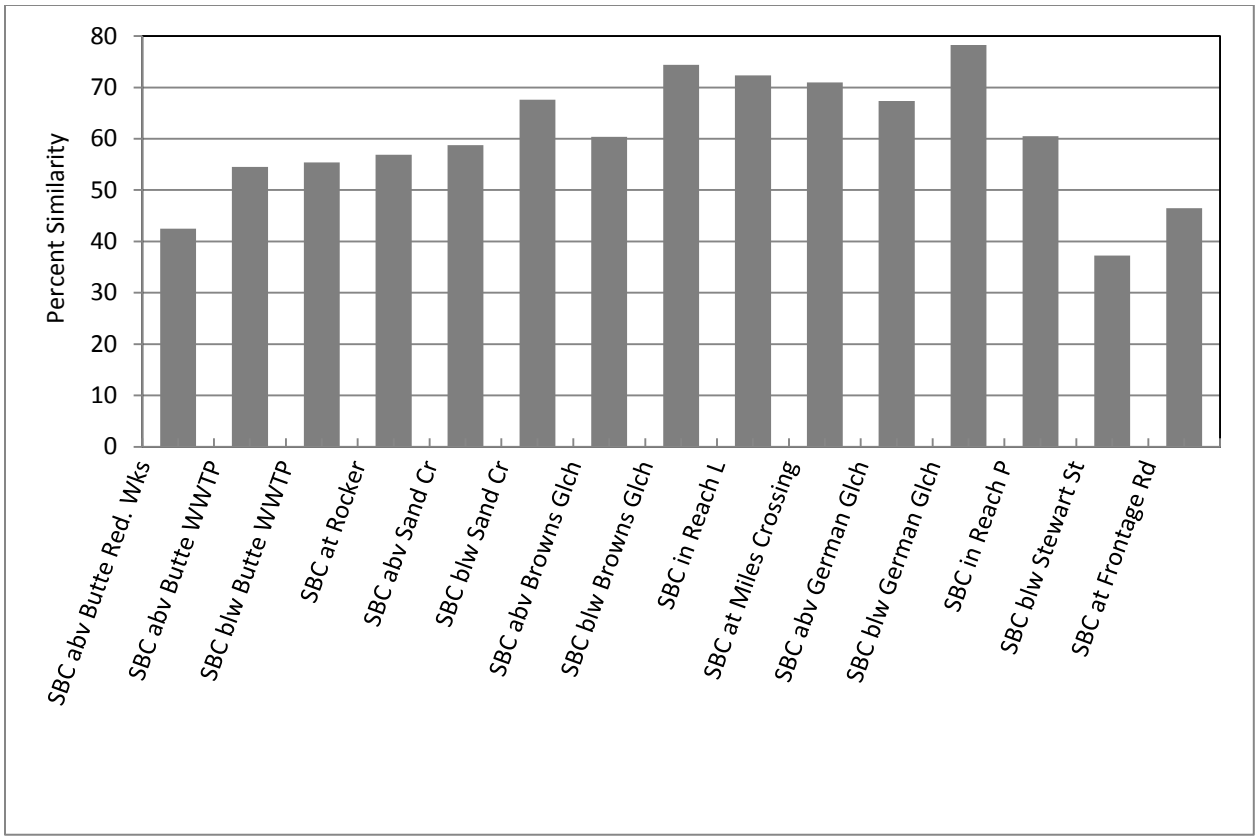

Figure 6-5. Similarity of diatom samples between each Silver Bow Creek site and its nearest upstream neighboring site in the Streamside Tailings Operable Unit, 2016.

6.3.3 Diatom Bioassessment Indices

6.3.3.1 Increaser Taxa

6.3.3.1.1 Sediment

Sediment increaser taxa abundance and impairment probability exceeded the impairment threshold at sites SS-01 (Blacktail Creek at Father Sheehan Park), SS-07 (Silver Bow Creek below Butte WWTP), SS-08 (Silver Bow Creek at Rocker), SS-15G (German Gulch near confluence), SS-15B (Silver Bow Creek below German Gulch), and SS-16B (Silver Bow Creek in Reach P near Fairmont) [Figure 6-6]. Sediment increaser taxa abundance and related impairment probabilities were relatively low (<40%) at SS-05A (Silver Bow Creek above Butte Reduction Works), SS-06G (Silver Bow Creek above Butte WWTP), SS-11C (Silver Bow Creek above Browns Gulch), SS-11D (Silver Bow Creek below Browns Gulch), SS-13 (Silver Bow Creek in Reach L), SS-17D (Silver Bow Creek below Stewart Street at Opportunity), and SS-19 (Silver Bow Creek at Frontage Road) [Figure 6-6]. The highest sediment impairment probability (85%) in the SSTOU was in German Gulch at SS-15G and the lowest impairment probability was at SS-19 [Figure 6-6]. Downstream from site SS-16B, sediment increaser taxa decreased sharply [Figure 6-6].

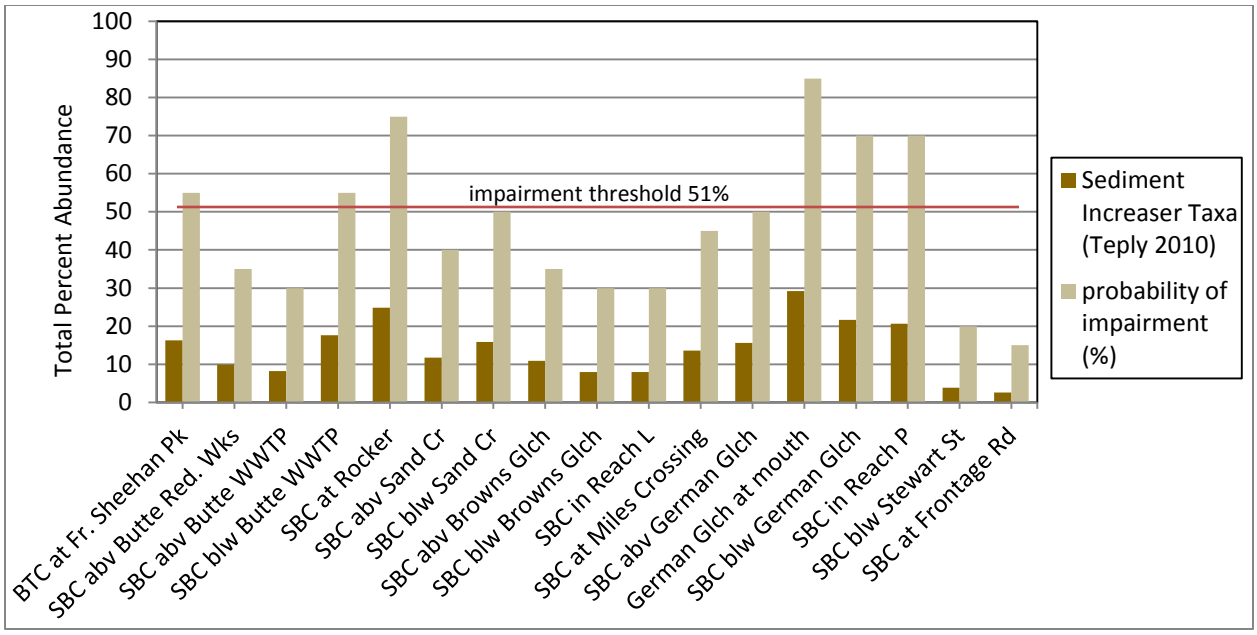

Figure 6-6. Total percent abundance for diatom sediment increaser taxa and probability of impairment according to sediment increaser taxa bioassessment index [Teply, 2010] at Streamside Tailings Operable Unit sites in 2016.

6.3.3.1.2 Metals

Metals impairment probabilities were ≥70% at all sites except five: SS-01 (Blacktail Creek at Father Sheehan Park), SS-13 (Silver Bow Creek in Reach L), SS-14 (Silver Bow Creek at Miles Crossing), SS-15G (German Gulch near confluence), and SS-17D (Silver Bow Creek below Stewart Street at Opportunity) [Figure 6-7]. All but two sites (SS-15G and SS-17D) had impairment probabilities ≥60% [Figure 6-7]. Metals impairment probabilities were particularly variable at sites in Subarea 4: SS-16B (Silver Bow Creek in Reach P near Fairmont), SS-17D (Silver Bow Creek below Stewart Street at Opportunity), and SS-19 (Silver Bow Creek at Frontage Road) [Figure 6-7].

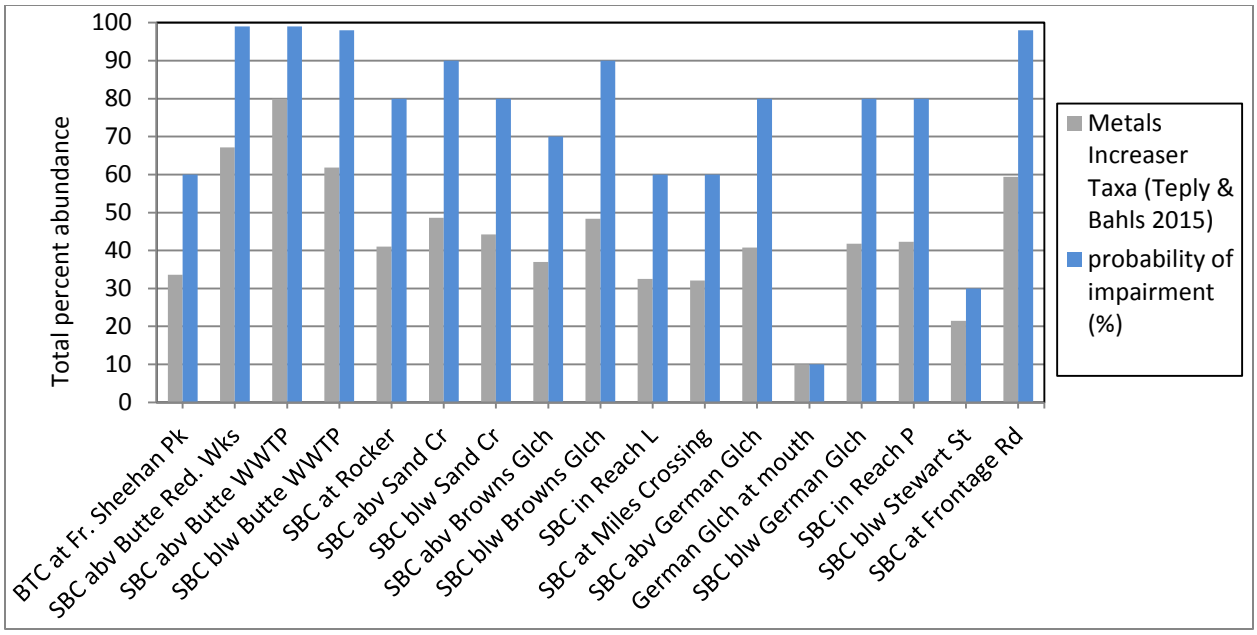

Figure 6-7. Total percent abundance for diatom metals increaser taxa and probability of impairment according to metals increaser taxa bioassessment index [Teply and Bahls, 2005] at Streamside Tailings Operable Unit sites in 2016.

6.3.3.1.3 Nutrients

At all but one site, nutrient increaser taxa relative abundance was ≤26% and impairment probability was ≤45%[Figure 6-8]. The one site with abundant nutrient increaser taxa (SS-19; Silver Bow Creek at Frontage Road) had an impairment probability of 93% [Figure 6-8].

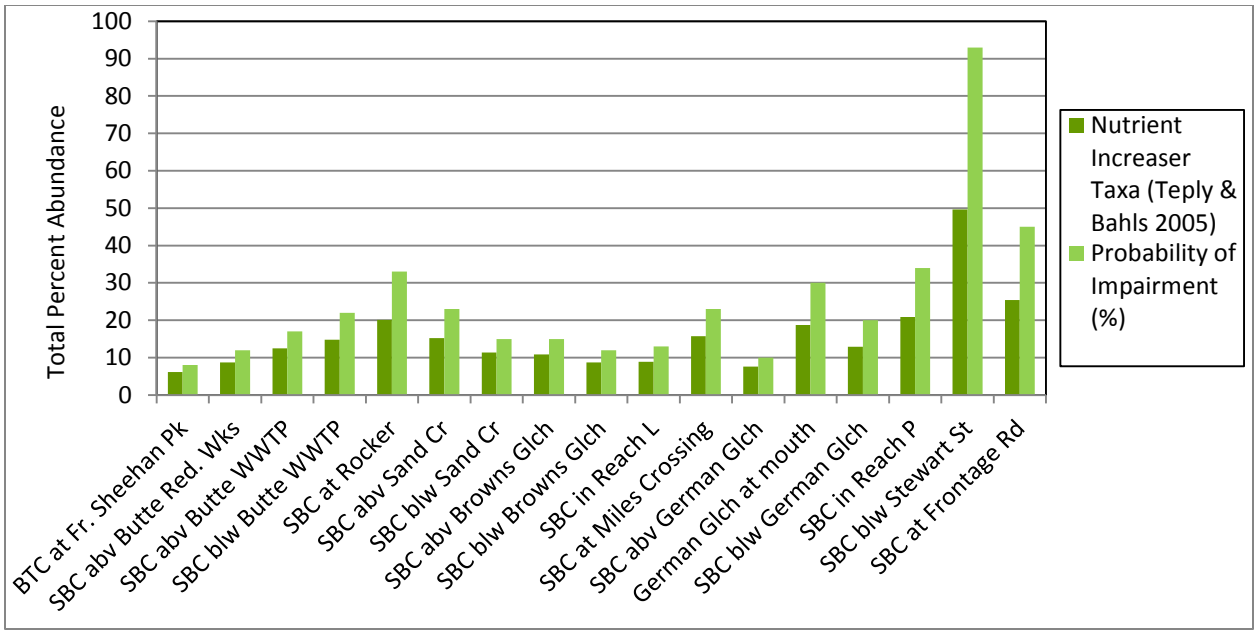

Figure 6-8. Total percent abundance for diatom nutrient increaser taxa and probability of impairment according to nutrient increaser taxa bioassessment index [Teply and Bahls, 2005] at Streamside Tailings Operable Unit sites in 2016.

6.3.3.2 Association Metrics

Overall biological integrity at sites in the SSTOU based on periphyton samples was rated "fair" at two sites (SS-17D and SS-19) and "good" at all other sites [Table 6-4]. No sites monitored in 2016 received a rating of "excellent" or "poor" for biological integrity.

At site SS-01 (Blacktail Creek at Father Sheehan Park) the "good" rating for biological integrity was influenced by a slightly depressed pollution index and a slightly elevated siltation index and abnormal cells percentage [Table 6-4]. All other diatom association metrics for site SS-01 indicated nonimpaired conditions..

At site SS-05A (Silver Bow Creek above Butte Reduction Works) the "good" rating for biological integrity was due to a slightly depressed Shannon diversity score and a moderately elevated proportion of abnormal cells [Table 6-4]. The remaining diatom association metrics for site SS-05A indicated nonimpaired conditions..

At site SS-06G (Silver Bow Creek above Butte WWTP) the "good" rating for biological integrity was due to a slightly depressed Shannon diversity value and moderately elevated values or percent dominant taxon and abnormal cells [Table 6-4]. The remaining diatom association metrics for site SS-05A indicated nonimpaired conditions.

At site SS-07 (Silver Bow Creek below Butte WWTP) the "good" rating for biological integrity was due to a slightly depressed Shannon diversity score and a slightly elevated proportion of abnormal cells [Table 6-4]. All other diatom association metrics for site SS-07 indicated nonimpaired conditions.

At site SS-08 (Silver Bow Creek at Rocker) the "good" rating for biological integrity was due to a slightly depressed pollution index, slightly elevated siltation index, and a slightly elevated

proportion of abnormal cells [Table 6-4]. Other metrics at Site SS-08 indicated nonimpaired conditions.

At site SS-10A (Silver Bow Creek above Sand Creek) the "good" rating for biological integrity was due to a slightly depressed Shannon diversity score, a slightly depressed pollution index, slightly elevated siltation index, and slightly elevated proportion of abnormal cells [Table 6-4]. All other diatom association metrics for site SS-10A indicated nonimpaired conditions.

At site SS-10B (Silver Bow Creek below Sand Creek) the "good" rating for biological integrity was due to a slightly depressed Shannon diversity score and pollution index, moderately elevated siltation index, and a slightly elevated proportion of abnormal cells [Table 6-4]. All other diatom association metrics for site SS-10B indicated nonimpaired conditions.

At site SS-11C (Silver Bow Creek above Browns Gulch) the "good" rating for biological integrity was due to slightly depressed Shannon diversity and pollution index scores and slightly elevated siltation index and abnormal cell proportion [Table 6-4]. All other diatom association metrics for site SS-11C indicated nonimpaired conditions.

At site SS-11D (Silver Bow Creek below Browns Gulch) the "good" rating for biological integrity was due to a slightly depressed value for Shannon diversity, a moderately depressed pollution index value, a moderately elevated siltation index, and slightly elevated values for percent dominant taxon and percent abnormal cells [Table 6-4]. The composite rating at site SS-11D was slightly above the threshold for a biological integrity rating of "fair". Of the seven metrics used to assess biological integrity, two metrics at site SS-11D indicated "excellent" biological integrity, three indicated "good" biological integrity, and two indicated "fair' biological integrity.

At site SS-13 (Silver Bow Creek in Reach L) the "good" rating for biological integrity was due to slightly depressed values for Shannon diversity and the pollution index, and slightly elevated values for the siltation index and percent abnormal cells [Table 6-4]. The three remaining diatom association metrics for site SS-13 indicated an unimpaired algal assemblage in 2016.

At site SS-14 (Silver Bow Creek at Miles Crossing) the "good" rating for biological integrity was due to a slightly depressed pollution index, a slightly elevated siltation index, and a moderately elevated percentage of abnormal cells [Table 6-4]. The remaining diatom association metrics for site SS-14 indicated unimpaired algal assemblage.

At site SS-15A (Silver Bow Creek above German Gulch) the "good" rating for biological integrity was due to a slightly depressed pollution index, moderately elevated siltation index, and moderately elevated proportion of abnormal cells [Table 6-4]. The remaining diatom association metrics for site SS-15A indicated unimpaired algal assemblage.

At site SS-15G (German Gulch near confluence) the "good" rating for biological integrity was due to a slightly depressed pollution index, slightly elevated siltation index, and slightly elevated proportion of abnormal cells [Table 6-4]. The remaining diatom association metrics for site SS-15G indicated unimpaired algal assemblage.

At site SS-15B (Silver Bow Creek below German Gulch) the "good" rating for biological integrity was due to a slightly depressed pollution index, slightly elevated siltation index, and slightly elevated proportion of abnormal cells [Table 6-4]. The remaining diatom association metrics for site SS-15B indicated unimpaired algal assemblage.

At site SS-16B (Silver Bow Creek in Reach P) the "good" rating for biological integrity was due to a slightly depressed pollution index, a moderately elevated siltation index, and moderately elevated proportion of abnormal cells [Table 6-4]. The remaining diatom association metrics at site SS-16B indicated unimpaired algal assemblage.

At site SS-17D (Silver Bow Creek below Stewart Street at Opportunity) the "fair" rating for biological integrity was due to moderately depressed Shannon diversity and pollution index values, a highly elevated siltation index, a slightly elevated percent dominant taxon, and a moderately elevated proportion of abnormal cells [Table 6-4].

At site SS-19 (Silver Bow Creek at Frontage Road) the "fair" rating for biological integrity was due to a moderately depressed Shannon diversity value, a highly depressed pollution index, a highly elevated siltation index, a moderately elevated percent dominant taxon, and a slightly elevated proportion of abnormal cells [Table 6-4]. The composite rating at site SS-19 was slightly above the threshold for a biological integrity rating of "poor".

Table 6-4. Diatom association metrics and biological integrity impairment ratings for Streamside Tailings Operable Unit monitoring sites, 2016.

Site ID	Site Location	Diatom Species Richness	Shannon Diversity Index	Pollution Index	Siltation Index	Disturbance Index	Dominant Taxon (%)	Abnormal Cells (%)	Biological Integrity[2]
SS-01	Blacktail Creek at Father Sheehan Park	68	3.52	2.25	38.50	0.88	12.13	1.38	good
SS-05A	Silver Bow Creek above Butte Reduction Works	53	2.87	2.75	11.75	0	21.88	5.50	good
SS-06G	Silver Bow Creek above Butte WWTP	44	2.26	2.85	5.88	0	48.75	4.00	good
SS-07	Silver Bow Creek below Butte WWTP	58	2.26	2.69	11.25	0.38	16.38	2.63	good
SS-08	Silver Bow Creek at Rocker	52	3.19	2.40	34.88	0.25	10.50	2.88	good
SS-10A	Silver Bow Creek above Sand Creek	42	2.86	2.48	29.75	0	22.75	1.50	good
SS-10B	Silver Bow Creek below Sand Creek	34	2.74	2.14	55.38	0	22.00	1.63	good
SS-11C	Silver Bow Creek above Browns Gulch	38	2.79	2.17	35.00	0.38	11.75	2.00	good
SS-11D	Silver Bow Creek below Browns Gulch	41	2.72	1.88	53.50	0.13	27.00	1.88	good
SS-13	Silver Bow Creek in Reach L	35	2.87	2.06	35.00	0	18.88	2.63	good
SS-14	Silver Bow Creek at Miles Crossing	43	3.11	2.22	28.50	0	13.63	4.13	good
SS-15A	Silver Bow Creek above German Gulch	46	3.07	2.37	49.00	0	14.63	4.38	good
SS-15G	German Gulch near confluence	49	3.26	2.45	20.25	4.63	11.13	1.13	good
SS-15B	Silver Bow Creek below German Gulch	57	3.20	2.41	25.38	0.63	14.63	3.13	good
SS-16B	Silver Bow Creek in Reach P near Fairmont	46	3.13	2.04	52.38	0.25	17.88	4.63	good
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	31	1.92	1.95	89.13	0	48.63	14.25	fair
SS-19	Silver Bow Creek at Frontage Road	30	1.60	1.41	90.63	0	56.88	5.75	fair

Metric score suggests minor impairment.

Metric score suggests moderate impairment.

Metric score suggests severe impairment.

6.3.3.3 Additional Association Metrics

Diatom taxa intolerant to inorganic nutrients had low abundance relative to tolerant taxa at virtually all SSTOU and monitored tributary sites in 2016 [Figure 6-9]. The relative abundance of taxa intolerant to elevated inorganic nutrients ranged from 0% at SS-17D (Silver Bow Creek near Opportunity at Stewart Street) to 2.13% at SS-01 (Blacktail Creek at Father Sheehan Park) and SS-15G (German Gulch near confluence). No Silver Bow Creek site exceeded 1.4% relative abundance of nutrient intolerant taxa in 2016 [Figure 6-9].

Nitrogen-heterotrophic diatoms were dominant (i.e., >50% relative abundance) at four sites: SS-10B (Silver Bow Creek below Sand Creek), SS-11D (Silver Bow Creek below Browns Gulch), SS-17D (Silver Bow Creek below Stewart Street at Opportunity), and SS-19 (Silver Bow Creek at Frontage Road) [Figure 6-10]. Each of those sites also had low (<7%) relative abundance of nitrogen-autotrophic diatoms with low tolerance to organic nitrogen [Figure 6-10]. Sites SS-17D and SS-19 had particularly low relative abundance (≤1%) of nitrogen-autotrophic diatoms with low tolerance to organic nitrogen and also particularly high relative abundance (68-88%) of nitrogen-heterotrophic diatoms [Figure 6-10]. These results suggest that the diatom assemblage was adapted to nitrogen enrichment, particularly at sites SS-17D and SS-19.

The relative abundance of diatoms intolerant to elevated biochemical oxygen demand and hypoxia (i.e., diatom taxa requiring oxygen saturation >75%) was high (>50%) at four sites: SS-05A (Silver Bow Creek above Butte Reduction Works), SS-06G (Silver Bow Creek above Butte WWTP), SS-07 (Silver Bow Creek below Butte WWTP), and SS-19 (Silver Bow Creek at Frontage Road) [Figure 6-11]. The relative abundance of diatoms adapted to low levels of decaying organic matter (i.e., oligosaprobous and ß-mesosaprobous taxa) was high (>50%) at five sites: SS-05A, SS-06G, SS-07, SS-10A (Silver Bow Creek above Sand Creek), and SS-15G (German Gulch near mouth) [Figure 6-11]. Three sites (SS-05A, SS-06G, and SS-07) had >70% relative abundance of diatom taxa requiring oxygen saturation >70% and oligosaprobous and ß-mesosaprobous taxa [Figure 6-11]. Generally, the relative abundance trend for diatoms requiring dissolved oxygen saturation >75% closely resembled the pattern for relative abundance of diatoms requiring oligosaprobous to ß-mesosaprobous conditions with a few exceptions, specifically at SS-11D (Silver Bow Creek below Browns Gulch) and SS-19 (Silver Bow Creek at Frontage Road). At those sites, relative abundance of diatoms requiring dissolved oxygen saturation >75% was substantially higher than the relative abundance of diatoms requiring oligosaprobous to ß-mesosaprobous conditions.

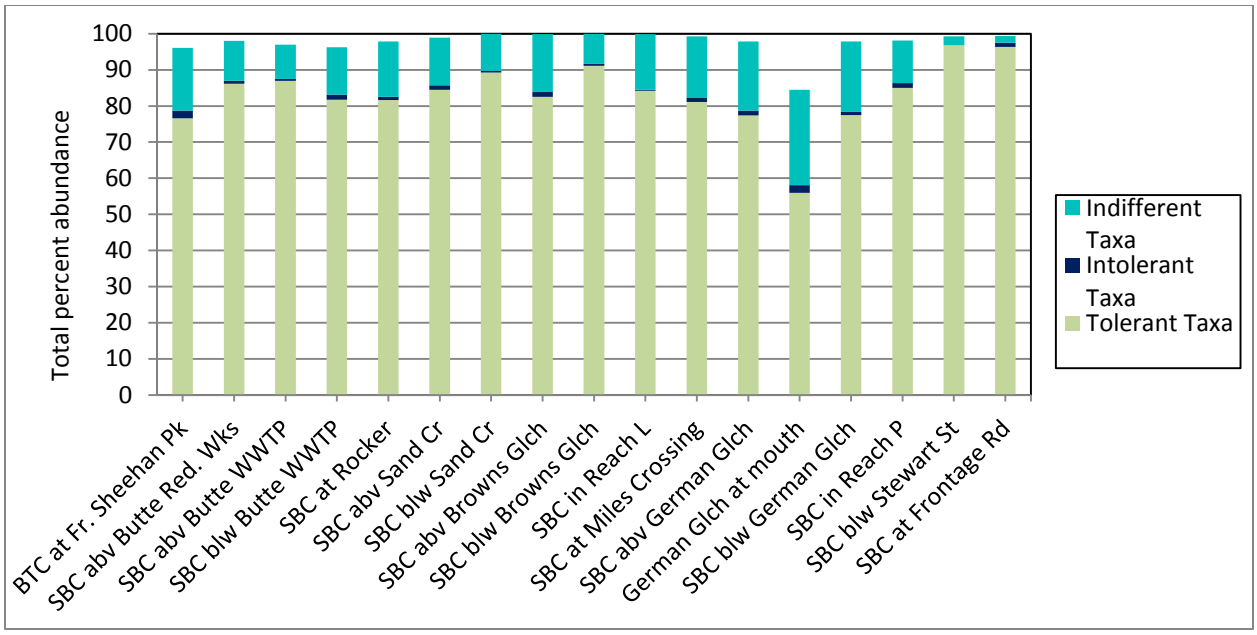

Figure 6-9. Variation in diatom trophic state tolerance among Streamside Tailings Operable Unit monitoring sites, 2016; percent abundance of taxa tolerant to elevated inorganic nutrients (after Van Dam et al., 1994).

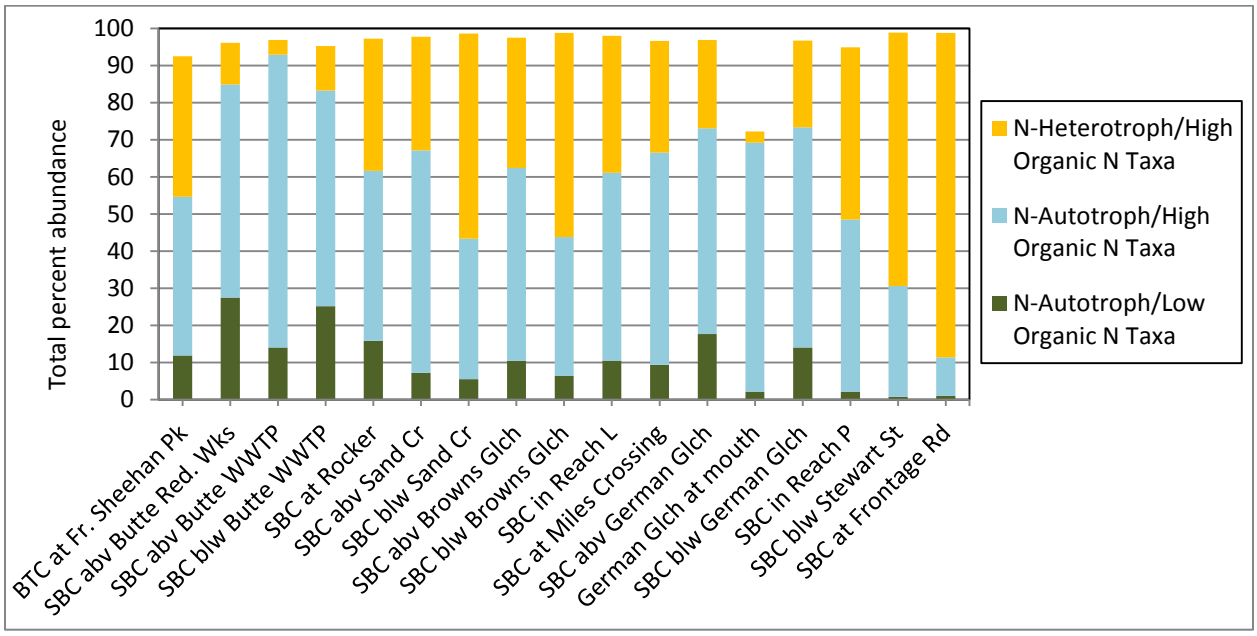

Figure 6-10. Variation in diatom nitrogen metabolism among Streamside Tailings Operable Unit monitoring sites, 2016; percent abundance of taxa tolerant of organic nitrogen (after Van Dam et al., 1994).

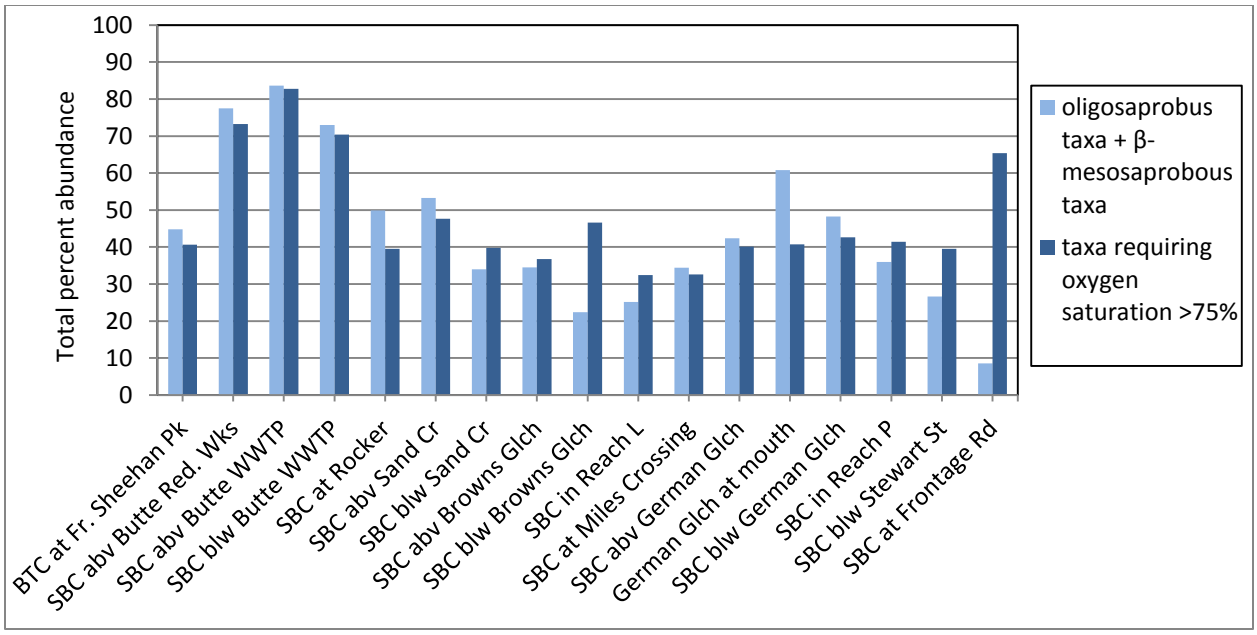

Figure 6-11. Variation in diatom oxygen demand among Streamside Tailings Operable Unit monitoring sites, 2016; percent abundance of taxa intolerant to elevated biochemical oxygen demand (BOD) and hypoxia (after Van Dam et al., 1994).

6.4 DISCUSSION

6.4.1 Ecological Interpretations of Periphyton Assemblages (Site Specific Summaries)

6.4.1.1 Blacktail Creek at Father Sheehan Park (SS-01)

The comparatively high taxa richness and diversity of non-diatom (soft-bodied) algae at site SS-01 suggest stable streamflow conditions and productive, relatively unimpaired water quality. The relatively diverse assemblage of diatom species composing the periphyton suggests water of relatively high quality, with a low probability of impairment by inorganic nutrients, and moderate probabilities of impairment by sediment and heavy metals. Moderately high tolerances to elevated inorganic nutrients, organic nitrogen, biochemical oxygen demand, deposited sediment, heavy metals and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity at site SS-01 in 2016 was rated as good, with minor impairment of the aquatic biota due to sediment and heavy metals, as indicated by the suite of metrics employed for this assessment.

6.4.1.2 Silver Bow Creek above Butte Reduction Works (SS-05A)

The relatively low taxa richness and diversity of non-diatom algae at site SS-05A suggest somewhat impaired water quality, while the moderately diverse assemblage of diatom algae indicates relatively good water quality, with relatively low probabilities of impairment by inorganic nutrients and sediment, and a high probability of impairment by heavy metals. A

high tolerance to inorganic nutrients, a moderately high tolerance to organic nitrogen and low tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity site SS-05A in 2016 was rated as good, with minor impairment of the aquatic biota due primarily to heavy metals.

6.4.1.3 Silver Bow Creek above Butte WWTP (SS-06G)

The low taxa richness and diversity of non-diatom algae at site SS-06G indicate moderately impaired water quality. The moderately low taxa richness and diversity of the diatom assemblage also indicated at least slightly impaired water quality at site SS-06G, with relatively low probabilities of impairment by inorganic nutrients and sediment, and a high probability of impairment by heavy metals. High tolerances to inorganic nutrients and organic nitrogen, and low tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity site SS-06G in 2016 was rated as good, with minor impairment of the aquatic biota due primarily to heavy metals.

6.4.1.4 Silver Bow Creek below Butte WWTP (SS-07)

The low taxa richness and moderate diversity of non-diatom algae at site SS-07 suggest somewhat impaired water quality, while the moderately high taxa richness but relatively low diversity of the diatom assemblage indicate relatively good water quality, with moderately low probability of impairment by inorganic nutrients, moderate probability of impairment by sediment, and a high probability of impairment by heavy metals at site SS-07. A high tolerance to inorganic nutrients, a moderately high tolerance to organic nitrogen and low tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity site SS-07 in 2016 was rated as good, with minor impairment of the aquatic biota due primarily to heavy metals.

6.4.1.5 Silver Bow Creek at Rocker (SS-08)

The moderately high taxa richness and diversity of non-diatom algae at site SS-08 suggest relatively high water quality, which is supported by the moderately high taxa richness and diversity of the diatom algae. A moderately high probability of impairment by inorganic nutrients and heavy metals, and a high probability of impairment by sediment are indicated. High tolerances to inorganic nutrients and organic nitrogen, and moderately high tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity site SS-08 in 2016 was rated as good, with minor impairment of the aquatic biota due to inorganic nutrients, organic nitrogen, sediment and heavy metals.

6.4.1.6 Silver Bow Creek above Sand Creek (SS-10A)

The low taxa richness and low diversity of non-diatom algae at site SS-10A indicate moderately impaired water quality, while the moderately low taxa richness and diversity of the diatom assemblage indicate at least slightly impaired water quality, with relatively low probabilities of impairment by inorganic nutrients and sediment, and a high probability of impairment by heavy metals. High tolerances to inorganic nutrients and organic nitrogen, and moderately low tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity at site SS-10A in 2016 was rated as good, with minor impairment of the aquatic biota due to inorganic nutrients, organic nitrogen, sediment and heavy metals.

6.4.1.7 Silver Bow Creek below Sand Creek (SS-10B)

The low taxa richness and diversity of non-diatom algae at site SS-10B indicate moderately impaired water quality, which is supported by the low taxa richness and moderately low diversity of the diatom assemblage. A relatively low probability of impairment by inorganic nutrients, a moderately low probability of impairment by sediment, and a moderately high probability of impairment by heavy metals are indicated at site SS-10B. High tolerances to inorganic nutrients and organic nitrogen, and moderately high tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity at site SS-10B was rated as good in 2016, with minor impairment of the aquatic biota likely due to a combination of inorganic nutrients, organic nitrogen, sediment and heavy metals.

6.4.1.8 Silver Bow Creek above Browns Gulch (SS-11C)

The low taxa richness and diversity of non-diatom algae and the somewhat depressed diatom species richness and diversity indicate minor to moderate water quality degradation at site SS-11C. A relatively low probability of impairment by inorganic nutrients, and moderate probabilities of impairment by sediment and heavy metals are indicated at site SS-11C. High tolerances to inorganic nutrients and organic nitrogen, and moderately high tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity site SS-11C was rated as good in 2016, with minor impairment of the aquatic biota by inorganic nutrients, organic nitrogen, sediment and heavy metals.

6.4.1.9 Silver Bow Creek below Browns Gulch (SS-11D)

The very low taxa richness and diversity of non-diatom algae and the somewhat depressed diatom species richness and diversity indicate moderate impairment of water quality at site SS-11D. A relatively low probability of impairment by inorganic nutrients, moderate probability of impairment by sediment, and high probability of impairment by heavy metals are indicated at site SS-11D. High tolerances to inorganic nutrients and organic nitrogen, a high tolerance to

elevated biochemical oxygen demand (BOD), and moderately low tolerance to depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity site at SS-11D was rated as good in 2016, with minor impairment biota due to inorganic nutrients, organic nitrogen, sediment and heavy metals.

6.4.1.10 Silver Bow Creek in Reach L (SS-13)

The low taxa richness and diversity of non-diatom algae and the low diatom species richness and diversity indicate minor to moderate water quality degradation at site SS-13. A relatively low probability of impairment by inorganic nutrients and moderate probabilities of impairment by sediment and heavy metals are indicated at site SS-11D. High tolerances to inorganic nutrients and organic nitrogen, and moderately high tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity site SS-13 was rated as good in 2016, with minor impairment of the aquatic biota by inorganic nutrients, organic nitrogen, sediment and heavy metals.

6.4.1.11 Silver Bow Creek at Miles Crossing (SS-14)

The low taxa richness and diversity of non-diatom algae at site SS-14 suggest somewhat impaired water quality, while moderately high diatom species richness and diversity indicate indicates relatively good water quality. Moderately low probabilities of impairment by inorganic nutrients and sediment, and a moderate probability of impairment by heavy metals are indicated at site SS-14. High tolerances to inorganic nutrients and organic nitrogen, and moderately high tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity site SS-14 was rated as good in 2016, with minor impairment of the aquatic biota due to inorganic nutrients, organic nitrogen, sediment and heavy metals.

6.4.1.12 Silver Bow Creek above German Gulch (SS-15A)

The low taxa richness and low diversity of non-diatom algae suggest at least moderate impairment of water quality at site SS-15A, while the moderately high species richness and diversity of the diatoms indicate relatively good water quality. A low probability of impairment by inorganic nutrients, a moderate probability of impairment by sediment, and a moderately high probability of impairment by heavy metals are indicated at site SS-15A. Moderately high tolerances to inorganic nutrients and organic nitrogen, and relatively high tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity at site SS-15A was rated as good in 2016, with minor impairment of the aquatic biota by inorganic nutrients, organic nitrogen, sediment and heavy metals.

6.4.1.13 Silver Bow Creek below German Gulch (SS-15B)

The low taxa richness and diversity of non-diatom algae suggest at least moderate impairment of water quality at site SS-15B, while the moderately high taxa richness and species diversity of the diatom assemblage indicate relatively good water quality below German Gulch. A moderately low probability of impairment by inorganic nutrients, a high probability of impairment by sediment, and a moderately high probability of impairment by heavy metals are indicated at site SS-15B. Moderately high tolerances to inorganic nutrients and organic nitrogen, and relatively low tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity at site SS-15B was rated as good in 2016, with minor impairment of the aquatic biota by inorganic nutrients, organic nitrogen, sediment and heavy metals.

6.4.1.14 German Gulch near Confluence (SS-15G)

The low taxa richness and moderately low diversity of non-diatom algae suggest at least slight impairment of water quality at site SS-15G, while the moderately high taxa richness and species diversity of the diatom assemblage indicate relatively good water quality in this tributary stream. A moderately high probability of impairment by inorganic nutrients, a high probability of impairment by sediment, and a low probability of impairment by metals are indicated at site SS-15G. Moderately low tolerances to inorganic nutrients, organic nitrogen, elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity at site SS-15G was rated as good in 2016, with only minor impairment of the aquatic biota by inorganic nutrients and sediment.

6.4.1.15 Silver Bow Creek in Reach P near Fairmont (SS-16B)

The moderately high taxa richness and diversity of non-diatom algae, as well as the moderately high species richness and diversity of the diatom assemblage, suggest relatively good water quality at site SS-16B. Moderately high probabilities of impairment by inorganic nutrients and heavy metals, and a high probability of impairment by sediment, are indicated at site SS-16B. High tolerances to inorganic nutrients and organic nitrogen, and moderately high tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity at site SS-16B was rated as good in 2016, with minor impairment of the aquatic biota by inorganic nutrients, organic nitrogen, heavy metals and sediment.

6.4.1.16 Silver Bow Creek below Stewart Street at Opportunity (SS-17D)

The low taxa richness and diversity of non-diatom algae suggest at least moderate impairment of water quality at site SS-17D, which is supported by the low species richness and diversity of the diatom assemblage. A high probability of impairment by inorganic nutrients, a low probability of impairment by sediment, and a moderately low probability of impairment by metals are indicated at site SS-17D. High tolerances to inorganic nutrients and organic

nitrogen, and moderately high tolerances to elevated biochemical oxygen demand and depressed dissolved oxygen levels are exhibited by the diatom assemblage. Overall biological integrity at site SS-17D was rated only as fair in 2016, with moderate impairment of the aquatic biota by inorganic nutrients and organic nitrogen, and to lesser degrees by heavy metals and sediment.

6.4.1.17 Silver Bow Creek at Frontage Road (SS-19)

The relatively low taxa richness and diversity of non-diatom algae at site SS-19 suggest at least minor impairment of water quality, while the low species richness and diversity of the diatom assemblage indicate moderate impairment of water quality at site SS-19. A moderately high probability of impairment by inorganic nutrients, and a high probability of impairment by heavy metals, but a low probability of impairment by sediment are indicated at site SS-19. High tolerances to inorganic nutrients, organic nitrogen and elevated biochemical oxygen demand (BOD), but a low tolerance to a depressed dissolved oxygen levels, are exhibited by the diatom assemblage. Overall biological integrity at site SS-19 was rated only as fair in 2016, with moderately high impairment of the aquatic biota by organic nitrogen, inorganic nutrients, heavy metals and sediment.

7.0 FISH[53]

7.1 INTRODUCTION

Decades of copper mining in the Butte area led to severe contamination of Silver Bow Creek and extirpation of its fish community. Remediation activities such as groundwater treatment and streamside tailing removal have significantly reduced concentrations of contaminants such as copper and zinc in Silver Bow Creek [Naughton, 2013]. These improvements in Silver Bow Creek water quality have allowed fish, including trout, to recolonize the creek. Montana Fish, Wildlife, and Parks (MFWP) have been monitoring the Silver Bow Creek fish community through electrofishing surveys. MFWP established six survey sections that span from Butte to 2.5 miles upstream of where the creek flows into the Warm Spring Ponds. These sections have been sampled once or twice a year since 2013.

Tributaries in the Silver Bow Creek watershed provide trout spawning habitat and cool water refuges during the heat of summer. Although concentrations of metals such as copper are far less toxic than in the past, ammonia pollution (NH_3-N) and hypoxia have recently been shown to limit the distribution of trout in Silver Bow Creek [Naughton, 2013]. Recent improvements in Butte's municipal waste water treatment facilities may reduce nitrogen loading and hypoxic events in the creek. Westslope cutthroat trout in the Silver Bow Creek watershed have been observed moving from tributaries to the mainstem in the fall and winter, after hypoxia subsides [Naughton, 2013]. Tributaries are clearly important habitats for trout, and are also important for non-trout species such as suckers (*Catostomus* sp.) as well. Thus, in order to thoroughly monitor fish in Silver Bow Creek, tributaries also need to be monitored. Electrofishing surveys have been conducted sporadically in the Silver Bow Creek watershed in the past, but in 2014 a sampling program was initiated in which established sections throughout the watershed are sampled each year.

7.2 METHODS

Electrofishing surveys were conducted on Silver Bow Creek and four of its tributaries using backpack electrofishing units. Multiple electrofishing passes were conducted when at least six trout were captured on the first pass to allow for calculation of depletion-based abundance estimates [Zippin, 1958]. Descriptions of sampling methods, section lengths, and locations of sampling sections can be found in Appendix I. Six sections on Silver Bow Creek were sampled in both August and October to allow for comparison of trout numbers between warm and cool periods [Figure 7-1]. Tributary sampling occurred in July.

[53] Chapter 7 was completed by Nathan Cook, Tracy Elam, and Jason Lindstrom of Montana Fish, Wildlife, and Parks with minor editing and formatting by RESPEC.

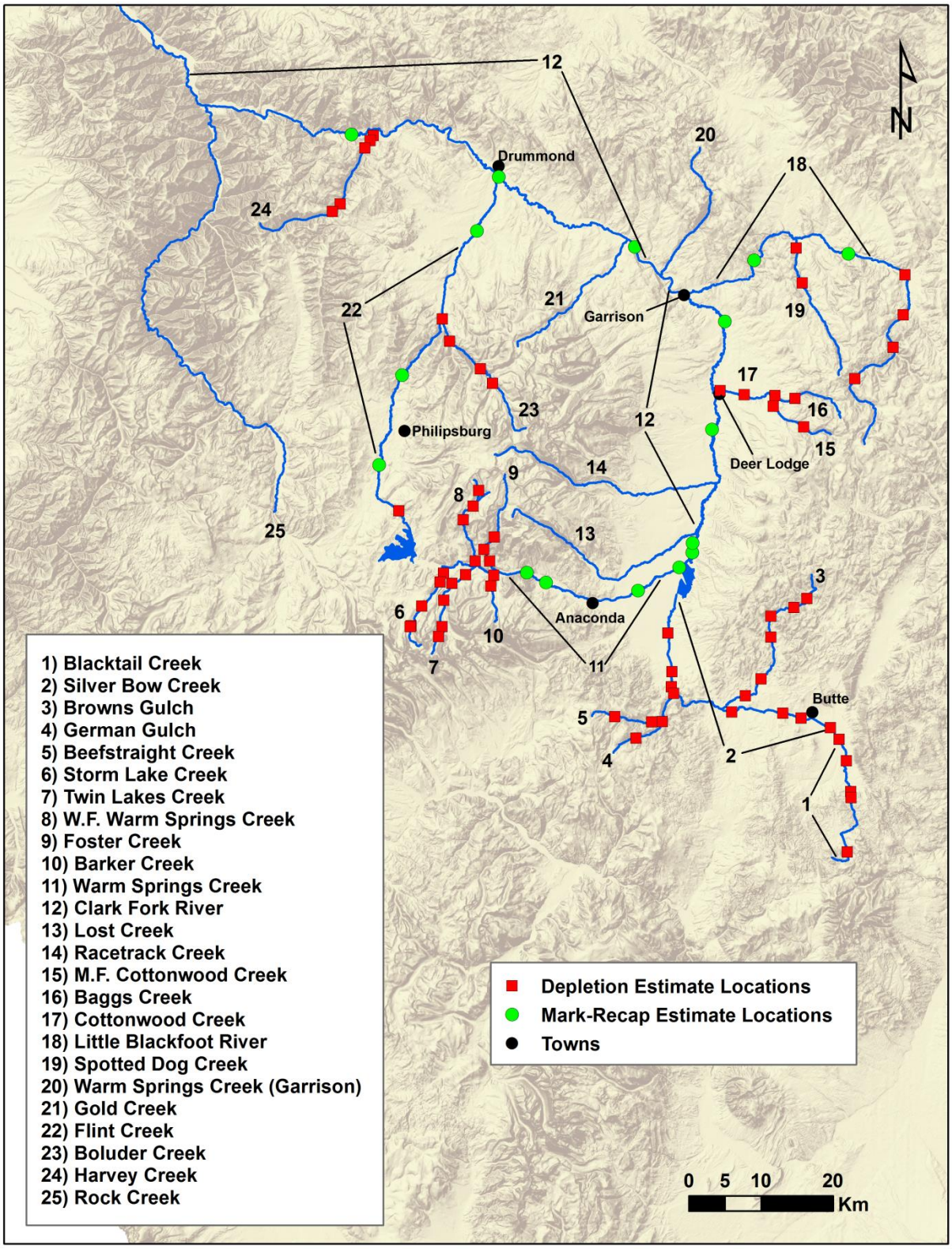

Figure 7-1. Map of 2016 electrofishing sections in the upper Clark Fork River basin. Numbers refer to specific streams.

7.3 RESULTS

Of the 12 electrofishing surveys conducted on Silver Bow Creek, trout population estimates could be generated for six of them. Sampling during the month of August yielded estimates of 18 (95% confidence interval [CI] = 16-20) brook trout and eight (95% CI = 7-9) westslope cutthroat trout per 100 meters (m) at the Fairmont section and four (95% CI = 4-5) brook trout and 15 (95% CI = 14-16) westslope cutthroat trout per 100 m at the Below German Gulch Section [Table 7-1]. At other sampling sections, insufficient numbers of trout were captured to calculate reliable abundance estimates. Trout population estimates could be calculated at four sections based on the October sampling [Table 7-2]. These October estimates were two (95% CI = 1-2) rainbow trout and two (95% CI = 1-2) westslope cutthroat trout per 100 m at the Hwy 1 Bridge Section; 7 (95% CI = 6-8) brook trout, six (95% CI = 5-6) westslope cutthroat trout, and six (95% CI = 4-7) rainbow trout and rainbow trout-westslope cutthroat trout hybrids at the Fairmont section; two (95% CI = 1-2) brook trout and four (95% CI = 3-5) westslope cutthroat trout per 100m at Ramsay; and three (95% CI = 3-3) brook trout per 100 m at LAO. The section below German Gulch showed a general decline in fish numbers with 254 total fish captured in August and 23 total fish captured in October. Not enough trout were captured in October to generate population estimates at the German Gulch section. Non-trout species were captured in all sections with Rocky Mountain sculpin and longnose suckers being most abundant overall. Compared to the October 2015 data, trout estimates in October of 2016 were generally similar.

In Blacktail Creek, brook trout were the most abundant trout species in five of the seven sections and westslope cutthroat trout were most abundant in the upper most section [Table 7-3]. In the sections where brook trout were most abundant, they accounted for 52-92% of the fish captured in the section. Westslope cutthroat trout made up 85% percent of the catch in the section where they were dominant. Brook trout were present in all six sections while westslope cutthroat trout were only present in the upper four. Longnose suckers, Rocky Mountain sculpin and central mudminnow were observed in the lower three reaches. The number of total brook trout handled and the population estimates increased in five of the six sections compared to 2015. Westslope cutthroat trout estimates and capture numbers were similar except for the upper section where more westslope cutthroat trout were captured, however, most westslope cutthroat trout captured in that section were less than 75mm and were not used in the estimate. Numbers of brook trout decreased from 2015 to 2016 at the Father Sheehan section from 148 (95% CI = 139-157) to 107 (95% CI = 104-109) fish/100 m.

Six sections were sampled in Browns Gulch with brook trout being the dominant trout species throughout [Table 7-4]. In the lower three sections, brook trout accounted for 18-66% of the species present. In the upper three sections, brook trout accounted for 83-97% percent of fish present. Westslope cutthroat trout were present in all six sections but in low numbers compared to brook trout. With the exception of the lowest Browns Gulch section, numbers of brook trout handled and brook trout population estimates increased significantly in 2016 compared to 2015. Westslope cutthroat trout capture numbers increased at the Brothers Ranch section from 3 in 2015 to 16 in 2016. No westslope cutthroat trout were captured in 2015 in the Upper Ueland Section, but 3 were captured at the section in 2016. Rocky Mountain sculpin were present in the

lower four sections and were the abundant species in the lower section. Longnose suckers were sampled in the lower three sections but not in the upper three.

Three sections were sampled in German Gulch [Table 7-5]. Westslope cutthroat trout were the dominant species in all sections making up 69-100% of the species present. Rocky Mountain sculpin were the only non-trout fish captured in German Gulch and were only captured in the lowest section. Brook trout were present in the two lower sections but absent in the upper section. Westslope cutthroat trout population estimates increased in 2016 compared to 2015 from 52 (95% CI = 51-55) to 86 (95% CI = 78-94) fish/100 m at the lowest section and from 28 (95% CI = 28-29) to 77 (95% CI = 71-83) fish/100 m at the middle section. The brook trout population estimate increased from six (95% CI = 6-7) to 23 (95% CI = 22-24) fish/100 m from 2015 to 2016 at the middle section. Brook trout estimates at the lower sections were similar between years.

Westslope cutthroat trout were the most common fish at both sampling sections in Beefstraight Creek, accounting for 63-76% of fish captured [Table 7-6]. Fewer brook trout were present in the upper section. No non-trout species were observed. Westslope cutthroat trout numbers were similar in 2016 compared to 2015 at both sections, but brook trout numbers increased from 22 (95% CI = 22-23) to 35 (95% CI = 31-39) fish/100 m at the lowest section. A population estimate for brook trout could not be generated in 2015 at the upper section due to low fish numbers, but the number of brook trout caught at this section increased from seven in 2015 to 18 in 2016.

Table 7-1. Electrofishing data collected on Silver Bow Creek in August 2016. Population estimates (95% confidence interval) are for fish greater than 75 mm (~3 in) in total length.

Section	Species	Population Estimate (fish/100 m)	Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
Above Hwy 1 Bridge	Rocky Mountain Sculpin	NA	47	unk	28-95	37
	Longnose Sucker	NA	48	144	83-242	38
	Brook Trout	NA	1	unk	91	<1
	Rainbow Trout	NA	1	unk	220	<1
	Redside Shiner	NA	30	unk	55-90	24
Fairmont	Rocky Mountain Sculpin	NA	127	unk	34-124	49
	Brook Trout	18(16-20)	60	158	67-425	23
	Longnose Sucker	12(9-15)	38	132	74-200	15
	Westslope Cutthroat Trout	8(7-9)	29	147	56-359	11
	Redside Shiner	NA	3	unk	67-90	1
	Largescale Sucker	NA	1	unk	221	<1
Below German Gulch	Rocky Mountain Sculpin	NA	151	unk	26-110	59
	Longnose Sucker	6(5-7)	25	120	66-170	10
	Westslope Cutthroat Trout	15(14-16)	58	200	53-415	23
	Brook Trout	4(4-5)	19	144	66-230	7
	Central Mundminnow	NA	1	unk	109	<1
Ramsay	Longnose Sucker	NA	65	117	43-286	76
	Westslope Cutthroat Trout	NA	2	166	165-166	3
	Rocky Mountain Sculpin	NA	18	unk	42-123	21
Rocker	Longnose Sucker	NA	133	151	46-212	97
	Central Mundminnow	NA	1	128	128	1
	Westslope Cutthroat Trout	NA	3	220	206-244	2
LAO	Rocky Mountain Sculpin	NA	46	unk	31-115	78
	Longnose Sucker	NA	6	110	95-157	10
	Brook Trout	NA	5	262	220-285	9
	Westslope Cutthroat Trout	NA	2	239	212-265	3

NA Not applicable because data insufficient.

unk Unknown.

Table 7-2. Electrofishing data collected on Silver Bow Creek in October 2016. Population estimates (95% confidence interval) are for fish greater than 75 mm (~3 in) in total length.

Section	Species	Population Estimate (fish/100 m)	Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
Above Hwy 1 Bridge	Rocky Mountain Sculpin	NA	12	unk	51-109	30
	Longnose Sucker	NA	11	159	51-221	28
	Brook Trout	NA	3	119	98-129	8
	Rainbow Trout	2(1-2)	6	235	104-435	15
	Westslope Cutthroat Trout	2(1-2)	6	212	195-234	15
	Largescale Sucker	NA	1	unk	168	2
	Redside Shiner	NA	1	unk	91	2
Fairmont	Rocky Mountain Sculpin	NA	58	unk	42-102	32
	Brook Trout	7(6-8)	23	157	117-251	13
	Longnose Sucker	NA	59	168	79-262	32
	Westslope Cutthroat Trout	6(5-6)	20	207	66-374	11
	Rainbow Trout[54]	6(4-7)	9	127	108-161	5
	Rainbow Trout-Westslope Cutthroat Trout phenotypic hybrid*	NA	9	178	109-243	5
	Largescale Sucker	NA	4	151	126-195	2
Below German Gulch	Rocky Mountain Sculpin	NA	16	unk	35-118	70
	Westslope Cutthroat Trout	NA	4	246	69-407	17
	Brook Trout	NA	3	100	87-109	13
Ramsay	Longnose Sucker	8(4-13)	49	98	50-272	45
	Brook Trout	2(1-2)	6	188	125-319	6
	Westslope Cutthroat Trout	4(3-5)	14	272	126-414	13
	Rocky Mountain Sculpin	NA	39	unk	56-134	36
	Brown Trout	NA	1	260	260	1
Rocker	Longnose Sucker	74(69-78)	219	126	44-227	98
	Central Mundminnow	NA	2	142	130-153	1
	Brook Trout	NA	2	163	151-175	1
LAO	Rocky Mountain Sculpin	NA	56	unk	43-112	80
	Longnose Sucker	NA	3	109	84-131	4
	Brook Trout	3(3-3)	7	280	193-422	10
	Westslope Cutthroat Trout	NA	4	260	177-420	6

NA Not applicable because data insufficient.

unk Unknown.

[54]Rainbow trout and rainbow trout-westslope cutthroat trout phenotypic hybrids were combined for estimate.

Table 7-3. Electrofishing data collected on Blacktail Creek in 2016. Population estimates (95% confidence interval) are for trout greater than 75 mm (~3 in) in total length.

Section	Species	Population Estimate (fish/100 m)	Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
Father Sheehan	Brook Trout	107(104-109)	244	169	49-440	78
	Longnose Sucker	6(5-6)	17	129	53-246	5
	Rocky Mountain Sculpin	NA	47	unk	49-115	15
	Central Mundminnow	NA	4	unk	80-98	1
	Westslope Cutthroat Trout	NA	1	210	210	<1
Golf Course Butte C.C.	Brook Trout	205(197-213)	296	121	51-335	92
	Longnose Sucker	14(5-22)	14	110	70-193	4
	Rocky Mountain Sculpin	NA	7	unk	76-110	2
	Central Mundminnow	NA	4	84	70-95	1
Above Blacktail Loop	Brook Trout	85(82-88)	187	93	42-234	91
	Longnose Sucker	15(11-19)	19	116	42-178	9
Below 9 Mile	Brook Trout	147(142-152)	144	123	60-270	77
	Westslope Cutthroat Trout	32(26-38)	30	167	77-251	16
	Longnose Sucker	11(11-11)	11	166	125-202	6
	Central Mundminnow	NA	1	unk	76	1
Above 9 Mile	Brook Trout	NA	112	98	55-228	70
	Westslope Cutthroat Trout	NA	49	105	53-174	30
Upper Thompson	Westslope Cutthroat Trout	48(46-50)	50	122	73-222	48
	Brook Trout	48(44-52)	55	110	44-203	52
Upper Forest Service	Westslope Cutthroat Trout	6(5-7)	56	62	40-142	85
	Brook Trout	9(8-10)	10	95	74-142	15

NA Not applicable because data insufficient.

unk Unknown.

Table 7-4. Electrofishing data collected on Brown's Gulch in 2016. Population estimates (95% confidence interval) are for trout greater than 75 mm (~3 in) in total length.

Section	Species	Population Estimate (fish/100 m)	Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
Lower Ueland (RM 2.6)	Brook Trout	12(11-13)	14	204	160-282	18
	Rocky Mountain Sculpin	NA	47	unk	68-135	61
	Longnose Sucker	9(8-10)	13	88	62-113	17
	Westslope Cutthroat Trout	NA	3	178	136-199	4
Upper Ueland (RM 5.3)	Brook Trout	24(21-27)	26	109	54-197	43
	Rocky Mountain Sculpin	NA	26	unk	74-109	43
	Longnose Sucker	NA	6	111	66-155	9
	Westslope Cutthroat Trout	NA	3	188	174-200	5
Brothers Ranch (RM 9.7)	Brook Trout	81(69-93)	87	124	45-281	66
	Longnose Sucker	NA	14	122	92-189	11
	Rocky Mountain Sculpin	NA	15	unk	35-126	11
	Westslope Cutthroat Trout	16(15-17)	16	153	100-184	12
Balentine (RM 11.5)	Brook Trout	153(146-161)	155	110	45-197	83
	Westslope Cutthroat Trout	24(18-31)	20	144	97-196	11
	Rocky Mountain Sculpin	NA	5	99	79-125	6
Lower Forest Service (RM 13.8)	Brook Trout	94(91-97)	105	106	50-218	91
	Westslope Cutthroat Trout	7(6-8)	11	97	68-143	9
Upper Forest Service (RM 15.3)	Brook Trout	134(131-137)	153	104	43-193	97
	Westslope Cutthroat Trout	NA	5	86	68-131	3

NA Not applicable because data insufficient.

unk Unknown.

RM River mile; measured upstream from river mouth.

Table 7-5. Electrofishing data collected on German Gulch in 2016. Population estimates (95% confidence interval) are for trout greater than 75 mm (~3 in) in total length.

Section	Species	Population Estimate (fish/100 m)	Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
RM 0.2	Westslope Cutthroat Trout	86(78-94)	152	120	68-352	69
	Brook Trout	23(22-24)	62	113	42-353	28
	Rocky Mountain Sculpin	NA	5	unk	70-110	3
RM 3.0	Westslope Cutthroat Trout	77(71-83)	83	102	59-230	69
	Brook Trout	23(22-24)	38	92	36-180	31
RM 6.0	Westslope Cutthroat Trout	NA	5	167	93-215	100

NA Not applicable because data insufficient.

unk Unknown.

RM River mile; measured upstream from river mouth.

Table 7-6. Electrofishing data collected on Beefstraight Creek in 2016. Population estimates (95% confidence interval) are for trout greater than 75 mm (~3 in) in total length.

Section	Species	Population Estimate (fish/100 m)	Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
Above lower bridge (RM 1.3)	Westslope Cutthroat Trout	58(57-59)	146	117	54-275	63
	Brook Trout	35(31-39)	86	95	32-184	37
Below Spring Creek Trail Crossing (RM 4.5)	Westslope Cutthroat Trout	51(49-53)	58	107	52-205	76
	Brook Trout	11(10-12)	18	72	30-126	24

RM River mile; measured upstream from river mouth.

7.4 DISCUSSION

In August, when water temperatures were at their highest and stream flows at their lowest, trout numbers below German Gulch and the Fairmont section were significantly higher than other sections of Silver Bow Creek. Few trout were captured at the other four Silver Bow sampling sections at this time. The total number of trout captured at the Below German Gulch and Fairmont sections decreased from 166 to 68 between August and October. Overall trout numbers for the other four sections increased from 14 to 49 from August to October. It appears that trout may have been seeking thermal refuge immediately downstream of German Gulch in August and dispersed after temperatures in the rest of Silver Bow creek cooled in the fall. This pattern is similar to the findings of a trout movement study that demonstrated low abundance of salmonids in hypoxic sections of Silver Bow Creek during summer and increased abundance

in these sections after hypoxic conditions subsided in the winter [Naughton, 2013]. Naughton [2013] found that WCT in the vicinity of German Gulch moved into sections of Silver Bow Creek as water quality improved. Thus, seasonal changes in water temperature and water quality strongly influence salmonid distribution in Silver Bow Creek.

Metals cleanup activities have improved the habitability of Silver Bow Creek for native fishes. Improvements in the Butte municipal water treatment facility should result in a reduction of ammonia discharge and potentially reduce the prevalence of hypoxic conditions. It will be critical to monitor how fish populations respond to these improvements. Past surveys on Silver Bow Creek have documented relative abundance, expressed as fish/unit time or fish per length of stream (e.g., Atkins [2013b]; Naughton [2013]). This information has been valuable to document the recolonization of Silver Bow Creek by various fish species. These surveys have captured fish using a single backpack electrofishing unit and crews of two or three people. Fish surveys since 2015 have utilized two electrofishing units and four to six person crews at each section. Using two electrofishers has increased fish capture efficiency and allowed for calculation of true abundance estimates. As the abundance and distribution of fishes continue to change in response to improvements in habitat and water quality, estimates of abundance will be critical in documenting these changes.

8.0 GEOMORPHOLOGY

8.1 INTRODUCTION

Geomorphology monitoring was performed in Subareas 2 and 4 of the Streamside Tailings Operable Unit (SSTOU) in 2016 to evaluate conditions in the stream channel compared to project reference values and to assess potential ongoing maintenance needs. This chapter describes geomorphic monitoring activities in the SSTOU in 2016. Monitoring is conducted at each site five and ten years after remediation is completed. In 2016, monitoring was conducted at two sites: one of which was in Subarea 2 (SS-11C) and one of which was in Subarea 4 (SS-16B) [Figure 8-1]. Monitoring at site SS-11C was conducted for the second time and represents conditions ten years after remediation. Monitoring at site SS-16B was conducted for the first time and represents conditions five years after remediation. Specific parameters at each site were compared to geomorphic reference values as described in the long-term monitoring plan for Silver Bow Creek [MDEQ and NRDP, 2004].

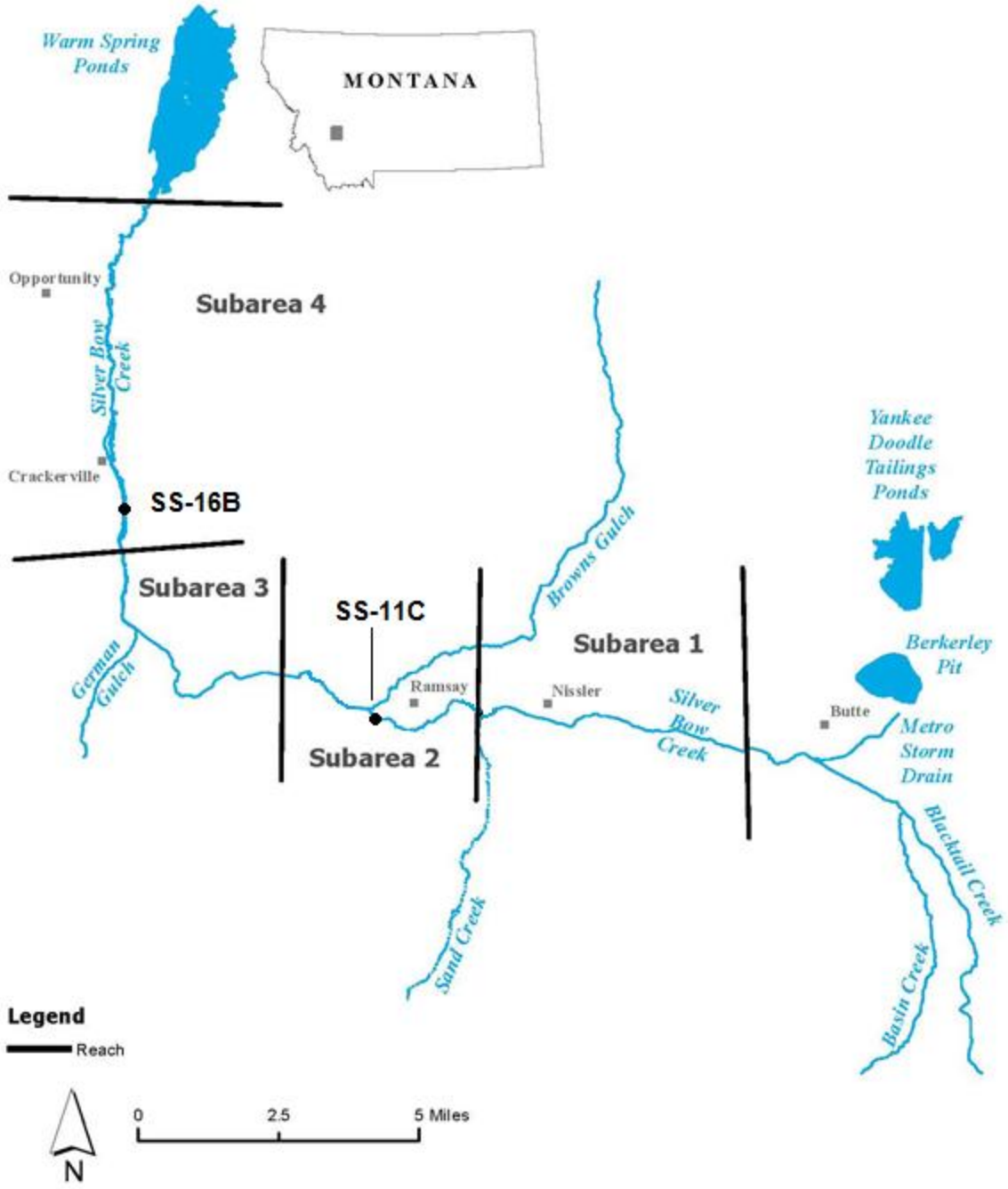

Figure 8-1. Geomorphic monitoring reaches and remedial Subareas in the Streamside Tailings Operable Unit, 2016.

8.2 METHODS

The sampling methods employed in this evaluation were established in an early version of the SSTOU monitoring plan [MDEQ and NRDP, 2004] and are described in the 2016 update to the project sampling and analysis plan [RESPEC, 2016a]. These methods were largely derived from components of the environmental monitoring and assessment program (EMAP) protocols developed by the U.S. Environmental Protection Agency to evaluate wadeable streams [Peck et al., 2001].

8.2.1 Monitoring Locations

Geomorphic monitoring was conducted at two monitoring sites on Silver Bow Creek in 2016: SS-11C and SS-16B [Figure 8-2]. Monitoring site SS-11C is located immediately upstream of the Browns Gulch tributary and monitoring site SS-16B is located downstream from the Fairmont Road crossing.

At each monitoring site, a 1,000-ft monitoring reach was established and geomorphic channel characteristics were described within each reach. Based on the methodological precedent from prior monitoring in the SSTOU, monitoring sites are to extend from the surface water sampling site (upstream end) [Figure 8-2] approximately 1,000 feet downstream. At site SS-11C, a previous monitoring reach had been established and monitoring in 2016 was conducted within that same reach. At site SS-16B, no prior monitoring had occurred and a new monitoring reach was established. The monitoring reach at SS-11C extended approximately 1,000 feet downstream beginning from surface water monitoring site SS-11C [Figure 8-2]. At SS-16B, a monitoring reach was established that extended approximately 1,000 feet downstream beginning from surface water monitoring site SS-16B [Figure 8-2].

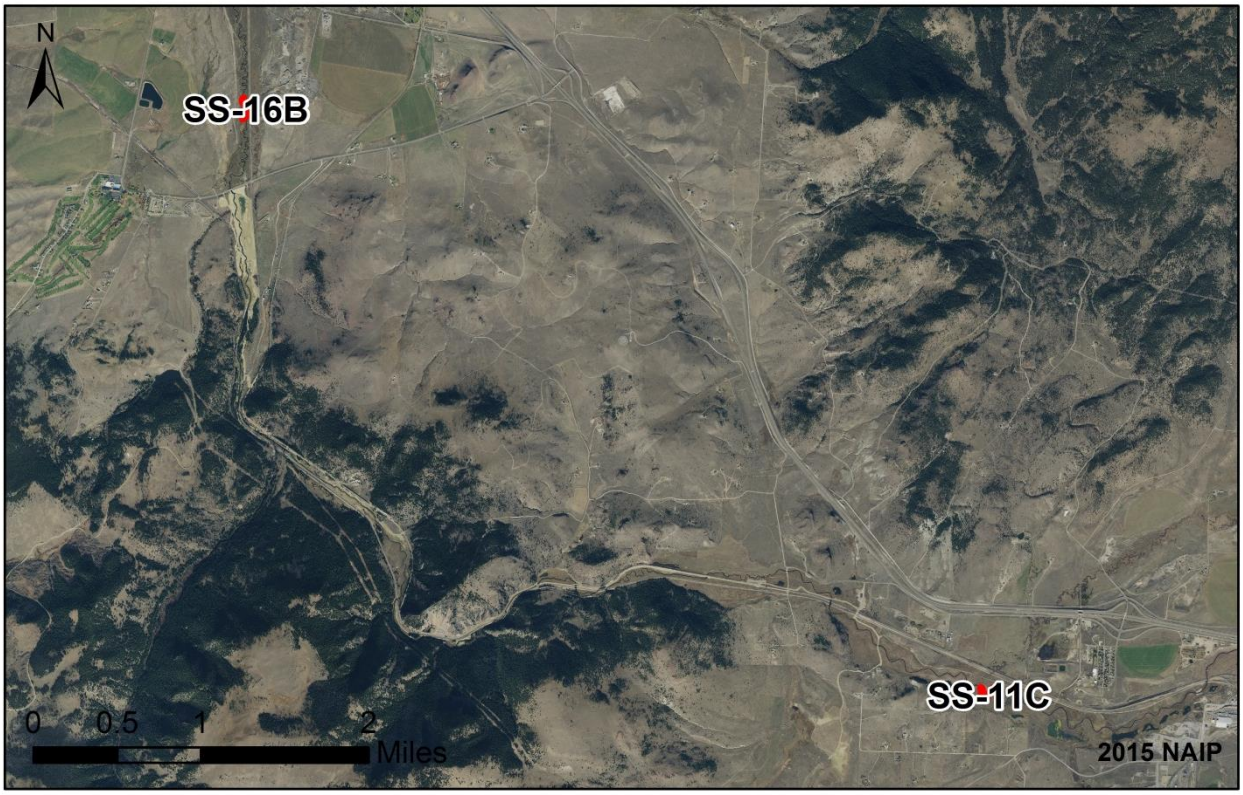

Figure 8-2. Geomorphic monitoring locations for the Streamside Tailings Operable Unit, 2016.

8.2.2 Monitoring Schedule

Based on the monitoring program guidelines, geomorphic monitoring occurs at each monitoring site initially after five years have elapsed since remediation was completed and again after ten years [MDEQ and NRDP, 2004]. As of 2016, monitoring has been conducted in all Subarea 1 and 2 monitoring sites and in one Subarea 4 monitoring site [Table 8-1]. Monitoring in 2016 was conducted for the second time (i.e., ten year post-remediation monitoring) at site SS-11C and for the first time (i.e., five year post-remediation monitoring) at site SS-16B [Table 8-1]. For 2016 monitoring, all field data was collected on October 6, 2016.

Table 8-1. Geomorphic monitoring schedule for the Streamside Tailings Operable Unit. Sites are to be monitored at five year intervals after remediation has been completed in each associated reach [MDEQ and NRDP, 2004][55].

Subarea	Reach	Sites within Reach	Year remedy completed	Monitoring Scheduled		Monitoring Occurred		Monitored in 2016
				5-Year	10-Year	5-Year	10-Year	
1	A	SS-07	2003	2008	2013	-	2013	
	B	SS-08	2003	2008	2013	2007	2013	
	E	SS-10A	2003	2008	2013	2009	2014	
2	F	SS-10B	2004	2009	2014	2009	2014	
	H	SS-11C	2006	2011	2016	2011	2016	X
	I	SS-11D	2008	2013	2018	2012		
		SS-13	2008	2013	2018	2014		
	J	SS-14D	2008	2013	2018	2014		
3	M	SS-15A	2013	2018	2023			
		SS-15B	2013	2018	2023			
4	P	SS-16B	2010	2016	2021	2016		X
	T	SS-17D	2013	2018	2023			
		SS-19	2013	2018	2023			

8.2.3 Monitoring Parameters

Geomorphic monitoring metrics and reference values for those metrics are described in Table 8-2. The monitoring metrics include assessments of pool availability; channel morphology; and the availability of overhead cover for aquatic animals as provided by undercut banks, the riparian canopy, streamside vegetation, and instream wood.

Table 8-2. Reference value for geomorphic monitoring metrics in the Streamside Tailings Operable Unit following Remediation.

Monitoring Metric	Year (post-remediation)	
	5	10
Percent pools (%)	20-50	20-50
Average width to depth ratio	8-14	8-14
Undercut banks (%)	8-20	8-20
Riparian cover; overstory (>5 m) canopy (%)	45-65	45-65
Channel cover (%)	15-35	15-35
Woody debris (%)	15-35	15-35

[55] Some SSTOU monitoring sites (SS-01, SS-05A, SS-06G, SS-15G) are monitored for other environmental media (e.g., surface water) but these sites are located outside the SSTOU. Geomorphology will not be monitored at those sites unless requested by MDEQ.

8.2.4 Sample Collection and Analysis

8.2.4.1 Percent Pools

At each monitoring site, a longitudinal profile (approximately 1,000 feet length) of the stream bottom at the channel thalweg was surveyed using a survey grade GPS (accuracy ±3 cm). Maximum spacing between survey points (i.e., spatial coordinates including latitude, longitude, and elevation) was 100 feet. Points were spaced more closely where the channel curved, where secondary channels occurred, at substantial slope inflection points within the channel, and at changes in instream habitat features. Instream habitat features were identified visually and describe the geomorphic channel unit character of the stream (i.e., riffle, run, or pool). The proportion of pool habitat (at the channel thalweg) within the overall 1,000 foot thalweg length of the entire survey section was calculated from data collected in the longitudinal profile.

8.2.4.2 Width to Depth Ratio

Channel cross-sections were surveyed at 100 foot intervals (11 cross-sections total including the upstream and downstream end of the survey section) using a survey grade GPS. Cross-sections were labeled A through K starting at the upstream end of each monitoring site. For each cross-section, at least ten points were surveyed within the bankfull channel, including points at the bankfull channel margin, water edge, thalweg, and all substantial slope inflection points within the channel. For each channel cross-section surveyed, the bankfull width and mean bankfull depth were determined and the channel width to depth ratio (the quotient of the bankfull width and mean bankfull depth) was calculated. Cross-section locations in 2016 are displayed for SS-11C [Figure 8-3] and SS-16B [Figure 8-4].

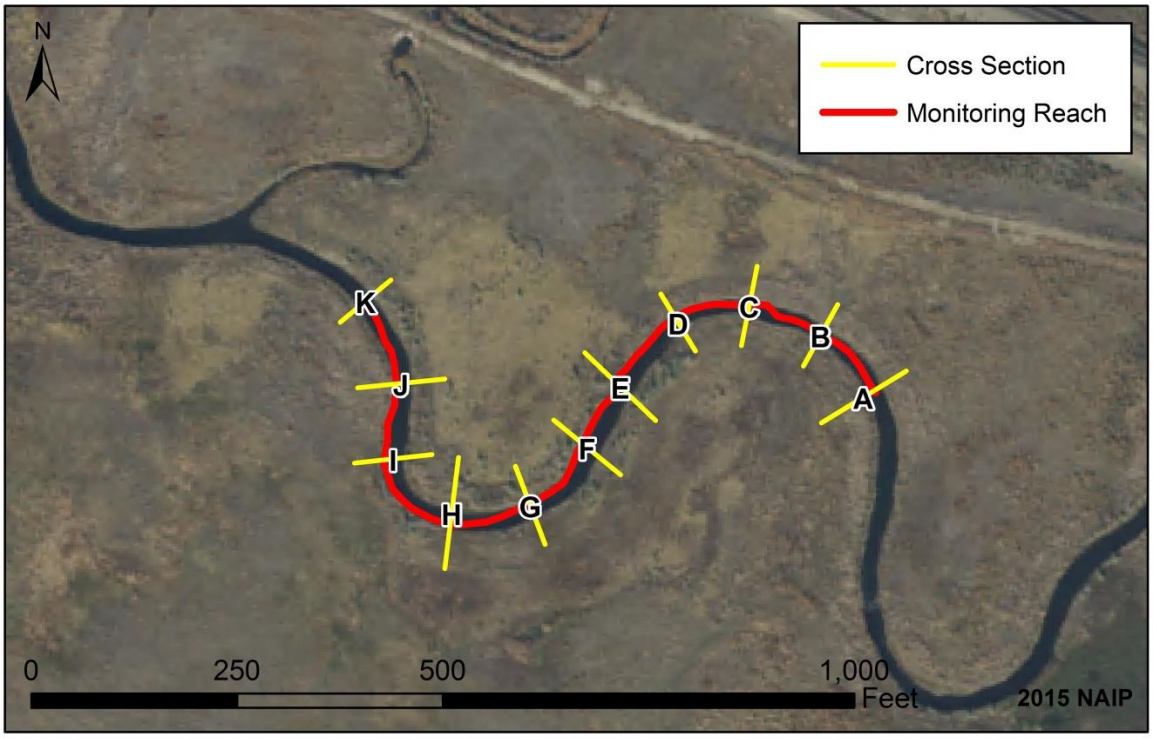

Figure 8-3. Channel cross-section monitoring transects in survey reach SS-11C of the Streamside Tailings Operable Unit, 2016.

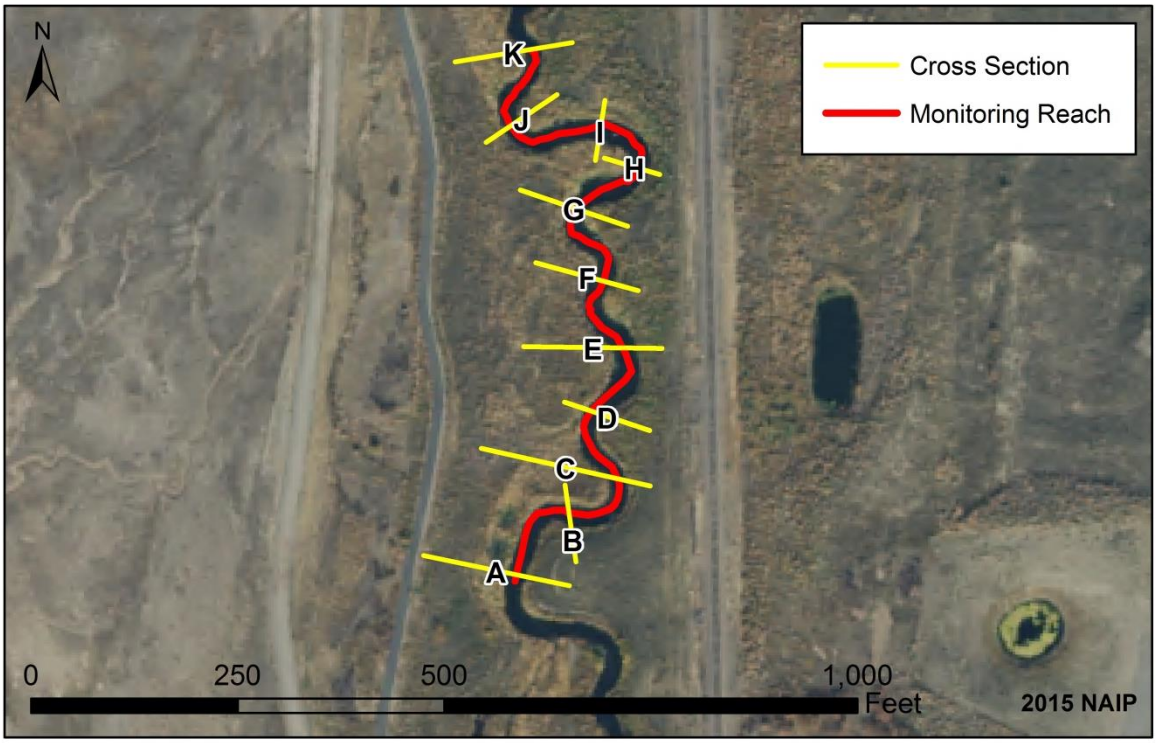

Figure 8-4. Channel cross-section monitoring transects in survey reach SS-16B of the Streamside Tailings Operable Unit, 2016.

8.2.4.3 Undercut Banks

At each cross-section transect, the areal cover of undercut banks was determined by measuring the length and depth of undercut banks along 15 feet to either side of the cross section intersection with each bank. Thus, 30 feet of streambank were evaluated on river right and 30 feet of streambank were evaluated on river left at each transect. The total length of streambank surveyed was 660 feet at the number of discrete survey sections along the streambank was 22 for each reach.

8.2.4.4 Riparian Cover

The proportion of areal cover provided by riparian vegetation was estimated visually in 22 discrete monitoring plots (plot area = 900 square feet) in each monitoring reach. Areal cover over the floodplain was estimated for three types of riparian vegetation: ground (annual vegetation; <0.5m), understory (shrubs and willows; 0.5-5 m), and overstory (trees not including willows; >5 m). Square sample plots were located along the streambanks, centered at each cross-section transect, and extending 30 feet back from the streambanks.

8.2.4.5 Channel Cover

At each of the 11 cross-section transects, the areal cover of overhanging vegetation was measured using a spherical densiometer [Peck et al., 2001]. Six measurements were taken at each of the 11 river transects including measurements at the wetted edge of the right and left banks, and four measurements at the center of stream channel at a height of 1-foot above the surface of the stream. Measurements at the center of the stream channel were made facing upstream, toward the left bank, toward the right bank, and downstream [Peck et al., 2001].

8.2.4.6 Woody Debris

At each of the 11 cross-section transects, the percent of stream channel cover provided by woody debris was estimated within an area extending 15 feet to either side of the cross section along both banks and extending the full width of the stream. Woody debris was defined as having a diameter ≥4 inches on the small end and a length ≥5 feet [Peck et al., 2001].

8.2.5 Data Analysis

For the monitoring metrics described at each of the cross-section transects (i.e., width to depth ratio, undercut banks, overstory canopy cover, overhanging vegetation, and woody debris cover), the mean of all measurements was compared to the reference value [Table 8-2]. The percent of pool habitat was calculated as the proportion of pool length to total channel length within each section.

8.3 RESULTS

8.3.1 Percent Pools

Pools comprised 29% of the channel length in monitoring reach SS-11C and 49% of the channel length in monitoring reach SS-16B in 2016 [Table 8-3]. Percent pool habitat was within the reference value range (20-50%) for the SSTOU at both sites in 2016. Pools were generally less frequent but longer in reach SS-11C compared to SS-16B [Figure 8-5]. From 2011 (Year-5) to 2016 (Year-10), pool percentage in monitoring reach SS-11C decreased from 52% (2011; Confluence 2011) to 29% [Table 8-3].

Table 8-3. Composition of instream feature types within monitoring reaches of the Streamside Tailings Operable Unit, 2016.

Monitoring Reach	Total Length (feet)	Instream Feature	Feature Length (feet)	Reach Proportion (%)
SS-11C	1,016	Riffle	475	47
		Run	246	24
		Pool	296	29
SS-16B	1,045	Riffle	514	49
		Run	17	2
		Pool	513	49

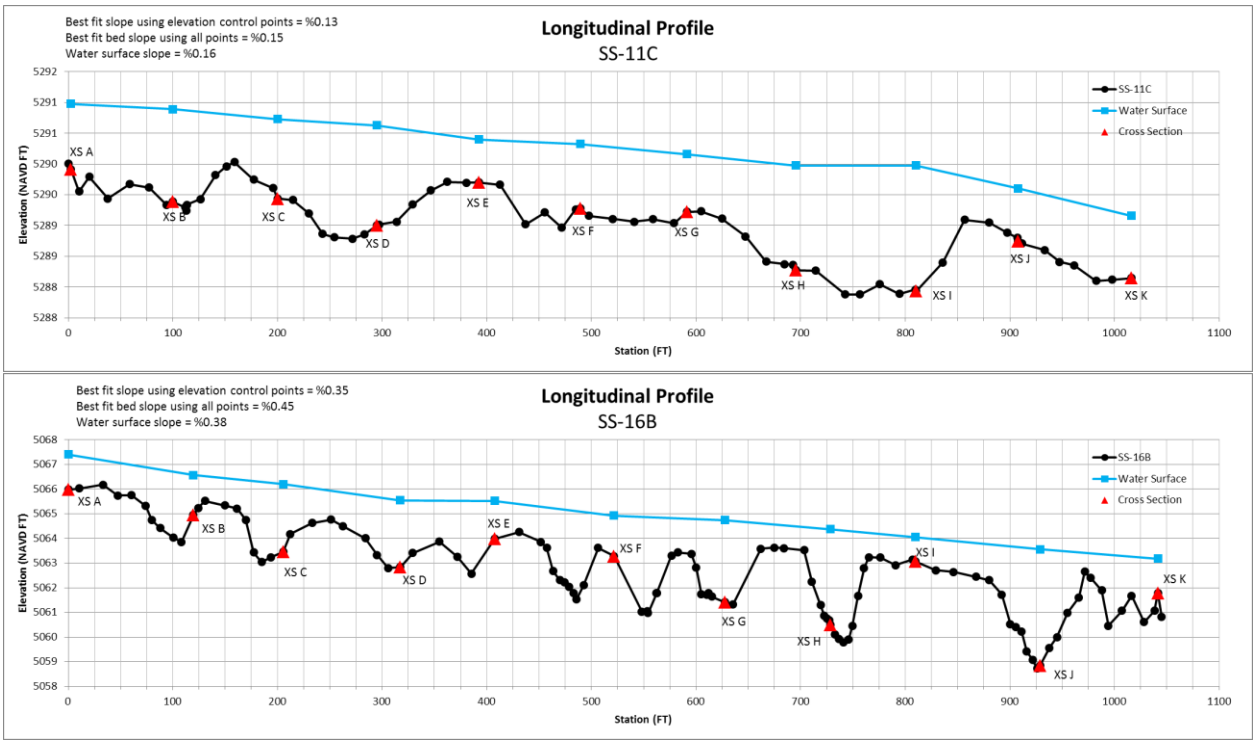

Figure 8-5. Longitudinal profiles of the Silver Bow Creek channel (thalweg) in monitoring reaches of the Streamside Tailings Operable Unit, 2016.

8.3.2 Width to Depth Ratio

Stream channel dimensions and the assumed water elevation at the bankfull stream level at each cross-section are depicted for monitoring reach SS-11C [Figure 8-6] and SS-16B [Figure 8-7]. Mean width to depth ratio was 18.5 at SS-11C (standard deviation [SD] = 3.4) and 21.8 (SD = 6.3) at SS-16B. At both sites at least 10 out of 11 cross-sections had width to depth ratios above the reference range [Table 8-4; Figure 8-8]. Individual cross-section width to depth ratios ranged from 13.6-24.0 at SS-11C and from 13.8-32.8 at SS-16B [Table 8-4]. Mean width to depth ratio was above the reference value range (8-14) at both sites in 2016. From 2011 (Year-5) to 2016 (Year-10), mean width to depth ratio increased by 34%; from 13.8 in 2011 [Atkins, 2011] to 18.5 in 2016.

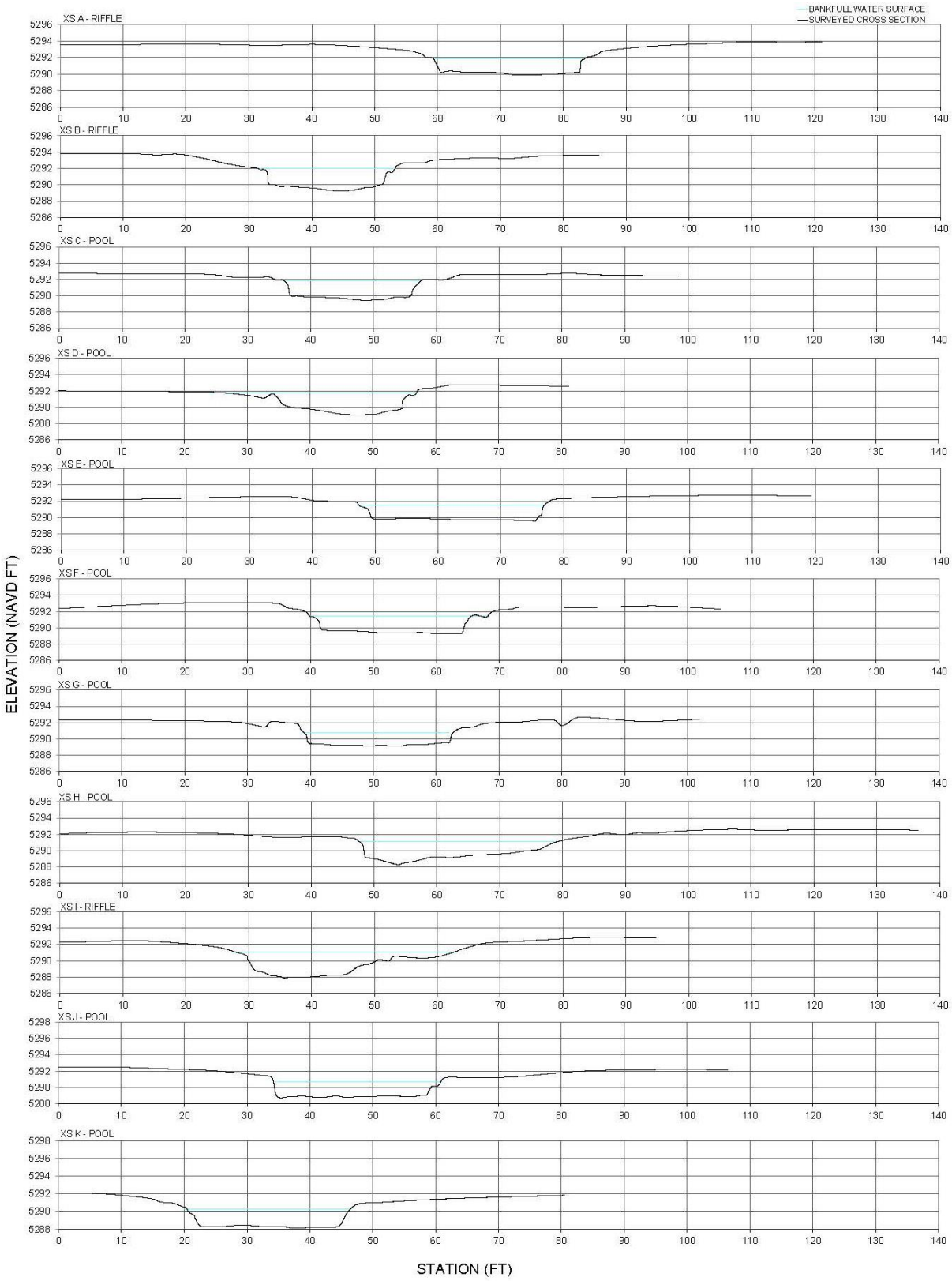

Figure 8-6. Surveyed stream channel cross-sections in reach SS-11C of the Streamside Tailings Operable Unit, 2016.

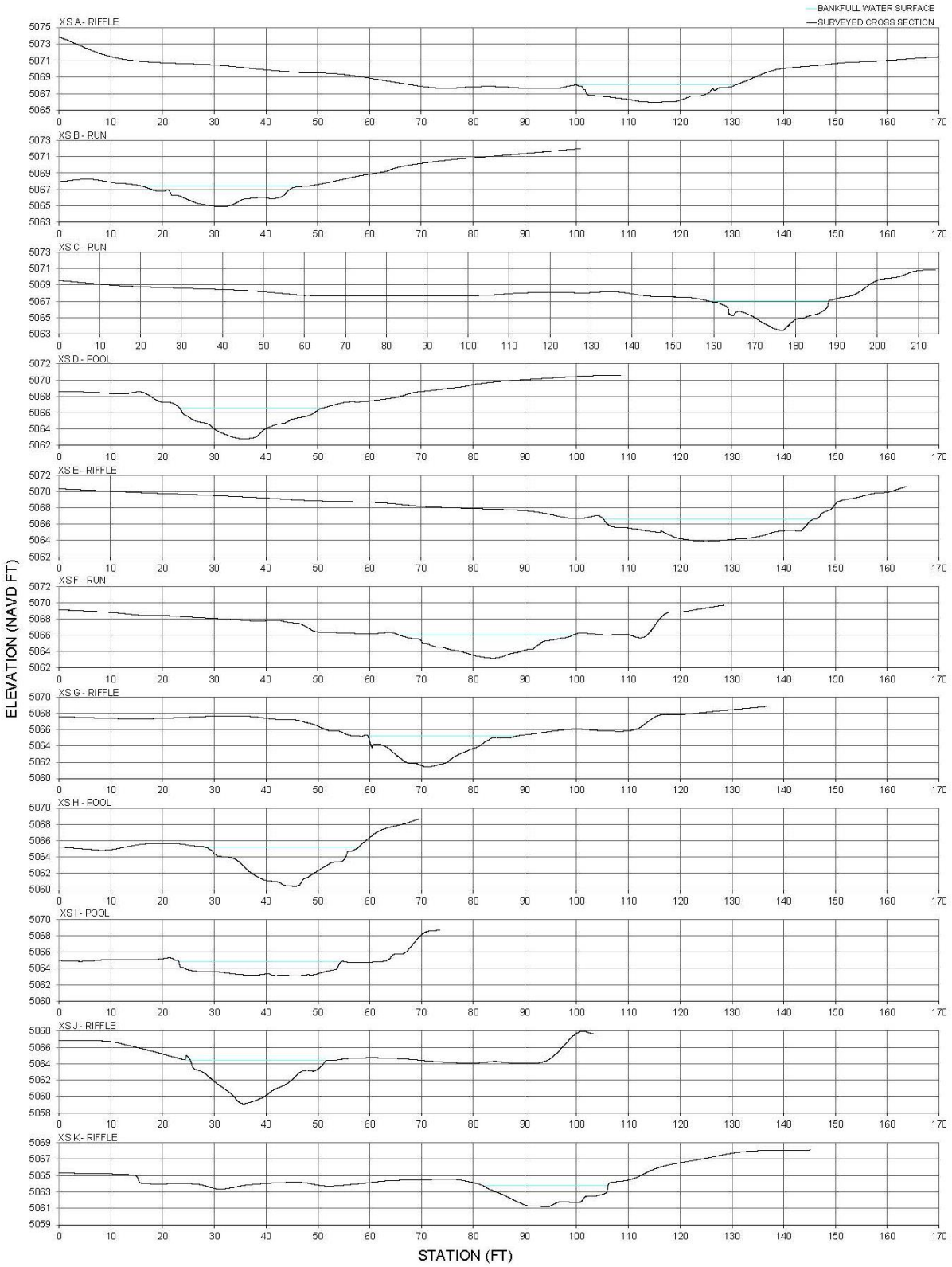

Figure 8-7. Surveyed stream channel cross-sections in reach SS-16B of the Streamside Tailings Operable Unit, 2016.

Table 8-4. Stream channel dimensions in the monitoring reaches of the Streamside Tailings Operable Unit, 2016.

Monitoring Reach	Cross-section	Bankfull width (feet)	Mean depth (feet)	Width to depth ratio	Mean width to depth ratio	Standard Deviation
SS-11C	A	24.0	1.4	17.4	18.5	3.4
	B	21.8	1.4	15.5		
	C	21.9	1.6	14.1		
	D	32.9	1.4	24.0		
	E	29.5	1.3	23.1		
	F	25.9	1.3	19.2		
	G	25.5	1.4	18.6		
	H	31.5	1.4	21.8		
	I	22.8	1.7	13.6		
	J	26.8	1.5	18.4		
	K	26.5	1.5	17.9		
SS-16B	A	30.9	0.9	32.8	21.8	6.3
	B	30.4	1.1	27.3		
	C	29.6	1.6	18.6		
	D	28.1	1.7	16.2		
	E	41.4	1.5	27.9		
	F	34.0	1.3	25.2		
	G	29.1	1.5	19.1		
	H	29.4	2.1	13.8		
	I	31.4	1.2	25.8		
	J	27.3	1.9	14.2		
	K	24.3	1.3	18.8		

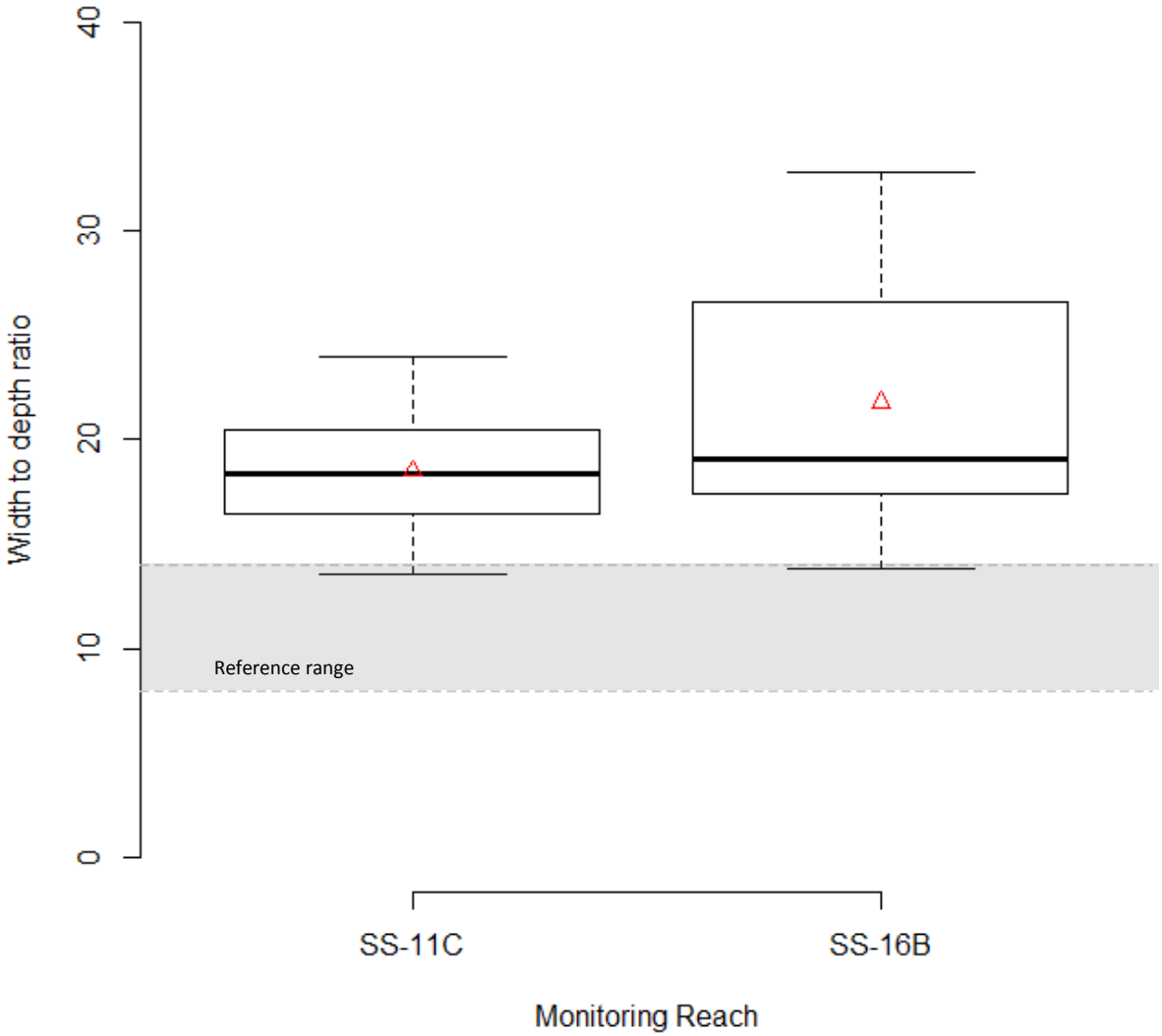

Figure 8-8. Width to depth ratios among cross-sections (*n* = 11) within two separate monitoring reaches of the Streamside Tailings Operable Unit, 2016. Red triangle represents group mean.

8.3.3 Undercut Banks

Mean undercut streambanks were 56% at monitoring reach SS-11C and 22% at SS-16B in 2016 [Table 8-5] and exceeded the reference value range (8-20%) at both sites in 2016 [Figure 8-9]. Twenty survey locations had streambanks that were completely undercut resulting in a highly right-skewed distribution at SS-16B [Figure 8-9]. Mean undercut bank proportion was similar in 2011 (52%; Atkins [2011]) to 2016 (56%) at SS-11C.

Table 8-5. Estimated proportion of undercut banks within monitoring reaches of the Streamside Tailings Operable Unit, 2016.

Monitoring Reach	Survey Locations	Surveyed Length (feet)	Undercut Length (feet)	Mean Proportion Undercut (%)	Standard Deviation
SS-11C	22	660	370	56.1	39.4
SS-16B	22	660	148	22.4	35.5

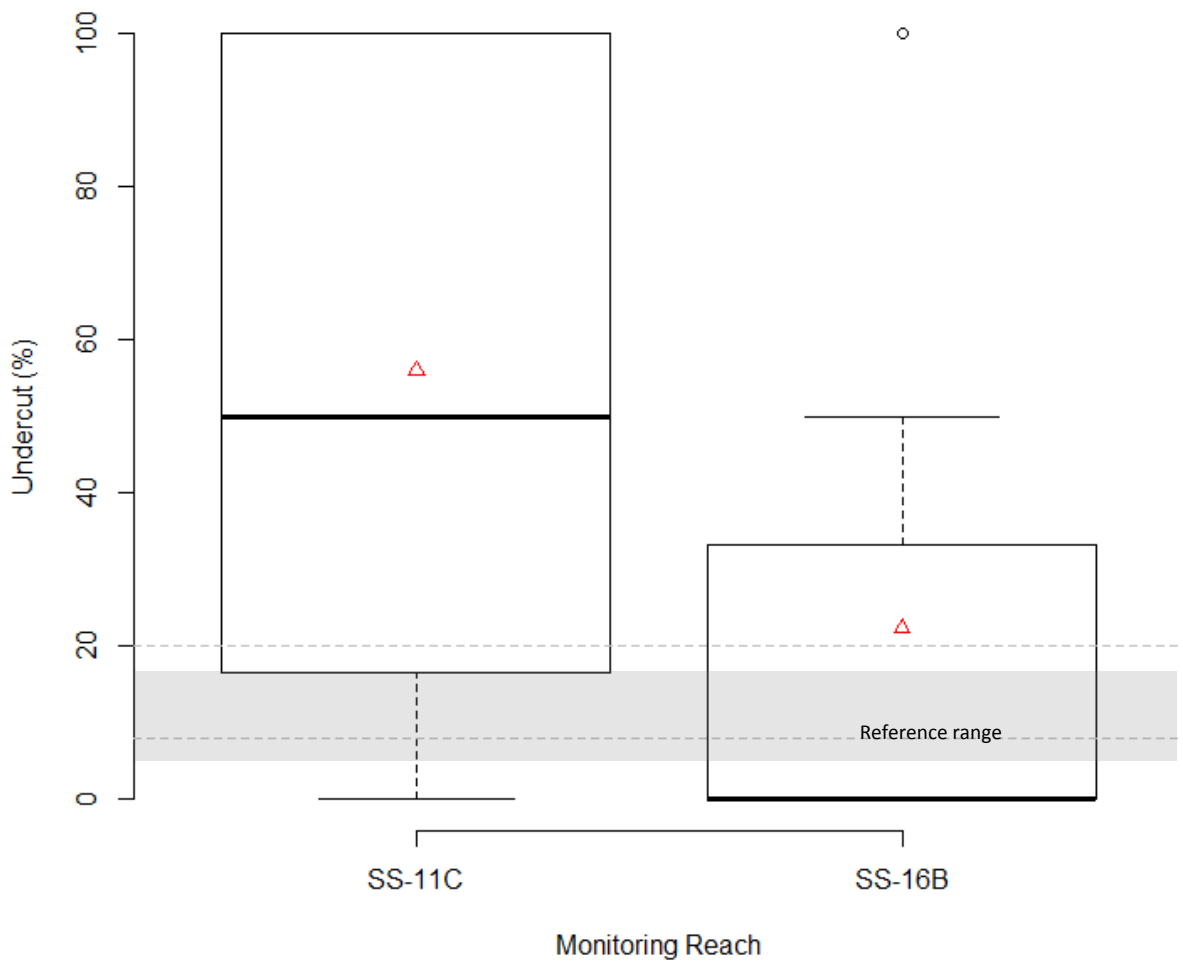

Figure 8-9. Estimates of undercut bank proportions at survey locations (*n* = 22) within each monitoring reach of the Streamside Tailings Operable Unit, 2016. Red triangle represents group mean.

8.3.4 Riparian Cover

The mean proportion of overstory cover was 0% (SD = 0%) at SS-11C and 0.7% (SD = 2.3%) at SS-16B [Table 8-6]. During prior monitoring in 2011, mean overstory cover in SS-11C was 0%,

which is below the reference value range [Atkins, 2011]. Both monitoring reaches had mean proportions of overstory riparian vegetation which were below the reference value range (45-65%) for the SSTOU [Figure 8-10]. The mean proportion of understory riparian cover was 11.8% (SD = 11.3%) at SS-11C and 27.5% (SD = 20.8%) at SS-16B [Table 8-6]. Mean ground cover was >95% at both sites in 2016.

Table 8-6. Estimated proportion of cover from riparian vegetation within monitoring reaches of the Streamside Tailings Operable Unit, 2016.

Monitoring Reach	Vegetation Cover (%)					
	Ground (<0.5 m)		Understory (0.5-5 m)		Overstory (>5 m)	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
SS-11C	95.2	4.1	11.8	11.3	0	0
SS-16B	96.8	4.7	27.5	20.8	0.7	2.3

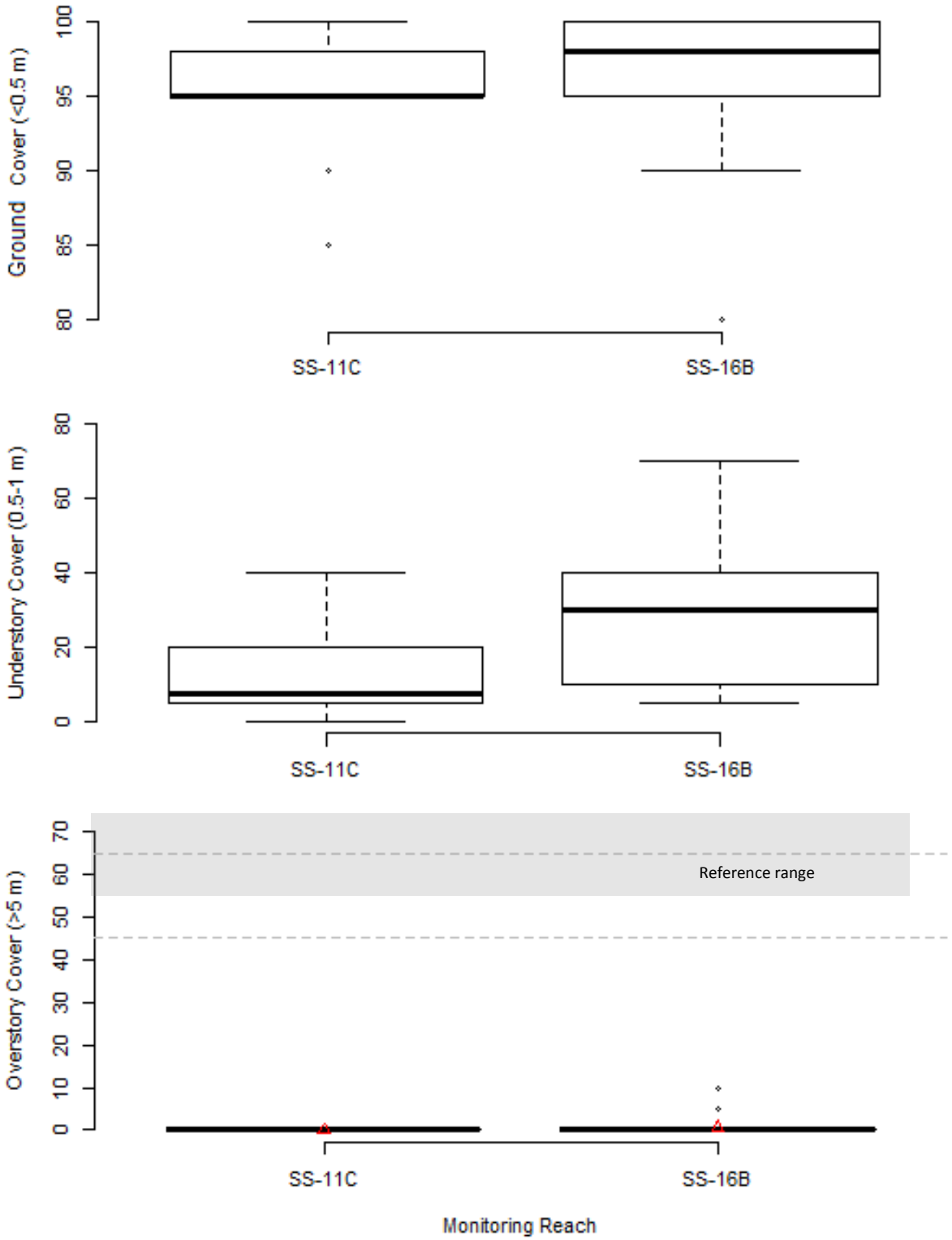

Figure 8-10. Riparian cover in two monitoring reaches of the Streamside Tailings Operable Unit, 2016. Note *y*-axes differ among panels. Red triangle represents group mean.

8.3.5 Channel Cover

Mean channel shading was 6.1% at monitoring reach SS-11C and 14.4% at SS-16B in 2016 [Table 8-7] and was below the reference value range (15-35%) at both sites [Figure 8-11]. All mean channel shading estimates were strongly skewed by measurements taken at the streambanks; there was relatively little channel shading in the channel center in all monitoring reaches. Mean channel shading decreased from 2011 (19%; Atkins [2011]) to 2016 (6.1%) at SS-11C.

Table 8-7. Stream channel shading in monitoring reaches of the Streamside Tailings Operable Unit, 2016.

Reach	Densiometer dots shaded (%)	
	Cross-section total	
	Mean	Standard Deviation
SS-11C	6.1	3.9
SS-16B	14.4	8.3

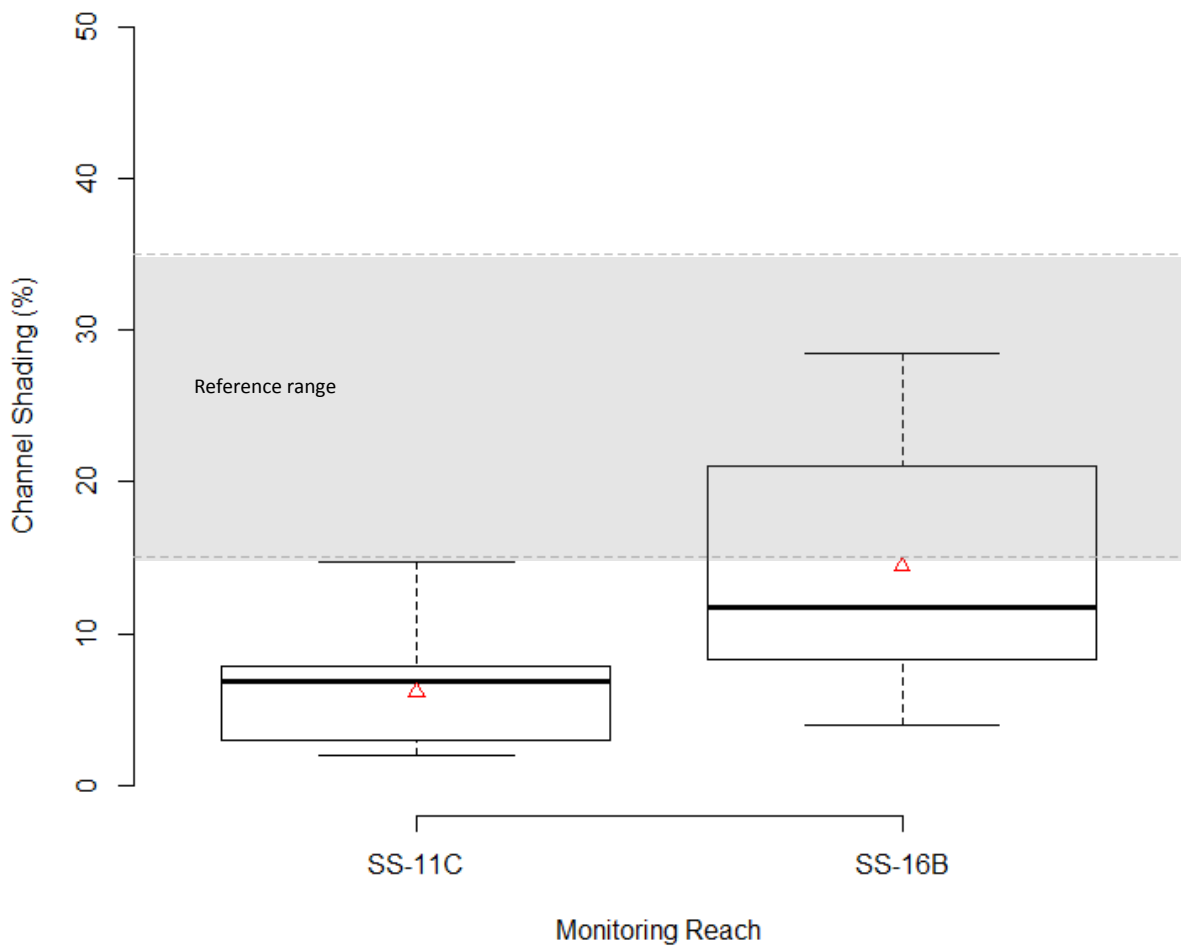

Figure 8-11. Channel shading estimates in two monitoring reaches of the Streamside Tailings Operable Unit, 2016.

8.3.6 Woody Debris

The mean proportion of each monitoring reach with streambank cover from large wood was 0% at both sites [Table 8-8]. The reference value range for streambank cover from large wood is 15-35% [Table 8-8]. During prior monitoring in 2011, mean streambank cover from large wood in SS-11C was also 0% [Atkins, 2011].

Table 8-8. Cover provided by large woody debris along the streambanks in four monitoring reaches of the Streamside Tailings Operable Unit, 2016.

Monitoring Reach	Survey Locations	Surveyed Length (feet)	Length Covered by Wood (feet)	Mean Proportion Covered by Wood (%)	Standard Deviation (%)
SS-11C	22	660	0	0.0	0.0
SS-16B	22	660	0	0.0	0.0

8.4 DISCUSSION

Results of geomorphic monitoring in the SSTOU in 2016 indicate that the reconstructed channel characteristics were within the reference value range only for pool percentage at both sites [Table 8-9]. Pool availability is a critically important habitat component for trout such as westslope cutthroat trout (which are native to the Silver Bow Creek watershed) in small streams [McIntyre and Rieman, 1995] such as Silver Bow Creek . All other metrics monitored had values outside the reference ranges [Table 8-9].

Although outside the reference ranges, observed results in 2016 for the undercut bank proportion may reflect favorable conditions for fish and other aquatic species. At both sites, the undercut bank proportion was above the reference value range [Table 8-9]. Undercut banks are often beneficial conditions for trout and other fishes because these features provide overhead cover from predation [Butler and Vernon, 1968]. At these sites, channel cover from woody debris and vegetation was low [Table 8-9] suggesting that cover provided by undercut banks may be particularly important in this system as this type of cover may compensate for the lack of cover provided by woody debris and streamside vegetation.

Several metrics were outside the reference value range and those metrics may reflect conditions which are detrimental for fish and other aquatic species. The width to depth ratio at both sites was above the reference value range indicating that the stream is wider and shallower compared to the reference system [Table 8-9]. At site SS-11C, the trend has been toward a higher width to depth ratio (either due to a wider channel, a shallower channel, or both) through time [Table 8-9]. Since the channel banks at the site appeared to be stable, an increase in the width to depth ratio through time likely indicates the channel is getting shallower perhaps as the channel bed aggrades due to sediment deposition. Shallower stream channels in small streams may increase exposure of fish to predation. Shallower also decrease thermal buffering resulting in greater temperature extremes during hot and cold periods [Torgersen et al., 1999].

Riparian cover and overall channel cover were below the reference range at both sites [Table 8-9]. Low riparian overstory cover reflects either the general scarcity of large tree plantings in the riparian area of the SSTOU or poor survival of those trees. Due to the scarcity of large trees, cover provided by those large tree plantings was not sufficient to reach the reference range in either of these reaches. Over the longer term, larger trees may (or may not) become more common on the floodplain through natural recruitment. However, after five and ten years of monitoring at these reaches there has apparently not been sufficient time for natural recruitment and growth of large trees to the extent that any could yet provide canopy cover. Despite low riparian cover, which is generally considered a condition beneficial for trout in streams [Romero et al., 2005], trout including westslope cutthroat trout have thrived in the remediated channel of Silver Bow Creek [Naughton, 2013; RESPEC, 2015b]. During extensive sampling of fish, habitat and water quality in Silver Bow Creek between 2010 and 2011 overhead riparian cover had little or no association with trout abundance in the channel [Naughton, 2013] perhaps because other important cover features (e.g., the relative availability of deep pools and undercut streambanks) compensate for the scarcity of cover.

Some willows and shrubs have grown vigorously and now approach 5 m in height, but all willows and shrubs were classified as understory cover rather than as overstory cover. In contrast to overstory riparian cover, ground cover was nearly 100% in both reaches and understory cover was considerably higher than overstory cover. Understory cover was dominated by willows. Willow growth was highest at the stream margins and appeared to decrease with lateral distance from the streambanks.

The reference range for woody debris cover may present an unrealistic target for the SSTOU. No woody debris was identified in either reach in 2016. It is highly unlikely that these reaches will have cover from large wood in the reference range in the near future due to the overall scarcity of trees in the riparian area at this time.

Table 8-9. Summary of geomorphology monitoring results for reaches monitored in the Streamside Tailings Operable Unit in 2016.

Monitoring Metric	Reference range	Site			
		SS-11C		SS-16B	
		Year-5 (2011)	Year-10 (2016)	Year-5 (2016)	Year-10
Percent pools (%)	20-50	52	29	49	NA
Average width to depth ratio	8-14	14	19	22	NA
Undercut banks (%)	8-20	52	56	22	NA
Riparian cover; overstory (>5 m) canopy (%)	45-65	0	0	1	NA
Channel cover (%)	15-35	19	6	14	NA
Woody debris (%)	15-35	0	0	0	NA

NA	Not applicable
	Within reference range.
	Outside reference range.

9.0 VEGETATION[56]

9.1 INTRODUCTION

In 2016, Bighorn Environmental Sciences (Dillon, Montana) monitored four aspects of remediation and restoration in the Streamside Tailings Operable Unit (SSTOU): revegetation monitoring, which evaluates different reaches each year in rotation until that reach passes the performance standard after one decade or is repaired; late winter-spring bird use, which evaluates different subareas each year in rotation; mycorrhiza, the symbiotic association of plant root and fungi in fields of various age; and limited soil sampling, mainly in Reach R.

Revegetation in each reach or phase of the SSTOU is monitored in temporal rotation until it passes standards, usually after a 10-year performance period. This report contains the results of 2016 revegetation monitoring in Reaches Q, R, and T (Subarea 4). Further sampling in Subarea 1 awaits completion of repairs.

Appendix J contains photographs of revegetation monitoring. Readers who have difficulty visualizing vegetation from descriptive data might want to review that appendix now. Appendix K contains the critical species-composition summaries based on canopy coverage.

Montana Department of Environmental Quality (MDEQ) now handles mapping internally. The entirety of the SSTOU has been assigned to consecutively numbered maps from the southwest edge of Butte (Map 1) to the I-90 crossing east of Opportunity (Map 35). Transects in Reaches Q and R are on Maps 24 through 30, while Reach T is on Maps 32-34.

9.1.1 Precipitation Effects

The SSTOU precipitation regime qualifies as semiarid. Seasonal and annual precipitation play such important roles in revegetation here that this report begins with a precipitation summary. Some precipitation effects are direct while others are indirect (e.g., they manifest as changes in groundwater elevation). Precipitation in May and June usually has the greatest direct effect on seed germination, plant establishment, and growth of cool-season plants, but antecedent soil moisture and the timing, intensity, and duration of rainfall all influence plant performance.

Average annual precipitation for the past 50 years at the Butte Airport was 12.5 inches [Table 9-1]. In a departure from the usual precipitation pattern, August to September for 2013-2015 (3.9 inches) almost equaled the typically wettest month of May to June (4.1 inches). In 2015, January through August was the driest year since 1988 with 6.8 inches; 12 years before work on the SSTOU began. This year, January to August precipitation was 6.1 inches with just 2.4 inches in the critical May to June period. In contrast, the typically dry months of September to October provided 3.6 inches of precipitation but our plants are adapted for spring precipitation. That is when most productivity occurs and flowering initiates in many plants.

[56] Chapter 9 was prepared by Rich Prodgers of Bighorn Environmental Sciences (Dillon, Montana) with minor editing and formatting by RESPEC.

The performance standards are intended to be applied in years of "near-normal" precipitation. Plant cover measured in August and September reflected one of the driest precipitation regimes on record. Therefore, one probably should conclude that failure to attain any revegetation standards in 2016 was due, at least to a substantial degree, to lack of spring precipitation.

Table 9-1. Precipitation at Butte, Montana.

Year	Precipitation (inches)	
	Annual	May and June
1964-2016 (mean)	12.5	4.3
2000-2010 (mean)	11.7	4.1
2010	15.4	6.8
2011	11.7	6.4
2012	9.1	3.8
2013	11.4	4.2
2014	14.9	4.2
2015	11.9	2.7
2016	10.6	2.4
2011-2016 (mean)	11.6	4.0

9.2 METHODS

9.2.1 Revegetation

Revegetation sampling in established revegetation, which combines canopy coverage [Daubenmire, 1959] from plots along transects and shrub density from 1-m wide belts along the same transects, remains unchanged from previous years.

Canopy coverage was estimated in 20 0.5-m^2 plots at 5-m intervals along each 100-m transect. Plant cover was estimated as accurately as possible; cover classes were not used. Shrubs were counted if rooted in a 100-m belt transect. (Sometimes shrubs were too dense to quantify accurately, especially narrowleaf willow, which spreads from rootstocks.)

In Subarea 4, previous results were biased because transects with more than one plot in contamination were avoided. Resampling without bias was intended following repair work but this has not occurred and additional sampling is not currently scheduled. New transects (replacing old ones) were added in Reaches Q and R in 2016 and old transects that were valid were retained.

The long length of these transects reflects average site and vegetation conditions within a significant portion of a hydrologic zone better than shorter transects that have a greater chance of emphasizing aberrant spots. Transects were generally placed intentionally within a single hydrologic zone as mapped, when possible. However, since the mapping that initially guided

revegetation was initially completed, hydrology has sometimes changed so some transects traverse more than one hydrologic zone. In 2016 most samples were located in uplands.

To avoid littering the floodplain and banks with permanent markers (e.g., steel fenceposts that could also prove dangerous to equipment and recreational users), transects are located by GPS coordinates only. Thus, identical plot locations are not assured, just the same approximate areas. An unpaired *t*-test is appropriate for through-time comparisons, not the more powerful paired *t*-test. Small differences should not assume undue importance.

Reaches Q, R, and T are not yet old enough to evaluate revegetation success. Desired conditions are listed in Table 9-2.

Table 9-2. Minimum desired stratified canopy coverage[57] approximately 10 years after seeding in years of near-normal seasonal precipitation.

Hydrologic Zone	Average Perennial Canopy Coverage
Uplands, Subirrigated	60%
Streambanks, Transition Zone	80%
Wetlands (not open water)	100%

Streambanks proper, the strip encapsulated by coir fabric, were not monitored due primarily to difficulty placing linear transects on curved banks, some with impenetrable shrubs. In Subareas 1 through 3, streambanks were among the easiest and most successful revegetation. Due to stream and streambank changes caused by the 2010-2011 floods, Reaches P and Q in Subarea 4 also have good shrub density near the stream. The high streamanks in Reaches R, S, and T prevented that kind of success, although shrubs are sustaining in some places while small transplants grow.

9.2.2 Soils

Soils were sampled mainly on point bars, overflow channels, and other apparently contaminated wetlands in Reach R. Two additional samples in Reach O were sampled to check fertility levels. The upper four inches of soil were sampled at each location. Each sample submitted to the lab was a composite of three samples taken within 10 m of the initial hole, and often half that distance.

9.2.3 Laboratory Work and Data Analyses

Most data summaries are simple descriptive statistics, such as the mean. If used, confidence intervals are two-tailed with 0.1 Type I error, or one-tailed if used to compare to the standards in Table 2. However, confidence intervals were not used this year to compare to desired conditions.

[57] Excluding annuals and noxious weeds.

For Reach R soils, the MSE lab in Butte, MT, measured paste-extract pH by method MSA 10-2.3.1/10-3.2. Sediments were digested using EPA 3050B for metals analysis. The digested samples were analyzed on a Perkin Elmer DRCII Inductively Coupled Plasma-Mass Spectrometer for arsenic, cadmium, copper, lead, manganese, and zinc using EPA SW846 method 6020A.

For the two Reach O samples, the Agvise lab in Northwood, North Dakota, analyzed soil samples for mineral nitrogen, Olsen phosphorus, and ammonium acetate potassium using standard agronomic methods. Texture was determined from specific density and hydrometer.

9.3 RESULTS AND DISCUSSION

9.3.1 Plant Cover and Shrub Density

9.3.1.1 Reach Q (Subarea 4)

9.3.1.1.1 Revegetation History

Reach Q has a rather long history of attempted remediation and revegetation. Weed control began in 2005. Remediation was performed in 2006. In fall 2006 and early winter 2007, it was seeded with a few mixes including one designed to combat weeds. These seedings failed due to insufficient remediation and secondarily, in places, a very coarse substrate. Some piecemeal repair work followed, but eventually a more comprehensive approach was needed.

In 2009, about 54.5 acres were limed with about 12.4 tons/acre of lime-kiln dust. Approximately 0.5 feet of Peterson coversoil was then applied. Not all of Reach Q was treated; some barren, contaminated areas remained. Ueland's Western Reclamation seeded most of Phase 3 with barley in spring 2009.

In 2010, most of Reach Q was composted with 1.5% organic matter in the upper four inches of soil. In spring, the subirrigated mix was applied in two passes. The heavy seed drilled whilst the light seed was broadcast. However, the barley reseeded itself, and it again looked a lot like a barley field in 2010. Streambanks were transplanted in spring 2010 with very limited planting in the mostly dry floodplain.

By 2011, the barley had pretty much disappeared to be replaced by, in descending order of abundance, 1) alfalfa with little else, 2) more diverse plant communities from the subirrigated seed mix, and 3) some areas of kochia where seeding was ineffective. A partial discing and reseeding with a sagebrush patch mix was planned for late fall 2011, but dense alfalfa and the beginning of ground freezing postponed reseeding until spring 2012.

The 2010 flood reconfigured the stream channel in many places while scouring portions of the floodplain. Barren areas along the channel were hand-seeded with the "streambank patch" mix when the waters receded. The following year, Western Reclamation interseeded much of Reach Q. Following these actions, most of Reach Q was much improved except for apparently contaminated spots.

In 2012, monitoring of Reach Q was curtailed because it still had unrepaired residual contamination. An excerpt from the 2012 monitoring report stated the following, "Sampling

there will resume when repairs and seeding are completed, at which time new transects will be assigned throughout." Repairs remain unscheduled in Reach Q and therefore 11 transects were monitored there in 2016.

9.3.1.1.2 Plant Cover and Species Composition

Revegetation in Reach Q falls into two classes: good to outstanding revegetation in clean soils; and impaired in partially contaminated dirt or areas with barren patches along the transect. Of the 10 upland or subirrigated samples in Table 9-3, four failed to meet the 60% perennial cover desired condition. Of the four samples which had <60% perennial cover, the mean for those samples was 55%. The remaining six samples had little contamination and often supported alfalfa. The mean of the six samples with >60% perennial cover was 84%. Substrate quality largely determines revegetation success. The sole wetland sampled failed to meet the desired condition. Overall, about half of sample locations met the desired conditions.

With a mean of 62% perennial cover, Reach Q barely met the desired condition. With 40% of upland samples below the desired conditions threshold and one only marginally above that threshold, the need for repair work in Reach Q is evident. Recall too that it was a very dry year until fall, well after sampling.

Table 9-3. Perennial canopy coverage for sample transects in Reach Q, 2016.

Transect	Hydrology	Perennial Cover (%)	Comments
Q1	Upland	57	
Q2	Upland	96	87% relative cover alfalfa
Q3	Upland	54	Crosses seeding boundary
Q4	Upland	58	Spots of contamination
Q5	Upland	75	Alfalfa 61% relative
Q6	Upland	53	Some contamination
Q7	Upland	60	A bit of contamination but alfalfa too
Q8	Subirrigated	105	Alfalfa 58% relative
Q9	Upland	74	Partly poor dirt, but overall OK
Q10	Wetland-Transition	89	Not enough cover for a wetland
Q11	Upland	97	Mostly Peterson borrow

9.3.1.1.3 Shrub Density and Field Notes

Table 9-4. Field notes from vegetation transect monitoring in Reach Q, 2016.

Transect	Species	Individuals per hectare		Description
		<1 m	>1 m	
Q1				No shrubs.
Q2				No shrubs although near the creek. Dense alfalfa.
Q3	*Artemisia cana*	100		Crosses a seeding boundary at 85m.
	Artemisia tridentata	2,000		
	Ericameria nauseosa	1,800		
Q4	*Atriplex canescens*	300		This transect traverses several small contaminatd spots. One spot has very coarse dirt.
	Ericameria nauseosa	700		
Q5	*Artemisia tridentata*	1,900		Poor coversoil, open vegetation, cheatgrass but sagebrush too. In certain areas, the sagebrush is growing slower than one would expect.
	Ericameria nauseosa	100		
Q6	*Artemisia cana*	100		The first 80 m more or less contaminated *in situ* dirt, but most shrubs are there.
	Artemisia tridentata	600		
	Atriplex canescens	300		
	Ericameria nauseosa	3,300		
Q7	*Artemisia tridentata*	2,200		Sagebrush patchy, a bit of contamination.
	Ericameria nauseosa	100		
Q8	*Salix boothii*	100		Parts are a jungle. Subirrigated with a little upland near the creek.
	Salix exigua	400	400	
Q9	*Ericameria nauseosa*	200	200	Second half of transect has poor dirt, fewer and smaller plants.
Q10	*Salix boothii*	500	600	Part flooded wetland, part transition zone.
	Salix exigua	600	1,300	
	Salix geyeriana		100	
Q11				Mostly in Peterson borrow, but it varies. Some had twice the plant cover and productivity of the other portion. Not one shrub.

9.3.1.2 Reach R (Subarea 4)

9.3.1.2.1 Revegetation History

Reach R has overwhelmingly upland hydrology. What was designated as Reach R, as of 2016, was first seeded in 2006-07 when it was designated Phase 1 west of the creek and Phase 2 east of the creek. Reach R extends north from the Golden Technology northern property boundary (which resides west of the creek) to Montana Highway 1. Initial remediation of Phase 1 began in 2004-2005 with some additional removal in 2006 as residual contamination became evident. Phase 1 had limited repair work about two years ago, but other, apparently equally contaminated spots were untreated.

Phase 2 was likewise first remediated in 2005 but most of Phase 2 outside the "add-on" wouldn't grow kochia. No sooner was removal complete than a brief ice dam formed in late February, pooling water that found its way through the loose gravel berm and into the Phase 2 floodplain. The berm was intended to separate the floodplain from the immediate stream areas since Subarea 3 was unremediated and contaminants were still moving downstream. Most, or all of the flow in the creek entered the floodplain. Some contaminated sediments were deposited, but removed in the summer of 2006. Water had to be pumped out of the old gravel-pit area east of the haul road because its elevation is lower than the stream and other portions of the floodplain. Significant portions of the Subarea 4 floodplain do not grade toward the stream. The flood waters re-entered the stream channel near Highway 1, probably after having deposited most sediment. Pooled water hung around for a few weeks, but the creek was back to normal in a few days and indeed the whole episode would have gone unnoticed were it not for remediation activities. Some compost piles were stranded out in a large temporary pond.

In spring-summer 2006, a total of 53 acres within Phase 2 (the "add-on") with a very coarse substrate (cobbles, gravels, and loamy sand), were amended with Stimpson Organic Amendment. Stimpson Organic Amendment is a wood byproduct which is not compost. Approximately two inches were applied, which correlates with 6% organic matter by weight when incorporated into the upper four inches of coversoil.

The last major seeding in Reach R was in 2011, but contaminated spots remained. Contaminated areas were deliberately avoided in earlier sampling because repairs were anticipated, although repair work has not yet occurred. In 2013, only new transects were sampled. In 2016, all transects were sampled.

9.3.1.2.2 Plant Cover and Species Composition

Mean perennial cover was low in Reach R (about 50% or less) in the 2013 growing season. Half of all plant cover was annual weeds, mainly kochia. In 2016, kochia has suppressed and two classes of revegetation are evident, much as in Reach Q. Transects with clean soil have satisfactory or plentiful plant cover despite the deficit of 2016 precipitation. Other transects are clearly impaired and exhibit low perennial plant cover.

Fourteen of 15 sample transects in Reach R had upland or subirrigated hydrology in 2016. Of these, six samples (43%) did not attain the desired condition for perennial cover [Table 9-5]. Perennial cover in the wetland transect was also below the desired level [Table 9-5].

Mean perennial plant cover was 61% for uplands, which was right on the threshold for the desired level in uplands. Cover likely would have been higher with more normal spring precipitation, but not by much. Eight of 14 upland transects had the desired level of perennial cover whereas six did not meet the desired level. Contamination was evident in the single wetland sampled.

Perennial species richness for all 15 transects was low (10.5 species). When previously sampled, the mean number of species in sample transects was also fairly low (12 species).

Summing up Reaches Q and R, almost half the sample locations in each failed to reach the desired conditions for revegetation. Additional contaminant removal, in obviously impaired spots, coversoiling, and seeding are recommended.

Table 9-5. Perennial canopy coverage for sample transects in Reach R, 2016.

Transect	Hydrology	Perennial Cover (%)	Comments
R1	Upland	67	Mostly seven grasses
R2	Upland	64	More alfalfa than R1
R3	Upland	84	Equal grasses and alfalfa
R4	Wetland mostly	76	Contamination evident
R5	Upland	45	Significant contamination
R6	Upland	69	Coversoil no compost
R7	Subirrigated	13	Contaminated overflow channel
4-2	Upland	54	
4-3	Upland	63	More litter than alive
4-4	Upland	63	Some light contamination
4-5	Upland	50	Some contamination, should interseed
4-6	Upland In Situ	41	Crosses one repair
4-7	Subirrigated	88	Legumes pull up cover
4-8	Upland	53	Grasses no legumes
4-9	Upland	90	Lots of legumes; lots of cover, good dirt

9.3.1.2.3 Shrub Density and Field Notes

Table 9-6. Field notes from vegetation transect monitoring in Reach R, 2016.

Transect	Species	Individuals per hectare		Description
		<1 m	>1 m	
R-1	*Artemisia cana*	100		East of Creek. Photo missing. Contamination evident.
	Artemisia tridentata	100		
	Ericameria nauseosa	500		
R-2	*Ericameria nauseosa*	100		Little room between creek and road. Photo shows contaminaton but also dividing line between coversoil west and more rocky *in situ* east. *In situ* has less plant cover.
R-3	*Artemisia tridentata*	100		
	Ericameria nauseosa	300		
R-4	*Salix exigua*	300		Transition zone to wetland. Tried to keep the transect in wetland. Contaminated. Salix partly dead.
R-5	*Artemisia tridentata*	600		In southwest R. A sizable contaminated pit about two thirds down the transect.
	Ericameria nauseosa	200		
R-6	*Artemisia cana*	100		Coversoil no compost.
	Ericameria nauseosa	500		

Transect	Species	Individuals per hectare		Description
		<1 m	>1 m	
R-7				Subjectively located. Right down the overflow channel. Litter photographed is coir twine, not plant litter. No shrubs and few plants.
4-2	*Ericameria nauseosa*	1600		Add-on cobbles and pea gravel amended with Stimpson wood waste. North half has very little grass and likewise little tarragon or rabbitbrush, but cover is better than when last sampled.
4-7	*Artemisia cana*	100		Upland coversoil, good plant cover but rather decadent with more litter than alive.
	Artemisia tridentata	600		
	Ericameria nauseosa	1300		
4-13				Reach R west another old transect. End appears an old borrow area. No shrubs – competitive mix seeded here. Grasses had few flowers.
4-15				Should interseed here. Few flowers on grasses.
4-16	*Ericameria nauseosa*	300		Upland *insitu*, mostly Russian wildrye (secondarily western wheatgrass), the competitve seeding for weed boundaries. Crosses one recent repair area.
4-30	*Artemisia cana*	100		Begins partially impaired with more at 15 ms. Due to legumes in other segment, plant cover overall is good. Subirrigated helps too.
	Ericameria nauseosa	900		
4-34	*Artemisia cana*	100		The shrubs are in the second half of the transect.
	Ericameria nauseosa	1400		
4-35	*Ericameria nauseosa*	300		Coversoil supports alfalfa, hence lots of plant cover.

9.3.1.3 Reach T (Subarea 4)

9.3.1.3.1 Revegetation History

Remediation entailed, in different areas, removal, coversoiling, and liming. Due to rockiness, *in situ* substrates were broadcast-and harrow seeded. On coversoil, the heavy seed was drilled and the light seed broadcast.

Reach T was first seeded in fall 2013 including the meander tabs that were added by the Natural Resources Damage Program (NRDP) before floodplain seeding. The term "meander tabs" refers to a zone along inside curves that was lowered one-half to one foot so high flows would overtop them. The tabs were hand-seeded during construction and then covered with coarse coir fabric and staked in place. It was generally a poor job, and it would have been much better, from a revegetation perspective, to have mechanically seeded the meander tabs and foregone the fabric.

The loose fabric was intended to protect the tabs, but soon the question became how to protect the fabric, which if it came loose in a flood would peel off entirely causing more damage on the tabs and more blockage downstream than if there had been no fabric.

NRDP wanted to plant willow cuttings on the meander tabs to anchor them in place, but this proved impractical due to a hard layer about one foot down. Instead, meander tabs were hand seeded three times in different seasons with a seed mix containing several species of sagebrush, other shrubs, and forbs. This mix provided both tap-rooted plants and fibrous-rooted grasses,

Before remediation, no weed control was implemented. Other reaches in Subarea 4 had roughly equal weed abundance, but control there began in advance of remediation. Reach T had the worst weed infestations along the SSTOU following seeding. The year before remediation, some limited weed control was implemented in the unremediated northwest corner from the Mill Creek channel east to the remediation boundary. This corner had whitetop, knapweed, Canada thistle, and other noxious weeds; but this was not the only weedy portion of Reach T.

Although compost amendment was generally ineffective in the SSTOU prior to work in Reach T, Reach T dirt was amended with compost. Compost rates are described in the construction summary. Due to multiple discings for lime, fertilizer, and compost, about 28 acres had suboptimal revegetation conditions. Seeding in those acres was postponed until 2014, but a whitetop infestation occurred presumably stimulated by the tillage.

Concerns that Reach T would be too wet for successful seeding proved erroneous. The floodplain turned out to be almost entirely upland hydrology, including the tops of streambanks, where many large transplants soon died for lack of water. The blend of subirrigated and transition-zone purchased for Reach T was not used. Instead, the entire floodplain was seeded with an upland mix. The banks and overflow channels were seeded with a subirrigated mix in spring or whenever construction allowed before covering with coir. Altogether, this was a rather small fraction of Reach T. Most banks and meander tabs were unsuccessfully seeded during construction. Therefore, banks and meander tabs were hand-seeded which was ultimately effective.

Transplanting occurred in fall 2014. Most plants were assigned to streambanks, the rest to pond margins with a few along overflow or drainage channels connecting ponds. The overtilled 28 acres and ARCO loadout off Stewart Street were seeded in 2014. The loadout seeding was successful but lacked alfalfa for some reason, so plant cover was low compared to the rest of the floodplain apart from the 28 overtilled acres. Those 28 acres continued to have abundant weeds in 2016.

9.3.1.3.2 Plant Cover and Species Composition

Five new transects were sampled in Reach T in 2016. In addition one transect from the ARCO loadout (sampled in 2015) is included in this report. Ultimately, 10 total transects should be sampled in this reach, including the 28-acre area scheduled for reseeding in fall 2017.

Reach T provided two important lessons this year. First, with better dirt and less contamination than Reaches Q and R, upland in Reach T easily exceeded the desired conditions [Table 9-7] despite the dry growing season. The second lesson, long known, is that alfalfa confers the great advantage of plentiful plant cover, even in a dry year. Mean perennial stratified cover for the five 2016 transects was 105% (Table 5). The ARCO loadout lacks alfalfa and was planted, so I heard, from seed remnants. Vegetation there appears healthy, but it fell below the performance standard in 2015. Then again, it may have different coversoil.

Table 9-7. Perennial canopy coverage for sample transects in Reach T, 2016.

Transect	Hydrology	Perennial Cover (%)	Comments
T-A	Subirrigated	124	Lots of alfalfa; lots of cover.
T-B	Upland	97	Lots of alfalfa here too.
T-C	Upland	116	Lots of alfalfa. Peterson coversoil.
T-D	Upland	84	Alfalfa mowed by elk here.
T-E	Upland	105	Lots of alfalfa here too.
T-3 (2015)	Upland	50	Loadout. No alfalfa.

9.3.1.3.3 Shrub Density and Field Notes

Table 9-8. Field notes from vegetation transect monitoring in Reach T.

Transect	Species	Individuals per hectare		Description
		<0.25 m	>0.25 m	
T-A				The plants, mainly alfalfa, are so dense here that there is no place for shrubs. In other words, shrubs profit from a less competitive environment.
T-B				Vegetation is thinner toward the east end. A lot of ungulate grazing is evident here, more elk than deer.
T-C				The alfalfa is heavily grazed here. A single rubber rabbitbrush 50-75 tall represents 100/ha.
T-D				This *in situ* dirt supports no shrubs. The alfalfa was mowed by elk.
T-E				Two rubber rabbitbrush 75-100 cm tall represent 200/ha.
T-3 (2015)	*Artemisia cana*	100		Sampled in 2015 – the following shrub density comes from the 2015 report. Plant cover here is much less because the seed mix lacked alfalfa and possibly for other reasons.
	Atriplex canescens	400		
	Ericameria nauseosa	400		

10.0 MYCORRHIZAE[58]

10.1 MYCORRHIZAL ASSOCIATION

Mycorrhiza(ae) is a term made up from Greek roots to label the association of feeder roots of vascular plant and a fungus, usually an Asocmycetes. *Ascomycota* are the filamentous "sack fungi" whose diploid *ascospores* are produced in *asci*, saclike structures. For the type of mycorrhizae pertinent to SSTOU revegetation, the fungus penetrates into root cells. In this mutually advantageous relationship, the fungus receives stored energy and the plant gets, in effect, an expanded root system providing additional nutrients and water.

More than that, the mycorrhizosphere is where organic matter is deposited in the soil through root exudates, sloughing root cells, root turnover, and dead microbes. This soil volume in contact with or intimately associated with roots and hyphae recruits mostly beneficial microorganisms from the bulk soil, and they concentrate there. This is where the greatest part of nutrient cycling occurs in semiarid soils. The importance of Mycorrhizae to self-sustaining revegetation can hardly be overemphasized.

For seeded revegetation species, *arbuscular* mycorrhizae, a type of endomycorrhiza, are the important mycorrhizae and the type investigated. Branched hyphae (the tubular filaments of fungi) within plant cells are called *arbuscles*. In endomycorrhiza, the hypha penetrates through the cortex, which is found only in young roots, into the root and between cell walls and into a portion of cells.

Mycorrhizae were first sampled in arbuscular mycorrhizae in Silver Bow Creek in 2011. If compost effects were disappointingly small, the amount of mycorrhizae in coversoils without commercial inoculation was surprisingly high in nine-year-old revegetation. Arbuscular mycorrhizae were previously sampled in some first-year-revegetation plants with almost no arbuscular mycorrhizae observed [Figure 10-1]. The objective of the current investigation was to determine when arbuscular mycorrhizae effectively colonize coversoils that initially are, for practical purposes, biologically inert.

10.2 METHODS

Roots of well-established grasses, almost exclusively basin wildrye, were collected by digging them out close to the crown [Figure 10-2]. The dirt was dry in September and digging was usually difficult even in sandy loams. At this point, the natural tendency is to shake the roots vigorously or beat them on the ground to remove dirt, but caution is necessary. Fungal hyphae and root hairs are likely to detach with the dirt. Moreover, Bob Linderman of Plant Health LLC, who assayed arbuscular mycorrhizae, also cautioned that the cortex of older roots may slough

[58] Chapter 10 was prepared by Rich Prodgers of Bighorn Environmental Sciences (Dillon, Montana) with minor editing and formatting by RESPEC.

off arbuscular mycorrhizae fungi, so fine and very fine roots, if present, should be preserved. He instructed to leave the roots and some adhering soil intact. Moist, turgid roots are best for arbuscular mycorrhizae analysis, so roots were sprayed with a water mist before sealing them in plastic bags.

Root samples were shipped without ice for 2-3-day delivery to Plant Health LLC (Corvallis, Oregon). The roots were cleansed and cleared at the lab before staining to observe arbuscular mycorrhizae structures. From each root sample, fine feeder roots were selected, mounted on a slide, and scanned under a microscope at 40X, or greater, magnification. Arbuscular mycorrhizae structures, if present, were identified as runner hyphae, extra-radical hyphae, arbuscles, or spores. Other fungi appearing as dark, pigmented hyphae, also were noted as were root hairs that are commonly present in the root's zone of maturation, which, despite the nomenclature, is rather near the tip of growing roots.

Dr. Linderman ranked abundance of arbuscular mycorrhizae as follows: 0 = none, 1 = few signs, 2 = moderate signs, 3 = many signs including spores.

Figure 10-1. Among these first-year plants in Silver Bow Creek revegetation, the wheatgrass center has a fibrous root system. The big sagebrush seedlings (right) have taproots with lateral roots. The silver sagebrush (left) has more fine roots but still a taproot. None had mycorrhizae in their first year (2011 photo from Reach K).

Figure 10-2. Basin wildrye roots. Clearly the fine roots at the periphery of the root ball have detached. Only feeder roots, which are actively engaged in the uptake of water and minerals, are examined for arbuscular mycorrhizae.

10.3 RESULTS

Revegetation for this case study ranged from 0-15 years old, depending upon reach. (Zero means the first growing season had not yet passed in Reach O.) Plant roots growing in 18 coversoils were sampled.

The data graphically presented in Figure 10-3 strongly suggest that coversoils are usually well colonized by arbuscular mycorrhizae about five years following placement and seeding. Fields age two or younger have no, or little, arbuscular mycorrhizae, just as in 2011 [Figure 10-1]. Colonization is variable in years 3-5. Each of three 4-year-old samples had a different ranking from 1 to 3. Year five went unsampled, but from age six on, all but one root sample had the highest rank. In Silver Bow Creek restoration using coversoil, seeded perennials establish practically free of arbuscular mycorrhizae. The few fungal propagules present are not contacted by most young, rapidly growing roots. Mycotrophic species and those more reliant on arbuscular mycorrhizae likely will not establish. A fresh inoculant at the time of seeding would be expected to confer advantage on species reliant on arbuscular mycorrhizae.

While revegetation probably benefits from arbuscular mycorrhizae that develops usefully after several years [Figure 10-3], and certainly ecosystem function is more fully restored, seeded mycrotrophs are absent and native colonization is stifled because the site typically becomes saturated with vascular plants. The annual seed rain consists mainly of species present and noxious weeds. To say there is no point to inoculating because, eventually, mycorrhizae develop is analogous to receiving little rain after seeding, severely diminishing seedling establishment, but saying it was acceptable because a few years later, precipitation was abundant. In revegetation, the initial selection is all-important to species composition.

Six revegetated *in situ* soils were also sampled along Silver Bow Creek. *In situ* soils are variable, falling into two general types. Relatively clean dirt has long supported revegetation and, one assumes, is well colonized by arbuscular mycorrhizae. The other class of *in situ* dirt is partially contaminated and limed. (I didn't sample any obviously acidic or contaminated sites, which usually are barren. In other words, lack of arbuscular mycorrhizae may indicate soil toxic to mycorrhizal fungi. I found no relation of age and degree of arbuscular mycorrhizae colonization, although the small sample size precludes all but the most evident conclusion.

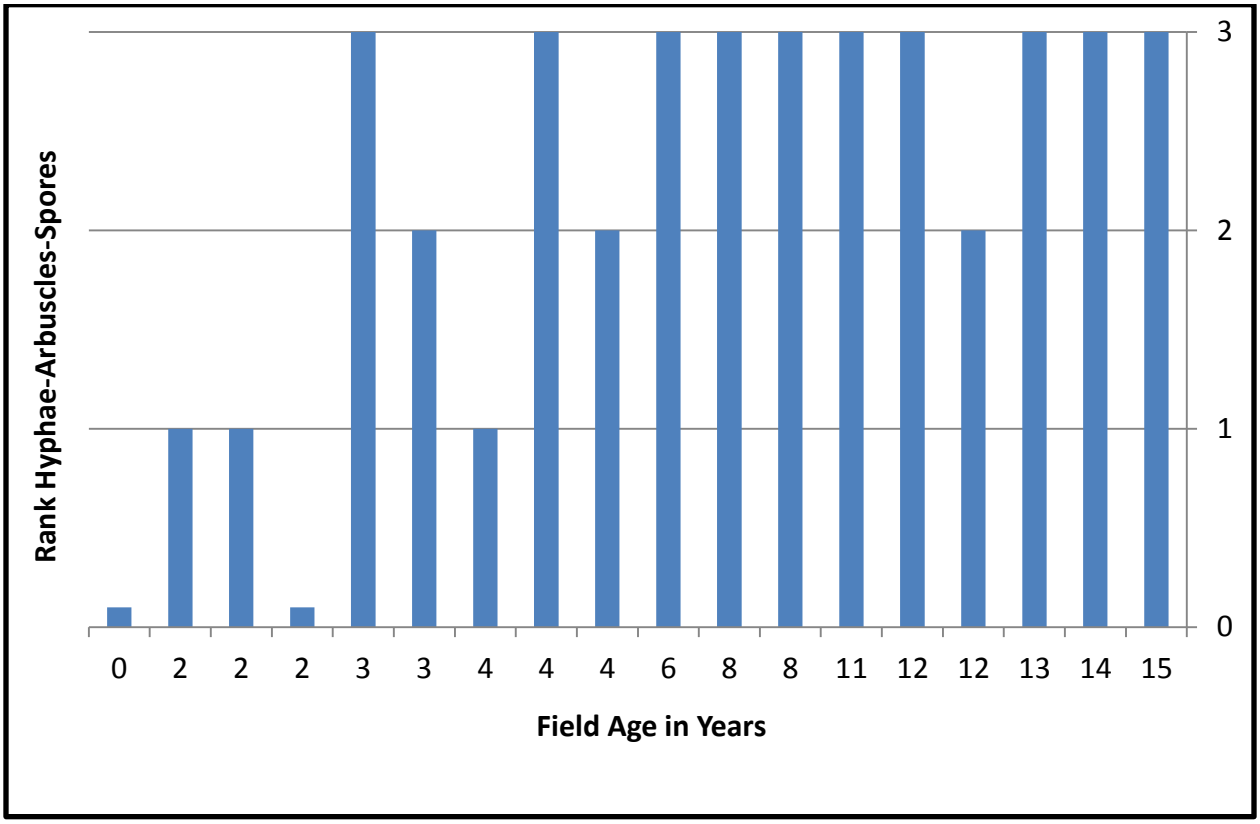

Figure 10-3. Grass root mycorrhizal abundance.

11.0 SOILS[59]

The goal this year was to characterize some impaired Reach R soils on point bars and in wetlands and overflow channels. The Natural Resource Damage Program (NRDP) wants to lower the point-bar areas to give high stream flows room to spread other than into the floodplain, which doesn't always grade toward the creek. Many point bars are contaminated or acidic (or both) enough to prevent plant colonization five years following seeding. Therefore, re-doing the point bars makes sense as does repairing other areas in Subarea 4. Two soils in Reach O (bottom of Subarea 3) were also sampled to check on fertility.

The two Reach O soils are similar and are fine except that, once again, one sample had clay texture, which is proscribed by the Record of Decision (ROD). Paste pH was about 8. Salinity was <1 dS/m. Nitrate was 15-20 ppm, which was high, but not excessive. Recall that the fertilizer was top-dressed; not disced in. Olsen phosphorus was 15 ppm and potassium from ammonium acetate around 1,500 ppm. None of these (other than texture) indicate a problem with the caveat that only the upper four inches of soil were sampled. In 2017, one expects mineral nutrients to reduce as they become immobilized in plant tissues or percolate deeper into the soil with nitrate reducing to a few parts per million.

Overflow channels give high flows an alternative way to transmit water through the floodplain. They don't have coversoil and reveal the condition of *in situ* dirt. Some segments don't support plants [West Channel in Table 11-1; also see Figure 11-3], which has been evident from the beginning.

Depressions, often vernal ponds, likewise expose the substrate otherwise coversoiled. Both pond-dirt samples were acidic and saline, and one had the highest total metals sampled this year. The sample west of the creek is near the end of an overflow channel before discharging back into Silver Bow Creek. The northeast pond-wetland complex has been visibly contaminated since the Clark Fork Watershed Education Program planted willow cuttings there.

Constructed point bars in lower Subarea 4 have an unusual configuration that bears little resemblance to natural ones. The constructed point bars are as high as other banks with steep sides, whereas natural point bars have low gradient and are often expansive; they are formed as fine sediments fall out of flood waters when they slow and form backwaters.

[59] Chapter 11 was prepared by Rich Prodgers of Bighorn Environmental Sciences (Dillon, Montana) with minor editing and formatting by RESPEC.

Table 11-1. Reach R soil characteristics in overflow channels, wetlands, and point bars. Any dirt with pH <5.6 will impair revegetation irrespective of metals. Any conductivity >4 has some impairing effect. Total metals provide a continuum of impairment in conjunction with pH and conductivity.

Location	pH	Conductivity	Arsenic	Cadmium	Copper	Manganese	Lead	Zinc	Total
West Channel	4.4	4.4	30	3	670	490	100	625	1,970
East Channel	6.9	3.2	13	2	200	665	50	350	1,280
North Point Bar	6.0	9.0	22	10	750	520	70	1110	2,480
South Point Bar	4.0	2.0	35	4	580	495	70	685	1,870
Dry Pond South	4.0	8.0	18	4	825	915	50	520	2,330
NW Pond	5.3	11.5	40	8	1,430	780	140	1,970	3,970

Figure 11-1. Overflow channel with coarse substrate in western Reach R. Revegetation impairment is obvious. Stream flows have not reached the level to provide water for them since being built.

Figure 11-2. Pocket gopher brought this rusty material to the surface in an overflow channel.

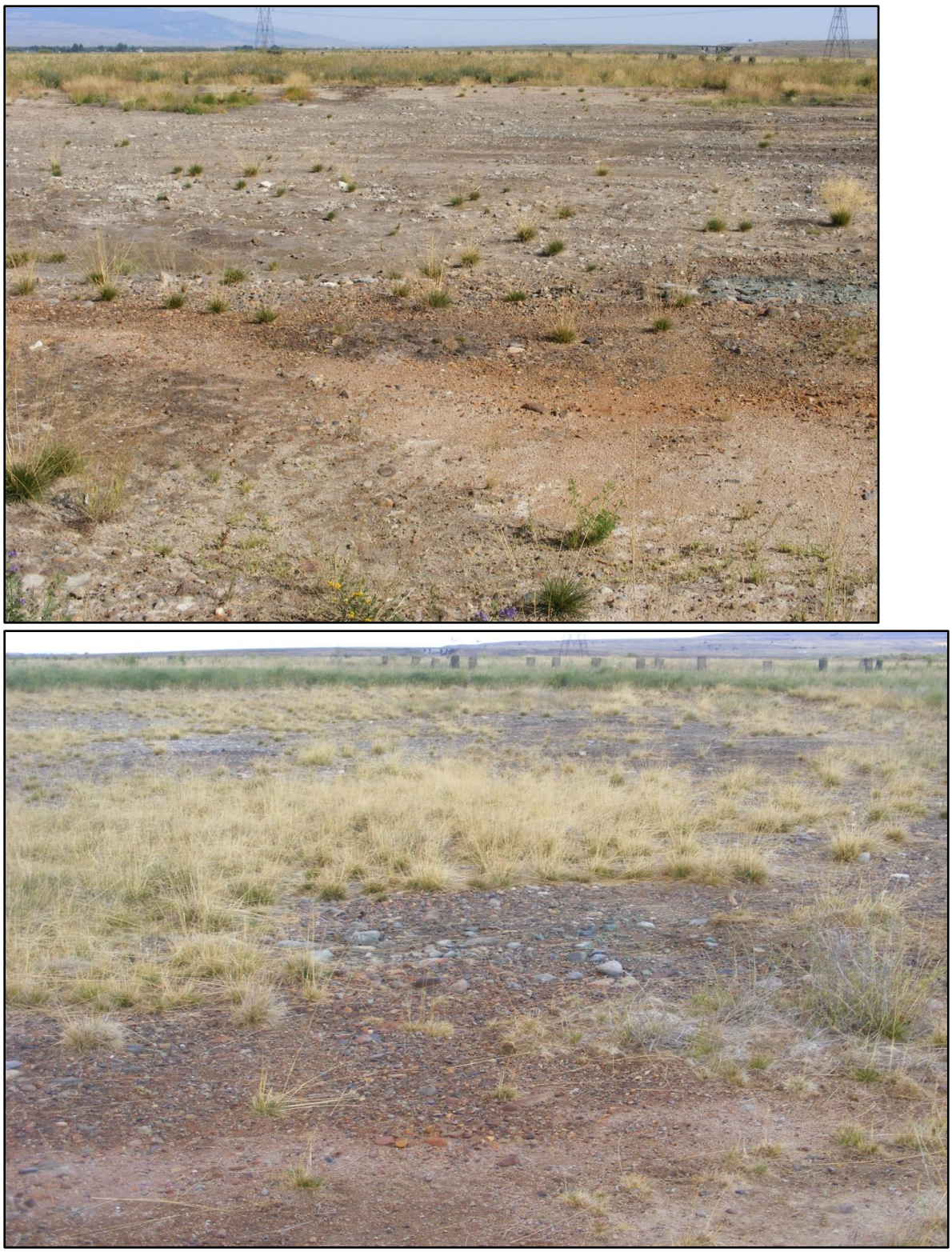

Figure 11-3. Southeast Reach R overflow basin in 2013 and recently. Grass is metal- and acid-tolerant tufted hairgrass. Shrub protectors in background denote stream.

Figure 11-4. Wetland-pond complex in northeast Reach R looked worse in 2012 (upper photo) than now due to colonization by the same contamination-adapted plants present before remediation.

12.0 BIRDS[60]

12.1 INTRODUCTION

The Natural Resource Damage Program (NRDP) sponsors annual bird inventories to document temporal changes in bird use of remediated and restored areas as vegetation develops, particularly vertical structure. The importance of vegetational structure to birds has been known since the early 1960s [MacArthur, 1964] and is a cornerstone of bird ecology. MacArthur [1964] divided foliage height into three classes generally corresponding to herbs, shrubs, and trees, then measured the foliage density in each stratum and quantified it with a proportional abundance index (Shannon, the one used here). He found a linear relation between foliage height diversity and number of bird species. This was corroborated on other continents. Food (e.g., seeds, berries, insects, rodents, and fish) and thermal and escape cover also are important, as well as features such as bridges, cliffs, streams, and ponds.

The two principal habitats in SSTOU are; 1) steppe, shrub-steppe, and meadow (grassland including alfalfa) in the floodplain, and 2) open water and riparian habitat. Open water and riparian habitat often develop tall shrub communities. Water, especially ponds, can provide instant habitat as soon as construction ceases and accounts for much immediate use. Some types of birds increase in response to vegetational development; others prefer a more open habitat. Some require seclusion (e.g., herons) while others are almost indifferent to human use (e.g., robins).

This year the sampling rotation was changed to accommodate repair work in Subarea 1, which was scheduled to be sampled in 2016. Subarea 2 was substituted. Bird use was first monitored in Subarea 2 in 2007, when revegetation was essentially complete. Subarea 2 was sampled again in 2008, 2009, 2012, and 2016. Key questions include how fast and how much bird use establishes following remediation, and how it changes through time.

Organizing bird monitoring by subareas has the advantage of blending habitat characteristics and portraying the general condition. The disadvantage is that it masks short-term temporal developments. By the time a subarea is fully revegetated and sampled, the upper reaches are several years old. Initiating bird sampling then misses the first few years following remediation. Reaches N and O were first sampled in 2011 when revegetation in Reach N was fresh and O was bare dirt. Sampling these two reaches captures the first years of use and shows how it changes.

[60] Chapter 12 was prepared by Rich Prodgers of Bighorn Environmental Sciences (Dillon, Montana) with minor editing and formatting by RESPEC.

12.2 METHODS

Nate Kohler has sampled SSTOU birds from the start. Methods and station locations remain unchanged from the first samplings. Sampling occurs at the end of each named month unless delayed until the following week. Both Subarea 2 and Subarea 3 were sampled from the top down visiting each station sequentially in the order they are numbered. Bird sampling locations in Subarea 2 are on Maps 8-13. Reaches N and O in Subarea 3 are on Maps 19-21.

After revegetation is complete, each subarea is monitored separately in temporal rotation. Each subarea is assigned 20 sample stations, most near the creek. Number of birds counted is one measure of use; species richness another. Counts can be evaluated with two denominators: temporally (by month and year) and spatially (habitat heterogeneity).

To be counted at a station, birds must use habitat within the remediated area, not merely fly over. In order to be included in the species list, species need not appear in sample data (i.e., birds can be observed while moving between sample locations or on non-sample dates). Species can also be added by reliable observers other than Nate whenever birds are observed using the remediated zone.

12.2.1 Data Analysis

The number of birds of each species is counted under the sampling protocol. While counts are straightforward, eruptions can complicate interpreting them. A flock of 100 snow geese may use a pond for a short time and, by chance, either be counted or not. Cliff swallows are tied to bridges and typically don't arrive until May; but when they arrive in April, that has a big effect on the April count. To further complicate their influence on the bird inventory, they are late risers and the bird survey starts at dawn, so the count can be influenced by the direction in which a subarea is sampled (from top down or bottom up), depending upon bridge locations. Sometimes we discount swallows in data analysis so that monthly use by other species can more clearly be seen, as was done this year.

In describing diversity, a measure of relative abundance complements quantity (bird or species counts). Relative abundance means the counts are converted first to percentages, which facilitates comparisons between years or areas. The Shannon index (called equitability) quantifies evenness of relative abundance. It was calculated here using natural logs. For example, in 2009 348 birds were counted on April 4 representing 21 species. But 63% of those birds consisted of just two species: mallard ducks and Bohemian waxwings. The Shannon value for species was 1.89. If each species had been represented equally (the mean of 16.6 birds/species), equitability would be maximized at 3.04. The only way that number could increase further would be if the number of species increased; since the calculation is based upon relative abundance, increasing or decreasing the number of individuals would have no effect. If all 348 birds were of the same species, the Shannon value would be zero. There is no Shannon value for zero birds, which can happen when evaluating station use, in which case a zero is entered when summing the individual Shannon values for each station.

Among the parameters summarized are:

- count and list of all bird species observed in Subareas 3 and 4;
- total number of birds by month from standardized counts;
- species richness and species use by month;
- bird quantity and species per station; and
- Shannon index (sometimes called equitability and here calculated using natural logs) for species and stations.

Comparisons are made to previous bird monitoring reports [Confluence, 2007; 2008; 2009, 2010; Atkins, 2011; 2013a; 2013b; RESPEC, 2015a; 2015b; 2016b].

12.3 RESULTS AND DISCUSSION

The cumulative summaries provided here blend sometimes contrary trends for individual species and can mask differential use by habitat specialists. Bird species composition is the best measure of habitat use, but only a few species are mentioned here.

The current bird species lists for Subareas 2 and 3 conclude each section.

12.3.1 Subarea 2

This is the final sampling of Subarea 2 bird use. Bird use was first monitored here in Subarea 2 in 2007, when revegetation was first completed. Subarea 2 was sampled again in 2008, 2009, 2012, 2014, and this year (2016). Subarea 2 may have the greatest bird activity in the Streamside Tailings Operable Unit (SSTOU) due to the extent and variety of wetland habitats and because of the general absence of the Greenway Trail, which only traverses Reach F at this time. Consequently, there is little human use in Subarea 2 (except in Reach F) and at Miles Crossing (Reach J). Fishing is becoming popular in Reach J.

Bird counts in Subarea 2 over ten years (six years of sampling) is summarized in Figure 12-1. For whatever reason, 2016 set records for April, May, and June apart from the abnormal counts in April 2009, which reflected a prevalence of water birds such as green-winged teal, avocets, coots, and mallards. While one may generally conclude that bird use has increased over time, more so in spring than late winter, it is also striking how quickly bird quantity replenished following remediation and revegetation. A more conservative conclusion is that gross bird use seems to plateau after just a few years and annual variability then dominates which results in a lot of noise [Figure 12-1].

More so than bird quantity, species richness shows an undeniable increasing trend over time [Figure 12-2]. This may be due to increasing habitat diversity (e.g., more vertical structure, or new food sources). Equally, it could indicate niche differentiation within the bird community (i.e., finer partitioning of habitat components or ways of relating to other birds). Once again, the increase is strong in spring but attenuated during late winter.

Equitability among species appears similar for the last three samplings [Figure 12-3]. But if the 2012-2016 period is compared to the earlier one, increasing equitability is evident. The biggest difference is distinguished between 2007-2008 as compared to more recent years.

Mean species per station peaked in 2016 [Figure 12-4]. As in Figure 12-2, this is another indicator showing that bird diversity is up throughout Subarea 2. Station equitability is another story, and a contrasting one. In 2016, Station 29 (located just east of Sheep Gulch Pond) provided 42% of all birds in March, 39% in April, 29% in May, and 25% in June. Just a few sample points away, individual stations provided one to a few percent of total birds. This is a recipe for low equitability as is seen in Figure 12-5.

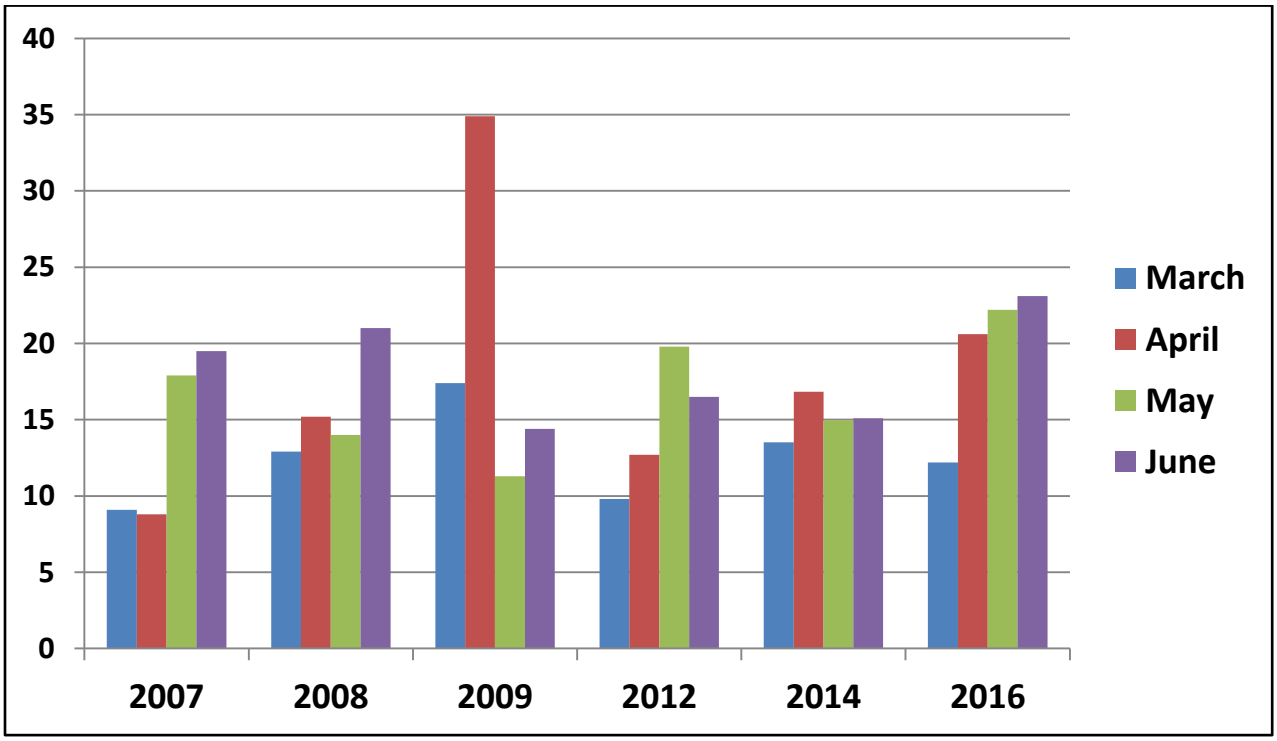

Figure 12-1. Mean birds per station in Subarea 2, 2007-2016.

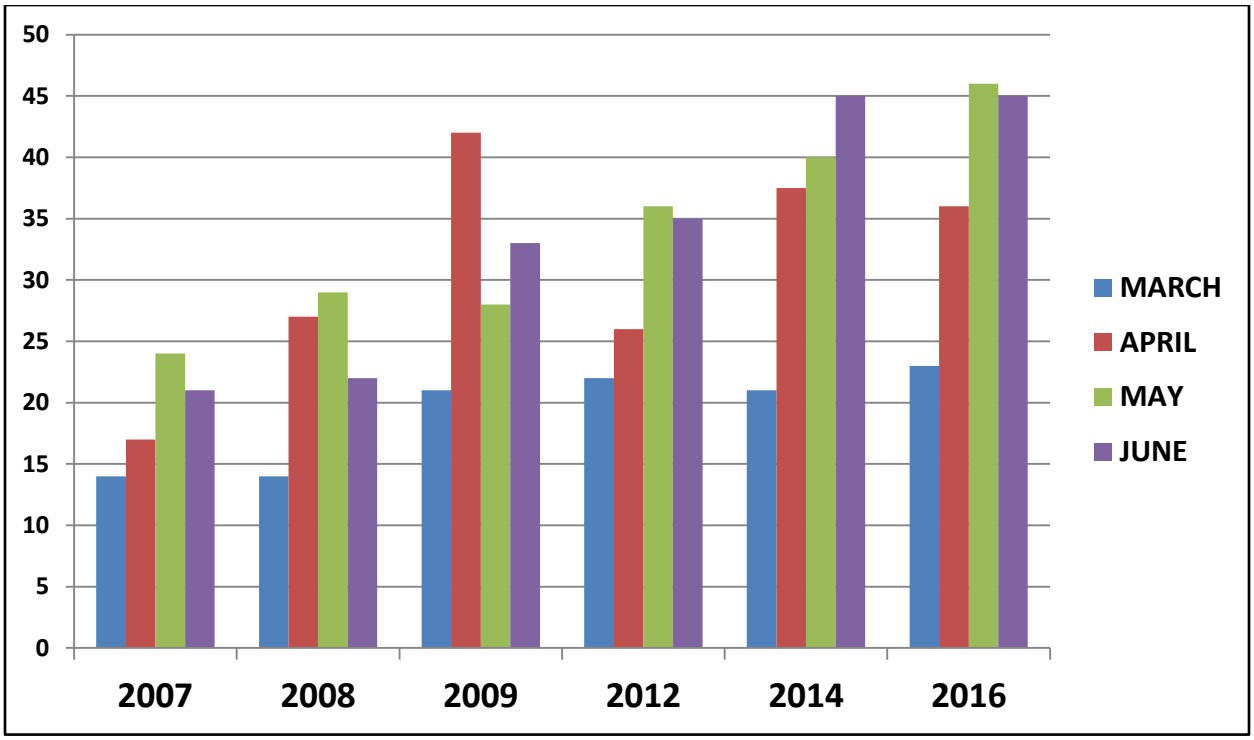

Figure 12-2. Bird species richness in Subarea 2, 2007-2016.

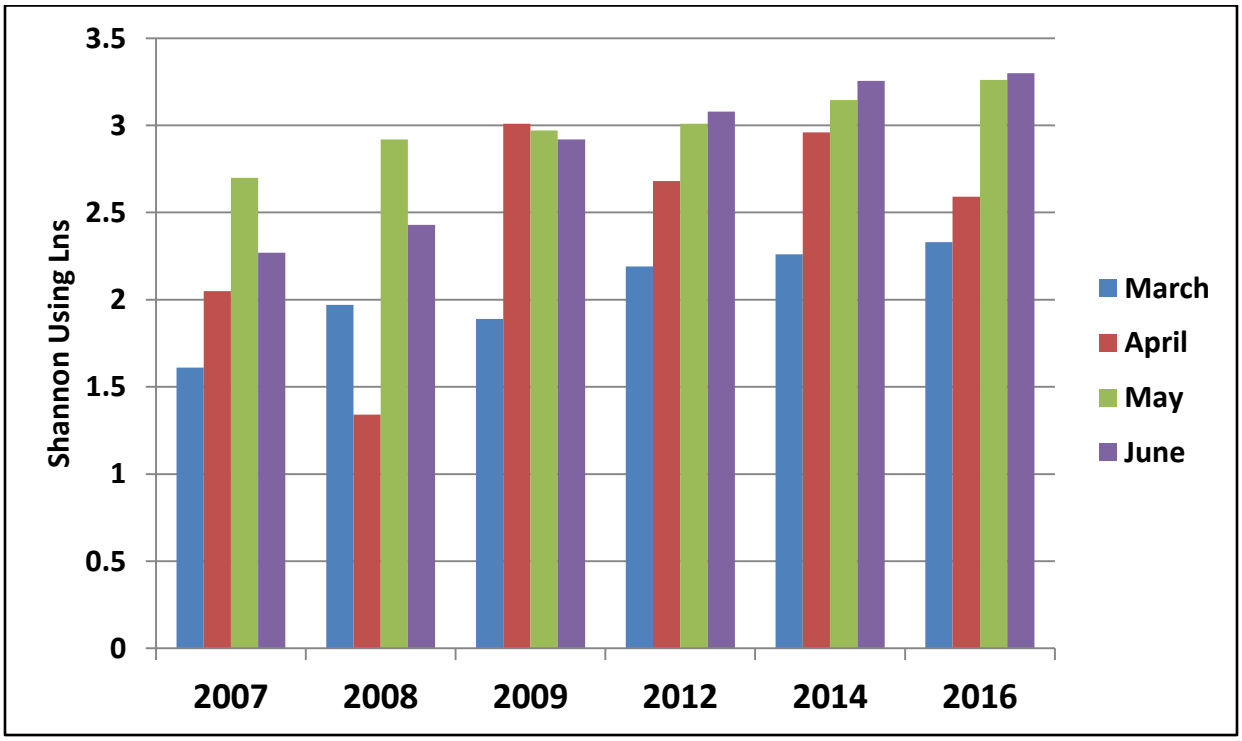

Figure 12-3. Equitability among bird species in Subarea 2, 2007-2016.

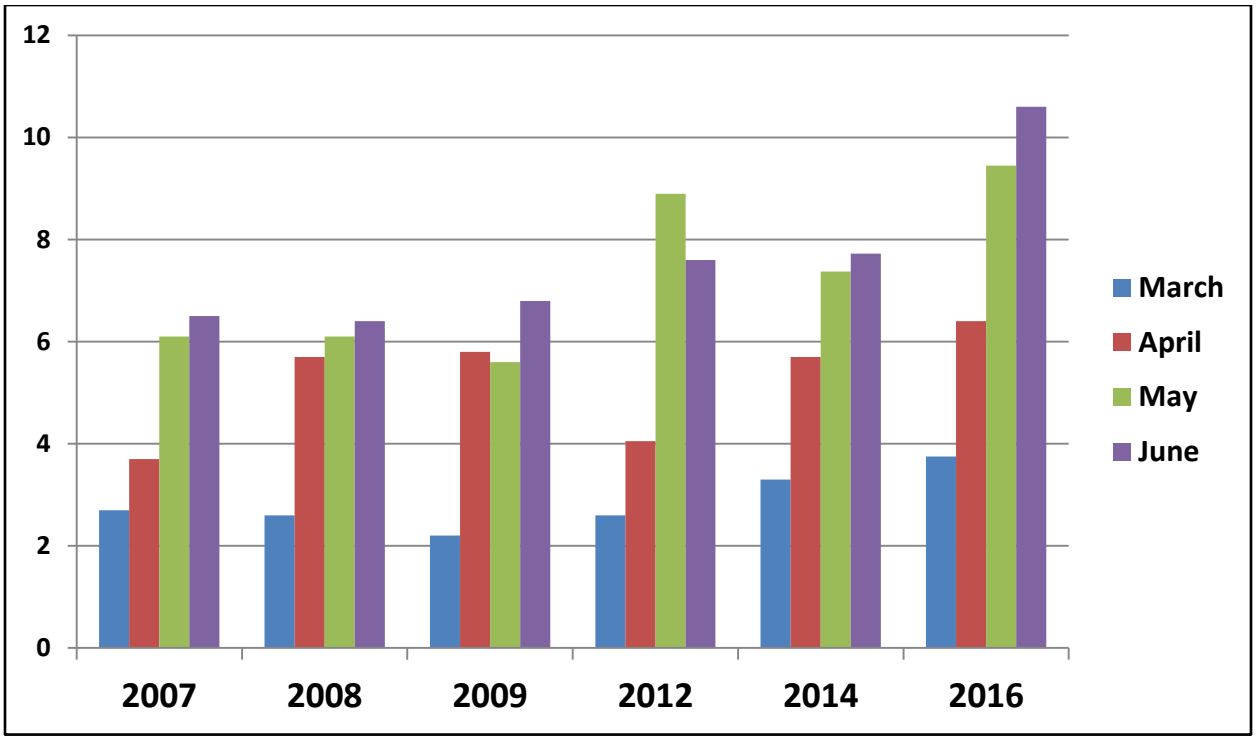

Figure 12-4. Mean bird species per station in Subarea 2, 2007-2016.

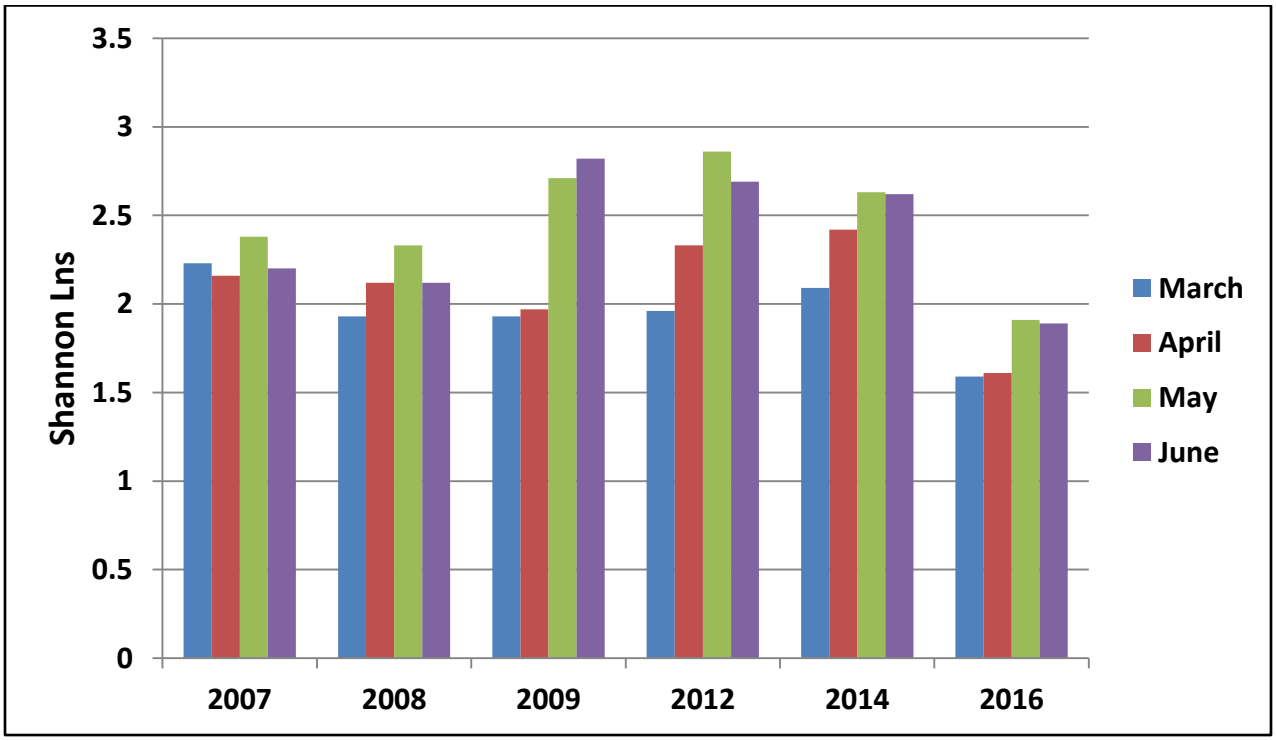

Figure 12-5. Bird equitability among stations in Subarea 2, 2007-2016.

12.3.1.1 General Observations

A total of 110 bird species have been recorded in Subarea 2 through June of 2016 [Table 12-1].

This is the sixth and final year of sampling in Subarea 2. Subarea 2 would have been sampled in 2017 (rather 2016), but repairs in Subarea 1 delayed the final year of sampling in Subarea 1. Sampling protocol is for after dawn during the last week of March, April, May and June.

Beginning in March 2007, 12 bird stations (Stations 21-32) in the upper reaches were sampled. Those same 12 stations were sampled the following year (2008). In 2009, eight more stations in the lower subarea (Stations 33-40) were added for a total of 20 stations. Each subarea is assigned 20 stations. In 2012, all 20 stations were sampled. In 2014, all stations were sampled twice about one week apart to see how much sampling date affects results [RESPEC, 2015b]. In 2016, all stations were sampled once per month.

As has been the case in past years, bird monitoring stations located near one of several ponds or wetlands had a higher number of species and individual counts (i.e., lower equitability among stations, Figure 12-5) than those stations placed where the stream is the only wetland. This trend also was observed in 2016, especially at the ponds near Stations 28 and 29. Near Stations 28 and 29 extensive bird activity generally occurs including activity near a gull colony discussed in the April 27, 2016 notes (see Section 12.3.1.3.2).

A significant rise in marsh wren occurrences in Subarea 2 occurred between 2014 and 2016. This species was first detected in 2014; one bird on June 29, 2014 and another single bird on July 6, 2014. At that time the species had not previously been observed in the SSTOU. On May 29, 2015 a single detection of a marsh wren occurred in Subarea 4.

During 2016, a gradual increase of marsh wren detections occurred between April and June. Marsh wrens typically do not arrive in western Montana until April. All of the detections of marsh wrens occurred in the upper reaches (Stations 21-30) and generally among, or near, a wetland containing some cattails. On April 27, 2016, three individuals were detected at two stations and on May 31 seven individuals were detected at seven stations. On June 30, 2016, 10 individuals were detected at eight stations. This trend indicates that the preferred habitat for marsh wren has developed in several areas throughout Subarea 2. This represents an example of “if you build it, they will come” restoration success. The increased abundance of marsh wrens observed in Subarea 2 will likely be observed in Subarea 4 as the preferred habitat of marsh wrens is likely to develop over time around the wetlands created in Subarea 4.

A similar increase in detections of at least one other indicator species (the willow flycatcher) has already occurred along Silver Bow Creek following remediation. The first May detection of a willow flycatcher occurred on May 31, 2016 attesting to the availability of habitat and of this (generally) late-arriving flycatcher species.

Willow flycatchers previously were observed only in June, but these birds arrive within the last days of May and first week of June. Willow flycatchers are typically on territory by late June when sampling occurs but not necessarily during late May.

The first detection of a willow flycatcher in Subarea 2 occurred during the June sample in 2012. The first detection of the species anywhere in the SSTOU occurred during in June 2010

sample in Subarea 1. The data suggest that it takes 4-5 years following shrub plantings for this species to set up territory within the streamside habitat (see Section 12.3.1.3.4).

The first detection of a willow flycatcher in Subarea 4 occurred recently (June 26, 2015). The species has yet to be detected in Subarea 3.

12.3.1.2 Field Notes

12.3.1.2.1 March 26, 2016

- Twenty-three species were detected on this date. No new species were observed.
- As has been the case in past samples, the large pond near Station 29 contained many gulls and waterfowls. With the exception of this pond, and the pond near Station 40, all other ponds in the area had a thin layer of ice on this date. Thus, we see how transitory conditions can influence bird use.

12.3.1.2.2 April 27, 2016

- Thirty-six species (13 more than last month) were detected on this date, with another eight outside the remediated area or between stations. Two species were added to the Subarea 2 list: one house finch flythrough between Stations 36 and 37 and one merlin flythrough at Station 23. Both have been recorded previously in one or more Subareas. Another single house finch was detected (post-count) during the June sample.
- Weather conditions on the April 27, 2016 were such that a number of swallow were found working low over the stream; most activity was between Stations 32-40. Five species (48 individuals); mostly tree swallows.
- It has been building up over the years, but it is now clear that a gull-breeding colony is well-established on the island in Sheep Gulch Pond west of Station 29 and south of Station 30. Most abundant are ring-billed gulls with some of their California kin and perhaps a few double-crested cormorants. Gull flyovers are frequent at most of the other monitoring stations in the vicinity of this colony.

Figure 12-6. Cliff swallows over Silver Bow Creek, Subarea 4.

12.3.1.2.3 May 31, 2016

- Forty-four species (eight more than last month) were detected on this date, with another six outside the remediated area or between stations.
- Bullock oriole were added to the Subarea 2 list; a single male was present within the remediated area near Station 30. He also represented a new species for the entire SSTOU. Bullock oriole are somewhat common in the upper Clark Fork region. Bullock oriole generally nest in large deciduous trees, but they are seen foraging just about anywhere nearby.

12.3.1.2.4 June 30, 2016

- While no new species were added to the Subarea 2 list in June. Forty-five species (one in June) were detected at sample points on this date, with another seven outside the remediated area or between stations.
- As a rule in Subarea 2, willow flycatcher detections in June showed an increase over May. That was again the case in 2016. The flycatcher is rather late to arrive.

12.3.1.3 Bird List

Table 12-1. Bird species list for Subarea 2.

Species	Species	Species
American avocet	Dark-eyed junco	Redhead
American coot	Double-crested cormorant	Red-breasted merganser
American crow	Eared grebe	Red-tailed hawk
American goldfinch	Eastern kingbird	Red-winged blackbird
American kestrel	Eurasian collared-dove	Ring-billed gull
American pipit	European starling	Ring-necked duck
American robin	Forster tern	Rock pigeon
American tree sparrow	Franklin gull	Rock wren
American wigeon	Gadwall	Ross goose
Bald eagle	Great blue heron	Rough-legged hawk
Bank swallow	Greater yellowlegs	Ruby-crowned kinglet
Barn swallow	Green-winged teal	Ruddy duck
Barrow goldeneye	Hooded merganser	Sandhill crane
Belted kingfisher	Horned lark	Savannah swallow
Black tern	House finch	Sharp-shinned hawk
Black-billed magpie	House sparrow	Snow goose
Black-capped chickadee	Killdeer	Solitary sandpiper
Black-necked stilt	Lazuli bunting	Song sparrow
Blue-winged teal	Lesser scaup	Sora
Bohemian waxwing	Lesser yellowlegs	Spotted sandpiper
Brewer blackbird	Lincoln sparrow	Spotted towhee
Brewer sparrow	Mallard	Townsend solitaire
Brown-headed cowbird	Marbled godwit	Tree swallow
Bufflehead	Marsh wren	Western grebe
Bullock oriole	Merlin	Western meadowlark
California gull	Mountain bluebird	White-crowned sparrow
Canada goose	Mourning dove	Willet
Canvasback	Northern flicker	Willow flycatcher
Cedar waxwing	Northern harrier	Wilson phalarope
Cinnamon teal	Northern pintail	Wilson snipe
Clark nutcracker	Northern rough-winged swallow	Wood duck
Cliff swallow	Northern shoveler	Yellow warbler
Common goldeneye	Northern shrike	Yellow-headed blackbird
Common merganser	Osprey	Yellow-rumped warbler
Common raven	Pied-billed grebe	
Common yellowthroat	Pine siskin	

12.3.2 Subarea 3

In Subarea 3, Reaches N and O were sampled in 2016. These reaches were first sampled in 2015 when Reach O was raw dirt and Reach N was fresh revegetation. The same two reaches will be sampled in 2017. All of Subarea 3 will be sampled in 2019 which is expected to be the last year of sampling in Subarea 3.

Bird counts [Figure 12-7] indicate an increase in use for March, April, and May. For some reason, bird use in June 2016 decreased. Figure 12-8 shows an even stronger increase when cliff swallow use is disregarded. Ninety cliff swallows were counted in June 2016. Cliff swallows add a lot of noise to the data because they are present only near the bridge which is loctated at the bottom or Reach O. At the moment of sampling, cliff swallows may or may not be abundant, or they may be using Reach P (Subarea 4) just downstream of the bridge. In reviewing monitoring results, cliff swallows have tended to become numerous in May and particularly in June. However, the spike in cliff swallow abundance in June 2015 [Figure 12-7] was not due exclusively to cliff swallows [Figure 12-8].

Species richness [Figure 12-9] follows the pattern of bird count [Figure 12-7; Figure 12-8]. Species richness has increased since last year in March, April, and May. The exception is June 2016, when species richness declined dramatically.

While there is a general pattern of decrease over time, the safest conclusion is that species equitability has changed little [Figure 12-10]. A decrease means that some species are more strongly represented than others. Without cliff swallows, species equitability decreased in March and June, but not the two middle months [Figure 12-11].

Bird use is far from equitably distributed within Reaches N and O. For all four sample months in 2016, an average of 70% of birds were counted at the final two stations of Reach O, leaving 30% for the other six stations. Figure 12-12 doesn't indicate low station equitability *per se* because this is a relative measure. However, no values above two indicate concentrated use at a few stations. Another example; in March 2011, half the stations recorded no birds, and in April three-quarters of stations provided no counts.

A total of 69 bird species have been recorded in Subarea 3 through June of 2016 [Table 12-2].

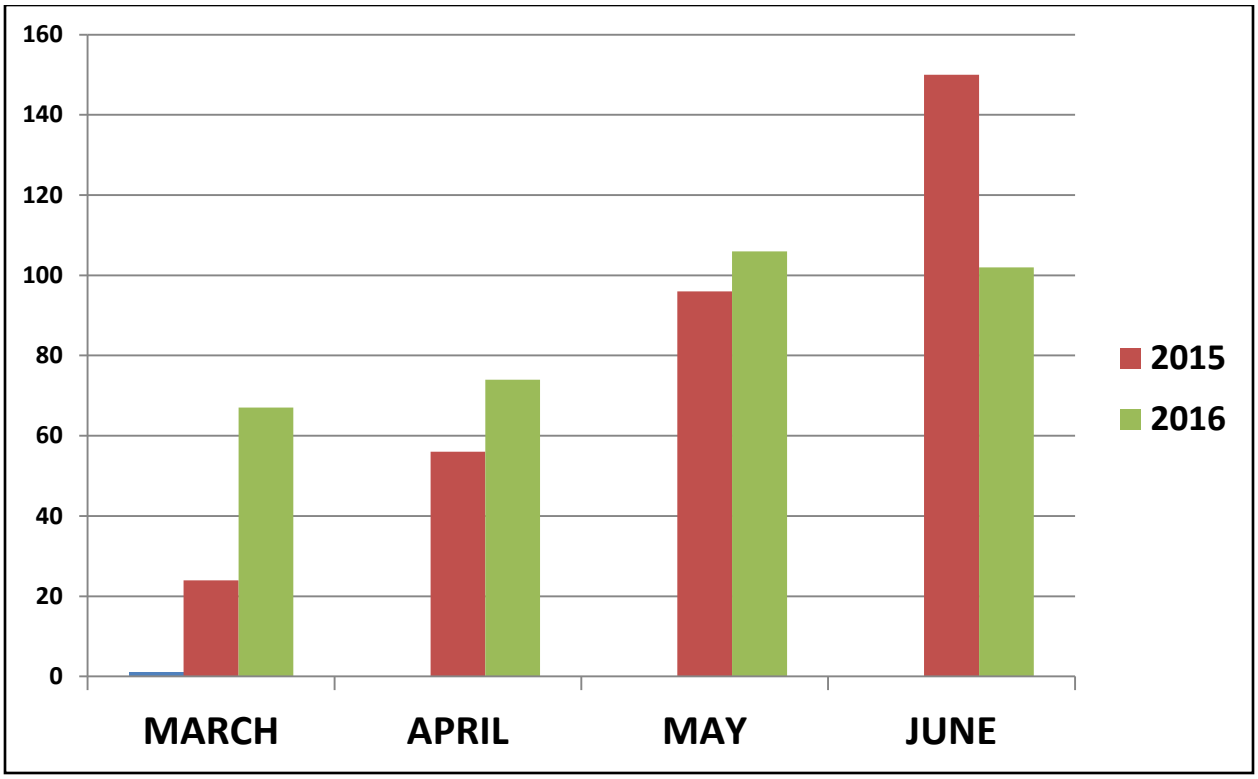

Figure 12-7. Bird counts in Subarea 3, 2015-2016.

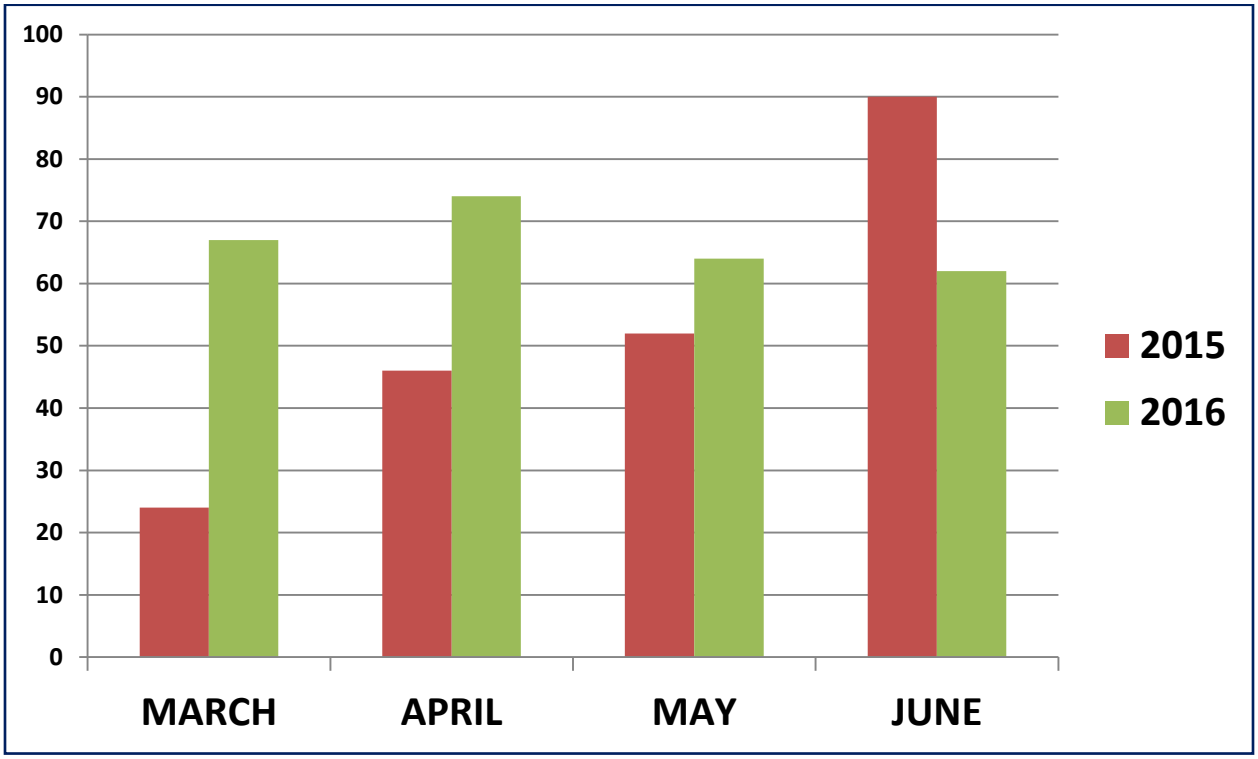

Figure 12-8. Bird counts (not including cliff swallows) in Subarea 3, 2015-2016.

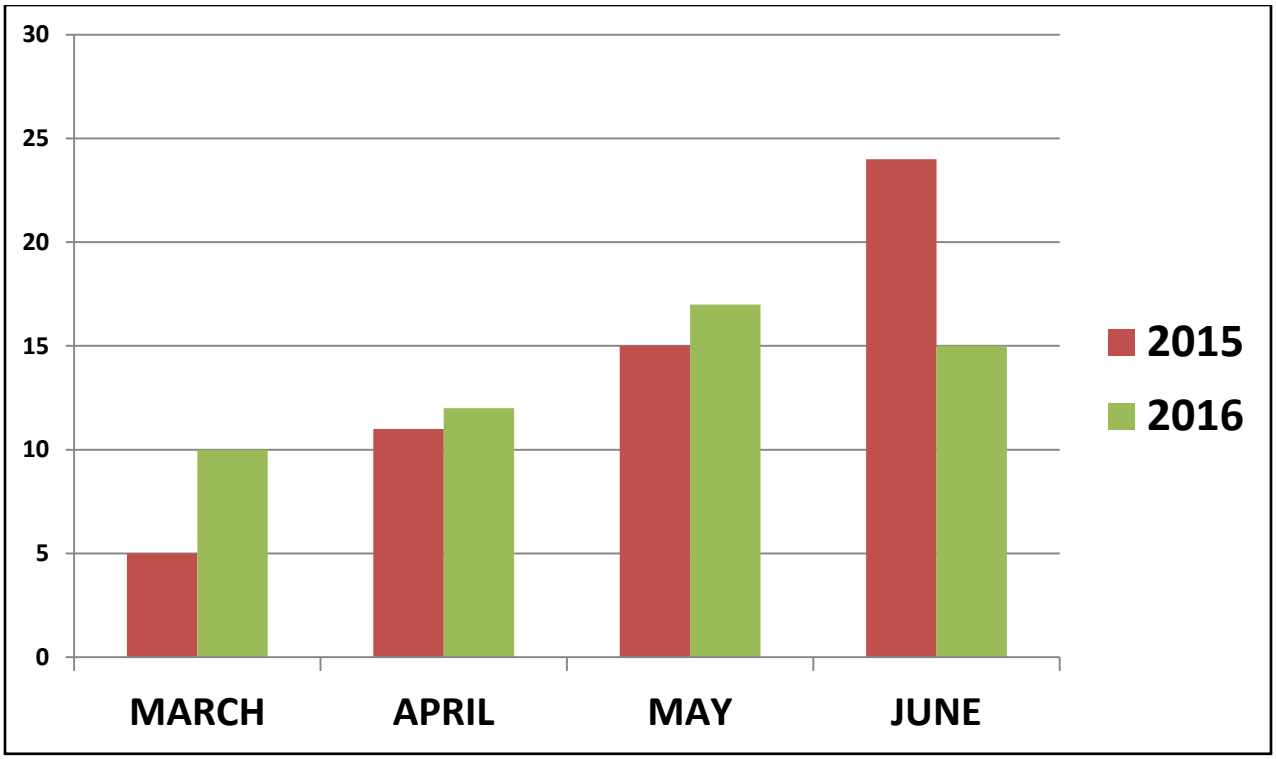

Figure 12-9. Bird species richness in Subarea 3, 2015-2016.

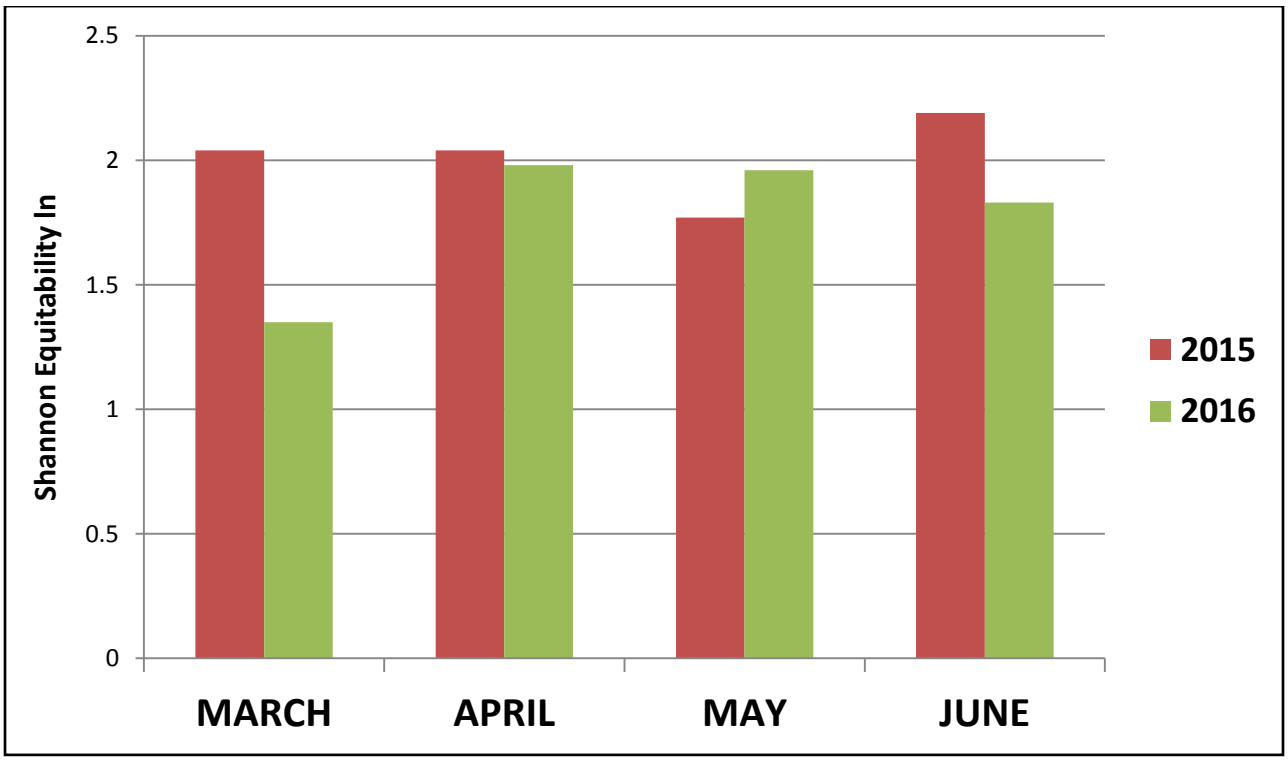

Figure 12-10. Bird species equitability of in Subarea 3, 2015-2016.

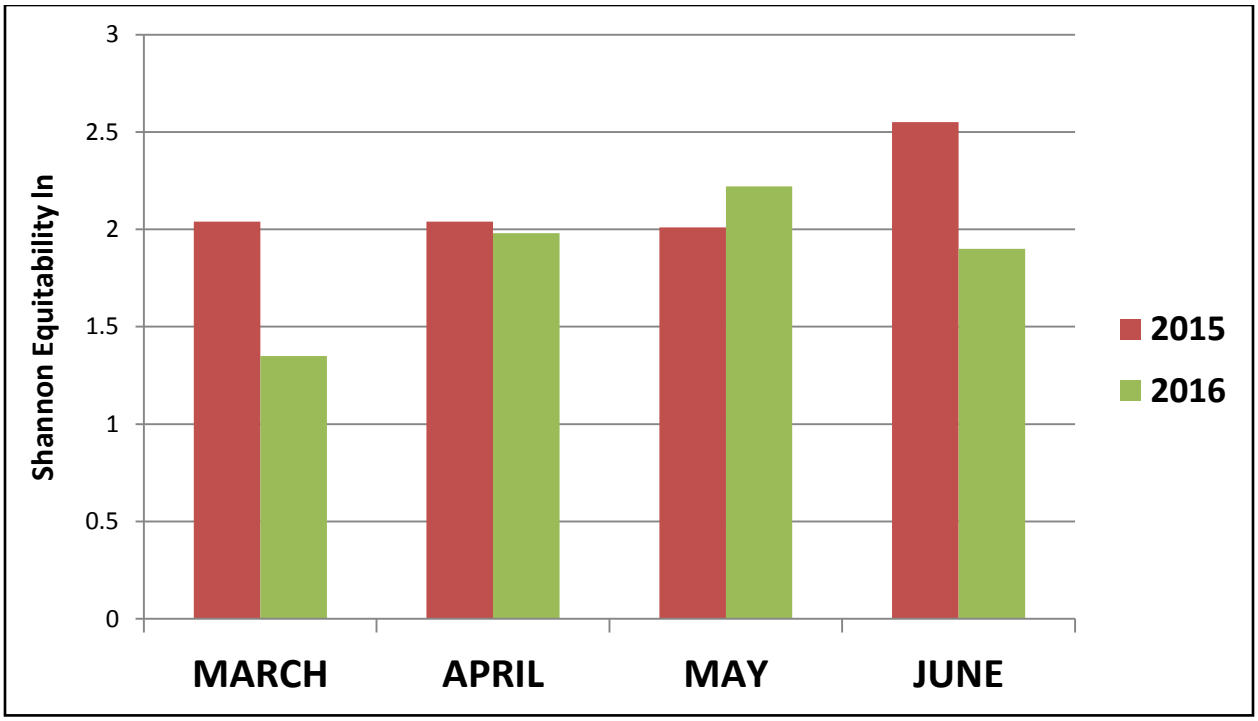

Figure 12-11. Bird species equitability (not including cliff swallows) in Subarea 3, 2015-2016.

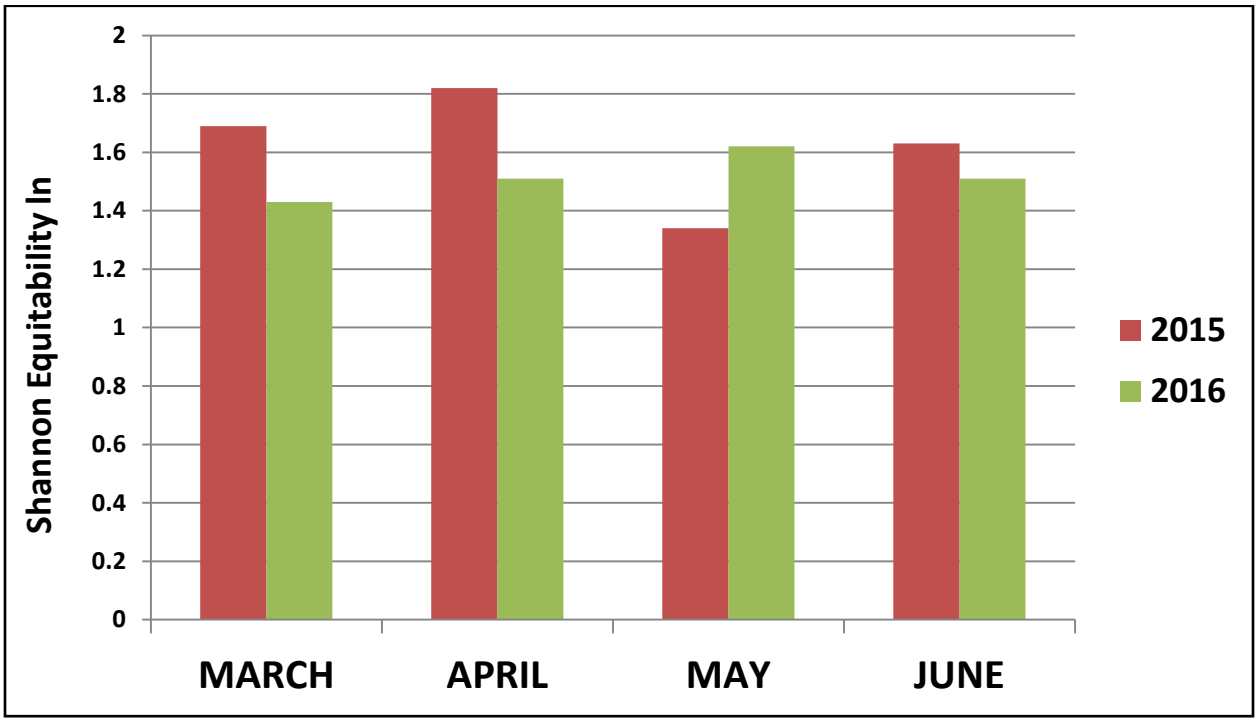

Figure 12-12. Equitability of bird species occurrence by sampling station in Subarea 3, 2015-2016.

12.3.2.1 General Observations

This was the third sample of Subarea 3, the first occurring in 2011 and the second in 2015, when Reach O was fresh dirt. This year, only the newest reaches (Reaches N and O; Stations 53-60) were sampled. The sequence was upstream to downstream beginning at Station 53 and ending at Station 60.

Generally, the highest species and individual counts occurred near the Reach O ponds, the impoundment near Station 59, and the shallow pond near Fairmont Road Bridge (Station 60), as would be expected, .

The shallow pond (120 m south of the Fairmont Road Bridge) was not present until midway through the 2015 sample. This area was under construction in March and April, 2015. Construction in the area was mostly complete by May and June 2015 and complete when sampling began in March 2016. This water feature likely attracts a few more bird species (waterfowl and shorebirds) which may not have been present during previous samples. A few cottonwoods are present near this pond.

A fair amount of riparian shrubs were retained during construction and remain in the narrow floodplain portions near Stations 56 and 57. Some of these retained shrubs are located near the streambank. These shrubs are larger than most two-year-old transplants, and they have continued to attract species that might otherwise be absent.

By following the sampling protocol and beginning just after dawn, the entire floodplain was in shadow during sampling of the first five stations (Stations 53-57). The early dawn sampling period was early for the swallows that center on the road bridge at the bottom of Reach O; swallows typically become active later in the morning. If Reaches N and O had been sampled along with the rest of Subarea 3, sampling in Reach N would have begun more than one hour later. Therefore, I recommend that in 2017 sampling Reach N begin at least one after dawn.

12.3.2.2 Field Notes

12.3.2.2.1 March 27, 2016

- Nine species were detected on this date, with another five detected outside the remediated area. Only the dark-eyed junco first joined the Subarea 3 list; it was expected and has been previously recorded in at least one other subarea.
- The banks in lower Reach N and Reach O were seeded and transplanted in 2014, while the floodplain there was seeded in 2015. The upper Reach N floodplain was seeded in 2014 and had few plants at the time of sampling. Transplants along the banks and at the pond margin in Reach O already provide some vertical structure for birds.

12.3.2.2.2 April 29, 2016

- No new species were added to the Subarea 3 list during the April sampling. Twelve more species were detected than last month. Another six were observed outside the remediated area. All have been previously recorded within the remediated area of Subarea 3.

12.3.2.2.3 May 26, 2016

- Seventeen species (five more than last month) were detected on this date, with another 12 detected outside the remediated area. Those 12 species have been previously recorded within the remediated area of Subarea 3.
- Two species were added to the Subarea 3 list: the American pipit and northern waterthrush. The pipit would be expected in the area, and previously was recorded in at least one other subarea. The waterthrush (usually found in well established, dense, marshy habitat) is a new addition for the SSTOU. They are somewhat common in suitable habitat in the upper Clark Fork region.
- Of note, 17 spotted sandpipers were recorded at all eight stations on this date.

12.3.2.2.4 June 29, 2016

- No new species were added to the Subarea 3 list in June, but 16 specie were detected. Another 12 species were detected outside the remediated area. Of those 12, all but one were previously detected within the remediated area of Subarea 3. The western wood-pewee was one species observed just outside the remediated area. Western pewee are somewhat common in the upper Clark Fork region. Western pewee will likely be observed in one of the four Silver Bow subareas in the future. Twenty-eight species were observed at Stations 53-60 in 2016.

12.3.2.3 Bird List

Table 12-2. Bird Species list for Subarea 3.

Species	Species	Species
American dipper	Dusky flycatcher	Red-breasted nuthatch
American pipit	European starling	Red-naped sapsucker
American robin	Franklin gull	Red-tailed hawk
Barn swallow	Golden eagle	Red-winged blackbird
Barrow goldeneye	Gray catbird	Ring-billed gull
Belted kingfisher	Great blue heron	Rock wren
Black-billed magpie	Green-tailed towhee	Ruby-crowned kinglet
Black-capped chickadee	Green-winged teal	Sandhill crane
Blue-winged teal	Killdeer	Savannah sparrow
Brewer blackbird	Lazuli bunting	Sora
Brown-headed cowbird	Lesser scaup	Spotted sandpiper
California gull	Lincoln sparrow	Swainson thrush
Canada goose	MacGillivray warbler	Townsend solitaire
Cedar waxwing	Mallard	Tree swallow
Chipping sparrow	Mountain bluebird	Violet-green swallow
Cinnamon teal	Mountain chickadee	Warbling vireo
Clark nutcracker	Mourning dove	Western meadowlark
Cliff swallow	Northern flicker	Western tanager
Common merganser	Northern rough-winged swallow	Wilson phalarope
Common raven	Northern waterthrush	Wilson snipe
Common yellowthroat	Osprey	Yellow warbler
Dark-eyed junco	Peregrine falcon	Yellow-rumped warbler
Double-crested cormorant	Pine siskin	

13.0 CONCLUSIONS

This chapter concludes the 2016 monitoring report and provides an evaluation of monitored conditions in relation to performance standards specified in the SSTOU ROD [MDEQ and USEPA, 1995]. Numeric performance standards are specified in the ROD for surface water and groundwater COC concentrations [MDEQ and USEPA, 1995], and therefore this chapter focuses on those media. While more stringent standards promulgated since the issuance of the ROD have not yet been formally adopted as performance standards for this operable unit, this monitoring report uses the more stringent of the ROD's Circular WQB-7 [MDHES, 1994] standards or current Circular DEQ-7 [MDEQ, 2012a] standards as the goal to be attained for purposes of evaluation.

For surface water and groundwater, sample concentrations from this monitoring year are compared to performance goals at each SSTOU monitoring site. Surface water sites outside the SSTOU (SS-01, SS-05A, SS-06G, and SS-15G; Figure 1-2) are not included. A summary of performance goal exceedances is provided in Table 13-1 (surface water), Table 13-2 (groundwater in the vicinity of the Mine Waste Relocation Repository), and Table 13-3 (groundwater in the SSTOU floodplain). In addition, this chapter provides a brief comparison of COC concentrations between surface water sites and in groundwater clusters to identify potential remaining COC source areas within the SSTOU.

The remedial actions in the SSTOU are largely complete although some final pass repair work remains to be completed in Subareas 1 and 2. These data will guide managers in identifying progress or problems in the recovery of the operable unit following implementation of the remedial actions.

Table 13-1. Attainment of surface water performance goals for contaminants of concern at sampling sites in the Streamside Tailings Operable Unit (SSTOU), 2016. Sites within the watershed but outside the SSTOU are not included.

Site ID	Site Location	Contaminant of Concern[61]					
		As	Cd	Cu	Pb	Hg	Zn
SS-07	Silver Bow Creek below Butte WWTP						
SS-08	Silver Bow Creek at Rocker						
SS-10A	Silver Bow Creek above Sand Creek						
SS-10B	Silver Bow Creek below Sand Creek						
SS-11C	Silver Bow Creek above Browns Gulch						
SS-11D	Silver Bow Creek below Browns Gulch						
SS-13	Silver Bow Creek in Reach L						
SS-14	Silver Bow Creek at Miles Crossing						
SS-15A	Silver Bow Creek above German Gulch						
SS-15B	Silver Bow Creek below German Gulch						
SS-16B	Silver Bow Creek in Reach P near Fairmont						
SS-17D	Silver Bow Creek below Stewart Street at Opportunity						
SS-19	Silver Bow Creek at Frontage Road						

Attainment of performance goal during all quarterly monitoring periods.

Failure to attain the performance goal during one to three quarterly monitoring periods.

Failure to attain the performance goal during all quarterly monitoring periods.

Table 13-2. Attainment of groundwater performance goals for contaminants of concern in monitoring wells of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2016.

Site	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
1GW-1056						
LYP-07						
MW-2B						
MW-2C						
MW-2D						

Attainment of performance goal during both monitoring periods.

Failure to attain the performance goal during one monitoring period.

Failure to attain the performance goal during both monitoring periods.

[61]Abbreviations: As = arsenic, Cd = cadmium, Cu = copper, Pb = lead, Hg = mercury, and Zn = zinc.

Table 13-3. Attainment of groundwater performance goals for contaminants of concern in floodplain monitoring wells located along Silver Bow Creek in the Streamside Tailings Operable Unit, 2016.

Cluster	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
Colorado Tailings						
Rocker						
Nissler						
Silver Bow						
Miles Crossing						
Fairmont						
Crackerville						
Stuart						
Frontage Road						

	Attainment of performance goal.
	Failure to attain the performance goal in one monitoring well sample.
	Failure to attain the performance goal in both monitoring well samples.

13.1 SUBAREA 1

Surface water sites in Subarea 1 include sites SS-07, SS-08, and SS-10A [Figure 1-2]. Groundwater monitoring clusters in Subarea 1 include the Colorado Tailings, Rocker, and Nissler clusters [Figure 3-1]. Remediation in Subarea 1 was completed between 1999-2003.

In 2016, surface water total recoverable cadmium, copper, and zinc concentrations generally increased throughout Subarea 1, particularly in Q1 and Q4. Additional remedial actions were in progress in Subarea 1 to address some of the remaining COC sources in the floodplain.

In groundwater monitoring wells of Subarea 1, zinc concentrations have consistently exceeded the performance goal (by as much as five times). Arsenic and cadmium concentrations have also occasionally exceeded the performance goals in Subarea 1 monitoring wells. Copper concentrations have not exceeded the performance goal during the period of record in these wells but have regularly been elevated in monitoring wells compared to the background wells.

13.1.1 Surface Water

13.1.1.1 Silver Bow Creek below Butte WWTP (SS-07)

Site SS-07 is located at the upstream end of Subarea 1, immediately downstream from the Butte WWTP outfall. Site SS-07 is the upstream-most site in the SSTOU. Remediation was completed at SS-07 in 2000. In addition to representing conditions at the upstream-most portion of the SSTOU, site SS-07 provides an assessment of the influence of the WWTP on water chemistry and biological integrity in Silver Bow Creek. Site SS-07 is paired with site SS-06G, located immediately upstream from the WWTP, with SS-06G providing the “control” site and

SS-07 providing the "impact" site for the WWTP outfall. Site SS-07 is co-located with USGS gauge 12323250.

In 2016, copper and lead exceeded the performance goals at SS-07 in Q4. During most quarters in 2016, most COC concentrations at SS-07 were similar to (or less than) concentrations at SS-06G. However, zinc was an exception. During all quarters zinc concentrations at SS-07 were higher than at SS-06G. These results suggest that the discharge of the Butte WWTP in 2016 tended to dilute concentrations in Silver Bow Creek for each metal COC except zinc

13.1.1.2 Silver Bow Creek at Rocker (SS-08)

Site SS-08 is located in Subarea 1 near the town of Rocker, approximately two miles downstream from site SS-07. Site SS-08 was remediated in 2002. No tributaries enter Silver Bow Creek between SS-07 and SS-08. Therefore, any differences in streamflow (not due to measurement error) between SS-07 and SS-08 would likely be attributed to exchange between groundwater and surface water in this reach.

In 2016, cadmium, copper, lead, and mercury exceeded the performance goals at SS-08 during at least one quarter. Exceedances of the performance goals occurred for cadmium in Q4; for copper in Q1, Q3, and Q4; for lead in Q4; and for mercury in Q3 and Q4. During most quarters, COC concentrations increased by about 25-50% between SS-07 and SS-08, but during Q1 and Q4 concentrations between those sites approximately doubled. These results suggest that a substantial amount of loading or mobilization of those contaminants occurs between those sites, particularly during winter periods. Monitoring in 2017 and beyond will demonstrate the success of recent remedial actions between these sites (which occurred in 2016) at reducing COC loading.

13.1.1.3 Silver Bow Creek above Sand Creek (SS-10A)

Site SS-10A is located at the downstream end of Subarea 1, immediately upstream from the Sand Creek confluence, approximately 3 miles downstream from site SS-08. Remediation at site SS-10A was completed in 2003. In addition to representing conditions at the downstream end of Subarea 1, site SS-10A provides an assessment of the influence of Sand Creek on water chemistry and biological integrity in Silver Bow Creek. Site SS-10A is paired with site SS-10B, located immediately downstream from the Sand Creek confluence, with SS-10A providing the "control" site and SS-10B providing the "impact" site for the Sand Creek input.

In 2016, cadmium, copper, lead, and mercury exceeded the performance goals at SS-10A. Exceedances of the performance goals occurred for cadmium in Q1 and Q4; for copper in all quarters; for lead in Q4; and for mercury in Q4. Generally, there was a relatively small, increase in concentrations between SS-08 and SS-10A although copper increased by more than double between these sites in Q4.

13.1.2 Groundwater

13.1.2.1 Colorado Tailings Cluster

The Colorado Tailings cluster is located approximately one mile downstream from the upstream end of Subarea 1 between surface water sites SS-07 and SS-08. There was no evidence that mean streamflow differed between sites SS-07 and SS-08 among measurements taken on the same day (typically within 2 hours; n = 27 from 2010-2016 (p-value from two-sided paired t-test = 0.095). Mean streamflow at each site from 2010-2016 was 29.3 cubic feet per second (cfs; SS-07) and 30.1 cfs (SS-08). Based on these data, groundwater in this reach does not appear to contribute appreciably to surface water streamflow and there are no surface water inputs to Silver Bow Creek in this reach.

In 2016, no COCs exceeded performance goals in groundwater samples in the Colorado Tailings cluster. Zinc concentration in one monitoring well was elevated compared to the background well

13.1.2.2 Rocker Cluster

The Rocker cluster is located approximately 0.5 miles downstream from surface water site SS-08, and approximately 2 miles upstream from surface water site SS-10A. There was no evidence that mean streamflow differed between sites SS-08 and SS-10A among measurements taken on the same day (typically within 2 hours; n = 20) from 2010-2016 (p-value from two-sided paired t-test = 0.686). Mean streamflow at each site from 2010-2016 was 30.1 cfs (SS-08) and 28.6 cfs (SS-10A). Based on these data, groundwater in this reach does not appear to contribute appreciably to surface water streamflow and there are no major surface water inputs to Silver Bow Creek in this reach.

In 2016, arsenic and zinc exceeded the performance goal in one of two monitoring samples in the Rocker cluster. Copper and zinc concentrations were elevated in at least one monitoring well compared to the background well.

13.1.2.3 Nissler Cluster

The Nissler cluster is located approximately 1.5 miles downstream from the Rocker cluster, and also between surface water sites SS-08 and SS-10A.

In 2016, cadmium (in one monitoring well) and zinc (in both monitoring wells) each exceeded performance goals in the Nissler cluster. Cadmium, copper, lead, and zinc concentrations in monitoring wells were elevated relative to the background concentrations. Despite historically elevated COC concentrations in this portion of the floodplain of Silver Bow Creek between SS-08 and SS-10A, groundwater may not be the primary cause of increasing surface water COC concentrations between these sites given that it appears little groundwater enters Silver Bow Creek in this portion of Subarea 1.

13.2 SUBAREA 2

Subarea 2 includes sites SS-10B, SS-11C, SS-11D, SS-13, and SS-14 [Figure 1-2]. Remediation in Subarea 1 was completed between 2004-2010. In 2016, surface water COC concentrations tended to remain approximately even among Subarea 2 sites, although with some variation. Some additional remedial actions are planned in Subarea 2 in 2017 or future years to address some remaining COC sources in the floodplain.

In four Subarea 2 floodplain groundwater monitoring wells, arsenic and cadmium concentrations were above the local background concentration in one well and zinc concentrations in both wells of one cluster (Miles Crossing) were above performance goal by more than three times.

13.2.1 Surface Water

13.2.1.1 Silver Bow Creek below Sand Creek (SS-10B)

Site SS-10B is located at the upstream end of Subarea 2, immediately downstream from the Sand Creek confluence, and approximately 200 yards downstream from site SS-10A. This reach of Silver Bow Creek was remediated in 2003. In addition to representing conditions at the upstream end of Subarea 2, site SS-10B provides an assessment of the influence of Sand Creek on water chemistry and biological integrity in Silver Bow Creek. Site SS-10B is paired with site SS-10A, which is located immediately upstream from the Sand Creek confluence. SS-10A provides the "control" site and SS-10B provides the "impact" site for the Sand Creek input. Surface water COC concentrations were similar between SS-10A and SS-10B in 2016, indicating that Sand Creek is not a major source of COCs to surface water in the SSTOU.

13.2.1.2 Silver Bow Creek above Browns Gulch (SS-11C)

Site SS-11C is located in Subarea 2, immediately upstream from the Browns Gulch confluence, and approximately 2.5 miles downstream from site SS-10B. Site SS-11C was remediated in 2006. Site SS-11C provides an assessment of the influence of Browns Gulch on water chemistry and biological integrity in Silver Bow Creek. Site SS-11C is paired with site SS-11D, which is located immediately downstream from the Browns Gulch confluence. SS-11C provides the "control" site, and SS-11D provides the "impact" site for the Browns Gulch input.

Between sites SS-10B and SS-11C, some COC concentrations increased during some quarters but during other quarters concentrations were similar or lower at SS-11C.

13.2.1.3 Silver Bow Creek below Browns Gulch (SS-11D)

Site SS-11D is located in Subarea 2, immediately downstream from the Browns Gulch confluence, approximately 200 yards downstream from site SS-11C. Site SS-11D was remediated in 2007. Site SS-11D provides an assessment of the influence of Browns Gulch on water chemistry and biological integrity in Silver Bow Creek. Site SS-11D is paired with site SS-11C (which is located immediately upstream from the Browns Gulch confluence), with SS-

11C providing the "control" site and SS-11D providing the "impact" site for the Browns Gulch input.

Generally, COC concentrations were similar between SS-11C and SS-11D, and often concentrations were slightly lower at SS-11D suggesting that Browns Gulch flows reduce mainstem concentrations slightly through dilution.

13.2.1.4 Silver Bow Creek in Reach L (SS-13)

Site SS-13 is located in Subarea 2, downstream from the Browns Gulch confluence, approximately 0.75 miles downstream from site SS-11D. Site SS-13 was remediated in 2007, but this site was not sampled until 2013.

Generally, COC concentrations were similar in SS-11D and SS-13 but there was variability in those trends particularly in Q1 and Q4.

13.2.1.5 Silver Bow Creek at Miles Crossing (SS-14)

Site SS-14 is located near the downstream end of Subarea 2. Remediation was completed at SS-14 in 2008. Site SS-14 is located in the Miles Crossing area approximately 1 mile downstream from site SS-13. Generally, COC concentrations were similar between SS-13 and SS-14 during all quarters.

13.2.2 Groundwater

13.2.2.1 Silver Bow Cluster

The Silver Bow cluster is located at the boundary between Subarea 1 and Subarea 2, close to the surface water site SS-10B. Surface water site SS-10B is located approximately 3 miles upstream from site SS-11C. There was convincing evidence that mean streamflow differed between sites SS-10B and SS-11C among measurements taken on the same day (typically within 2 hours; n = 23) from 2010-2016 (p-value from two-sided paired t-test <0.0001). Mean streamflow at each site from 2010-2016 was 27.9 cfs (SS-10B) and 31.3 cfs (SS-11C). There are multiple ponds adjacent to Silver Bow Creek that discharge into Silver Bow Creek. Those ponds, in addition to possible direct groundwater inputs, are likely responsible for the 12% average increase in streamflows between SS-10B and SS-11C.

In 2016, arsenic and cadmium exceeded the performance goal in one of two monitoring wells in the Silver Bow cluster.

13.2.2.2 Miles Crossing Cluster

The Miles Crossing cluster is located at the boundary between Subarea 2 and Subarea 3, close to the surface water site SS-14. Surface water site SS-15A is located approximately 5 miles downstream from SS-14. There was evidence that mean streamflow differed between sites SS-14 and SS-15A among measurements taken on the same day (typically within 2 hours; n = 25) from 2010-2016 (p-value from two-sided paired t-test = 0.035). Mean streamflow at each site

from 2010-2016 was 44.3 cfs (SS-14) and 42.1 cfs (SS-15A) indicating that this is a losing (5%) reach for surface water streamflow.

In 2016, cadmium and zinc exceeded the performance goal in both monitoring wells located in the Miles Crossing cluster and concentrations were several orders of magnitude above the concentrations in the background well.

13.3 SUBAREA 3

Subarea 3 includes sites SS-15A and SS-15B [Figure 1-2]. Remediation in Subarea 3 occurred from 2011 to 2015. Prior to 2014 monitoring, surface water COC concentrations tended to be the highest in the SSTOU at these Subarea 3 sites (particularly SS-15A). However, since 2014, COC concentrations at these sites have generally been similar to concentrations in Subarea 2. These results indicate that the recent remedial actions in Subarea 3 upstream from these sites were largely successful at reducing surface water COC concentrations and variability.

13.3.1 Surface Water

13.3.1.1 Silver Bow Creek above German Gulch (SS-15A)

Site SS-15A is located in Subarea 3, immediately upstream from the German Gulch confluence and approximately 3.5 miles downstream from site SS-14. Remediation was completed in Subarea 3 upstream from site SS-15A in 2014. However, the stream channel and floodplain in the immediate vicinity of SS-15A (up to 100 yards upstream) was not actively remediated. The remediation plan in this vicinity is for natural attenuation of streamside tailings. No active remediation occurred because the stream passes through a very narrow canyon (~30 m) and the streambed is comprised primarily of bedrock indicating that the volume of tailings is quite small.

Site SS-15A provides an assessment of the influence of German Gulch on water chemistry and biological integrity in Silver Bow Creek. Site SS-15A is paired with site SS-15B, located immediately downstream from the German Gulch confluence, with SS-15A providing the "control" site and SS-15B provides the "impact" site for the German Gulch input. The COC concentrations were similar at SS-14 and SS-15A during all quarters in 2016.

13.3.1.2 Silver Bow Creek below German Gulch (SS-15B)

Site SS-15B is located in Subarea 3, immediately downstream from the German Gulch confluence and approximately 200 yards downstream from site SS-15A. Site SS-15B was located at the downstream edge of the non-remediated portion of Subarea 3. Downstream from SS-15B, remediation was completed in 2016 but upstream for approximately 300 m the stream channel and floodplain were not remediated due to low tailings volume in this reach and poor access. The remediation plan for this short reach (~300 yards; from SS-15B to 100 yards upstream from SS-15A) is for natural attenuation. Site SS-15B provides an assessment of the influence of

German Gulch on water chemistry and biological integrity in Silver Bow Creek. Site SS-15B is paired with site SS-15A which is located immediately upstream from the German Gulch confluence. SS-15A provides the "control" site and SS-15B provides the "impact" site for the German Gulch input. Typically in 2016, COC concentrations at SS-15B were lower than at SS-15A. These results are consistent with past results and reflect dilution from the relatively clean German Gulch tributary.

13.3.2 Groundwater

There were no groundwater monitoring wells located in Subarea 3 in 2016. The Miles Crossing cluster is located in Subarea 2 near the boundary with Subarea 3 and the Fairmont cluster is located in Subarea 4 near the boundary with Subarea 3.

13.4 SUBAREA 4

Subarea 4 includes sites SS-16B, SS-17D, and SS-19 [Figure 1-2]. Remediation in this subarea occurred from 2004-2014. Generally, COC concentrations have continued a steady, modest decline at the Subarea 4 sites during the last 6 years. Remediation was in progress in Subarea 3 upstream from Subarea 4 through 2015. A temporary sedimentation pond, used to sequester metals and sediments entrained from removal activities upstream, was removed in 2014. That pond had previously provided a buffer to water quality in Subarea 4.

13.4.1 Surface Water

13.4.1.1 Silver Bow Creek in Reach P near Fairmont (SS-16B)

Site SS-16B is located at the upstream end of Subarea 4. As of 2013, remediation was completed at site SS-16B. Site SS-16B is located approximately 2 miles downstream from site SS-15B. A sedimentation pond was removed and a fish movement barrier was installed between SS-15B and SS-16B in 2014. Site SS-16B was first sampled in this monitoring program in 2013. Generally, in 2016 COC concentrations at SS-16B were similar to, or slightly higher, than at SS-15B.

13.4.1.2 Silver Bow Creek below Stewart Street at Opportunity (SS-17D)

Site SS-17D is located in Subarea 4, approximately 6.9 miles downstream from site SS-16B and approximately 1.5 miles upstream from the point where Silver Bow Creek discharges into the Warm Springs Pond system. Site SS-17D is co-located with USGS gauge 12323600. Floodplain remediation was complete at SS-17D in 2013. Generally COC concentrations increased slightly between SS-16B and SS-17D in 2016.

13.4.1.3 Silver Bow Creek at Frontage Road (SS-19)

Site SS-19 is located in Subarea 4, approximately 1.2 miles downstream from SS-17D, and 0.2 miles upstream from the point where Silver Bow Creek discharges into the Warm Springs Pond system. Site SS-19 is the downstream-most site in the SSTOU monitoring network, and also provides an assessment of water quality in Silver Bow Creek at the downstream end of Subarea 4. Sampling at SS-19 was initiated in 2014. Generally, COC concentrations were similar between SS-17D and SS-19 in 2016.

13.4.2 Groundwater

13.4.2.1 Fairmont Cluster

The Fairmont cluster is located at the upstream end of Subarea 4, between surface water sites SS-15B and SS-16B. Surface water site SS-15B is located approximately 2 miles upstream from SS-16B. Sampling at SS-16B began in 2013. There was no evidence that mean streamflow differed between sites SS-15B and SS-16B among measurements taken on the same day (typically within 2 hours; n = 13) from 2013-2016 (p-value from two-sided paired t-test = 0.417). Mean streamflow at each site from 2013-2016 was 57.0 cfs (SS-15B) and 58.0 cfs (SS-16B) indicating that there is little or no groundwater entering Silver Bow Creek in this portion of Subarea 3.

In 2016, all COC concentrations in Fairmont cluster monitoring wells were below the performance goals.

13.4.2.2 Crackerville Cluster

The Crackerville cluster is located between surface water site SS-16B and SS-17D, approximately 0.5 miles downstream from SS-16B. There was no evidence that mean streamflow differed between sites SS-16B and SS-17D among measurements taken on the same day (typically within 2 hours; n = 13) from 2013-2016 (p-value from two-sided paired t-test = 0.193). Mean streamflow at each site from 2013-2016 was 58.0 cfs (SS-15B) and 59.7 cfs (SS-17D) indicating that there is little groundwater entering Silver Bow Creek in this portion of Subarea 4; there are no surface water inputs between these surface water sample sites.

In 2016, one monitoring well had a cadmium concentration which exceeded the performance goal.

13.4.2.3 Stuart Cluster

The Stuart cluster is located between surface water site SS-16B and SS-17D, approximately 1 mile upstream from SS-17D. There is no evidence that streamflows differ between those sites.

In 2016, both monitoring wells had cadmium and zinc concentrations which exceeded the performance goal and copper also exceeded the performance goal in one well.

13.4.2.4 Frontage Road Cluster

The Frontage Road cluster is located between surface water sites SS-17D and SS-19 (very close to SS-19), at the downstream end of Subarea 4. Sampling began at SS-19 in 2014. There was no evidence that mean streamflow differed between sites SS-17D and SS-19 among measurements taken on the same day (typically within 2 hours; $n = 10$) from 2014-2016 (p-value from two-sided paired t-test = 0.364). Mean streamflow at each site from 2014-2016 was 59.7 cfs (SS-17D) and 60.8 cfs (SS-19). There are no surface water inputs between these surface water sample sites.

In 2016, no monitoring wells located in the Frontage Road cluster had a COC concentration exceeding the performance goal.

14.0 REFERENCES

AR (Atlantic Richfield Company), 1992. *Clark Fork River Superfund site investigations: standard operating procedures,* prepared by AR, Anaconda, MT.

Anderson, N. H., 1976. *The distribution and biology of the Oregon Trichoptera*. Oregon Agricultural Experimentation Station Technical Bulletin No. 134:1-152.

Atkins, 2011. *Monitoring report for 2010: Streamside Tailings Operable Unit Silver Bow Creek/Butte Area NPL site*, prepared by Atkins, Missoula, MT, for Montana Department of Environmental Quality, Montana Department of Justice, Natural Resource Damage Program, Helena, MT, and U.S. Environmental Protection Agency, Helena, MT.

Atkins, 2013a. *Monitoring report for 2011: Streamside Tailings Operable Unit, Silver Bow Creek/Butte Area NPL site*, prepared by Atkins, Missoula, MT, for Montana Department of Environmental Quality and Montana Department of Justice, Natural Resource Damage Program, Helena, MT.

Atkins, 2013b. *Monitoring report for 2012: Streamside Tailings Operable Unit, Silver Bow Creek/Butte Area NPL site*, prepared by Atkins, Missoula, MT, for Montana Department of Environmental Quality and Montana Department of Justice, Natural Resource Damage Program, Helena, MT.

Bahls, L. L., 1979. *Benthic diatom diversity as a measure of water quality*. Proceedings of the Montana Academy of Sciences 38:1–6.

Bahls, L. L., 1993. *Periphyton bioassessment methods for Montana streams (revised),* prepared by Montana Department of Health and Environmental Sciences, Helena, MT.

Bahls, L. L., 2005. *Northwest diatoms. A photographic catalogue of species in the Montana diatom collection, with ecological optima, associates, and distribution records for the nine northwestern United States. Volume 2,* prepared by Hannaea, Helena, MT.

Bahls, L. L. 2006. *Support of aquatic life uses at stations in the Montana statewide monitoring network based on features of benthic algae associations, 2001-2005*, prepared by Hannaea, Helena, MT, prepared for Montana Department of Environmental Quality, Helena, MT.

Barbour, M. T., J. Gerritsen, B. D. Snyder, and J. B. Stribling, 1999. *Rapid bioassessment protocols for use in streams and wadeable rivers: periphyton, benthic macroinvertebrates and fish, second edition, EPA 841-B-99-002*, prepared by U.S. Environmental Protection Agency, Office of Water, Washington D.C.

Bollman, W. A., 1998. *Improving stream bioassessment methods for the Montana valleys and foothill prairies ecoregion*. M.S. Thesis, University of Montana, Missoula, MT.

Brandt, D., 2001. *Temperature preferences and tolerances for 137 common Idaho macroinvertebrate taxa,* prepared by Idaho Department of Environmental Quality, Coeur d' Alene, Idaho. Available: http://epa.gov/global-adaptation/pdfs/Brandt_ID_Report.pdf. (June 26, 2015).

Bray, J. R. and J. T. Curtis, 1957. *An ordination of upland forest communities of southern Wisconsin.* Ecological Monographs 27:325-349.

Brook, E. and J. Moore, 1989. S*ediment-water interactions in the metal-contaminated floodplain of the Clark Fork River, Montana, USA*. GeoJournal 19:27-36.

Bukantis, R., 1998. *Rapid bioassessment macroinvertebrate protocols: Standard operating procedures,* prepared by Montana Department of Environmental Quality, Helena, MT.

Butler, R., and H. Vernon, 1968. *The reactions of dominant trout to changes in overhead artificial cover.* Transactions of the American Fisheries Society 97:37-41.

Cairns, J., and J. R. Pratt, 1993. *A history of biological monitoring using benthic macroinvertebrates*. Chapter 2 *in* Rosenberg, D. M. and V. H. Resh, editors. *Freshwater biomonitoring and benthic macroinvertebrates*. Chapman and Hall, NY.

Caton, L. W., 1991. *Improving subsampling methods for the EPA's "Rapid Bioassessment" benthic protocols.* Bulletin of the North American Benthological Society. 8:317-319.

Chadwick, J. W., S. P. Canton, and R. L. Dent, 1985. *Recovery of benthic communities in Silver Bow Creek, Montana, following improved metal mine wastewater treatment*. Water, Air, and Soil Pollution 28:427-438.

Clark, W. H., 1997. *Macroinvertebrate temperature indicators for Idaho,* prepared by Idaho Department of Environmental Quality, Boise, ID.

Clements, W. H., 1999. *Metal tolerance and predator-prey interactions in benthic stream communities.* Ecological Applications 9:1073-1084.

Clements, W. H., 2004. *Small-scale experiments support casual relationships between metal contamination and macroinvertebrate community response.* Ecological Applications 14:954-967.

Confluence, 2007. *Monitoring report for 2006: Streamside Tailings Operable Unit Silver Bow Creek/Butte Area NPL site*, prepared by Confluence Consulting, Bozeman, MT, for Montana Department of Environmental Quality, Montana Department of Justice, Natural Resource Damage Program, Helena, MT, and U.S. Environmental Protection Agency, Helena, MT.

Confluence, 2008. *Monitoring report for 2007: Streamside Tailings Operable Unit Silver Bow Creek/Butte Area NPL site*, prepared by Confluence Consulting, Bozeman, MT, for Montana Department of Environmental Quality, Montana Department of Justice, Natural Resource Damage Program, Helena, MT, and U.S. Environmental Protection Agency, Helena, MT.

Confluence, 2009. *Monitoring report for 2008: Streamside Tailings Operable Unit Silver Bow Creek/Butte Area NPL site*, prepared by Confluence Consulting, Bozeman, MT, for Montana Department of Environmental Quality, Montana Department of Justice, Natural Resource Damage Program, Helena, MT, and U.S. Environmental Protection Agency, Helena, MT.

Confluence, 2010. *Monitoring report for 2009: Streamside Tailings Operable Unit Silver Bow Creek/Butte Area NPL site*, prepared by Confluence Consulting, Bozeman, MT, for Montana Department of Environmental Quality, Montana Department of Justice, Natural Resource Damage Program, Helena, MT, and U.S. Environmental Protection Agency, Helena, MT.

Daubenmire, R., 1959. *A canopy-coverage method of vegetational analysis.* Northwest Science 33:43-64.

Falasco, E., F. Bona, G. Badino, L. Hoffmann, and L. Ector, 2009. *Diatom teratological forms and environmental alterations: a review.* Hydrobiologia 623: 1-35.

Fore, L. S., J. R. Karr and R. W. Wisseman, 1996. *Assessing invertebrate responses to human activities: Evaluating alternative approaches.* Journal of the North American Benthological Society 15:212-231.

Friedrich, G., 1990. *Eine revision des saprobiensystems.* Zeitschrift für Wasser und Abwasser Forschung 23:141-52.

Gammons, C. H., J. N. Babcock, S. R. Parker, and S. R. Poulson, 2011. *Diel cycling and stable isotopes of dissolved oxygen, dissolved inorganic carbon, and nitrogenous species in a stream receiving treated municipal sewage.* Chemical Geology 283:44-55.

Hellawell, J. M., 1986. *Biological indicators of freshwater pollution and environmental management.* Elsevier, London.

Hilsenhoff, W. L., 1987. *An improved biotic index of organic stream pollution.* Great Lakes Entomologist 20:31-39.

Horowitz, A. J., and K. A. Ehrlick, 1987. *The relation of stream sediment surface area, grain size and composition to trace element chemistry*. Applied Geochemistry 2:437-451.

Iwasaki, Y., P. Cadmus, and W. H. Clements, 2013. *Comparison of different predictors of exposure for modeling impacts of metal mixtures on macroinvertebrates in stream microcosms.* Aquatic Toxicology 132:151-156.

Jain, C. K., and D. Ram, 1997. *Adsorption of metal ions on bed sediments.* Hydrological Sciences Journal 42:713-723.

Johnson, S. L. and N. H. Ringler, 2014. *The response of fish and macroinvertebrate assemblages to multiple stressors: A comparative analysis of aquatic communities in a perturbed watershed (Onondaga Lake, NY).* Ecological Indicators 41:198-208.

Karr, J. R. and E.W. Chu, 1999. *Restoring life in running waters: Better biological monitoring.* Island Press, Washington D.C.

Karr, J. R., and D. R. Dudley, 1981. *Ecological perspectives on water quality goals.* Environmental Management 5:55-68.

Kiffney, P. M. and W. H. Clements, 1994. *Effects of heavy metals on a macroinvertebrate assemblage from a Rocky Mountain stream in experimental microcosms.* Journal of the North American Benthological Society 13:511-523.

Kleindl, W. J., 1995. *A benthic index of biotic integrity for Puget Sound lowland streams, Washington, USA.* M.S. Thesis. University of Washington, Seattle, WA.

Lange-Bertalot, H., 1979. *Pollution tolerance of diatoms as a criterion for water quality estimation.* Nova Hedwigia 64:285-304.

Leitner, P., C. Hauer, T. Ofenböck, F. Pletterbauer, A. Schmidt-Kloiber, and W. Graf, 2015. *Fine sediment deposition affects biodiversity and density of benthic macroinvertebrates: A case study in the freshwater pearl mussel river Waldaist (Upper Austria).* Limnologica 50:54-57.

LeSage, L. and A. D. Harrison, 1980. *The biology of Cricotopus (Chironomidae: Orthocladiinae) in an algal-enriched stream.* Archiv fur Hydrobiologie Supplement 57:375-418.

Lewis, M.E., and M.E. Brigham, 2004. *Low-level mercury.* Section 5.6.4.B of Chapter A5 *in* USGS (U.S. Geological Survey), editor. *USGS water quality sampling – standard protocols and procedures*. Available: http://water.usgs.gov/owq/FieldManual/chapter5/pdf/5.6.4.B_v1.0.pdf. (September 23, 2014).

Lowe, R. L., 1974. *Environmental requirements and pollution tolerance of freshwater diatoms, EPA-670/4-74-005,* prepared by US Environmental Protection Agency, Cincinnati, OH.

Luoma, S., N. J. Moore, A. Farag, T. Hillman, D. Cain, and M. Hornberger, 2005. *Mining impacts on fish in the Clark Fork River, Montana: a field ecotoxicology case study*. Pages 789-804 *in* R. T. Di Giulio and D. E. Hinton, editors. Toxicology of Fishes. CRC Press, Boca Raton, FL.

MDEQ (Montana Department of Environmental Quality), 2011. *Periphyton standard operating procedure, WQPBWQM-010,* prepared by MDEQ, Helena, MT.

MDEQ (Montana Department of Environmental Quality), 2012a. *Circular DEQ-7, Montana numeric water standards, version 6.8*, prepared by MDEQ, Helena, MT. Available: http://www.deq.mt.gov/wqinfo/Standards/default.mcpx. (February 11, 2014).

MDEQ (Montana Department of Environmental Quality), 2012b. *Water Quality Planning Bureau field procedures manual for water quality assessment monitoring, version 3.2*, prepared by

MDEQ, Helena, MT. Available: http://www.deq.mt.gov/wqinfo/qaprogram/sops.mcpx. (February 18, 2014).

MDEQ (Montana Department of Environmental Quality), 2012c. *Sample collection, sorting, taxonomic identification, and analysis of benthic macroinvertebrate communities: Standard operating procedure,* prepared by MDEQ, Helena, MT.

MDEQ (Montana Department of Environmental Quality), 2014. *Department Circular DEQ-12A, Montana base numeric nutrient standards, version 6.8*, prepared by MDEQ, Helena, MT. Available: http://www.deq.mt.gov/wqinfo/Standards/default.mcpx. (February 11, 2014).

MDEQ (Montana Department of Environmental Quality) and NRDP (Natural Resource Damage Program), 2004. *Comprehensive long-term monitoring plan for Silver Bow Creek Streamside Tailings Operable Unit*, prepared by MDEQ and NRDP, Helena, MT.

MDEQ (Montana Department of Environmental Quality) and USEPA (U.S. Environmental Protection Agency), 1995. *Record of Decision: Streamside Tailings Operable Unit Silver Bow Creek/Butte Area National Priorities List site, Silver Bow and Deer Lodge Counties, Montana, EPA/ROD/R08-96/112*, prepared by USEPA, Helena, MT. Available: http://www.epa.gov/superfund/sites/rods/fulltext/r0896112.pdf. (February 11, 2014).

MDEQ (Montana Department of Environmental Quality) and USEPA (United States Environmental Protection Agency), 1998. *Explanation of significant differences: Silver Bow Creek/Butte area, EPA 541-R98-116,* Available: http://www.epa.gov/superfund/sites/rods/fulltext/e0898116.pdf. (September 30, 2015).

MDHES (Montana Department of Health and Environmental Sciences), 1994. *Circular WQB-7, Montana numeric water quality standards, July 15, 1994*, prepared by MDHES, Water Quality Division, Technical Studies & Special Projects Section, Helena, MT.

MacArthur, R., 1964. *Environmental factors affecting bird species diversity*. American Naturalist 98:387-397.

MacDonald, D. D., C. G. Ingersoll, and T. A. Berger, 2000. *Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems.* Archives of Environmental Contamination and Toxicology 39:20-31.

McFarland, B. H., B. H. Hill, and W. T. Willingham, 1997. *Abnormal Fragilaria spp. (Bacillariophyceae) in streams impacted by mine drainage*. Journal of Freshwater Ecology 12:141–149.

McGuire, D. L., 2009. *Clark Fork River biomonitoring: Macroinvertebrate community assessments in 2008,* prepared by McGuire Consulting, Espanola, NM, prepared for U.S. Environmental Protection Agency, Helena, MT.

McGuire, D. L., 2010. *Clark Fork River biomonitoring: Macroinvertebrate community assessments in 2009,* prepared by McGuire Consulting, Espanola, NM, prepared for U.S. Environmental Protection Agency, Helena, MT.

McIntyre, J. D., and B. E. Rieman, 1995. *Westslope cutthroat trout*, Chapter 1 in M. K. Young, editor, *Conservation assessment for inland cutthroat trout, U.S. Forest Service Technical Report RM-256*, prepared by U.S. Forest Service, Fort Collins, CO.

Montz, G. R., J. Hirsch, R. Rezanka, and D. F. Staples, 2010. *Impacts of copper on a lotic benthic invertebrate community: Response and recovery.* Journal of Freshwater Ecology 25:575-587.

Montana (State of Montana) v. AR (Atlantic Richfield Company), 1998. *V-83-317-HLN-PGH*. Available: https://doj.mt.gov/wpcontent/uploads/2011/06/settlementagreement01.pdf. (February 11, 2014).

NRDP (Natural Resource Damage Program), 2005. *Silver Bow Creek watershed restoration plan (Final)*, prepared by NRDP, Helena, MT, Confluence Consulting, Bozeman, MT, and DTM Consulting, Bozeman, MT, for State of Montana, NRDP, Helena, MT. Available: https://dojmt.gov/wp-content/uploads/2011/06/silverbowcreekrestorationplanfinal.pdf. (November 18, 2014).

Naughton, J., 2013. *Salmonid response to Superfund remediation in Silver Bow Creek, Montana*. M.S. Thesis, Montana State University, Bozeman, MT. Available: http://scholarworks.montana.edu/xmlui/bitstream/handle/1/1934/NaughtonJ0513.pdf?sequence=1. (November 18, 2014).

Nimmick, D. A., C. H. Gammons, and S. R. Parker, 2011. *Diel biogeochemical processes and their effect on the aqueous chemistry of streams: a review.* Chemical Geology 283:3-17.

Peck, D. V., J. M. Lazorchak, and D. J. Klemm, 2001. *Environmental monitoring and assessment program – surface waters: Western pilot study field operations manual for wadeable streams (unpublished draft, EPA/XXX/X-XX/XXXX*, prepared by U.S. Environmental Protection Agency, Washington D.C.

Plafkin, J. L., M. T. Barbour, K. D. Porter, S. K. Gross, and R. M. Hughes, 1989. *Rapid bioassessment protocols for use in streams and rivers, benthic macroinvertebrates and fish, 440-4-89-001,* prepared by U.S. Environmental Protection Agency, Office of Water Regulations and Standards, Washington D.C.

Plumb, B. 2009. *Geochemistry of nutrients in Silver Bow Creek, Butte, Montana.* M.S. Thesis, Montana Tech University, Butte, MT.

RESPEC, 2014. *Quality assurance project plan for performance monitoring of the Streamside Tailings Operable Unit*, prepared by RESPEC, Missoula, MT, for the Montana Department of

Environmental Quality and Natural Resource Damage Program of the Montana Department of Justice, Helena, MT.

RESPEC, 2015a. *Monitoring report for 2013: Streamside Tailings Operable Unit, Silver Bow Creek/Butte Area NPL site*, prepared by RESPEC, Missoula, MT, for Montana Department of Environmental Quality and Montana Department of Justice, Natural Resource Damage Program, Helena, MT.

RESPEC, 2015b *Monitoring report for 2014: Streamside Tailings Operable Unit, Silver Bow Creek/Butte Area NPL site*, prepared by RESPEC, Missoula, MT, for Montana Department of Environmental Quality and Montana Department of Justice, Natural Resource Damage Program, Helena, MT.

RESPEC, 2016a. *Sampling and analysis plan for performance monitoring of the Streamside Tailings Operable Unit – 2016,* prepared by RESPEC, Missoula, MT, for the Montana Department of Environmental Quality and Montana Department of Justice, Natural Resource Damage Program, Helena, MT.

RESPEC, 2016b. *Monitoring report for 2015: Streamside Tailings Operable Unit, Silver Bow Creek/Butte Area NPL site*, prepared by RESPEC, Missoula, MT, for Montana Department of Environmental Quality and Montana Department of Justice, Natural Resource Damage Program, Helena, MT.

RESPEC, 2017. *Monitoring report for 2016: Clark Fork River Operable Unit,* prepared by RESPEC, Missoula, MT, for Montana Department of Environmental Quality and Montana Department of Justice, Natural Resource Damage Program, Helena, MT.

Relyea, C. D., G. W. Minshall, and R. J. Danehy, 2012. *Development and validation of an aquatic fine sediment biotic index.* Environmental Management 49:242-252.

Romero, N., R. E. Gresswell, and J. L. Li, 2005. *Changing patterns in coastal cutthroat trout Oncorhynchus clarkii clarkii diet and prey in a gradient of deciduous canopies.* Canadian Journal of Fisheries and Aquatic Sciences 62:1797-1807.

Smith, A. J. and C. P. Tran, 2010. *A weight-of-evidence approach to define nutrient criteria protective of aquatic life in large rivers.* Journal of the North American Benthological Society 29:875-891.

Spellman, F. R., 2014. *Handbook of water and wastewater treatment plant operations, third edition.* CRC Press, Boca Raton, FL.

Stoermer, E. F., and J. P. Smol, 1999. *The diatoms: applications for the environmental and earth sciences.* Cambridge University Press, Cambridge, U.K.

Stribling, J. B., S. R Moulton II and G. T. Lester, 2003. *Determining the quality of taxonomic data.* Journal of the North American Benthological Society 22:621-631.

Teply, M., 2010. *Interpretation of periphyton samples from Montana streams,* prepared by Cramer Fish Sciences, Lacey, WA, prepared for Montana Department of Environmental Quality. Cramer Fish Sciences. Lacey, WA.

Teply, M. and L. Bahls, 2005. *Diatom biocriteria for Montana streams 2005,* prepared by Larix Systems, Helena, MT and Hannaea, Helena, MT, for Montana Department of Environmental Quality Helena, MT. Available: https://deq.mt.gov/Portals/112/Water/WQInfo/Documents/publications/DiatomBiocriteriaMontanaStreams2005.pdf. (May 18, 2016).

Torgersen, C. E., D. M. Price, H. W. Li, and B. A. McIntosh, 1999. *Multiscale thermal refugia and stream habitat associations of Chinook salmon in northeastern Oregon.* Ecological Applications 9:301-319.

USEPA (U.S. Environmental Protection Agency), 1996. *Method 1669 - Sampling ambient water for trace metals at EPA water quality criteria levels,* prepared by USEPA, Office of Water, Engineering and Analysis Division, Washington, D.C. Available: http://www.epa.gov/caddis/pdf/Metals_Sampling_EPA_method_1669.pdf. (September 25, 2014).

USEPA (U.S. Environmental Protection Agency), 2011. *Third five-year review report for Silver Bow Creek/Butte area site – Volume 2: Streamside Tailings Operable Unit,* prepared by USEPA, Helena, MT. Available: http://www.epa.gov/superfund/sites/fiveyear/f2011080004074.pdf. (February 18, 2014).

USGS (U.S. Geological Survey), 2006. *Chapter A4. Collection of water samples, Revised 2006,* prepared by USGS, Office of Water Quality, Reston, *VA.* Available: http://water.usgs.gov/owq/FieldManual/chapter4/pdf/Chap4_v2.pdf. (February 20, 2014).

USGS (U.S. Geological Survey), 2017. *USGS water data for Montana,* Available: https://waterdata.usgs.gov/mt/nwis/ (May 25, 2017).

Van Dam, H., A. Mertens, and J. Sinkeldam, 1994. *A coded checklist and ecological indicator values of freshwater diatoms from the Netherlands.* Netherlands Journal of Aquatic Ecology 28:117-133.

Vannote, R. L., G. W. Minshall, K. W. Cummins, J. R. Sedell, and C. E. Cushing, 1980. *The river continuum concept.* Canadian Journal of Fisheries and Aquatic Sciences 37:130-137.

Wagenhoff, A., C. R. Townsend, and C. D. Matthaei, 2012. *Macroinvertebrate responses along broad stressor gradients of deposited fine sediment and dissolved nutrients: A stream mesocosm experiment.* Journal of Applied Ecology 49:892-902.

Watson, V. J., 1988. *Control of nuisance algae in the Clark Fork River,* prepared for Montana Department of Health and Environmental Sciences, Helena, MT.

Walshe, J. F., 1947. *On the function of haemoglobin in Chironomus after oxygen lack.* Journal of Experimental Biology 24:329-342.

Wehr, J. D., and R. G. Sheath, 2003. *Freshwater algae of North America: ecology and classification.* Academic Press, NY.

Wisseman R. W., 1996. *Common Pacific Northwest benthic invertebrate taxa: Suggested levels for standard taxonomic effort: Attribute coding and annotated comments,* prepared by Aquatic Biology Associates, Corvallis, OR.

Zippin, C., 1958. *The removal method of population estimation.* Journal of Wildlife Management 22:82-90.

APPENDIX A

QUALITY ASSURANCE AND QUALITY CONTROL REVIEW AND SUMMARY: SURFACE WATER, INSTREAM SEDIMENT, GROUNDWATER, AND VADOSE ZONE WATER

APPENDIX A
QUALITY ASSURANCE AND QUALITY CONTROL REVIEW AND SUMMARY: SURFACE WATER, INSTREAM SEDIMENT, GROUNDWATER, AND VADOSE ZONE WATER

A.1 INTRODUCTION

Specific quality assurance and quality control (QA/QC) requirements for field measurements, sample collection, laboratory analysis, and the reporting of resulting data were established by protocols contained in the quality assurance project plan (QAPP), a component of the approved sampling and analysis plan (SAP) for the Silver Bow Creek Streamside Tailings Operable Unit (SSTOU). The following quality control checklist is a component of the Montana Department of Environmental Quality QA/QC protocols, and is an initial step in the review and validation of water chemistry and related data generated under the SSTOU environmental monitoring program. This checklist provides an outline for reviewing and assessing numerous factors potentially affecting data quality, and assists in identifying data that may be invalid or require additional documentation.

A.2 QUALITY CONTROL CHECKLIST

_+_ Condition of samples upon receipt

_-_ Sample temperature

- Sediment samples were received at the lab with temperatures >4 C.

_+_ Proper collection containers

_+_ Sample containers intact

- One (of three) sample vials for dissolved organic carbon (DOC) analysis a sample from site SS-16B in Q1 was received frozen and the vial was broken. Data was collected from the other two vials submitted.

_-_ Sample pH of acidified samples < 2

- Dissolved metal samples for groundwater and vadose zone water were not field filtered or acidified in the field. These samples were filtered and preserved upon receipt at the laboratory.

_+_ All field documentation complete; if incomplete areas cannot be completed, document the issue

_+_ Holding times met

_-_ Field duplicates collected at the proper frequency (specified in the project SAP)

- Field duplicates for surface water were collected at a frequency of 12% (two field duplicate samples per quarterly event).
- Field duplicates for instream sediment were collected at a frequency of 10% (two field duplicate samples per quarterly event).

- Field duplicates of groundwater and vadose zone water samples were collected at a frequency of 7% during both quarters which is less than the project goal of at least 10%.

_-_ Field blanks collected at the proper frequency (specified in the project SAP)

- Field blanks of surface water samples were collected at a frequency of 12% (two field blank samples per quarterly event).
- Field blanks of groundwater and vadose zone water samples were collected at a frequency of 7% during both quarters which is less than the project goal of at least 10%.

_+_ All sample IDs matched those provided in the SAP. Field duplicates were clearly marked on samples and noted as such in the laboratory results.

- All sample ID discrepancies identified by the laboratory at the time of sample delivery to the lab were brought to the attention of the responsible RESPEC field personnel and discrepancies were fully resolved; all instances were documented in the laboratory analytical reports.

_+_ Analyses were carried out as described within the SAP (e.g. analytical methods, photo documentation, field protocols)

- Due to sample volume limitations, groundwater and vadose zone samples for dissolved metals from Q2 (16 samples) and Q3 (46 samples) were lab filtered rather than field filtered and were acidified after submission to the laboratory. The discrepancy between the SAP-specified method and the method actually followed was noted in the field form, analysis request and COC forms, and the laboratory analytical reports.

_+_ Reporting limit complied with the SAP requested reporting limit

- The reporting limit (RL) for a specific sample analyte occasionally had to be increased by the laboratory due to chemical interference of the sample matrix. These instances are "D-flagged" in the analytical summary reports provided by Energy Laboratories (Appendix B), and will be similarly flagged in the data submitted to the EQUIS database.

_-_ All analyte field blank concentrations were less than the SAP-specified reporting limits (RLs) with the following exceptions:

- In Q1 surface water samples, dissolved zinc concentrations were 0.011 mg/L (RL = 0.008 mg/L) in the field blank collected at SS-05A and 0.013 mg/L in the field blank collected at SS-08.
- In Q2 surface water samples, dissolved zinc concentrations were 0.009 mg/L in the field blank collected at SS-17D and 0.010 mg/L in the field blank collected at SS-07.
- In Q3 surface water samples, dissolved zinc concentrations were 0.013 mg/L in the field blank collected at SS-15G and 0.016 mg/L in the field blank collected at SS-10A. In addition, in the field blank collected at SS-10A total phosphorus concentration was 0.008 mg/L (RL = 0.003 mg/L) and dissolved barium concentration was 0.004 mg/L (RL = 0.003 mg/L).

- In Q4 surface water samples, dissolved zinc concentration was 0.008 mg/L in the field blank collected at SS-19.

+ If any field blanks exceeded the SAP requested reporting limit, associated data may be qualified, or "B-flagged", in the project database. The MDEQ project manager will set the criteria for determining what data is associated and will be contacted to discuss field blank results prior to flagging data. The project precedent to date has been to flag any results less than ten times the blank value from a day in which the blank had a concentration above the RL. Following this precedent, the following samples would be B-flagged:
  - All dissolved zinc samples from Q1, Q2, Q3, and December 14, 2016, with concentrations <0.08 mg/L.
  - All total phosphorus and dissolved barium samples from September 15, 2016 with concentrations <0.03 mg/L.

+ Laboratory blanks, duplicates, matrix spikes, and control samples were analyzed at a 10% frequency

+ Laboratory blanks, duplicates, matrix spikes, and control samples were all within the required control limits defined within the SAP

+ Project DQOs and DQIs were met (as described in SAP)

+ Summary of QC analysis results, issues encountered and corrective actions was completed
  - Energy Laboratories' Q3 2016 surface water report was revised due to an error in the phosphorous results. Review of the method indicated there was an error in the preparation of the standards used for the analysis. The standard was prepared at twice the concentration resulting in sample results half of the true value. The report was revised with the concentration re-calculated according to the concentrations used in the calibration curve.

A.3 SUMMARY OF QUALITY CONTROL AND ANALYSIS RESULTS

Summarized in this appendix are quality control measures performed on field and laboratory data generated from surface water, instream sediment, groundwater, and vadose zone water samples collected from the SSTOU during four quarterly monitoring events in 2016. Assessed under the MDEQ standard quality assurance and quality control protocols are data quality objectives (DQOs), including categories for: "representativeness", "comparability", and "completeness". Also assessed under the MDEQ standard quality assurance and quality control protocols are data quality indicators (DQIs) including categories for: "sensitivity", "lab precision", "overall precision", and "bias and accuracy".

Overall, DQOs and DQIs were met at all monitoring sites in the SSTOU during 2016. Surface water samples were collected and analyzed for total suspended sediment, nutrients, metals (dissolved and total recoverable), and common ions at 17 sample sites on four occasions (quarterly) in 2016. Instream sediment samples were collected and analyzed for metals (total) at the 17 surface water sites during each quarter of 2016 and three additional sites during some

quarters. Groundwater and vadose zone water samples were collected from monitoring wells and lysimeters during Q2 and Q3 and these samples were analyzed for dissolved metals and common ion concentrations.

A.3.1 Representativeness

All surface water, instream sediment, vadose zone water, and groundwater monitoring sites in the SSTOU sampled in 2016 met stated objectives for "spatial representativeness". That is, all monitoring sites were sampled at the established locations specified in the project SAP.

All surface water and instream sediment monitoring was conducted quarterly during 2016 as specified in the project SAP. Q1 monitoring occurred during base streamflow conditions prior to the onset of spring runoff. Q2 monitoring was conducted near the peak annual streamflow the during spring snowmelt runoff period. Biological monitoring was conducted in conjunction with Q3 surface water and instream sediment sampling, during low streamflows near the seasonal minimum within the specified index period for sampling the biota. Q4 monitoring occurred during base streamflow conditions as late in the season as possible, prior to winter ice up. Sampling activities during 2016 occurred during the last month of each respective quarter, and all data met specified SSTOU criteria for temporal representativeness.

A.3.2 Comparability

Comparability is the applicability of project data to the remedial performance goals specified in the SAP for the various environmental media monitored under the project. The performance goal for surface water quality is for all contaminants of concern (COC) to meet the most restrictive of the state water quality standards for surface water (see Section 1.0). For instream sediment, the goal is for COC concentrations to meet the "threshold effect concentration" (TEC) (see Section 2.0). Performance goals for groundwater call for COC concentrations to meet state water quality standards, federal maximum contaminant levels (MCLs), and federal non-zero MCL goals through natural attenuation. All of these standards and levels apply to human health considerations. In addition, these goals require that no groundwater discharges occur that would prevent attainment of ambient Circular DEQ-7 surface water standards or instream sediment remediation goals in the SSTOU. All data acquired by the 2016 monitoring are applicable to assessing attainment of project performance goals.

A.3.3 Completeness

An overall data completeness goal of 85% was specified for the SSTOU project in 2015, and an evaluation table for data completeness is not required if the goal is met or exceeded. Data completeness for surface water and instream sediment samples from the 17 SSTOU monitoring sites was near 100%, with all chemical and physical parameters collected and analyzed during each of the four quarterly monitoring events in 2016. Water samples were collected and analyzed from all SAP-specified groundwater monitoring wells and vadose zone lysimeters

during the Q2 and Q3, although the available volume of water was often limited for vadose zone water samples.

A.3.4 Sensitivity

The method detection limit (MDL) established by Energy Laboratories through laboratory blank analyses is an expression of sensitivity. The MDL documented in QA/QC summary reports that accompany each set of laboratory analytical reports was less than the project-required reporting limit (RL), and was often below detection, for all analytical methods pertaining to SBC SSTOU monitoring (Appendix B).

Sensitivity of field methods for surface water samples was determined through deionized water field blank analyses. Results for all metals, common ions and suspended sediment parameters in field blanks [Table A1 through Table A4] were below detection (ND) at the respective reporting limits with some exceptions as described in Section A.1. Some of those data will be qualified as also described in Section A.1. Results for all metals and common ion analytes in groundwater field blanks were below detection [Table A5 and Table A6].

A.3.5 Precision

A.3.5.1 Laboratory

Laboratory precision was assessed by the relative percent difference (RPD) metric comparing laboratory samples with duplicates. RPD comparisons were made for all analytes measured in this program. Established criteria allow a maximum of 20% RPD for water sample results which are at least five times greater than the RL, and 35% RPD for sediment samples which are at least five times greater than the RL. No RPD values for internal duplicate analyses exceeded the criteria and required qualification of associated data, and no corrective actions were required (Appendix B).

A.3.5.2 Overall

The overall precision of surface water, instream sediment, and groundwater sample analyses in 2016 from the SSTOU was assessed with RPD comparisons between samples and paired field duplicates. Established criteria allow a maximum of 25% RPD for water sample results >5 times the RL, and 40% RPD for sediment samples >5 times the RL. All associated data which exceeds these criteria will be J-flagged in the project database.

Two surface water sample and duplicate pairs were collected in each quarterly sampling event and these were analyzed for dissolved and total recoverable metals, nutrients, and common ions [Table A7 through Table A14]. There were no pairs with RPD >25% which had concentrations at least five times greater than the RL.

Groundwater and vadose zone water sample and duplicate pairs were collected in each quarterly sampling event and analyzed for dissolved metals and common ions [Table A15 through Table A18]. One pair had an RPD >25% which had concentrations at least five times greater than the RL. :

- Dissolved iron for the pairing of samples H16050318-003 H16050318-004 collected on May 17, 2016.

Two instream sediment sample and duplicate pairs were collected in each quarterly sampling event, with the exception of Q4 when only one pair was collected, and these were analyzed for total metals in three size fractions [Table A19 through Table A25]. The pairs with RPD >40% which had concentrations at least five times greater than the RL included:

- cadmium and zinc for the pairing of samples H16030355-048 and H16030355-051 collected on March 16, 2016 in the 0.063-1 mm size fraction;
- arsenic, chromium, copper, and zinc for the pairing of samples H16030355-048 and H16030355-051 collected on March 16, 2016 in the 1-2 mm size fraction;
- arsenic, cadmium, and manganese for the pairing of samples H16030349-005 and H16030349-008 collected on March 17, 2016 in the <0.063 mm size fraction;
- copper and zinc for the pairing of samples H16030349-005 and H16030349-008 collected on March 17, 2016 in the 1-2 mm size fraction;
- manganese and mercury for the pairing of samples H16060099-052 and H16060099-049 collected on June 2, 2016 in the <0.063 mm size fraction;
- aluminum, barium, cadmium, chromium, copper, lead, manganese, mercury, nickel and zinc for the pairing of samples H16060099-052 and H16060099-049 collected on June 2, 2016 in the 0.063-1 mm size fraction;
- barium, copper, iron, and zinc for the pairing of samples H16060099-052 and H16060099-049 collected on June 2, 2016 in the 1-2 mm size fraction;
- cadmium and nickel for the pairing of samples H16060099-025 and H16060099-022 collected on June 3, 2016 in the 0.063-1 mm size fraction;
- lead and zinc for the pairing of samples H16060099-025 and H16060099-022 collected on June 3, 2016 in the 1-2 mm size fraction;
- cadmium, iron, and vanadium for the pairing of samples H16090353-051 and H16090353-054 collected on September 14, 2016 in the 0.063-1 mm size fraction;
- copper, vanadium, and zinc for the pairing of samples H16090353-051 and H16090353-054 collected on September 14, 2016 in the 1-2 mm size fraction;
- uranium and vanadium for the pairing of samples H16090351-005 and H16090351-014 collected on September 15, 2016 in the 0.063-1 mm size fraction;
- zinc for the pairing of samples H16090351-005 and H16090351-014 collected on September 15, 2016 in the 1-2 mm size fraction;
- arsenic and lead for the pairing of samples H16120307-023 and H16120307-026 collected on December 15, 2016 in the 0.063-1 mm size fraction;
- chromium and nickel for the pairing of samples H16120307-023 and H16120307-026 collected on December 15, 2016 in the 0.063-1 mm size fraction;
- and cadmium, lead, and zinc for the pairing of samples H16120307-023 and H16120307-026 collected on December 15, 2016 in the 1-2 mm size fraction.

A.3.5.3 Bias and Accuracy

Bias is defined as directional error from the true value of individual measurements. For field measurements (water temperature, pH, specific conductance, dissolved oxygen [DO] concentration, DO percent saturation, and turbidity), potential bias was addressed through frequent calibration of field instruments documented in calibration logs, and consistent field procedures. For water chemistry and sediment results, potential bias was minimized by adherence to approved field procedures for sample collection and handling, and decontamination of sampling equipment.

Accuracy is the combination of high precision and low bias. Accuracy of laboratory results was assessed by reviewing the analytical method controls (i.e., lab control sample, continuing calibration verification, lab fortified blank, standard reference material) and analytical batch controls (i.e., matrix spike and matrix spike duplicate). Limits established by the laboratory through control charting of each method's performance served as assessment criteria. Any analytical method controls or analytical batch controls that had values outside of the acceptable recovery range were re-analyzed, as detailed in the analytical QC summary provided by Energy Laboratories and included with each analytical summary report (Appendix B).

Table A1. Analyte concentrations in the first quarter (March 16-17, 2016) surface water field blanks from the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)	
		H16030355-012	H16030355-004
Solids, Total Suspended TSS @ 105 C	1	ND	ND
Solids, Volatile Suspended	1	ND	ND
Alkalinity, Total as CaCO3	4	ND	ND
Bicarbonate Alkalinity as HCO3	4	ND	ND
Chloride	1	ND	ND
Sulfate	1	ND	ND
Hardness as CaCO3	1	ND	ND
Organic Carbon, Dissolved (DOC)	0.5	ND	ND
Nitrogen, Ammonia	0.05	ND	ND
NO3+NO2 as N	0.02	ND	ND
N-Total	0.05	ND	ND
Phosphorus, Total as P	0.003	ND	ND
Aluminum, Dissolved	0.009	ND	ND
Antimony, Dissolved	0.0005	ND	ND
Arsenic, Dissolved	0.001	ND	ND
Barium, Dissolved	0.003	ND	ND
Beryllium, Dissolved	0.0008	ND	ND
Boron, Dissolved	0.1	ND	ND
Cadmium, Dissolved	0.00003	ND	ND
Chromium, Dissolved	0.01	ND	ND
Cobalt, Dissolved	0.01	ND	ND
Copper, Dissolved	0.001	ND	ND
Iron, Dissolved	0.02	ND	ND
Lead, Dissolved	0.0003	ND	ND
Manganese, Dissolved	0.001	ND	ND
Mercury, Dissolved	0.000005	ND	ND
Molybdenum, Dissolved	0.005	ND	ND
Nickel, Dissolved	0.002	ND	ND
Selenium, Dissolved	0.001	ND	ND
Silver, Dissolved	0.0002	ND	ND
Uranium, Dissolved	0.0002	ND	ND
Vanadium, Dissolved	0.1	ND	ND
Zinc, Dissolved	0.008	0.011	0.013
Aluminum, Total Recoverable	0.009	ND	ND
Antimony, Total Recoverable	0.0005	ND	ND
Arsenic, Total Recoverable	0.001	ND	ND
Barium, Total Recoverable	0.003	ND	ND
Beryllium, Total Recoverable	0.0008	ND	ND
Boron, Total Recoverable	0.1	ND	ND
Cadmium, Total Recoverable	0.00003	ND	ND
Calcium, Total Recoverable	1	ND	ND
Chromium, Total Recoverable	0.01	ND	ND

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)	
		H16030355-012	H16030355-004
Cobalt, Total Recoverable	0.01	ND	ND
Copper, Total Recoverable	0.001	ND	ND
Iron, Total Recoverable	0.02	ND	ND
Lead, Total Recoverable	0.0003	ND	ND
Magnesium, Total Recoverable	1	ND	ND
Manganese, Total Recoverable	0.001	ND	ND
Mercury, Total Recoverable	0.000005	ND	ND
Molybdenum, Total Recoverable	0.005	ND	ND
Nickel, Total Recoverable	0.002	ND	ND
Potassium, Total Recoverable	1	ND	ND
Selenium, Total Recoverable	0.001	ND	ND
Silver, Total Recoverable	0.0002	ND	ND
Sodium, Total Recoverable	1	ND	ND
Uranium, Total Recoverable	0.0002	ND	ND
Vanadium, Total Recoverable	0.1	ND	ND
Zinc, Total Recoverable	0.008	ND	ND

ND	Not detected at analytical reporting limit.
	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are <10 times the blank value) from this date in the project database.

Table A2. Analyte concentrations in the second quarter (June 2-3, 2016) surface water field blanks from the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)	
		H16060099-017	H16060099-003
Solids, Total Suspended TSS @ 105 C	1	ND	ND
Solids, Volatile Suspended	1	ND	ND
Alkalinity, Total as CaCO3	4	ND	ND
Bicarbonate Alkalinity as HCO3	4	ND	ND
Chloride	1	ND	ND
Sulfate	1	ND	ND
Hardness as CaCO3	1	ND	ND
Organic Carbon, Dissolved (DOC)	0.5	ND	ND
Nitrogen, Ammonia	0.05	ND	ND
NO3+NO2 as N	0.02	ND	ND
N-Total	0.05	ND	ND
Phosphorus, Total as P	0.003	ND	ND
Aluminum, Dissolved	0.009	ND	ND
Antimony, Dissolved	0.0005	ND	ND
Arsenic, Dissolved	0.001	ND	ND
Barium, Dissolved	0.003	ND	ND
Beryllium, Dissolved	0.0008	ND	ND
Boron, Dissolved	0.1	ND	ND
Cadmium, Dissolved	0.00003	ND	ND
Chromium, Dissolved	0.01	ND	ND
Cobalt, Dissolved	0.01	ND	ND
Copper, Dissolved	0.001	ND	ND
Iron, Dissolved	0.02	ND	ND
Lead, Dissolved	0.0003	ND	ND
Manganese, Dissolved	0.001	ND	ND
Mercury, Dissolved	0.000005	ND	ND
Molybdenum, Dissolved	0.005	ND	ND
Nickel, Dissolved	0.002	ND	ND
Selenium, Dissolved	0.001	ND	ND
Silver, Dissolved	0.0002	ND	ND
Uranium, Dissolved	0.0002	ND	ND
Vanadium, Dissolved	0.1	ND	ND
Zinc, Dissolved	0.008	0.009	0.010
Aluminum, Total Recoverable	0.009	ND	ND
Antimony, Total Recoverable	0.0005	ND	ND
Arsenic, Total Recoverable	0.001	ND	ND
Barium, Total Recoverable	0.003	ND	ND
Beryllium, Total Recoverable	0.0008	ND	ND
Boron, Total Recoverable	0.1	ND	ND
Cadmium, Total Recoverable	0.00003	ND	ND
Calcium, Total Recoverable	1	ND	ND
Chromium, Total Recoverable	0.01	ND	ND

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)	
		H16060099-017	H16060099-003
Cobalt, Total Recoverable	0.01	ND	ND
Copper, Total Recoverable	0.001	ND	ND
Iron, Total Recoverable	0.02	ND	ND
Lead, Total Recoverable	0.0003	ND	ND
Magnesium, Total Recoverable	1	ND	ND
Manganese, Total Recoverable	0.001	ND	ND
Mercury, Total Recoverable	0.000005	ND	ND
Molybdenum, Total Recoverable	0.005	ND	ND
Nickel, Total Recoverable	0.002	ND	ND
Potassium, Total Recoverable	1	ND	ND
Selenium, Total Recoverable	0.001	ND	ND
Silver, Total Recoverable	0.0002	ND	ND
Sodium, Total Recoverable	1	ND	ND
Uranium, Total Recoverable	0.0002	ND	ND
Vanadium, Total Recoverable	0.1	ND	ND
Zinc, Total Recoverable	0.008	ND	ND

ND	Not detected at analytical reporting limit.
	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are <10 times the blank value) from this date in the project database.

Table A3. Analyte concentrations in the third quarter (September 14-15, 2016) surface water field blanks from the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)	
		H16090351-003	H16090353-005
Solids, Total Suspended TSS @ 105 C	1	ND	ND
Solids, Volatile Suspended	1	ND	ND
Alkalinity, Total as CaCO3	4	ND	ND
Bicarbonate Alkalinity as HCO3	4	ND	ND
Chloride	1	ND	ND
Sulfate	1	ND	ND
Hardness as CaCO3	1	ND	ND
Organic Carbon, Dissolved (DOC)	0.5	ND	ND
Nitrogen, Ammonia	0.05	ND	ND
NO3+NO2 as N	0.02	ND	ND
N-Total	0.05	ND	ND
Phosphorus, Total as P	0.003	ND	0.008
Aluminum, Dissolved	0.009	ND	ND
Antimony, Dissolved	0.0005	ND	ND
Arsenic, Dissolved	0.001	ND	ND
Barium, Dissolved	0.003	ND	0.004
Beryllium, Dissolved	0.0008	ND	ND
Boron, Dissolved	0.1	ND	ND
Cadmium, Dissolved	0.00003	ND	ND
Chromium, Dissolved	0.01	ND	ND
Cobalt, Dissolved	0.01	ND	ND
Copper, Dissolved	0.001	ND	ND
Iron, Dissolved	0.02	ND	ND
Lead, Dissolved	0.0003	ND	ND
Manganese, Dissolved	0.001	ND	ND
Mercury, Dissolved	0.000005	ND	ND
Molybdenum, Dissolved	0.005	ND	ND
Nickel, Dissolved	0.002	ND	ND
Selenium, Dissolved	0.001	ND	ND
Silver, Dissolved	0.0002	ND	ND
Uranium, Dissolved	0.0002	ND	ND
Vanadium, Dissolved	0.1	ND	ND
Zinc, Dissolved	0.008	0.013	0.016
Aluminum, Total Recoverable	0.009	ND	ND
Antimony, Total Recoverable	0.0005	ND	ND
Arsenic, Total Recoverable	0.001	ND	ND
Barium, Total Recoverable	0.003	ND	ND
Beryllium, Total Recoverable	0.0008	ND	ND
Boron, Total Recoverable	0.1	ND	ND
Cadmium, Total Recoverable	0.00003	ND	ND
Calcium, Total Recoverable	1	ND	ND
Chromium, Total Recoverable	0.01	ND	ND

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)	
		H16090351-003	H16090353-005
Cobalt, Total Recoverable	0.01	ND	ND
Copper, Total Recoverable	0.001	ND	ND
Iron, Total Recoverable	0.02	ND	ND
Lead, Total Recoverable	0.0003	ND	ND
Magnesium, Total Recoverable	1	ND	ND
Manganese, Total Recoverable	0.001	ND	ND
Mercury, Total Recoverable	0.000005	ND	ND
Molybdenum, Total Recoverable	0.005	ND	ND
Nickel, Total Recoverable	0.002	ND	ND
Potassium, Total Recoverable	1	ND	ND
Selenium, Total Recoverable	0.001	ND	ND
Silver, Total Recoverable	0.0002	ND	ND
Sodium, Total Recoverable	1	ND	ND
Uranium, Total Recoverable	0.0002	ND	ND
Vanadium, Total Recoverable	0.1	ND	ND
Zinc, Total Recoverable	0.008	ND	ND

ND	Not detected at analytical reporting limit.
	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are <10 times the blank value) from this date in the project database.

Table A4. Analyte concentrations in the fourth quarter (December 14-15, 2016) surface water field blanks from the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)	
		H16120307-016	H16120305-004
Solids, Total Suspended TSS @ 105 C	1	ND	ND
Solids, Volatile Suspended	1	ND	ND
Alkalinity, Total as CaCO3	4	ND	ND
Bicarbonate Alkalinity as HCO3	4	ND	ND
Chloride	1	ND	ND
Sulfate	1	ND	ND
Hardness as CaCO3	1	ND	ND
Organic Carbon, Dissolved (DOC)	0.5	ND	ND
Nitrogen, Ammonia	0.05	ND	ND
NO3+NO2 as N	0.02	ND	ND
N-Total	0.05	ND	ND
Phosphorus, Total as P	0.003	ND	ND
Aluminum, Dissolved	0.009	ND	ND
Antimony, Dissolved	0.0005	ND	ND
Arsenic, Dissolved	0.001	ND	ND
Barium, Dissolved	0.003	ND	ND
Beryllium, Dissolved	0.0008	ND	ND
Boron, Dissolved	0.1	ND	ND
Cadmium, Dissolved	0.00003	ND	ND
Chromium, Dissolved	0.01	ND	ND
Cobalt, Dissolved	0.01	ND	ND
Copper, Dissolved	0.001	ND	ND
Iron, Dissolved	0.02	ND	ND
Lead, Dissolved	0.0003	ND	ND
Manganese, Dissolved	0.001	ND	ND
Mercury, Dissolved	0.000005	ND	ND
Molybdenum, Dissolved	0.005	ND	ND
Nickel, Dissolved	0.002	ND	ND
Selenium, Dissolved	0.001	ND	ND
Silver, Dissolved	0.0002	ND	ND
Uranium, Dissolved	0.0002	ND	ND
Vanadium, Dissolved	0.1	ND	ND
Zinc, Dissolved	0.008	0.010	ND
Aluminum, Total Recoverable	0.009	ND	ND
Antimony, Total Recoverable	0.0005	ND	ND
Arsenic, Total Recoverable	0.001	ND	ND
Barium, Total Recoverable	0.003	ND	ND
Beryllium, Total Recoverable	0.0008	ND	ND
Boron, Total Recoverable	0.1	ND	ND
Cadmium, Total Recoverable	0.00003	ND	ND
Calcium, Total Recoverable	1	ND	ND
Chromium, Total Recoverable	0.01	ND	ND

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)	
		H16120307-016	H16120305-004
Cobalt, Total Recoverable	0.01	ND	ND
Copper, Total Recoverable	0.001	ND	ND
Iron, Total Recoverable	0.02	ND	ND
Lead, Total Recoverable	0.0003	ND	ND
Magnesium, Total Recoverable	1	ND	ND
Manganese, Total Recoverable	0.001	ND	ND
Mercury, Total Recoverable	0.000005	ND	ND
Molybdenum, Total Recoverable	0.005	ND	ND
Nickel, Total Recoverable	0.002	ND	ND
Potassium, Total Recoverable	1	ND	ND
Selenium, Total Recoverable	0.001	ND	ND
Silver, Total Recoverable	0.0002	ND	ND
Sodium, Total Recoverable	1	ND	ND
Uranium, Total Recoverable	0.0002	ND	ND
Vanadium, Total Recoverable	0.1	ND	ND
Zinc, Total Recoverable	0.008	ND	ND

ND Not detected at analytical reporting limit.

Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are <10 times the blank value) from this date in the project database.

Table A5. Analyte concentrations in the second quarter (May 17, 2016) groundwater field blanks from the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)
		H16050318-008
Alkalinity, Total as CaCO3	4	ND
Bicarbonate Alkalinity as HCO3	4	ND
Chloride	1	ND
Sulfate	1	ND
Hardness as CaCO3	1	ND
Aluminum, Dissolved	0.009	ND
Antimony, Dissolved	0.0005	ND
Arsenic, Dissolved	0.001	ND
Barium, Dissolved	0.003	ND
Beryllium, Dissolved	0.0008	ND
Boron, Dissolved	0.1	ND
Cadmium, Dissolved	0.00003	ND
Calcium, Dissolved	1	ND
Chromium, Dissolved	0.01	ND
Cobalt, Dissolved	0.01	ND
Copper, Dissolved	0.001	ND
Iron, Dissolved	0.02	ND
Lead, Dissolved	0.0003	ND
Magnesium, Dissolved	1	ND
Manganese, Dissolved	0.001	ND
Mercury, Dissolved	5E-06	ND
Molybdenum, Dissolved	0.005	ND
Nickel, Dissolved	0.002	ND
Potassium, Dissolved	1	ND
Selenium, Dissolved	0.001	ND
Silver, Dissolved	0.0002	ND
Sodium, Dissolved	1	ND
Uranium, Dissolved	0.0002	ND
Vanadium, Dissolved	0.1	ND
Zinc, Dissolved	0.008	ND

ND	Not detected at analytical reporting limit.
	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are <10 times the blank value) from this date in the project database.

Table A6. Analyte concentrations in the third quarter (September 19-21, 2016) groundwater field blanks from the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Field blank (concentration; mg/L)		
		H16090457-005	H16090457-028	H16090457-045
Alkalinity, Total as CaCO3	4	ND	ND	ND
Bicarbonate Alkalinity as HCO3	4	ND	ND	ND
Chloride	1	ND	ND	ND
Sulfate	1	ND	ND	ND
Hardness as CaCO3	1	ND	ND	ND
Aluminum, Dissolved	0.009	ND	ND	ND
Antimony, Dissolved	0.0005	ND	ND	ND
Arsenic, Dissolved	0.001	ND	ND	ND
Barium, Dissolved	0.003	ND	ND	ND
Beryllium, Dissolved	0.0008	ND	ND	ND
Boron, Dissolved	0.1	ND	ND	ND
Cadmium, Dissolved	0.00003	ND	ND	ND
Calcium, Dissolved	1	ND	ND	ND
Chromium, Dissolved	0.01	ND	ND	ND
Cobalt, Dissolved	0.01	ND	ND	ND
Copper, Dissolved	0.001	ND	ND	ND
Iron, Dissolved	0.02	ND	ND	ND
Lead, Dissolved	0.0003	ND	ND	ND
Magnesium, Dissolved	1	ND	ND	ND
Manganese, Dissolved	0.001	ND	ND	ND
Mercury, Dissolved	5E-06	ND	ND	ND
Molybdenum, Dissolved	0.005	ND	ND	ND
Nickel, Dissolved	0.002	ND	ND	ND
Potassium, Dissolved	1	ND	ND	ND
Selenium, Dissolved	0.001	ND	ND	ND
Silver, Dissolved	0.0002	ND	ND	ND
Sodium, Dissolved	1	ND	ND	ND
Uranium, Dissolved	0.0002	ND	ND	ND
Vanadium, Dissolved	0.1	ND	ND	ND
Zinc, Dissolved	0.008	ND	ND	ND

ND	Not detected at analytical reporting limit.
	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are <10 times the blank value) from this date in the project database.

Table A7. Analyte concentrations in the first quarter (March 16, 2016) surface water field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16030355-014	H16030355-015	
Solids, Total Suspended TSS @ 105 C	1	8	8	0.00
Solids, Volatile Suspended	1	2	3	40.00
Alkalinity, Total as CaCO3	4	100	100	0.00
Bicarbonate Alkalinity as HCO3	4	130	120	8.00
Chloride	1	37	37	0.00
Sulfate	1	81	81	0.00
Hardness as CaCO3	1	174	173	0.58
Organic Carbon, Dissolved (DOC)	0.5	3.9	3.8	2.60
Nitrogen, Ammonia	0.05	0.13	0.13	0.00
NO3+NO2 as N	0.02	1.82	1.82	0.00
N-Total	0.05	2.56	2.59	1.17
Phosphorus, Total as P	0.003	0.28	0.266	5.13
Aluminum, Dissolved	0.009	ND	ND	0.00
Antimony, Dissolved	0.0005	ND	ND	0.00
Arsenic, Dissolved	0.001	0.005	0.006	18.18
Barium, Dissolved	0.003	0.034	0.035	2.90
Beryllium, Dissolved	0.0008	ND	ND	0.00
Boron, Dissolved	0.1	ND	ND	0.00
Cadmium, Dissolved	0.00003	0.00018	0.00017	5.71
Chromium, Dissolved	0.01	ND	ND	0.00
Cobalt, Dissolved	0.01	ND	ND	0.00
Copper, Dissolved	0.001	0.012	0.012	0.00
Iron, Dissolved	0.02	0.09	0.09	0.00
Lead, Dissolved	0.0003	0.0003	0.0003	0.00
Manganese, Dissolved	0.001	0.268	0.273	1.85
Mercury, Dissolved	0.000005	ND	ND	0.00
Molybdenum, Dissolved	0.005	ND	ND	0.00
Nickel, Dissolved	0.002	ND	ND	0.00
Selenium, Dissolved	0.001	ND	ND	0.00
Silver, Dissolved	0.0002	ND	ND	0.00
Uranium, Dissolved	0.0002	0.0042	0.0043	2.35
Vanadium, Dissolved	0.1	ND	ND	0.00
Zinc, Dissolved	0.008	0.094	0.099	5.18
Aluminum, Total Recoverable	0.009	0.157	0.165	4.97
Antimony, Total Recoverable	0.0005	ND	ND	0.00
Arsenic, Total Recoverable	0.001	0.007	0.006	15.38
Barium, Total Recoverable	0.003	0.038	0.036	5.41
Beryllium, Total Recoverable	0.0008	ND	ND	0.00
Boron, Total Recoverable	0.1	ND	ND	0.00
Cadmium, Total Recoverable	0.00003	0.00031	0.00032	3.17
Calcium, Total Recoverable	1	51	51	0.00

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16030355-014	H16030355-015	
Chromium, Total Recoverable	0.01	ND	ND	0.00
Cobalt, Total Recoverable	0.01	ND	ND	0.00
Copper, Total Recoverable	0.001	0.021	0.02	4.88
Iron, Total Recoverable	0.02	0.42	0.4	4.88
Lead, Total Recoverable	0.0003	0.0017	0.0016	6.06
Magnesium, Total Recoverable	1	11	11	0.00
Manganese, Total Recoverable	0.001	0.298	0.283	5.16
Mercury, Total Recoverable	0.000005	0.000012	0.000009	28.57
Molybdenum, Total Recoverable	0.005	ND	ND	0.00
Nickel, Total Recoverable	0.002	ND	ND	0.00
Potassium, Total Recoverable	1	5	5	0.00
Selenium, Total Recoverable	0.001	ND	ND	0.00
Silver, Total Recoverable	0.0002	ND	ND	0.00
Sodium, Total Recoverable	1	27	27	0.00
Uranium, Total Recoverable	0.0002	0.0045	0.0043	4.55
Vanadium, Total Recoverable	0.1	ND	ND	0.00
Zinc, Total Recoverable	0.008	0.123	0.118	4.15

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown (i.e., ND).
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A8. Analyte concentrations in the first quarter (March 17, 2016) surface water field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16030349-001	H16030349-002	
Solids, Total Suspended TSS @ 105 C	1	11	9	20.00
Solids, Volatile Suspended	1	3	2	40.00
Alkalinity, Total as CaCO3	4	78	78	0.00
Bicarbonate Alkalinity as HCO3	4	95	95	0.00
Chloride	1	42	41	2.41
Sulfate	1	30	29	3.39
Hardness as CaCO3	1	142	143	0.70
Organic Carbon, Dissolved (DOC)	0.5	3.9	3.9	0.00
Nitrogen, Ammonia	0.05	ND	ND	0.00
NO3+NO2 as N	0.02	0.61	0.61	0.00
N-Total	0.05	1.01	0.95	6.12
Phosphorus, Total as P	0.003	0.091	0.08	12.87
Aluminum, Dissolved	0.009	ND	ND	0.00
Antimony, Dissolved	0.0005	ND	ND	0.00
Arsenic, Dissolved	0.001	0.002	0.002	0.00
Barium, Dissolved	0.003	0.04	0.04	0.00
Beryllium, Dissolved	0.0008	ND	ND	0.00
Boron, Dissolved	0.1	ND	ND	0.00
Cadmium, Dissolved	0.00003	ND	ND	0.00
Chromium, Dissolved	0.01	ND	ND	0.00
Cobalt, Dissolved	0.01	ND	ND	0.00
Copper, Dissolved	0.001	0.003	0.003	0.00
Iron, Dissolved	0.02	0.27	0.22	20.41
Lead, Dissolved	0.0003	ND	ND	0.00
Manganese, Dissolved	0.001	0.066	0.063	4.65
Mercury, Dissolved	0.000005	ND	ND	0.00
Molybdenum, Dissolved	0.005	ND	ND	0.00
Nickel, Dissolved	0.002	ND	ND	0.00
Selenium, Dissolved	0.001	ND	ND	0.00
Silver, Dissolved	0.0002	ND	ND	0.00
Uranium, Dissolved	0.0002	0.0027	0.0027	0.00
Vanadium, Dissolved	0.1	ND	ND	0.00
Zinc, Dissolved	0.008	ND	ND	0.00
Aluminum, Total Recoverable	0.009	0.264	0.26	1.53
Antimony, Total Recoverable	0.0005	ND	ND	0.00
Arsenic, Total Recoverable	0.001	0.004	0.004	0.00
Barium, Total Recoverable	0.003	0.045	0.046	2.20
Beryllium, Total Recoverable	0.0008	ND	ND	0.00
Boron, Total Recoverable	0.1	ND	ND	0.00
Cadmium, Total Recoverable	0.00003	0.00003	0.00004	28.57
Calcium, Total Recoverable	1	32	32	0.00

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16030349-001	H16030349-002	
Chromium, Total Recoverable	0.01	ND	ND	0.00
Cobalt, Total Recoverable	0.01	ND	ND	0.00
Copper, Total Recoverable	0.001	0.006	0.006	0.00
Iron, Total Recoverable	0.02	0.98	0.98	0.00
Lead, Total Recoverable	0.0003	0.0012	0.0013	8.00
Magnesium, Total Recoverable	1	15	15	0.00
Manganese, Total Recoverable	0.001	0.089	0.087	2.27
Mercury, Total Recoverable	0.000005	0.000005	0.000009	57.14
Molybdenum, Total Recoverable	0.005	ND	ND	0.00
Nickel, Total Recoverable	0.002	ND	ND	0.00
Potassium, Total Recoverable	1	3	3	0.00
Selenium, Total Recoverable	0.001	ND	ND	0.00
Silver, Total Recoverable	0.0002	ND	ND	0.00
Sodium, Total Recoverable	1	16	16	0.00
Uranium, Total Recoverable	0.0002	0.0031	0.003	3.28
Vanadium, Total Recoverable	0.1	ND	ND	0.00
Zinc, Total Recoverable	0.008	0.009	0.011	20.00

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown (i.e., ND).
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A9. Analyte concentrations in the second quarter (June 2, 2016) surface water field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16060099-012	H16060099-011	
Solids, Total Suspended TSS @ 105	1	9	8	11.76
Solids, Volatile Suspended	1	3	3	0.00
Alkalinity, Total as CaCO3	4	100	100	0.00
Bicarbonate Alkalinity as HCO3	4	110	110	0.00
Chloride	1	28	28	0.00
Sulfate	1	71	71	0.00
Hardness as CaCO3	1	157	150	4.56
Organic Carbon, Dissolved (DOC)	0.5	5.7	5.7	0.00
Nitrogen, Ammonia	0.05	ND	ND	0.00
NO3+NO2 as N	0.02	0.12	0.12	0.00
N-Total	0.05	0.62	0.64	3.17
Phosphorus, Total as P	0.003	0.284	0.274	3.58
Aluminum, Dissolved	0.009	ND	ND	0.00
Antimony, Dissolved	0.0005	ND	ND	0.00
Arsenic, Dissolved	0.001	0.01	0.009	10.53
Barium, Dissolved	0.003	0.03	0.03	0.00
Beryllium, Dissolved	0.0008	ND	ND	0.00
Boron, Dissolved	0.1	ND	ND	0.00
Cadmium, Dissolved	0.00003	0.00011	0.0001	9.52
Chromium, Dissolved	0.01	ND	ND	0.00
Cobalt, Dissolved	0.01	ND	ND	0.00
Copper, Dissolved	0.001	0.011	0.011	0.00
Iron, Dissolved	0.02	0.09	0.09	0.00
Lead, Dissolved	0.0003	ND	ND	0.00
Manganese, Dissolved	0.001	0.086	0.086	0.00
Mercury, Dissolved	0.000005	ND	ND	0.00
Molybdenum, Dissolved	0.005	ND	ND	0.00
Nickel, Dissolved	0.002	ND	ND	0.00
Selenium, Dissolved	0.001	ND	ND	0.00
Silver, Dissolved	0.0002	ND	ND	0.00
Uranium, Dissolved	0.0002	0.0036	0.0035	2.82
Vanadium, Dissolved	0.1	ND	ND	0.00
Zinc, Dissolved	0.008	0.021	0.02	4.88
Aluminum, Total Recoverable	0.009	0.208	0.191	8.52
Antimony, Total Recoverable	0.0005	ND	ND	0.00
Arsenic, Total Recoverable	0.001	0.01	0.01	0.00
Barium, Total Recoverable	0.003	0.032	0.031	3.17
Beryllium, Total Recoverable	0.0008	ND	ND	0.00
Boron, Total Recoverable	0.1	ND	ND	0.00
Cadmium, Total Recoverable	0.00003	0.0002	0.00021	4.88
Calcium, Total Recoverable	1	44	43	2.30

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16060099-012	H16060099-011	
Chromium, Total Recoverable	0.01	ND	ND	0.00
Cobalt, Total Recoverable	0.01	ND	ND	0.00
Copper, Total Recoverable	0.001	0.018	0.017	5.71
Iron, Total Recoverable	0.02	0.44	0.42	4.65
Lead, Total Recoverable	0.0003	0.0014	0.0014	0.00
Magnesium, Total Recoverable	1	10	10	0.00
Manganese, Total Recoverable	0.001	0.118	0.112	5.22
Mercury, Total Recoverable	0.000005	0.00001	0.000009	10.53
Molybdenum, Total Recoverable	0.005	ND	ND	0.00
Nickel, Total Recoverable	0.002	ND	ND	0.00
Potassium, Total Recoverable	1	4	4	0.00
Selenium, Total Recoverable	0.001	ND	ND	0.00
Silver, Total Recoverable	0.0002	ND	ND	0.00
Sodium, Total Recoverable	1	25	26	3.92
Uranium, Total Recoverable	0.0002	0.0038	0.0037	2.67
Vanadium, Total Recoverable	0.1	ND	ND	0.00
Zinc, Total Recoverable	0.008	0.044	0.043	2.30

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown (i.e., ND).
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A10. Analyte concentrations in the second quarter (June 3, 2016) surface water field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16060099-008	H16060099-007	
Solids, Total Suspended TSS @ 105	1	5	4	22.22
Solids, Volatile Suspended	1	2	3	40.00
Alkalinity, Total as CaCO3	4	96	94	2.11
Bicarbonate Alkalinity as HCO3	4	120	110	8.70
Chloride	1	37	37	0.00
Sulfate	1	80	81	1.24
Hardness as CaCO3	1	164	164	0.00
Organic Carbon, Dissolved (DOC)	0.5	4.3	4.4	2.30
Nitrogen, Ammonia	0.05	ND	ND	0.00
NO3+NO2 as N	0.02	0.29	0.29	0.00
N-Total	0.05	0.7	0.68	2.90
Phosphorus, Total as P	0.003	0.29	0.296	2.05
Aluminum, Dissolved	0.009	ND	ND	0.00
Antimony, Dissolved	0.0005	ND	ND	0.00
Arsenic, Dissolved	0.001	0.006	0.005	18.18
Barium, Dissolved	0.003	0.036	0.034	5.71
Beryllium, Dissolved	0.0008	ND	ND	0.00
Boron, Dissolved	0.1	ND	ND	0.00
Cadmium, Dissolved	0.00003	0.00016	0.00016	0.00
Chromium, Dissolved	0.01	ND	ND	0.00
Cobalt, Dissolved	0.01	ND	ND	0.00
Copper, Dissolved	0.001	0.014	0.013	7.41
Iron, Dissolved	0.02	0.1	0.09	10.53
Lead, Dissolved	0.0003	ND	ND	0.00
Manganese, Dissolved	0.001	0.142	0.132	7.30
Mercury, Dissolved	0.000005	ND	ND	0.00
Molybdenum, Dissolved	0.005	ND	ND	0.00
Nickel, Dissolved	0.002	ND	ND	0.00
Selenium, Dissolved	0.001	ND	ND	0.00
Silver, Dissolved	0.0002	ND	ND	0.00
Uranium, Dissolved	0.0002	0.0037	0.0035	5.56
Vanadium, Dissolved	0.1	ND	ND	0.00
Zinc, Dissolved	0.008	0.053	0.051	3.85
Aluminum, Total Recoverable	0.009	0.092	0.09	2.20
Antimony, Total Recoverable	0.0005	ND	ND	0.00
Arsenic, Total Recoverable	0.001	0.007	0.007	0.00
Barium, Total Recoverable	0.003	0.038	0.036	5.41
Beryllium, Total Recoverable	0.0008	ND	ND	0.00
Boron, Total Recoverable	0.1	ND	ND	0.00
Cadmium, Total Recoverable	0.00003	0.00028	0.00027	3.64
Calcium, Total Recoverable	1	48	48	0.00

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16060099-008	H16060099-007	
Chromium, Total Recoverable	0.01	ND	ND	0.00
Cobalt, Total Recoverable	0.01	ND	ND	0.00
Copper, Total Recoverable	0.001	0.021	0.02	4.88
Iron, Total Recoverable	0.02	0.38	0.37	2.67
Lead, Total Recoverable	0.0003	0.0012	0.0011	8.70
Magnesium, Total Recoverable	1	11	11	0.00
Manganese, Total Recoverable	0.001	0.159	0.153	3.85
Mercury, Total Recoverable	0.000005	0.000007	0.000006	15.38
Molybdenum, Total Recoverable	0.005	0.005	0.005	0.00
Nickel, Total Recoverable	0.002	ND	ND	0.00
Potassium, Total Recoverable	1	5	5	0.00
Selenium, Total Recoverable	0.001	ND	ND	0.00
Silver, Total Recoverable	0.0002	ND	ND	0.00
Sodium, Total Recoverable	1	26	27	3.77
Uranium, Total Recoverable	0.0002	0.0039	0.0038	2.60
Vanadium, Total Recoverable	0.1	ND	ND	0.00
Zinc, Total Recoverable	0.008	0.067	0.069	2.94

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown (i.e., ND).
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A11. Analyte concentrations in the third quarter (September 14, 2016) surface water field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16090353-011	H16090353-012	
Solids, Total Suspended TSS @ 105	1	5	5	0.00
Solids, Volatile Suspended	1	2	2	0.00
Alkalinity, Total as CaCO3	4	120	120	0.00
Bicarbonate Alkalinity as HCO3	4	140	140	0.00
Chloride	1	57	57	0.00
Sulfate	1	105	105	0.00
Hardness as CaCO3	1	217	216	0.46
Organic Carbon, Dissolved (DOC)	0.5	2.9	3	3.39
Nitrogen, Ammonia	0.05	ND	ND	0.00
NO3+NO2 as N	0.02	0.75	0.73	2.70
N-Total	0.05	1.04	1.04	0.00
Phosphorus, Total as P	0.003	0.502	0.521	3.71
Aluminum, Dissolved	0.009	ND	ND	0.00
Antimony, Dissolved	0.0005	ND	ND	0.00
Arsenic, Dissolved	0.001	0.007	0.007	0.00
Barium, Dissolved	0.003	0.039	0.037	5.26
Beryllium, Dissolved	0.0008	ND	ND	0.00
Boron, Dissolved	0.1	ND	ND	0.00
Cadmium, Dissolved	0.00003	0.00011	0.00012	8.70
Chromium, Dissolved	0.01	ND	ND	0.00
Cobalt, Dissolved	0.01	ND	ND	0.00
Copper, Dissolved	0.001	0.008	0.008	0.00
Iron, Dissolved	0.02	0.03	0.03	0.00
Lead, Dissolved	0.0003	ND	ND	0.00
Manganese, Dissolved	0.001	0.086	0.086	0.00
Mercury, Dissolved	0.000005	ND	ND	0.00
Molybdenum, Dissolved	0.005	0.006	0.005	18.18
Nickel, Dissolved	0.002	ND	ND	0.00
Selenium, Dissolved	0.001	ND	ND	0.00
Silver, Dissolved	0.0002	ND	ND	0.00
Uranium, Dissolved	0.0002	0.0049	0.005	2.02
Vanadium, Dissolved	0.1	ND	ND	0.00
Zinc, Dissolved	0.008	0.028	0.025	11.32
Aluminum, Total Recoverable	0.009	0.057	0.077	29.85
Antimony, Total Recoverable	0.0005	ND	ND	0.00
Arsenic, Total Recoverable	0.001	0.007	0.007	0.00
Barium, Total Recoverable	0.003	0.039	0.04	2.53
Beryllium, Total Recoverable	0.0008	ND	ND	0.00
Boron, Total Recoverable	0.1	ND	ND	0.00
Cadmium, Total Recoverable	0.00003	0.0002	0.00018	10.53
Calcium, Total Recoverable	1	64	64	0.00

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16090353-011	H16090353-012	
Chromium, Total Recoverable	0.01	ND	ND	0.00
Cobalt, Total Recoverable	0.01	ND	ND	0.00
Copper, Total Recoverable	0.001	0.012	0.012	0.00
Iron, Total Recoverable	0.02	0.13	0.15	14.29
Lead, Total Recoverable	0.0003	0.0008	0.001	22.22
Magnesium, Total Recoverable	1	14	13	7.41
Manganese, Total Recoverable	0.001	0.115	0.118	2.58
Mercury, Total Recoverable	0.000005	0.000007	0.000005	33.33
Molybdenum, Total Recoverable	0.005	0.006	0.006	0.00
Nickel, Total Recoverable	0.002	ND	ND	0.00
Potassium, Total Recoverable	1	7	7	0.00
Selenium, Total Recoverable	0.001	ND	ND	0.00
Silver, Total Recoverable	0.0002	ND	ND	0.00
Sodium, Total Recoverable	1	35	35	0.00
Uranium, Total Recoverable	0.0002	0.0052	0.0053	1.90
Vanadium, Total Recoverable	0.1	ND	ND	0.00
Zinc, Total Recoverable	0.008	0.038	0.038	0.00

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown (i.e., ND).
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A12. Analyte concentrations in the third quarter (September 15, 2016) surface water field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16090353-007	H16090353-008	
Solids, Total Suspended TSS @ 105	1	8	7	13.33
Solids, Volatile Suspended	1	3	3	0.00
Alkalinity, Total as CaCO3	4	110	110	0.00
Bicarbonate Alkalinity as HCO3	4	140	140	0.00
Chloride	1	58	57	1.74
Sulfate	1	95	94	1.06
Hardness as CaCO3	1	212	209	1.43
Organic Carbon, Dissolved (DOC)	0.5	3.6	3.5	2.82
Nitrogen, Ammonia	0.05	ND	ND	0.00
NO3+NO2 as N	0.02	0.96	0.96	0.00
N-Total	0.05	1.29	1.28	0.78
Phosphorus, Total as P	0.003	0.428	0.492	13.91
Aluminum, Dissolved	0.009	ND	ND	0.00
Antimony, Dissolved	0.0005	0.0006	ND	200.00
Arsenic, Dissolved	0.001	0.006	0.006	0.00
Barium, Dissolved	0.003	0.043	0.043	0.00
Beryllium, Dissolved	0.0008	ND	ND	0.00
Boron, Dissolved	0.1	ND	ND	0.00
Cadmium, Dissolved	0.00003	0.00009	0.00013	36.36
Chromium, Dissolved	0.01	ND	ND	0.00
Cobalt, Dissolved	0.01	ND	ND	0.00
Copper, Dissolved	0.001	0.008	0.008	0.00
Iron, Dissolved	0.02	0.03	0.02	40.00
Lead, Dissolved	0.0003	ND	ND	0.00
Manganese, Dissolved	0.001	0.106	0.104	1.90
Mercury, Dissolved	0.000005	ND	ND	0.00
Molybdenum, Dissolved	0.005	0.005	0.005	0.00
Nickel, Dissolved	0.002	ND	ND	0.00
Selenium, Dissolved	0.001	ND	ND	0.00
Silver, Dissolved	0.0002	ND	ND	0.00
Uranium, Dissolved	0.0002	0.0042	0.0043	2.35
Vanadium, Dissolved	0.1	ND	ND	0.00
Zinc, Dissolved	0.008	0.046	0.047	2.15
Aluminum, Total Recoverable	0.009	0.054	0.095	55.03
Antimony, Total Recoverable	0.0005	0.0005	ND	200.00
Arsenic, Total Recoverable	0.001	0.006	0.006	0.00
Barium, Total Recoverable	0.003	0.046	0.047	2.15
Beryllium, Total Recoverable	0.0008	ND	ND	0.00
Boron, Total Recoverable	0.1	ND	ND	0.00
Cadmium, Total Recoverable	0.00003	0.00022	0.00022	0.00
Calcium, Total Recoverable	1	64	63	1.57

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16090353-007	H16090353-008	
Chromium, Total Recoverable	0.01	ND	ND	0.00
Cobalt, Total Recoverable	0.01	ND	ND	0.00
Copper, Total Recoverable	0.001	0.015	0.015	0.00
Iron, Total Recoverable	0.02	0.16	0.2	22.22
Lead, Total Recoverable	0.0003	0.0013	0.0014	7.41
Magnesium, Total Recoverable	1	13	13	0.00
Manganese, Total Recoverable	0.001	0.15	0.15	0.00
Mercury, Total Recoverable	0.000005	0.000007	0.000006	15.38
Molybdenum, Total Recoverable	0.005	0.005	0.005	0.00
Nickel, Total Recoverable	0.002	ND	ND	0.00
Potassium, Total Recoverable	1	7	7	0.00
Selenium, Total Recoverable	0.001	ND	ND	0.00
Silver, Total Recoverable	0.0002	ND	ND	0.00
Sodium, Total Recoverable	1	33	33	0.00
Uranium, Total Recoverable	0.0002	0.0045	0.0045	0.00
Vanadium, Total Recoverable	0.1	ND	ND	0.00
Zinc, Total Recoverable	0.008	0.067	0.064	4.58

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown (i.e., ND).
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A13. Analyte concentrations in the fourth quarter (December 14, 2016) surface water field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16120307-010	H16120307-011	
Solids, Total Suspended TSS @ 105	1	3	2	40.00
Solids, Volatile Suspended	1	1	1	0.00
Alkalinity, Total as CaCO3	4	120	130	8.00
Bicarbonate Alkalinity as HCO3	4	150	150	0.00
Chloride	1	55	55	0.00
Sulfate	1	96	96	0.00
Hardness as CaCO3	1	230	230	0.00
Organic Carbon, Dissolved (DOC)	0.5	2.5	2.6	3.92
Nitrogen, Ammonia	0.05	ND	ND	0.00
NO3+NO2 as N	0.02	1.81	1.81	0.00
N-Total	0.05	1.99	2.03	1.99
Phosphorus, Total as P	0.003	0.397	0.414	4.19
Aluminum, Dissolved	0.009	ND	ND	0.00
Antimony, Dissolved	0.0005	ND	ND	0.00
Arsenic, Dissolved	0.001	0.005	0.005	0.00
Barium, Dissolved	0.003	0.039	0.039	0.00
Beryllium, Dissolved	0.0008	ND	ND	0.00
Boron, Dissolved	0.1	ND	ND	0.00
Cadmium, Dissolved	0.00003	0.00019	0.0002	5.13
Chromium, Dissolved	0.01	ND	ND	0.00
Cobalt, Dissolved	0.01	ND	ND	0.00
Copper, Dissolved	0.001	0.011	0.011	0.00
Iron, Dissolved	0.02	0.02	ND	200.00
Lead, Dissolved	0.0003	ND	ND	0.00
Manganese, Dissolved	0.001	0.08	0.081	1.24
Mercury, Dissolved	0.000005	ND	ND	0.00
Molybdenum, Dissolved	0.005	0.005	0.005	0.00
Nickel, Dissolved	0.002	ND	ND	0.00
Selenium, Dissolved	0.001	ND	ND	0.00
Silver, Dissolved	0.0002	ND	ND	0.00
Uranium, Dissolved	0.0002	0.006	0.006	0.00
Vanadium, Dissolved	0.1	ND	ND	0.00
Zinc, Dissolved	0.008	0.106	0.108	1.87
Aluminum, Total Recoverable	0.009	0.059	0.056	5.22
Antimony, Total Recoverable	0.0005	ND	ND	0.00
Arsenic, Total Recoverable	0.001	0.006	0.006	0.00
Barium, Total Recoverable	0.003	0.04	0.039	2.53
Beryllium, Total Recoverable	0.0008	ND	ND	0.00
Boron, Total Recoverable	0.1	ND	ND	0.00
Cadmium, Total Recoverable	0.00003	0.00024	0.00025	4.08
Calcium, Total Recoverable	1	68	68	0.00

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16120307-010	H16120307-011	
Chromium, Total Recoverable	0.01	ND	ND	0.00
Cobalt, Total Recoverable	0.01	ND	ND	0.00
Copper, Total Recoverable	0.001	0.015	0.017	12.50
Iron, Total Recoverable	0.02	0.12	0.14	15.38
Lead, Total Recoverable	0.0003	0.0007	0.0007	0.00
Magnesium, Total Recoverable	1	15	15	0.00
Manganese, Total Recoverable	0.001	0.089	0.09	1.12
Mercury, Total Recoverable	0.000005	ND	ND	0.00
Molybdenum, Total Recoverable	0.005	0.005	0.005	0.00
Nickel, Total Recoverable	0.002	ND	0.005	200.00
Potassium, Total Recoverable	1	7	7	0.00
Selenium, Total Recoverable	0.001	ND	ND	0.00
Silver, Total Recoverable	0.0002	ND	ND	0.00
Sodium, Total Recoverable	1	41	41	0.00
Uranium, Total Recoverable	0.0002	0.0061	0.0061	0.00
Vanadium, Total Recoverable	0.1	ND	ND	0.00
Zinc, Total Recoverable	0.008	0.114	0.116	1.74

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown (i.e., ND).
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A14. Analyte concentrations in the fourth quarter (December 15, 2016) surface water field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16120305-001	H16120305-002	
Solids, Total Suspended TSS @ 105	1	20	20	0.00
Solids, Volatile Suspended	1	5	5	0.00
Alkalinity, Total as CaCO3	4	98	98	0.00
Bicarbonate Alkalinity as HCO3	4	120	120	0.00
Chloride	1	13	13	0.00
Sulfate	1	31	31	0.00
Hardness as CaCO3	1	126	125	0.80
Organic Carbon, Dissolved (DOC)	0.5	1.3	1.2	8.00
Nitrogen, Ammonia	0.05	ND	ND	0.00
NO3+NO2 as N	0.02	1.8	1.8	0.00
N-Total	0.05	1.84	1.82	1.09
Phosphorus, Total as P	0.003	0.126	0.137	8.37
Aluminum, Dissolved	0.009	ND	ND	0.00
Antimony, Dissolved	0.0005	ND	ND	0.00
Arsenic, Dissolved	0.001	0.001	0.001	0.00
Barium, Dissolved	0.003	0.058	0.06	3.39
Beryllium, Dissolved	0.0008	ND	ND	0.00
Boron, Dissolved	0.1	ND	ND	0.00
Cadmium, Dissolved	0.00003	ND	ND	0.00
Chromium, Dissolved	0.01	ND	ND	0.00
Cobalt, Dissolved	0.01	ND	ND	0.00
Copper, Dissolved	0.001	ND	ND	0.00
Iron, Dissolved	0.02	0.04	0.05	22.22
Lead, Dissolved	0.0003	ND	ND	0.00
Manganese, Dissolved	0.001	0.054	0.055	1.83
Mercury, Dissolved	0.000005	ND	ND	0.00
Molybdenum, Dissolved	0.005	ND	ND	0.00
Nickel, Dissolved	0.002	ND	ND	0.00
Selenium, Dissolved	0.001	ND	ND	0.00
Silver, Dissolved	0.0002	ND	ND	0.00
Uranium, Dissolved	0.0002	0.0037	0.0037	0.00
Vanadium, Dissolved	0.1	ND	ND	0.00
Zinc, Dissolved	0.008	ND	ND	0.00
Aluminum, Total Recoverable	0.009	0.379	0.385	1.57
Antimony, Total Recoverable	0.0005	ND	ND	0.00
Arsenic, Total Recoverable	0.001	0.002	0.002	0.00
Barium, Total Recoverable	0.003	0.066	0.066	0.00
Beryllium, Total Recoverable	0.0008	ND	ND	0.00
Boron, Total Recoverable	0.1	ND	ND	0.00
Cadmium, Total Recoverable	0.00003	0.00004	0.00003	28.57
Calcium, Total Recoverable	1	35	35	0.00

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16120305-001	H16120305-002	
Chromium, Total Recoverable	0.01	ND	ND	0.00
Cobalt, Total Recoverable	0.01	ND	ND	0.00
Copper, Total Recoverable	0.001	0.005	0.005	0.00
Iron, Total Recoverable	0.02	0.95	0.96	1.05
Lead, Total Recoverable	0.0003	0.0013	0.0013	0.00
Magnesium, Total Recoverable	1	9	9	0.00
Manganese, Total Recoverable	0.001	0.095	0.097	2.08
Mercury, Total Recoverable	0.000005	0.000009	0.000008	11.76
Molybdenum, Total Recoverable	0.005	ND	ND	0.00
Nickel, Total Recoverable	0.002	ND	ND	0.00
Potassium, Total Recoverable	1	3	3	0.00
Selenium, Total Recoverable	0.001	ND	ND	0.00
Silver, Total Recoverable	0.0002	ND	ND	0.00
Sodium, Total Recoverable	1	12	12	0.00
Uranium, Total Recoverable	0.0002	0.004	0.004	0.00
Vanadium, Total Recoverable	0.1	ND	ND	0.00
Zinc, Total Recoverable	0.008	0.009	0.011	20.00

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown (i.e., ND).
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A15. Analyte concentrations in the second quarter (May 17, 2016) groundwater field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16050318-003	H16050318-004	
Alkalinity, Total as CaCO3	4	100	100	0.0
Bicarbonate Alkalinity as HCO3	4	130	130	0.0
Chloride	1	24	24	0.0
Sulfate	1	182	182	0.0
Hardness as CaCO3	1	249	250	0.4
Aluminum, Dissolved	0.009	ND	ND	0.0
Antimony, Dissolved	0.0005	ND	ND	0.0
Arsenic, Dissolved	0.001	0.006	0.006	0.0
Barium, Dissolved	0.003	0.021	0.02	4.9
Beryllium, Dissolved	0.0008	ND	ND	0.0
Boron, Dissolved	0.1	ND	ND	0.0
Cadmium, Dissolved	0.00003	ND	ND	0.0
Calcium, Dissolved	1	72	72	0.0
Chromium, Dissolved	0.01	ND	ND	0.0
Cobalt, Dissolved	0.01	ND	ND	0.0
Copper, Dissolved	0.001	ND	ND	0.0
Iron, Dissolved	0.02	ND	0.33	200.00
Lead, Dissolved	0.0003	ND	ND	0.0
Magnesium, Dissolved	1	17	17	0.0
Manganese, Dissolved	0.001	ND	0.001	200.00
Mercury, Dissolved	5E-06	ND	ND	0.0
Molybdenum, Dissolved	0.005	ND	ND	0.0
Nickel, Dissolved	0.002	ND	ND	0.0
Potassium, Dissolved	1	3	3	0.0
Selenium, Dissolved	0.001	0.003	0.003	0.0
Silver, Dissolved	0.0002	ND	ND	0.0
Sodium, Dissolved	1	32	32	0.0
Uranium, Dissolved	0.0002	0.0088	0.0089	1.1
Vanadium, Dissolved	0.1	ND	ND	0.0
Zinc, Dissolved	0.008	ND	ND	0.0

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations was <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A16. Analyte concentrations in the third quarter (September 19, 2016) groundwater field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16090457-015	H16090457-017	
Alkalinity, Total as CaCO3	4	24	23	4.3
Bicarbonate Alkalinity as HCO3	4	28	28	0.0
Chloride	1	42	43	2.4
Sulfate	1	100	101	1.0
Hardness as CaCO3	1	109	109	0.0
Aluminum, Dissolved	0.009	0.133	0.116	13.7
Antimony, Dissolved	0.0005	ND	ND	0.0
Arsenic, Dissolved	0.001	0.002	0.001	66.7
Barium, Dissolved	0.003	0.031	0.029	6.7
Beryllium, Dissolved	0.0008	ND	ND	0.0
Boron, Dissolved	0.1	ND	ND	0.0
Cadmium, Dissolved	0.00003	0.0271	0.0267	1.5
Calcium, Dissolved	1	33	33	0.0
Chromium, Dissolved	0.01	ND	ND	0.0
Cobalt, Dissolved	0.01	0.01	0.01	0.0
Copper, Dissolved	0.001	0.153	0.162	5.7
Iron, Dissolved	0.02	ND	ND	0.0
Lead, Dissolved	0.0003	ND	ND	0.0
Magnesium, Dissolved	1	7	7	0.0
Manganese, Dissolved	0.001	2.2	2.2	0.0
Mercury, Dissolved	5E-06	ND	ND	0.0
Molybdenum, Dissolved	0.005	ND	ND	0.0
Nickel, Dissolved	0.002	0.016	0.035	74.5
Potassium, Dissolved	1	5	5	0.0
Selenium, Dissolved	0.001	ND	ND	0.0
Silver, Dissolved	0.0002	ND	ND	0.0
Sodium, Dissolved	1	22	23	4.4
Uranium, Dissolved	0.0002	0.0007	0.0002	111.1
Vanadium, Dissolved	0.1	ND	ND	0.0
Zinc, Dissolved	0.008	3.92	3.93	0.3

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations was <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A17. Analyte concentrations in the third quarter (September 20, 2016) groundwater field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit	Concentration (mg/L)		Relative percent
		H16090457-018	H16090457-020	

	(mg/L)			difference (%)
Alkalinity, Total as CaCO3	4	280	280	0.0
Bicarbonate Alkalinity as HCO3	4	340	340	0.0
Chloride	1	21	21	0.0
Sulfate	1	357	358	0.3
Hardness as CaCO3	1	329	327	0.6
Aluminum, Dissolved	0.009	0.013	ND	200.0
Antimony, Dissolved	0.0005	ND	ND	0.0
Arsenic, Dissolved	0.001	0.002	0.002	0.0
Barium, Dissolved	0.003	0.026	0.025	3.9
Beryllium, Dissolved	0.0008	ND	ND	0.0
Boron, Dissolved	0.1	0.1	0.1	0.0
Cadmium, Dissolved	0.00003	ND	ND	0.0
Calcium, Dissolved	1	100	99	1.0
Chromium, Dissolved	0.01	ND	ND	0.0
Cobalt, Dissolved	0.01	ND	ND	0.0
Copper, Dissolved	0.001	ND	ND	0.0
Iron, Dissolved	0.02	ND	ND	0.0
Lead, Dissolved	0.0003	ND	ND	0.0
Magnesium, Dissolved	1	19	19	0.0
Manganese, Dissolved	0.001	0.001	ND	200.0
Mercury, Dissolved	5E-06	ND	ND	0.0
Molybdenum, Dissolved	0.005	0.01	0.01	0.0
Nickel, Dissolved	0.002	ND	ND	0.0
Potassium, Dissolved	1	6	6	0.0
Selenium, Dissolved	0.001	ND	ND	0.0
Silver, Dissolved	0.0002	ND	ND	0.0
Sodium, Dissolved	1	138	137	0.7
Uranium, Dissolved	0.0002	0.0968	0.0954	1.5
Vanadium, Dissolved	0.1	ND	ND	0.0
Zinc, Dissolved	0.008	ND	ND	0.0

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations was <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A18. Analyte concentrations in the third quarter (September 21, 2016) groundwater field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
		H16090457-041	H16090457-042	
Alkalinity, Total as CaCO3	4	110	110	0.0
Bicarbonate Alkalinity as HCO3	4	130	130	0.0
Chloride	1	25	25	0.0
Sulfate	1	185	182	1.6
Hardness as CaCO3	1	254	253	0.4

Aluminum, Dissolved	0.009	ND	ND	0.0
Antimony, Dissolved	0.0005	ND	ND	0.0
Arsenic, Dissolved	0.001	0.007	0.007	0.0
Barium, Dissolved	0.003	0.021	0.023	9.1
Beryllium, Dissolved	0.0008	ND	ND	0.0
Boron, Dissolved	0.1	ND	ND	0.0
Cadmium, Dissolved	0.00003	ND	ND	0.0
Calcium, Dissolved	1	74	74	0.0
Chromium, Dissolved	0.01	ND	ND	0.0
Cobalt, Dissolved	0.01	ND	ND	0.0
Copper, Dissolved	0.001	ND	ND	0.0
Iron, Dissolved	0.02	ND	ND	0.0
Lead, Dissolved	0.0003	ND	ND	0.0
Magnesium, Dissolved	1	17	16	6.1
Manganese, Dissolved	0.001	ND	ND	0.0
Mercury, Dissolved	5E-06	ND	ND	0.0
Molybdenum, Dissolved	0.005	ND	ND	0.0
Nickel, Dissolved	0.002	ND	ND	0.0
Potassium, Dissolved	1	3	3	0.0
Selenium, Dissolved	0.001	0.002	0.002	0.0
Silver, Dissolved	0.0002	ND	ND	0.0
Sodium, Dissolved	1	32	31	3.2
Uranium, Dissolved	0.0002	0.0085	0.0085	0.0
Vanadium, Dissolved	0.1	ND	ND	0.0
Zinc, Dissolved	0.008	ND	ND	0.0

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (25%). However, because both of the concentrations was <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A19. Analyte concentrations in the first quarter (March 16, 2016) instream sediment field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16030355-048	H16030355-051	
Aluminum, Total	<0.063	10	33800	31200	8.0
Antimony, Total	<0.063	5	ND	ND	0.0
Arsenic, Total	<0.063	5	92	66	32.9
Barium, Total	<0.063	5	642	535	18.2
Beryllium, Total	<0.063	5	ND	ND	0.0
Boron, Total	<0.063	6	14	14	0.0
Cadmium, Total	<0.063	0.4	13.1	11.6	12.1
Chromium, Total	<0.063	5	53	43	20.8
Cobalt, Total	<0.063	5	16	14	13.3
Copper, Total	<0.063	5	916	881	3.9

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16030355-048	H16030355-051	
Iron, Total	<0.063	20	38300	32400	16.7
Lead, Total	<0.063	5	361	312	14.6
Manganese, Total	<0.063	5	4360	3810	13.5
Mercury, Total	<0.063	0.10	1.6	1.4	13.3
Molybdenum, Total	<0.063	5	6	6	0.0
Nickel, Total	<0.063	5	32	26	20.7
Selenium, Total	<0.063	5	ND	ND	0.0
Silver, Total	<0.063	5	ND	ND	0.0
Uranium, Total	<0.063	5	5	ND	0.0
Vanadium, Total	<0.063	2	83	74	11.5
Zinc, Total	<0.063	5	2020	2020	0.0
Aluminum, Total	0.063-1	5	7160	7610	6.1
Antimony, Total	0.063-1	5	ND	ND	0.0
Arsenic, Total	0.063-1	5	52	44	16.7
Barium, Total	0.063-1	5	123	143	15.0
Beryllium, Total	0.063-1	5	ND	ND	0.0
Boron, Total	0.063-1	5	ND	ND	0.0
Cadmium, Total	0.063-1	0.2	1.4	2.4	52.6
Chromium, Total	0.063-1	5	18	18	0.0
Cobalt, Total	0.063-1	5	ND	6	200.0
Copper, Total	0.063-1	5	164	166	1.2
Iron, Total	0.063-1	8	25700	24300	5.6
Lead, Total	0.063-1	5	53	61	14.0
Manganese, Total	0.063-1	5	563	703	22.1
Mercury, Total	0.063-1	0.10	0.16	0.19	17.1
Molybdenum, Total	0.063-1	5	ND	ND	0.0
Nickel, Total	0.063-1	5	8	7	13.3
Selenium, Total	0.063-1	5	ND	ND	0.0
Silver, Total	0.063-1	5	ND	ND	0.0
Uranium, Total	0.063-1	5	13	ND	200.0
Vanadium, Total	0.063-1	1	69	65	6.0
Zinc, Total	0.063-1	5	553	910	48.8
Aluminum, Total	1-2	5	7190	7770	7.8
Antimony, Total	1-2	5	ND	ND	0.0
Arsenic, Total	1-2	5	28	15	60.5
Barium, Total	1-2	5	114	114	0.0
Beryllium, Total	1-2	5	ND	ND	0.0
Boron, Total	1-2	5	ND	ND	0.0
Cadmium, Total	1-2	0.2	0.3	2.2	152.0
Chromium, Total	1-2	5	15	15	0.0
Cobalt, Total	1-2	5	ND	ND	0.0
Copper, Total	1-2	5	146	68	72.9
Iron, Total	1-2	8	10900	11000	0.9
Lead, Total	1-2	5	35	30	15.4

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16030355-048	H16030355-051	
Manganese, Total	1-2	5	562	471	17.6
Mercury, Total	1-2	0.10	ND	ND	0.0
Molybdenum, Total	1-2	5	ND	ND	0.0
Nickel, Total	1-2	5	8	9	11.8
Selenium, Total	1-2	5	ND	ND	0.0
Silver, Total	1-2	5	ND	ND	0.0
Uranium, Total	1-2	5	ND	ND	0.0
Vanadium, Total	1-2	1	19	21	10.0
Zinc, Total	1-2	5	162	356	74.9

ND Not detected at analytical reporting limit.

\- Relative percent difference unknown because one or both of the concentrations was unknown.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A20. Analyte concentrations in the first quarter (March 17, 2016) instream sediment field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16030349-005	H16030349-008	
Aluminum, Total	<0.063	9	29400	23300	23.1
Antimony, Total	<0.063	5	ND	ND	0.0
Arsenic, Total	<0.063	5	63	41	42.3
Barium, Total	<0.063	5	416	296	33.7
Beryllium, Total	<0.063	5	ND	ND	0.0
Boron, Total	<0.063	5	13	10	26.1
Cadmium, Total	<0.063	0.4	3.1	2	43.1
Chromium, Total	<0.063	5	79	71	10.7
Cobalt, Total	<0.063	5	15	12	22.2
Copper, Total	<0.063	5	495	358	32.1
Iron, Total	<0.063	20	50900	39000	26.5
Lead, Total	<0.063	5	202	207	2.4
Manganese, Total	<0.063	5	1710	941	58.0
Mercury, Total	<0.063	0.10	0.31	0.21	38.5
Molybdenum, Total	<0.063	5	31	23	29.6
Nickel, Total	<0.063	5	35	34	2.9
Selenium, Total	<0.063	5	ND	ND	0.0
Silver, Total	<0.063	5	ND	ND	0.0
Uranium, Total	<0.063	5	14	11	24.0
Vanadium, Total	<0.063	2	145	116	22.2
Zinc, Total	<0.063	5	576	436	27.7
Aluminum, Total	0.063-1	5	3340	4800	35.9
Antimony, Total	0.063-1	5	ND	ND	0.0
Arsenic, Total	0.063-1	5	5	ND	200.0
Barium, Total	0.063-1	5	40	58	36.7
Beryllium, Total	0.063-1	5	ND	ND	0.0
Boron, Total	0.063-1	5	ND	ND	0.0
Cadmium, Total	0.063-1	0.2	0.2	ND	200.0
Chromium, Total	0.063-1	5	12	12	0.0
Cobalt, Total	0.063-1	5	ND	ND	0.0
Copper, Total	0.063-1	5	35	39	10.8
Iron, Total	0.063-1	8	16100	15800	1.9
Lead, Total	0.063-1	5	20	13	42.4
Manganese, Total	0.063-1	5	203	175	14.8
Mercury, Total	0.063-1	0.10	ND	ND	0.0
Molybdenum, Total	0.063-1	5	ND	ND	0.0
Nickel, Total	0.063-1	5	ND	ND	0.0
Selenium, Total	0.063-1	5	ND	ND	0.0
Silver, Total	0.063-1	5	ND	ND	0.0
Uranium, Total	0.063-1	5	ND	ND	0.0
Vanadium, Total	0.063-1	1	48	46	4.3

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16030349-005	H16030349-008	
Zinc, Total	0.063-1	5	127	160	23.0
Aluminum, Total	1-2	5	3640	3210	12.6
Antimony, Total	1-2	5	ND	ND	0.0
Arsenic, Total	1-2	5	6	ND	200.0
Barium, Total	1-2	5	36	41	13.0
Beryllium, Total	1-2	5	ND	ND	0.0
Boron, Total	1-2	5	ND	ND	0.0
Cadmium, Total	1-2	0.2	ND	ND	0.0
Chromium, Total	1-2	5	5	ND	200.0
Cobalt, Total	1-2	5	ND	ND	0.0
Copper, Total	1-2	5	28	14	66.7
Iron, Total	1-2	7	6180	5560	10.6
Lead, Total	1-2	5	8	11	31.6
Manganese, Total	1-2	5	132	118	11.2
Mercury, Total	1-2	0.10	ND	ND	0.0
Molybdenum, Total	1-2	5	ND	ND	0.0
Nickel, Total	1-2	5	ND	ND	0.0
Selenium, Total	1-2	5	ND	ND	0.0
Silver, Total	1-2	5	ND	ND	0.0
Uranium, Total	1-2	5	ND	ND	0.0
Vanadium, Total	1-2	1	14	14	0.0
Zinc, Total	1-2	5	52	29	56.8

ND — Not detected at analytical reporting limit.

\- — Relative percent difference unknown because one or both of the concentrations was unknown.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A21. Analyte concentrations in the second quarter (June 2, 2016) instream sediment field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16060099-052	H16060099-049	
Aluminum, Total	<0.063	20	25900	21500	18.6
Antimony, Total	<0.063	5	ND	ND	0.0
Arsenic, Total	<0.063	5	98	80	20.2
Barium, Total	<0.063	5	474	432	9.3
Beryllium, Total	<0.063	5	ND	ND	0.0
Boron, Total	<0.063	5	19	13	37.5
Cadmium, Total	<0.063	0.8	16.3	12.8	24.1
Chromium, Total	<0.063	5	59	47	22.6
Cobalt, Total	<0.063	5	20	15	28.6
Copper, Total	<0.063	5	1360	971	33.4
Iron, Total	<0.063	30	31600	23200	30.7
Lead, Total	<0.063	5	421	315	28.8
Manganese, Total	<0.063	5	6450	4110	44.3
Mercury, Total	<0.063	0.10	2.2	1.4	44.4
Molybdenum, Total	<0.063	5	6	5	18.2
Nickel, Total	<0.063	5	39	29	29.4
Selenium, Total	<0.063	5	ND	ND	0.0
Silver, Total	<0.063	5	6	ND	200.0
Uranium, Total	<0.063	5	5	ND	200.0
Vanadium, Total	<0.063	2	66	49	29.6
Zinc, Total	<0.063	8	3130	2260	32.3
Aluminum, Total	0.063-1	5	25900	5440	130.6
Antimony, Total	0.063-1	5	ND	ND	0.0
Arsenic, Total	0.063-1	5	98	95	3.1
Barium, Total	0.063-1	5	474	131	113.4
Beryllium, Total	0.063-1	5	ND	ND	0.0
Boron, Total	0.063-1	5	19	ND	0.0
Cadmium, Total	0.063-1	0.2	16.3	2.6	145.0
Chromium, Total	0.063-1	5	59	21	95.0
Cobalt, Total	0.063-1	5	20	ND	200.0
Copper, Total	0.063-1	5	1360	327	122.5
Iron, Total	0.063-1	9	31600	27100	15.3
Lead, Total	0.063-1	5	421	119	111.9
Manganese, Total	0.063-1	5	6450	1570	121.7
Mercury, Total	0.063-1	0.10	2.2	0.28	154.8
Molybdenum, Total	0.063-1	5	6	ND	200.0
Nickel, Total	0.063-1	5	39	8	131.9
Selenium, Total	0.063-1	5	ND	ND	0.0
Silver, Total	0.063-1	5	6	ND	200.0
Uranium, Total	0.063-1	5	5	12	82.4
Vanadium, Total	0.063-1	1	66	73	10.1

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16060099-052	H16060099-049	
Zinc, Total	0.063-1	5	3130	738	123.7
Aluminum, Total	1-2	5	5000	3820	26.8
Antimony, Total	1-2	5	ND	ND	0.0
Arsenic, Total	1-2	5	114	140	20.5
Barium, Total	1-2	5	146	79	59.6
Beryllium, Total	1-2	5	ND	ND	0.0
Boron, Total	1-2	5	ND	ND	0.0
Cadmium, Total	1-2	0.2	1.5	1.1	30.8
Chromium, Total	1-2	5	12	11	8.7
Cobalt, Total	1-2	5	ND	ND	0.0
Copper, Total	1-2	5	422	1600	116.5
Iron, Total	1-2	8	18100	11700	43.0
Lead, Total	1-2	5	120	85	34.1
Manganese, Total	1-2	5	2280	1630	33.2
Mercury, Total	1-2	0.10	0.14	0.2	35.3
Molybdenum, Total	1-2	5	ND	ND	0.0
Nickel, Total	1-2	5	6	6	0.0
Selenium, Total	1-2	5	ND	ND	0.0
Silver, Total	1-2	5	12	9	28.6
Uranium, Total	1-2	5	ND	ND	0.0
Vanadium, Total	1-2	1	22	17	25.6
Zinc, Total	1-2	5	763	404	61.5

ND — Not detected at analytical reporting limit.

\- — Relative percent difference unknown because one or both of the concentrations was unknown.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A22. Analyte concentrations in the second quarter (June 3, 2016) instream sediment field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16060099-025	H16060099-022	
Aluminum, Total	<0.063	20	26200	21600	19.2
Antimony, Total	<0.063	5	ND	ND	0.0
Arsenic, Total	<0.063	5	98	79	21.5
Barium, Total	<0.063	5	353	307	13.9
Beryllium, Total	<0.063	5	ND	ND	200.0
Boron, Total	<0.063	5	17	14	19.4
Cadmium, Total	<0.063	0.4	8.3	7.3	12.8
Chromium, Total	<0.063	5	79	63	22.5
Cobalt, Total	<0.063	5	16	14	13.3
Copper, Total	<0.063	5	963	735	26.9
Iron, Total	<0.063	30	43800	35900	19.8
Lead, Total	<0.063	5	386	350	9.8
Manganese, Total	<0.063	5	3450	3960	13.8
Mercury, Total	<0.063	0.10	1.2	0.95	23.3
Molybdenum, Total	<0.063	5	18	17	5.7
Nickel, Total	<0.063	5	41	32	24.7
Selenium, Total	<0.063	5	ND	ND	0.0
Silver, Total	<0.063	5	6	ND	200.0
Uranium, Total	<0.063	5	10	7	35.3
Vanadium, Total	<0.063	1	96	87	9.8
Zinc, Total	<0.063	7	1890	1550	19.8
Aluminum, Total	0.063-1	5	6540	5400	19.1
Antimony, Total	0.063-1	5	ND	ND	0.0
Arsenic, Total	0.063-1	5	32	27	16.9
Barium, Total	0.063-1	5	113	107	5.5
Beryllium, Total	0.063-1	5	ND	ND	0.0
Boron, Total	0.063-1	5	ND	ND	0.0
Cadmium, Total	0.063-1	0.2	2.1	1.4	40.0
Chromium, Total	0.063-1	5	16	10	46.2
Cobalt, Total	0.063-1	5	8	9	11.8
Copper, Total	0.063-1	5	305	220	32.4
Iron, Total	0.063-1	9	22600	16400	31.8
Lead, Total	0.063-1	5	81	87	7.1
Manganese, Total	0.063-1	5	820	1140	32.7
Mercury, Total	0.063-1	0.10	0.43	0.16	91.5
Molybdenum, Total	0.063-1	5	ND	ND	0.0
Nickel, Total	0.063-1	5	8	5	46.2
Selenium, Total	0.063-1	5	ND	ND	0.0
Silver, Total	0.063-1	5	ND	ND	0.0
Uranium, Total	0.063-1	5	ND	ND	0.0
Vanadium, Total	0.063-1	1	36	28	25.0

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16060099-025	H16060099-022	
Zinc, Total	0.063-1	5	778	568	31.2
Aluminum, Total	1-2	5	2970	2750	7.7
Antimony, Total	1-2	5	ND	ND	0.0
Arsenic, Total	1-2	5	16	15	6.5
Barium, Total	1-2	5	58	67	14.4
Beryllium, Total	1-2	5	ND	ND	0.0
Boron, Total	1-2	5	ND	ND	0.0
Cadmium, Total	1-2	0.2	0.4	0.3	28.6
Chromium, Total	1-2	5	ND	ND	0.0
Cobalt, Total	1-2	5	ND	ND	0.0
Copper, Total	1-2	5	75	69	8.3
Iron, Total	1-2	8	7960	5670	33.6
Lead, Total	1-2	5	32	18	56.0
Manganese, Total	1-2	5	704	791	11.6
Mercury, Total	1-2	0.10	ND	ND	0.0
Molybdenum, Total	1-2	5	ND	ND	0.0
Nickel, Total	1-2	5	ND	ND	0.0
Selenium, Total	1-2	5	ND	ND	0.0
Silver, Total	1-2	5	ND	ND	0.0
Uranium, Total	1-2	5	ND	ND	0.0
Vanadium, Total	1-2	1	16	12	28.6
Zinc, Total	1-2	5	288	141	68.5

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown.
	Relative percent difference of sample and duplicate pair exceeds project goal (40%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (40%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A23. Analyte concentrations in the third quarter (September 14, 2016) instream sediment field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16090353-051	H16090353-054	
Aluminum, Total	<0.063	20	36200	36300	0.3
Antimony, Total	<0.063	5	ND	ND	0.0
Arsenic, Total	<0.063	5	54	52	3.8
Barium, Total	<0.063	5	467	405	14.2
Beryllium, Total	<0.063	5	ND	ND	0.0
Boron, Total	<0.063	8	18	15	18.2
Cadmium, Total	<0.063	0.6	10.8	11.3	4.5
Chromium, Total	<0.063	5	51	56	9.3
Cobalt, Total	<0.063	5	17	24	34.1
Copper, Total	<0.063	5	741	805	8.3
Iron, Total	<0.063	30	37700	41600	9.8
Lead, Total	<0.063	5	242	326	29.6
Manganese, Total	<0.063	5	4190	4000	4.6
Mercury, Total	<0.063	0.10	1	1.1	9.5
Molybdenum, Total	<0.063	5	ND	ND	0.0
Nickel, Total	<0.063	5	29	34	15.9
Selenium, Total	<0.063	5	ND	ND	0.0
Silver, Total	<0.063	5	ND	ND	0.0
Uranium, Total	<0.063	5	ND	ND	0.0
Vanadium, Total	<0.063	2	80	88	9.5
Zinc, Total	<0.063	6	2100	2190	4.2
Aluminum, Total	0.063-1	5	7710	7270	5.9
Antimony, Total	0.063-1	5	ND	ND	0.0
Arsenic, Total	0.063-1	5	16	17	6.1
Barium, Total	0.063-1	5	148	138	7.0
Beryllium, Total	0.063-1	5	ND	ND	0.0
Boron, Total	0.063-1	5	ND	ND	0.0
Cadmium, Total	0.063-1	0.2	1.2	0.8	40.0
Chromium, Total	0.063-1	5	25	17	38.1
Cobalt, Total	0.063-1	5	6	5	18.2
Copper, Total	0.063-1	5	110	114	3.6
Iron, Total	0.063-1	9	36500	23700	42.5
Lead, Total	0.063-1	5	53	39	30.4
Manganese, Total	0.063-1	5	630	518	19.5
Mercury, Total	0.063-1	0.10	0.16	0.15	6.5
Molybdenum, Total	0.063-1	5	ND	ND	0.0
Nickel, Total	0.063-1	5	8	7	13.3
Selenium, Total	0.063-1	5	ND	ND	0.0
Silver, Total	0.063-1	5	ND	ND	0.0
Uranium, Total	0.063-1	5	ND	ND	0.0
Vanadium, Total	0.063-1	1	112	66	51.7

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16090353-051	H16090353-054	
Zinc, Total	0.063-1	5	454	355	24.5
Aluminum, Total	1-2	5	5740	5690	0.9
Antimony, Total	1-2	5	ND	ND	0.0
Arsenic, Total	1-2	5	14	10	33.3
Barium, Total	1-2	5	102	100	2.0
Beryllium, Total	1-2	5	ND	ND	0.0
Boron, Total	1-2	5	ND	ND	0.0
Cadmium, Total	1-2	0.2	0.8	0.4	66.7
Chromium, Total	1-2	5	11	9	20.0
Cobalt, Total	1-2	5	ND	ND	0.0
Copper, Total	1-2	5	101	61	49.4
Iron, Total	1-2	8	14300	11100	25.2
Lead, Total	1-2	5	32	30	6.5
Manganese, Total	1-2	5	536	423	23.6
Mercury, Total	1-2	0.10	0.1	ND	200.0
Molybdenum, Total	1-2	5	ND	ND	0.0
Nickel, Total	1-2	5	5	5	0.0
Selenium, Total	1-2	5	ND	ND	0.0
Silver, Total	1-2	5	ND	ND	0.0
Uranium, Total	1-2	5	ND	ND	0.0
Vanadium, Total	1-2	1	38	25	41.3
Zinc, Total	1-2	5	270	165	48.3

ND	Not detected at analytical reporting limit.
-	Relative percent difference unknown because one or both of the concentrations was unknown.
	Relative percent difference of sample and duplicate pair exceeds project goal (40%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.
	Relative percent difference of sample and duplicate pair exceeds project goal (40%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A24. Analyte concentrations in the third quarter (September 15, 2016) instream sediment field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16090351-005	H16090351-014	
Aluminum, Total	<0.063	10	24200	25400	4.8
Antimony, Total	<0.063	5	ND	ND	0.0
Arsenic, Total	<0.063	5	39	42	7.4
Barium, Total	<0.063	5	343	372	8.1
Beryllium, Total	<0.063	5	ND	ND	0.0
Boron, Total	<0.063	5	13	13	0.0
Cadmium, Total	<0.063	0.5	2.2	2	9.5
Chromium, Total	<0.063	5	96	85	12.2
Cobalt, Total	<0.063	5	14	14	0.0
Copper, Total	<0.063	5	357	435	19.7
Iron, Total	<0.063	20	42000	38500	8.7
Lead, Total	<0.063	5	190	174	8.8
Manganese, Total	<0.063	5	2050	2270	10.2
Mercury, Total	<0.063	0.10	0.2	0.2	0.0
Molybdenum, Total	<0.063	5	30	24	22.2
Nickel, Total	<0.063	5	41	39	5.0
Selenium, Total	<0.063	5	6	ND	200.0
Silver, Total	<0.063	5	ND	ND	0.0
Uranium, Total	<0.063	5	13	11	16.7
Vanadium, Total	<0.063	1	142	123	14.3
Zinc, Total	<0.063	5	486	448	8.1
Aluminum, Total	0.063-1	5	3730	3600	3.5
Antimony, Total	0.063-1	5	ND	ND	200.0
Arsenic, Total	0.063-1	5	7	7	0.0
Barium, Total	0.063-1	5	47	48	2.1
Beryllium, Total	0.063-1	5	ND	ND	0.0
Boron, Total	0.063-1	5	ND	ND	0.0
Cadmium, Total	0.063-1	0.2	0.4	0.3	28.6
Chromium, Total	0.063-1	5	22	15	37.8
Cobalt, Total	0.063-1	5	5	ND	200.0
Copper, Total	0.063-1	5	51	52	1.9
Iron, Total	0.063-1	8	29000	20000	36.7
Lead, Total	0.063-1	5	23	34	38.6
Manganese, Total	0.063-1	5	242	264	8.7
Mercury, Total	0.063-1	0.10	ND	ND	0.0
Molybdenum, Total	0.063-1	5	ND	ND	0.0
Nickel, Total	0.063-1	5	6	ND	200.0
Selenium, Total	0.063-1	5	ND	ND	0.0
Silver, Total	0.063-1	5	ND	ND	0.0
Uranium, Total	0.063-1	5	6	ND	200.0
Vanadium, Total	0.063-1	1	90	59	41.6

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16090351-005	H16090351-014	
Zinc, Total	0.063-1	5	396	441	10.8
Aluminum, Total	1-2	5	3930	3970	1.0
Antimony, Total	1-2	5	ND	ND	0.0
Arsenic, Total	1-2	5	ND	ND	0.0
Barium, Total	1-2	5	61	47	25.9
Beryllium, Total	1-2	5	ND	ND	0.0
Boron, Total	1-2	5	ND	ND	0.0
Cadmium, Total	1-2	0.2	ND	ND	0.0
Chromium, Total	1-2	5	9	8	11.8
Cobalt, Total	1-2	5	ND	ND	0.0
Copper, Total	1-2	5	29	36	21.5
Iron, Total	1-2	8	7020	6490	7.8
Lead, Total	1-2	5	12	10	18.2
Manganese, Total	1-2	5	286	236	19.2
Mercury, Total	1-2	0.10	ND	ND	0.0
Molybdenum, Total	1-2	5	ND	ND	0.0
Nickel, Total	1-2	5	ND	ND	0.0
Selenium, Total	1-2	5	ND	ND	0.0
Silver, Total	1-2	5	ND	ND	0.0
Uranium, Total	1-2	5	ND	ND	0.0
Vanadium, Total	1-2	1	19	19	0.0
Zinc, Total	1-2	5	184	66	94.4

ND — Not detected at analytical reporting limit.

\- — Relative percent difference unknown because one or both of the concentrations was unknown.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

Table A25. Analyte concentrations in the fourth quarter (December 15, 2016) instream sediment field sample and field duplicate in the Streamside Tailings Operable Unit.

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16120307-023	H16120307-026	
Aluminum, Total	<0.063	10	20300	19700	3.0
Antimony, Total	<0.063	5	ND	ND	0.0
Arsenic, Total	<0.063	5	62	55	12.0
Barium, Total	<0.063	5	363	305	17.4
Beryllium, Total	<0.063	5	ND	ND	0.0
Boron, Total	<0.063	7	16	16	0.0
Cadmium, Total	<0.063	0.6	11	13.5	20.4
Chromium, Total	<0.063	5	59	36	48.4
Cobalt, Total	<0.063	5	12	11	8.7
Copper, Total	<0.063	5	831	785	5.7
Iron, Total	<0.063	20	33100	28600	14.6
Lead, Total	<0.063	5	351	334	5.0
Manganese, Total	<0.063	5	2460	2280	7.6
Mercury, Total	<0.063	0.10	1.4	1.6	13.3
Molybdenum, Total	<0.063	5	16	14	13.3
Nickel, Total	<0.063	5	35	18	64.2
Selenium, Total	<0.063	5	ND	ND	0.0
Silver, Total	<0.063	5	6	5	18.2
Uranium, Total	<0.063	5	10	7	35.3
Vanadium, Total	<0.063	1	63	59	6.6
Zinc, Total	<0.063	6	2360	2730	14.5
Aluminum, Total	0.063-1	6	6150	5220	16.4
Antimony, Total	0.063-1	5	ND	ND	0.0
Arsenic, Total	0.063-1	5	12	36	100.0
Barium, Total	0.063-1	5	88	65	30.1
Beryllium, Total	0.063-1	5	ND	ND	0.0
Boron, Total	0.063-1	5	ND	ND	0.0
Cadmium, Total	0.063-1	0.3	2.8	2.4	15.4
Chromium, Total	0.063-1	5	8	6	28.6
Cobalt, Total	0.063-1	5	ND	ND	0.0
Copper, Total	0.063-1	5	165	216	26.8
Iron, Total	0.063-1	10	11600	10100	13.8
Lead, Total	0.063-1	5	47	169	113.0
Manganese, Total	0.063-1	5	473	543	13.8
Mercury, Total	0.063-1	0.10	0.37	0.33	11.4
Molybdenum, Total	0.063-1	5	ND	ND	0.0
Nickel, Total	0.063-1	5	ND	ND	0.0
Selenium, Total	0.063-1	5	ND	ND	0.0
Silver, Total	0.063-1	5	ND	ND	0.0
Uranium, Total	0.063-1	5	ND	ND	0.0
Vanadium, Total	0.063-1	1	25	22	12.8

Analyte	Size fraction (mm)	Reporting limit (mg/L)	Concentration (mg/L)		Relative percent difference (%)
			H16120307-023	H16120307-026	
Zinc, Total	0.063-1	5	488	671	31.6
Aluminum, Total	1-2	5	4310	3520	20.2
Antimony, Total	1-2	5	ND	ND	0.0
Arsenic, Total	1-2	5	12	15	22.2
Barium, Total	1-2	5	56	48	15.4
Beryllium, Total	1-2	5	ND	ND	0.0
Boron, Total	1-2	5	ND	ND	0.0
Cadmium, Total	1-2	0.2	2.5	1.1	77.8
Chromium, Total	1-2	5	ND	ND	0.0
Cobalt, Total	1-2	5	ND	ND	0.0
Copper, Total	1-2	5	87	189	73.9
Iron, Total	1-2	9	7270	6570	10.1
Lead, Total	1-2	5	22	36	48.3
Manganese, Total	1-2	5	463	408	12.6
Mercury, Total	1-2	0.10	ND	0.14	0.0
Molybdenum, Total	1-2	5	ND	ND	0.0
Nickel, Total	1-2	5	ND	ND	0.0
Selenium, Total	1-2	5	ND	ND	0.0
Silver, Total	1-2	5	ND	ND	0.0
Uranium, Total	1-2	5	ND	ND	0.0
Vanadium, Total	1-2	1	14	13	7.4
Zinc, Total	1-2	5	195	379	64.1

ND Not detected at analytical reporting limit.

\- Relative percent difference unknown because one or both of the concentrations was unknown.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). We recommend "J-flagging" all analyte concentrations (which are >5 times the reporting limit) from this date in the project database.

Relative percent difference of sample and duplicate pair exceeds project goal (40%). However, because both of the concentrations were <5 times the reporting limit we do not recommend "J-flagging" any analytes in the project database.

APPENDIX B

ANALYTICAL LABORATORY RESULTS

APPENDIX B1

ANALYTICAL LABORATORY RESULTS
1ST QUARTER MONITORING

ANALYTICAL SUMMARY REPORT

April 12, 2016

Natural Resource Damage Program
1301 E Lockey
Helena, MT 59620-1425

Work Order: H16030349 Quote ID: H1088 - Silver Bow Monitoring

Project Name: Silver Bow Creek Monitoring

Energy Laboratories Inc Helena MT received the following 18 samples for Natural Resource Damage Program on 3/18/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16030349-001	SS-01	03/17/16 16:45	03/18/16	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended Solids, Suspended Volatile
H16030349-002	Field Duplicate #2, SS-01	03/17/16 16:45	03/18/16	Aqueous	Same As Above
H16030349-003	SS-05A	03/17/16 15:30	03/18/16	Aqueous	Same As Above
H16030349-004	SS-15G	03/16/16 13:30	03/18/16	Aqueous	Same As Above
H16030349-005	SS-01 Sediment Sieve <0.063mm	03/17/16 16:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030349-006	SS-01 Sediment Seive 0.063-1mm	03/17/16 16:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030349-007	SS-01 Sediment Sieve 1-2mm	03/17/16 16:45	03/18/16	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

May 26, 2016

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H16050318 Quote ID: H1088 - Silver Bow Monitoring

Project Name: SSTOU Groundwater/Vadose Q2

Energy Laboratories Inc Helena MT received the following 16 samples for MT DEQ-Federal Superfund on 5/17/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16050318-001	MW-2A	05/17/16 10:45	05/17/16	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16050318-002	MW-2B	05/17/16 9:35	05/17/16	Aqueous	Same As Above
H16050318-003	MW-2C	05/17/16 10:29	05/17/16	Aqueous	Same As Above
H16050318-004	MW-2C Dup	05/17/16 10:31	05/17/16	Aqueous	Same As Above
H16050318-005	MW-2D	05/17/16 11:19	05/17/16	Aqueous	Same As Above
H16050318-006	IGW-1056	05/17/16 12:10	05/17/16	Aqueous	Same As Above
H16050318-007	LYP-07	05/17/16 14:05	05/17/16	Aqueous	Same As Above
H16050318-008	MW-2A Field Blank	05/17/16 10:40	05/17/16	Aqueous	Same As Above
H16050318-009	LYS-01	05/17/16 14:00	05/17/16	Aqueous	Same As Above
H16050318-010	LYS-02	05/17/16 12:54	05/17/16	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16050318-011	LYS-03	05/17/16 13:22	05/17/16	Aqueous	Same As Above
H16050318-012	LYS-04	05/17/16 12:15	05/17/16	Aqueous	Same As Above
H16050318-013	LYS-05	05/17/16 12:20	05/17/16	Aqueous	Same As Above
H16050318-014	LYS-06	05/17/16 13:58	05/17/16	Aqueous	Same As Above
H16050318-015	LYS-07	05/17/16 13:08	05/17/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA

ANALYTICAL SUMMARY REPORT

H16050318-016	LYS-08	05/17/16 13:47	05/17/16	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-001
Client Sample ID: MW-2A

Report Date: 05/26/16
Collection Date: 05/17/16 10:45
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	05/19/16 09:40 / SRW
Bicarbonate as HCO3	160	mg/L		4		A2320 B	05/19/16 09:40 / SRW
Chloride	4	mg/L		1		E300.0	05/18/16 14:51 / SRW
Sulfate	222	mg/L		1		E300.0	05/18/16 14:51 / SRW
Hardness as CaCO3	287	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:02 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:02 / dck
Arsenic	0.010	mg/L		0.001		E200.8	05/20/16 19:02 / dck
Barium	0.014	mg/L		0.003		E200.8	05/20/16 19:02 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:02 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:02 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:02 / dck
Calcium	91	mg/L		1		E200.7	05/23/16 16:15 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:02 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:02 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:02 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:02 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:02 / dck
Magnesium	14	mg/L		1		E200.8	05/20/16 19:02 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:02 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:29 / rgk
Molybdenum	0.008	mg/L		0.005		E200.8	05/20/16 19:02 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:02 / dck
Potassium	4	mg/L		1		E200.8	05/20/16 19:02 / dck
Selenium	0.011	mg/L		0.001		E200.8	05/20/16 19:02 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:02 / dck
Sodium	27	mg/L		1		E200.8	05/20/16 19:02 / dck
Uranium	0.0470	mg/L		0.0002		E200.8	05/20/16 19:02 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:02 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:02 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-002
Client Sample ID: MW-2B

Report Date: 05/26/16
Collection Date: 05/17/16 09:35
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	80	mg/L		4		A2320 B	05/19/16 09:52 / SRW
Bicarbonate as HCO3	97	mg/L		4		A2320 B	05/19/16 09:52 / SRW
Chloride	24	mg/L		1		E300.0	05/18/16 15:02 / SRW
Sulfate	147	mg/L		1		E300.0	05/18/16 15:02 / SRW
Hardness as CaCO3	210	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:15 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:15 / dck
Arsenic	0.009	mg/L		0.001		E200.8	05/20/16 19:15 / dck
Barium	0.030	mg/L		0.003		E200.8	05/20/16 19:15 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:15 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:15 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:15 / dck
Calcium	59	mg/L		1		E200.7	05/23/16 16:18 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:15 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:15 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:15 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:15 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:15 / dck
Magnesium	15	mg/L		1		E200.8	05/20/16 19:15 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:15 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:32 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:15 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:15 / dck
Potassium	4	mg/L		1		E200.8	05/20/16 19:15 / dck
Selenium	0.002	mg/L		0.001		E200.8	05/20/16 19:15 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:15 / dck
Sodium	24	mg/L		1		E200.8	05/20/16 19:15 / dck
Uranium	0.0043	mg/L		0.0002		E200.8	05/20/16 19:15 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:15 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:15 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-003
Client Sample ID: MW-2C

Report Date: 05/26/16
Collection Date: 05/17/16 10:29
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	05/19/16 09:59 / SRW
Bicarbonate as HCO3	130	mg/L		4		A2320 B	05/19/16 09:59 / SRW
Chloride	24	mg/L		1		E300.0	05/18/16 15:13 / SRW
Sulfate	182	mg/L		1		E300.0	05/18/16 15:13 / SRW
Hardness as CaCO3	249	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:18 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:18 / dck
Arsenic	0.006	mg/L		0.001		E200.8	05/20/16 19:18 / dck
Barium	0.021	mg/L		0.003		E200.8	05/20/16 19:18 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:18 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:18 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:18 / dck
Calcium	72	mg/L		1		E200.7	05/23/16 16:22 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:18 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:18 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:18 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:18 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:18 / dck
Magnesium	17	mg/L		1		E200.8	05/20/16 19:18 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:18 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:34 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:18 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:18 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 19:18 / dck
Selenium	0.003	mg/L		0.001		E200.8	05/20/16 19:18 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:18 / dck
Sodium	32	mg/L		1		E200.8	05/20/16 19:18 / dck
Uranium	0.0088	mg/L		0.0002		E200.8	05/20/16 19:18 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:18 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:18 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-004
Client Sample ID: MW-2C Dup

Report Date: 05/26/16
Collection Date: 05/17/16 10:31
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	05/19/16 10:06 / SRW
Bicarbonate as HCO3	130	mg/L		4		A2320 B	05/19/16 10:06 / SRW
Chloride	24	mg/L		1		E300.0	05/18/16 15:24 / SRW
Sulfate	182	mg/L		1		E300.0	05/18/16 15:24 / SRW
Hardness as CaCO3	250	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:21 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:21 / dck
Arsenic	0.006	mg/L		0.001		E200.8	05/20/16 19:21 / dck
Barium	0.020	mg/L		0.003		E200.8	05/20/16 19:21 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:21 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:21 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:21 / dck
Calcium	72	mg/L		1		E200.7	05/23/16 16:26 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:21 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:21 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:21 / dck
Iron	0.33	mg/L		0.02		E200.8	05/20/16 19:21 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:21 / dck
Magnesium	17	mg/L		1		E200.8	05/20/16 19:21 / dck
Manganese	0.001	mg/L		0.001		E200.8	05/20/16 19:21 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:37 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:21 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:21 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 19:21 / dck
Selenium	0.003	mg/L		0.001		E200.8	05/20/16 19:21 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:21 / dck
Sodium	32	mg/L		1		E200.8	05/20/16 19:21 / dck
Uranium	0.0089	mg/L		0.0002		E200.8	05/20/16 19:21 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:21 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:21 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-005
Client Sample ID: MW-2D

Report Date: 05/26/16
Collection Date: 05/17/16 11:19
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	05/19/16 10:13 / SRW
Bicarbonate as HCO3	180	mg/L		4		A2320 B	05/19/16 10:13 / SRW
Chloride	26	mg/L		1		E300.0	05/18/16 15:36 / SRW
Sulfate	199	mg/L		1		E300.0	05/18/16 15:36 / SRW
Hardness as CaCO3	315	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:24 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:24 / dck
Arsenic	0.007	mg/L		0.001		E200.8	05/20/16 19:24 / dck
Barium	0.044	mg/L		0.003		E200.8	05/20/16 19:24 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:24 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:24 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:24 / dck
Calcium	93	mg/L		1		E200.7	05/23/16 16:30 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:24 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:24 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:24 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:24 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:24 / dck
Magnesium	20	mg/L		1		E200.8	05/20/16 19:24 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:24 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:39 / rgk
Molybdenum	0.005	mg/L		0.005		E200.8	05/20/16 19:24 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:24 / dck
Potassium	4	mg/L		1		E200.8	05/20/16 19:24 / dck
Selenium	0.004	mg/L		0.001		E200.8	05/20/16 19:24 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:24 / dck
Sodium	28	mg/L		1		E200.8	05/20/16 19:24 / dck
Uranium	0.0526	mg/L		0.0002		E200.8	05/20/16 19:24 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:24 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:24 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-006
Client Sample ID: IGW-1056

Report Date: 05/26/16
Collection Date: 05/17/16 12:10
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	05/19/16 10:20 / SRW
Bicarbonate as HCO3	140	mg/L		4		A2320 B	05/19/16 10:20 / SRW
Chloride	19	mg/L		1		E300.0	05/18/16 15:47 / SRW
Sulfate	185	mg/L		1		E300.0	05/18/16 15:47 / SRW
Hardness as CaCO3	260	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:37 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:37 / dck
Arsenic	0.007	mg/L		0.001		E200.8	05/20/16 19:37 / dck
Barium	0.030	mg/L		0.003		E200.8	05/20/16 19:37 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:37 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:37 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:37 / dck
Calcium	77	mg/L		1		E200.7	05/23/16 16:33 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:37 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:37 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:37 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:37 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:37 / dck
Magnesium	16	mg/L		1		E200.8	05/20/16 19:37 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:37 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:42 / rgk
Molybdenum	0.006	mg/L		0.005		E200.8	05/20/16 19:37 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:37 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 19:37 / dck
Selenium	0.004	mg/L		0.001		E200.8	05/20/16 19:37 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:37 / dck
Sodium	27	mg/L		1		E200.8	05/20/16 19:37 / dck
Uranium	0.0368	mg/L		0.0002		E200.8	05/20/16 19:37 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:37 / dck
Zinc	0.013	mg/L		0.008		E200.8	05/20/16 19:37 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-007
Client Sample ID: LYP-07

Report Date: 05/26/16
Collection Date: 05/17/16 14:05
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	180	mg/L		4		A2320 B	05/19/16 10:26 / SRW
Bicarbonate as HCO3	220	mg/L		4		A2320 B	05/19/16 10:26 / SRW
Chloride	22	mg/L		1		E300.0	05/18/16 15:58 / SRW
Sulfate	155	mg/L		1		E300.0	05/18/16 15:58 / SRW
Hardness as CaCO3	280	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:40 / dck
Antimony	0.0033	mg/L		0.0005		E200.8	05/20/16 19:40 / dck
Arsenic	0.003	mg/L		0.001		E200.8	05/20/16 19:40 / dck
Barium	0.066	mg/L		0.003		E200.8	05/20/16 19:40 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:40 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:40 / dck
Cadmium	0.00003	mg/L		0.00003		E200.8	05/20/16 19:40 / dck
Calcium	85	mg/L		1		E200.7	05/23/16 16:37 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:40 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:40 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:40 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:40 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:40 / dck
Magnesium	17	mg/L		1		E200.8	05/20/16 19:40 / dck
Manganese	0.168	mg/L		0.001		E200.8	05/20/16 19:40 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:44 / rgk
Molybdenum	0.011	mg/L		0.005		E200.8	05/20/16 19:40 / dck
Nickel	0.005	mg/L		0.002		E200.8	05/20/16 19:40 / dck
Potassium	6	mg/L		1		E200.8	05/20/16 19:40 / dck
Selenium	0.003	mg/L		0.001		E200.8	05/20/16 19:40 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:40 / dck
Sodium	33	mg/L		1		E200.8	05/20/16 19:40 / dck
Uranium	0.0721	mg/L		0.0002		E200.8	05/20/16 19:40 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:40 / dck
Zinc	0.043	mg/L		0.008		E200.8	05/20/16 19:40 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-008
Client Sample ID: MW-2A Field Blank

Report Date: 05/26/16
Collection Date: 05/17/16 10:40
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/19/16 10:33 / SRW
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/19/16 10:33 / SRW
Chloride	ND	mg/L		1		E300.0	05/18/16 16:09 / SRW
Sulfate	ND	mg/L		1		E300.0	05/18/16 16:09 / SRW
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:43 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:43 / dck
Arsenic	ND	mg/L		0.001		E200.8	05/20/16 19:43 / dck
Barium	ND	mg/L		0.003		E200.8	05/20/16 19:43 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:43 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:43 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:43 / dck
Calcium	ND	mg/L		1		E200.8	05/20/16 19:43 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:43 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:43 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:43 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:43 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:43 / dck
Magnesium	ND	mg/L		1		E200.8	05/20/16 19:43 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:43 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:46 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:43 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:43 / dck
Potassium	ND	mg/L		1		E200.8	05/20/16 19:43 / dck
Selenium	ND	mg/L		0.001		E200.8	05/20/16 19:43 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:43 / dck
Sodium	ND	mg/L		1		E200.8	05/20/16 19:43 / dck
Uranium	ND	mg/L		0.0002		E200.8	05/20/16 19:43 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:43 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:43 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-009
Client Sample ID: LYS-01

Report Date: 05/26/16
Collection Date: 05/17/16 14:00
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	05/19/16 10:38 / SRW
Bicarbonate as HCO3	170	mg/L		4		A2320 B	05/19/16 10:38 / SRW
Chloride	21	mg/L		1		E300.0	05/18/16 18:34 / SRW
Sulfate	194	mg/L		1		E300.0	05/18/16 18:34 / SRW
Hardness as CaCO3	279	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:47 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:47 / dck
Arsenic	0.003	mg/L		0.001		E200.8	05/20/16 19:47 / dck
Barium	0.031	mg/L		0.003		E200.8	05/20/16 19:47 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:47 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:47 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:47 / dck
Calcium	82	mg/L		1		E200.7	05/23/16 17:18 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:47 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:47 / dck
Copper	0.006	mg/L		0.001		E200.8	05/20/16 19:47 / dck
Iron	0.67	mg/L		0.02		E200.8	05/20/16 19:47 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:47 / dck
Magnesium	18	mg/L		1		E200.8	05/20/16 19:47 / dck
Manganese	0.008	mg/L		0.001		E200.8	05/20/16 19:47 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:49 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:47 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:47 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 19:47 / dck
Selenium	0.005	mg/L		0.001		E200.8	05/20/16 19:47 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:47 / dck
Sodium	29	mg/L		1		E200.8	05/20/16 19:47 / dck
Uranium	0.0527	mg/L		0.0002		E200.8	05/20/16 19:47 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:47 / dck
Zinc	0.023	mg/L		0.008		E200.8	05/20/16 19:47 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-010
Client Sample ID: LYS-02

Report Date: 05/26/16
Collection Date: 05/17/16 12:54
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	600	mg/L		4		A2320 B	05/19/16 10:46 / SRW
Bicarbonate as HCO3	730	mg/L		4		A2320 B	05/19/16 10:46 / SRW
Chloride	48	mg/L		1		E300.0	05/18/16 17:16 / SRW
Sulfate	6560	mg/L	D	2		E300.0	05/24/16 12:35 / SRW
Hardness as CaCO3	1730	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 06:55 / dck
Antimony	0.0007	mg/L		0.0005		E200.8	05/20/16 06:55 / dck
Arsenic	0.027	mg/L		0.001		E200.8	05/20/16 06:55 / dck
Barium	0.011	mg/L		0.003		E200.8	05/20/16 06:55 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 06:55 / dck
Boron	0.4	mg/L		0.1		E200.8	05/20/16 06:55 / dck
Cadmium	0.00010	mg/L		0.00003		E200.8	05/20/16 06:55 / dck
Calcium	341	mg/L		1		E200.8	05/20/16 17:58 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 06:55 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 06:55 / dck
Copper	0.010	mg/L		0.001		E200.8	05/20/16 06:55 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 06:55 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 06:55 / dck
Magnesium	214	mg/L		1		E200.8	05/20/16 17:58 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 18:27 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:59 / rgk
Molybdenum	0.048	mg/L		0.005		E200.8	05/20/16 06:55 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 06:55 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 06:55 / dck
Selenium	0.025	mg/L		0.001		E200.8	05/20/16 06:55 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 06:55 / dck
Sodium	2330	mg/L		1		E200.8	05/20/16 17:58 / dck
Uranium	1.13	mg/L		0.0002		E200.8	05/20/16 06:55 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 06:55 / dck
Zinc	0.009	mg/L		0.008		E200.8	05/20/16 18:27 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-011
Client Sample ID: LYS-03

Report Date: 05/26/16
Collection Date: 05/17/16 13:22
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	05/19/16 10:53 / SRW
Bicarbonate as HCO3	190	mg/L		4		A2320 B	05/19/16 10:53 / SRW
Chloride	ND	mg/L		1		E300.0	05/18/16 17:27 / SRW
Sulfate	90	mg/L		1		E300.0	05/18/16 17:27 / SRW
Hardness as CaCO3	140	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 06:58 / dck
Antimony	0.0005	mg/L		0.0005		E200.8	05/20/16 06:58 / dck
Arsenic	0.084	mg/L		0.001		E200.8	05/20/16 06:58 / dck
Barium	0.028	mg/L		0.003		E200.8	05/20/16 06:58 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 06:58 / dck
Boron	0.1	mg/L		0.1		E200.8	05/20/16 06:58 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 06:58 / dck
Calcium	42	mg/L		1		E200.8	05/20/16 06:58 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 06:58 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 06:58 / dck
Copper	0.002	mg/L		0.001		E200.8	05/20/16 06:58 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 06:58 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 06:58 / dck
Magnesium	8	mg/L		1		E200.8	05/20/16 06:58 / dck
Manganese	0.002	mg/L		0.001		E200.8	05/20/16 18:30 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:01 / rgk
Molybdenum	0.017	mg/L		0.005		E200.8	05/20/16 06:58 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 06:58 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 06:58 / dck
Selenium	ND	mg/L		0.001		E200.8	05/20/16 06:58 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 06:58 / dck
Sodium	47	mg/L		1		E200.8	05/20/16 06:58 / dck
Uranium	0.0031	mg/L		0.0002		E200.8	05/20/16 06:58 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 06:58 / dck
Zinc	0.009	mg/L		0.008		E200.8	05/20/16 18:30 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-012
Client Sample ID: LYS-04

Report Date: 05/26/16
Collection Date: 05/17/16 12:15
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	250	mg/L		4		A2320 B	05/19/16 10:59 / SRW
Bicarbonate as HCO3	310	mg/L		4		A2320 B	05/19/16 10:59 / SRW
Chloride	4	mg/L		1		E300.0	05/18/16 17:38 / SRW
Sulfate	496	mg/L		1		E300.0	05/18/16 17:38 / SRW
Hardness as CaCO3	456	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:01 / dck
Antimony	0.0014	mg/L		0.0005		E200.8	05/20/16 07:01 / dck
Arsenic	0.069	mg/L		0.001		E200.8	05/20/16 07:01 / dck
Barium	0.066	mg/L		0.003		E200.8	05/20/16 07:01 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:01 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 07:01 / dck
Cadmium	0.00005	mg/L		0.00003		E200.8	05/20/16 07:01 / dck
Calcium	116	mg/L		1		E200.8	05/20/16 18:01 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:01 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:01 / dck
Copper	0.007	mg/L		0.001		E200.8	05/20/16 07:01 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:01 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:01 / dck
Magnesium	40	mg/L		1		E200.8	05/20/16 07:01 / dck
Manganese	0.002	mg/L		0.001		E200.8	05/20/16 07:01 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:04 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 07:01 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:01 / dck
Potassium	13	mg/L		1		E200.8	05/20/16 07:01 / dck
Selenium	0.003	mg/L		0.001		E200.8	05/20/16 07:01 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:01 / dck
Sodium	164	mg/L		1		E200.8	05/20/16 18:01 / dck
Uranium	0.0278	mg/L		0.0002		E200.8	05/20/16 07:01 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:01 / dck
Zinc	0.044	mg/L		0.008		E200.8	05/20/16 18:33 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-013
Client Sample ID: LYS-05

Report Date: 05/26/16
Collection Date: 05/17/16 12:20
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	260	mg/L		4		A2320 B	05/19/16 11:05 / SRW
Bicarbonate as HCO3	320	mg/L		4		A2320 B	05/19/16 11:05 / SRW
Chloride	5	mg/L		1		E300.0	05/18/16 17:49 / SRW
Sulfate	4050	mg/L		1		E300.0	05/18/16 17:49 / SRW
Hardness as CaCO3	1870	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:04 / dck
Antimony	0.0012	mg/L		0.0005		E200.8	05/20/16 07:04 / dck
Arsenic	0.017	mg/L		0.001		E200.8	05/20/16 07:04 / dck
Barium	0.014	mg/L		0.003		E200.8	05/20/16 07:04 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:04 / dck
Boron	1.9	mg/L		0.1		E200.8	05/20/16 07:04 / dck
Cadmium	0.00018	mg/L		0.00003		E200.8	05/20/16 07:04 / dck
Calcium	508	mg/L		1		E200.8	05/20/16 18:04 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:04 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:04 / dck
Copper	0.010	mg/L		0.001		E200.8	05/20/16 07:04 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:04 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:04 / dck
Magnesium	147	mg/L		1		E200.8	05/20/16 18:04 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 07:04 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:06 / rgk
Molybdenum	0.025	mg/L		0.005		E200.8	05/20/16 07:04 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:04 / dck
Potassium	22	mg/L		1		E200.8	05/20/16 07:04 / dck
Selenium	0.009	mg/L		0.001		E200.8	05/20/16 07:04 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:04 / dck
Sodium	1140	mg/L		1		E200.8	05/20/16 18:04 / dck
Uranium	1.86	mg/L		0.0002		E200.8	05/20/16 07:04 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:04 / dck
Zinc	0.017	mg/L		0.008		E200.8	05/20/16 18:36 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-014
Client Sample ID: LYS-06

Report Date: 05/26/16
Collection Date: 05/17/16 13:58
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	53	mg/L		4		A2320 B	05/19/16 11:11 / SRW
Bicarbonate as HCO3	64	mg/L		4		A2320 B	05/19/16 11:11 / SRW
Chloride	7	mg/L		1		E300.0	05/18/16 18:00 / SRW
Sulfate	1000	mg/L		1		E300.0	05/18/16 18:00 / SRW
Hardness as CaCO3	529	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:08 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 07:08 / dck
Arsenic	0.002	mg/L		0.001		E200.8	05/20/16 07:08 / dck
Barium	0.009	mg/L		0.003		E200.8	05/20/16 07:08 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:08 / dck
Boron	0.2	mg/L		0.1		E200.8	05/20/16 07:08 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 07:08 / dck
Calcium	168	mg/L		1		E200.8	05/20/16 18:08 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:08 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:08 / dck
Copper	0.006	mg/L		0.001		E200.8	05/20/16 07:08 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:08 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:08 / dck
Magnesium	27	mg/L		1		E200.8	05/20/16 07:08 / dck
Manganese	0.002	mg/L		0.001		E200.8	05/20/16 07:08 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:09 / rgk
Molybdenum	0.011	mg/L		0.005		E200.8	05/20/16 07:08 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:08 / dck
Potassium	ND	mg/L		1		E200.8	05/20/16 07:08 / dck
Selenium	ND	mg/L		0.001		E200.8	05/20/16 07:08 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:08 / dck
Sodium	218	mg/L		1		E200.8	05/20/16 18:08 / dck
Uranium	0.0020	mg/L		0.0002		E200.8	05/20/16 07:08 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:08 / dck
Zinc	0.018	mg/L		0.008		E200.8	05/20/16 18:40 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-015
Client Sample ID: LYS-07

Report Date: 05/26/16
Collection Date: 05/17/16 13:08
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Chloride	49	mg/L		1		E300.0	05/18/16 18:11 / SRW
Sulfate	2330	mg/L		1		E300.0	05/18/16 18:11 / SRW
Hardness as CaCO3	953	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:21 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 07:21 / dck
Arsenic	0.006	mg/L		0.001		E200.8	05/20/16 07:21 / dck
Barium	0.007	mg/L		0.003		E200.8	05/20/16 07:21 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:21 / dck
Boron	0.2	mg/L		0.1		E200.8	05/20/16 07:21 / dck
Cadmium	0.00009	mg/L		0.00003		E200.8	05/20/16 07:21 / dck
Calcium	269	mg/L		1		E200.8	05/20/16 18:11 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:21 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:21 / dck
Copper	0.005	mg/L		0.001		E200.8	05/20/16 18:43 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:21 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:21 / dck
Magnesium	69	mg/L		1		E200.8	05/20/16 07:21 / dck
Manganese	0.002	mg/L		0.001		E200.8	05/20/16 18:43 / dck
Mercury	ND	mg/L	D	0.00001		E245.1	05/24/16 19:16 / rgk
Molybdenum	0.102	mg/L		0.005		E200.8	05/20/16 07:21 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:21 / dck
Potassium	10	mg/L		1		E200.8	05/20/16 07:21 / dck
Selenium	0.002	mg/L		0.001		E200.8	05/20/16 07:21 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:21 / dck
Sodium	677	mg/L		1		E200.8	05/20/16 18:11 / dck
Uranium	0.242	mg/L		0.0002		E200.8	05/20/16 07:21 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:21 / dck
Zinc	0.077	mg/L		0.008		E200.8	05/20/16 18:43 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-016
Client Sample ID: LYS-08

Report Date: 05/26/16
Collection Date: 05/17/16 13:47
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	320	mg/L		4		A2320 B	05/19/16 11:17 / SRW
Bicarbonate as HCO3	390	mg/L		4		A2320 B	05/19/16 11:17 / SRW
Chloride	55	mg/L		1		E300.0	05/18/16 18:23 / SRW
Sulfate	1120	mg/L		1		E300.0	05/18/16 18:23 / SRW
Hardness as CaCO3	1160	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:11 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 07:11 / dck
Arsenic	0.005	mg/L		0.001		E200.8	05/20/16 07:11 / dck
Barium	0.022	mg/L		0.003		E200.8	05/20/16 07:11 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:11 / dck
Boron	0.1	mg/L		0.1		E200.8	05/20/16 07:11 / dck
Cadmium	0.00004	mg/L		0.00003		E200.8	05/20/16 07:11 / dck
Calcium	247	mg/L		1		E200.8	05/20/16 18:14 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:11 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:11 / dck
Copper	0.001	mg/L		0.001		E200.8	05/20/16 07:11 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:11 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:11 / dck
Magnesium	131	mg/L		1		E200.8	05/20/16 18:14 / dck
Manganese	0.006	mg/L		0.001		E200.8	05/20/16 18:46 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:11 / rgk
Molybdenum	0.007	mg/L		0.005		E200.8	05/20/16 07:11 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:11 / dck
Potassium	6	mg/L		1		E200.8	05/20/16 07:11 / dck
Selenium	0.013	mg/L		0.001		E200.8	05/20/16 07:11 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:11 / dck
Sodium	140	mg/L		1		E200.8	05/20/16 18:14 / dck
Uranium	0.130	mg/L		0.0002		E200.8	05/20/16 07:11 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:11 / dck
Zinc	0.010	mg/L		0.008		E200.8	05/20/16 18:46 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R115384
Lab ID: MB		Method Blank				Run: PHSC_101-H_160519A				05/19/16 09:23
Alkalinity, Total as CaCO3		2	mg/L	0.2						
Lab ID: LCS		Laboratory Control Sample				Run: PHSC_101-H_160519A				05/19/16 09:29
Alkalinity, Total as CaCO3		590	mg/L	4.0	98	90	110			
Lab ID: H16050318-001ADUP	2	Sample Duplicate				Run: PHSC_101-H_160519A				05/19/16 09:46
Alkalinity, Total as CaCO3		130	mg/L	4.0				0.4	10	
Bicarbonate as HCO3		160	mg/L	4.0				0.4	10	
Lab ID: H16050331-005ADUP	2	Sample Duplicate				Run: PHSC_101-H_160519A				05/19/16 11:57
Alkalinity, Total as CaCO3		180	mg/L	4.0				0.0	10	
Bicarbonate as HCO3		220	mg/L	4.0				0.0	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Analytical Run: ICP2-HE_160523A	
Lab ID:	**ICV**		Initial Calibration Verification Standard							05/23/16 08:41	
Calcium			39.4	mg/L	1.0	98	95	105			
Lab ID:	**CCV-1**		Continuing Calibration Verification Standard							05/23/16 08:45	
Calcium			24.7	mg/L	1.0	99	95	105			
Lab ID:	**ICSA**		Interference Check Sample A							05/23/16 09:19	
Calcium			447	mg/L	1.0	89	80	120			
Lab ID:	**ICSAB**		Interference Check Sample AB							05/23/16 09:23	
Calcium			451	mg/L	1.0	90	80	120			
Lab ID:	**CCV**		Continuing Calibration Verification Standard							05/23/16 15:56	
Calcium			24.8	mg/L	1.0	99	90	110			
Lab ID:	**CCV**		Continuing Calibration Verification Standard							05/23/16 17:07	
Calcium			24.6	mg/L	1.0	99	90	110			
Method:	**E200.7**										Batch: R115453
Lab ID:	**MB**		Method Blank				Run: ICP2-HE_160523A			05/23/16 09:46	
Calcium			0.05	mg/L	0.02						
Lab ID:	**LFB**		Laboratory Fortified Blank				Run: ICP2-HE_160523A			05/23/16 09:50	
Calcium			48.4	mg/L	1.0	97	85	115			
Lab ID:	**H16050370-002BMS2**		Sample Matrix Spike				Run: ICP2-HE_160523A			05/23/16 15:45	
Calcium			85.3	mg/L	1.0	97	70	130			
Lab ID:	**H16050370-002BMSD**		Sample Matrix Spike Duplicate				Run: ICP2-HE_160523A			05/23/16 15:49	
Calcium			86.2	mg/L	1.0	99	70	130	1.1	20	
Lab ID:	**H16050318-009BMS2**		Sample Matrix Spike				Run: ICP2-HE_160523A			05/23/16 17:26	
Calcium			129	mg/L	1.0	93	70	130			
Lab ID:	**H16050318-009BMSD**		Sample Matrix Spike Duplicate				Run: ICP2-HE_160523A			05/23/16 17:29	
Calcium			129	mg/L	1.0	94	70	130	0.3	20	

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICV STD	24	Initial Calibration Verification Standard								05/19/16 12:02
Aluminum		0.291	mg/L	0.10	97	90	110			
Antimony		0.0565	mg/L	0.050	94	90	110			
Arsenic		0.0593	mg/L	0.0050	99	90	110			
Barium		0.0570	mg/L	0.10	95	90	110			
Beryllium		0.0300	mg/L	0.0010	100	90	110			
Boron		0.0594	mg/L	0.10	99	90	110			
Cadmium		0.0291	mg/L	0.0010	97	90	110			
Calcium		3.09	mg/L	0.50	103	90	110			
Chromium		0.0589	mg/L	0.010	98	90	110			
Cobalt		0.0590	mg/L	0.010	98	90	110			
Copper		0.0597	mg/L	0.010	99	90	110			
Iron		0.303	mg/L	0.020	101	90	110			
Lead		0.0578	mg/L	0.010	96	90	110			
Magnesium		3.04	mg/L	0.50	101	90	110			
Manganese		0.295	mg/L	0.010	98	90	110			
Molybdenum		0.0564	mg/L	0.0050	94	90	110			
Nickel		0.0598	mg/L	0.010	100	90	110			
Potassium		2.99	mg/L	0.50	100	90	110			
Selenium		0.0591	mg/L	0.0050	99	90	110			
Silver		0.0287	mg/L	0.0050	96	90	110			
Sodium		2.98	mg/L	0.50	99	90	110			
Uranium		0.0560	mg/L	0.0010	93	90	110			
Vanadium		0.0578	mg/L	0.10	96	90	110			
Zinc		0.0601	mg/L	0.010	100	90	110			
Lab ID: ICSA	24	Interference Check Sample A								05/19/16 12:05
Aluminum		37.8	mg/L	0.10	94	70	130			
Antimony		0.000193	mg/L	0.050						
Arsenic		-6.20E-05	mg/L	0.0050						
Barium		0.000595	mg/L	0.10						
Beryllium		2.10E-05	mg/L	0.0010						
Boron		0.00139	mg/L	0.10						
Cadmium		0.00115	mg/L	0.0010						
Calcium		112	mg/L	0.50	93	70	130			
Chromium		0.00121	mg/L	0.010						
Cobalt		4.60E-05	mg/L	0.010						
Copper		0.000357	mg/L	0.010						
Iron		93.9	mg/L	0.020	94	70	130			
Lead		0.000234	mg/L	0.010						
Magnesium		39.2	mg/L	0.50	98	70	130			
Manganese		0.000264	mg/L	0.010						
Molybdenum		0.802	mg/L	0.0050	100	70	130			
Nickel		0.000249	mg/L	0.010						
Potassium		39.1	mg/L	0.50	98	70	130			

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICSA	24	Interference Check Sample A							05/19/16 12:05	
Selenium		0.000468	mg/L	0.0050						
Silver		0.000151	mg/L	0.0050						
Sodium		97.0	mg/L	0.50	97	70	130			
Uranium		0.000103	mg/L	0.0010						
Vanadium		-0.00103	mg/L	0.10						
Zinc		0.000613	mg/L	0.010						
Lab ID: ICSAB	24	Interference Check Sample AB							05/19/16 12:08	
Aluminum		36.6	mg/L	0.10	91	70	130			
Antimony		0.000100	mg/L	0.050		0	0			
Arsenic		0.00938	mg/L	0.0050	94	70	130			
Barium		0.000167	mg/L	0.10		0	0			
Beryllium		ND	mg/L	0.0010		0	0			
Boron		0.000913	mg/L	0.10		0	0			
Cadmium		0.0101	mg/L	0.0010	101	70	130			
Calcium		108	mg/L	0.50	90	70	130			
Chromium		0.0198	mg/L	0.010	99	70	130			
Cobalt		0.0189	mg/L	0.010	94	70	130			
Copper		0.0186	mg/L	0.010	93	70	130			
Iron		91.4	mg/L	0.020	91	70	130			
Lead		0.000211	mg/L	0.010		0	0			
Magnesium		38.0	mg/L	0.50	95	70	130			
Manganese		0.0191	mg/L	0.010	96	70	130			
Molybdenum		0.777	mg/L	0.0050	97	70	130			
Nickel		0.0188	mg/L	0.010	94	70	130			
Potassium		37.8	mg/L	0.50	95	70	130			
Selenium		0.00962	mg/L	0.0050	96	70	130			
Silver		0.0178	mg/L	0.0050	89	70	130			
Sodium		93.9	mg/L	0.50	94	70	130			
Uranium		1.40E-05	mg/L	0.0010		0	0			
Vanadium		0.0180	mg/L	0.10	90	70	130			
Zinc		0.00938	mg/L	0.010	94	70	130			
Lab ID: ICV STD	24	Initial Calibration Verification Standard							05/19/16 22:07	
Aluminum		0.311	mg/L	0.10	104	90	110			
Antimony		0.0599	mg/L	0.050	100	90	110			
Arsenic		0.0631	mg/L	0.0050	105	90	110			
Barium		0.0617	mg/L	0.10	103	90	110			
Beryllium		0.0309	mg/L	0.0010	103	90	110			
Boron		0.0631	mg/L	0.10	105	90	110			
Cadmium		0.0312	mg/L	0.0010	104	90	110			
Calcium		3.18	mg/L	0.50	106	90	110			
Chromium		0.0615	mg/L	0.010	102	90	110			
Cobalt		0.0624	mg/L	0.010	104	90	110			

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICV STD	24	Initial Calibration Verification Standard								05/19/16 22:07
Copper		0.0634	mg/L	0.010	106	90	110			
Iron		0.321	mg/L	0.020	107	90	110			
Lead		0.0611	mg/L	0.010	102	90	110			
Magnesium		3.20	mg/L	0.50	107	90	110			
Manganese		0.310	mg/L	0.010	103	90	110			
Molybdenum		0.0600	mg/L	0.0050	100	90	110			
Nickel		0.0632	mg/L	0.010	105	90	110			
Potassium		3.12	mg/L	0.50	104	90	110			
Selenium		0.0625	mg/L	0.0050	104	90	110			
Silver		0.0307	mg/L	0.0050	102	90	110			
Sodium		3.20	mg/L	0.50	107	90	110			
Uranium		0.0593	mg/L	0.0010	99	90	110			
Vanadium		0.0603	mg/L	0.10	100	90	110			
Zinc		0.0643	mg/L	0.010	107	90	110			
Lab ID: ICSA	24	Interference Check Sample A								05/19/16 22:11
Aluminum		39.1	mg/L	0.10	98	70	130			
Antimony		0.000207	mg/L	0.050						
Arsenic		-3.30E-05	mg/L	0.0050						
Barium		0.000121	mg/L	0.10						
Beryllium		4.10E-05	mg/L	0.0010						
Boron		0.00144	mg/L	0.10						
Cadmium		0.000972	mg/L	0.0010						
Calcium		115	mg/L	0.50	96	70	130			
Chromium		0.00123	mg/L	0.010						
Cobalt		4.50E-05	mg/L	0.010						
Copper		0.000420	mg/L	0.010						
Iron		97.0	mg/L	0.020	97	70	130			
Lead		0.000235	mg/L	0.010						
Magnesium		40.2	mg/L	0.50	100	70	130			
Manganese		0.000321	mg/L	0.010						
Molybdenum		0.824	mg/L	0.0050	103	70	130			
Nickel		0.000353	mg/L	0.010						
Potassium		40.0	mg/L	0.50	100	70	130			
Selenium		0.000389	mg/L	0.0050						
Silver		0.000125	mg/L	0.0050						
Sodium		99.7	mg/L	0.50	100	70	130			
Uranium		0.000109	mg/L	0.0010						
Vanadium		-0.00117	mg/L	0.10						
Zinc		0.000787	mg/L	0.010						
Lab ID: ICSAB	24	Interference Check Sample AB								05/19/16 22:14
Aluminum		38.8	mg/L	0.10	97	70	130			
Antimony		8.90E-05	mg/L	0.050		0	0			

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICSAB	24	Interference Check Sample AB								05/19/16 22:14
Arsenic		0.0101	mg/L	0.0050	101	70	130			
Barium		0.000159	mg/L	0.10		0	0			
Beryllium		1.90E-05	mg/L	0.0010		0	0			
Boron		0.000731	mg/L	0.10		0	0			
Cadmium		0.0107	mg/L	0.0010	107	70	130			
Calcium		115	mg/L	0.50	96	70	130			
Chromium		0.0208	mg/L	0.010	104	70	130			
Cobalt		0.0197	mg/L	0.010	99	70	130			
Copper		0.0199	mg/L	0.010	99	70	130			
Iron		96.3	mg/L	0.020	96	70	130			
Lead		0.000206	mg/L	0.010		0	0			
Magnesium		40.0	mg/L	0.50	100	70	130			
Manganese		0.0201	mg/L	0.010	100	70	130			
Molybdenum		0.828	mg/L	0.0050	104	70	130			
Nickel		0.0199	mg/L	0.010	100	70	130			
Potassium		40.0	mg/L	0.50	100	70	130			
Selenium		0.00956	mg/L	0.0050	96	70	130			
Silver		0.0188	mg/L	0.0050	94	70	130			
Sodium		99.4	mg/L	0.50	99	70	130			
Uranium		2.00E-05	mg/L	0.0010		0	0			
Vanadium		0.0187	mg/L	0.10	93	70	130			
Zinc		0.0102	mg/L	0.010	102	70	130			
Lab ID: ICSA	24	Interference Check Sample A								05/20/16 11:26
Aluminum		38.4	mg/L	0.10	96	70	130			
Antimony		1.80E-05	mg/L	0.050						
Arsenic		-3.50E-05	mg/L	0.0050						
Barium		9.90E-05	mg/L	0.10						
Beryllium		-1.00E-05	mg/L	0.0010						
Boron		0.000711	mg/L	0.10						
Cadmium		0.00104	mg/L	0.0010						
Calcium		113	mg/L	0.50	94	70	130			
Chromium		0.00125	mg/L	0.010						
Cobalt		3.70E-05	mg/L	0.010						
Copper		0.000375	mg/L	0.010						
Iron		95.4	mg/L	0.020	95	70	130			
Lead		0.000210	mg/L	0.010						
Magnesium		40.1	mg/L	0.50	100	70	130			
Manganese		0.000274	mg/L	0.010						
Molybdenum		0.843	mg/L	0.0050	105	70	130			
Nickel		0.000276	mg/L	0.010						
Potassium		39.8	mg/L	0.50	99	70	130			
Selenium		0.000612	mg/L	0.0050						
Silver		5.00E-06	mg/L	0.0050						

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICSA	24	Interference Check Sample A								05/20/16 11:26
Sodium		101	mg/L	0.50	101	70	130			
Uranium		7.00E-06	mg/L	0.0010						
Vanadium		-0.00124	mg/L	0.10						
Zinc		0.000625	mg/L	0.010						
Lab ID: ICSAB	24	Interference Check Sample AB								05/20/16 11:29
Aluminum		39.1	mg/L	0.10	98	70	130			
Antimony		5.00E-05	mg/L	0.050		0	0			
Arsenic		0.0102	mg/L	0.0050	102	70	130			
Barium		0.000196	mg/L	0.10		0	0			
Beryllium		-1.00E-05	mg/L	0.0010		0	0			
Boron		0.000400	mg/L	0.10		0	0			
Cadmium		0.0108	mg/L	0.0010	108	70	130			
Calcium		116	mg/L	0.50	96	70	130			
Chromium		0.0210	mg/L	0.010	105	70	130			
Cobalt		0.0202	mg/L	0.010	101	70	130			
Copper		0.0203	mg/L	0.010	101	70	130			
Iron		95.6	mg/L	0.020	96	70	130			
Lead		0.000216	mg/L	0.010		0	0			
Magnesium		40.4	mg/L	0.50	101	70	130			
Manganese		0.0200	mg/L	0.010	100	70	130			
Molybdenum		0.848	mg/L	0.0050	106	70	130			
Nickel		0.0199	mg/L	0.010	100	70	130			
Potassium		40.5	mg/L	0.50	101	70	130			
Selenium		0.00967	mg/L	0.0050	97	70	130			
Silver		0.0194	mg/L	0.0050	97	70	130			
Sodium		101	mg/L	0.50	101	70	130			
Uranium		5.00E-06	mg/L	0.0010		0	0			
Vanadium		0.0190	mg/L	0.10	95	70	130			
Zinc		0.00988	mg/L	0.010	99	70	130			
Method: E200.8										Batch: R115420
Lab ID: LRB	24	Method Blank				Run: ICPMS204-B_160519B				05/19/16 14:03
Aluminum		ND	mg/L	0.0005						
Antimony		ND	mg/L	3E-05						
Arsenic		0.0001	mg/L	6E-05						
Barium		ND	mg/L	0.0001						
Beryllium		ND	mg/L	5E-05						
Boron		ND	mg/L	0.001						
Cadmium		ND	mg/L	1E-05						
Calcium		ND	mg/L	0.006						
Chromium		7E-05	mg/L	3E-05						
Cobalt		ND	mg/L	2E-05						
Copper		0.0001	mg/L	6E-05						

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R115420
Lab ID: LRB	24	Method Blank				Run: ICPMS204-B_160519B				05/19/16 14:03
Iron		0.002	mg/L	0.0002						
Lead		2E-05	mg/L	5E-06						
Magnesium		ND	mg/L	0.0009						
Manganese		ND	mg/L	6E-05						
Molybdenum		ND	mg/L	2E-05						
Nickel		ND	mg/L	4E-05						
Potassium		ND	mg/L	0.01						
Selenium		ND	mg/L	0.0003						
Silver		6E-05	mg/L	9E-06						
Sodium		ND	mg/L	0.002						
Uranium		ND	mg/L	6E-06						
Vanadium		0.0009	mg/L	0.0001						
Zinc		0.0003	mg/L	0.0002						
Lab ID: LFB	24	Laboratory Fortified Blank				Run: ICPMS204-B_160519B				05/19/16 14:06
Aluminum		0.0484	mg/L	0.10	97	85	115			
Antimony		0.0473	mg/L	0.050	95	85	115			
Arsenic		0.0490	mg/L	0.0050	98	85	115			
Barium		0.0472	mg/L	0.10	94	85	115			
Beryllium		0.0495	mg/L	0.0010	99	85	115			
Boron		0.0477	mg/L	0.10	95	85	115			
Cadmium		0.0491	mg/L	0.0010	98	85	115			
Calcium		1.07	mg/L	0.50	107	85	115			
Chromium		0.0500	mg/L	0.010	100	85	115			
Cobalt		0.0500	mg/L	0.010	100	85	115			
Copper		0.0501	mg/L	0.010	100	85	115			
Iron		0.155	mg/L	0.020	102	85	115			
Lead		0.0486	mg/L	0.010	97	85	115			
Magnesium		1.02	mg/L	0.50	102	85	115			
Manganese		0.0496	mg/L	0.010	99	85	115			
Molybdenum		0.0484	mg/L	0.0050	97	85	115			
Nickel		0.0512	mg/L	0.010	102	85	115			
Potassium		0.999	mg/L	0.50	100	85	115			
Selenium		0.0474	mg/L	0.0050	95	85	115			
Silver		0.0199	mg/L	0.0050	99	85	115			
Sodium		0.992	mg/L	0.50	99	85	115			
Uranium		0.0498	mg/L	0.0010	100	85	115			
Vanadium		0.0497	mg/L	0.10	98	85	115			
Zinc		0.0505	mg/L	0.010	100	85	115			
Lab ID: H16050279-006AMS	24	Sample Matrix Spike				Run: ICPMS204-B_160519B				05/20/16 05:40
Aluminum		0.0724	mg/L	0.030	99	70	130			
Antimony		0.0487	mg/L	0.0010	97	70	130			
Arsenic		0.0711	mg/L	0.0010	100	70	130			

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R115420	
Lab ID: H16050279-006AMS	24	Sample Matrix Spike				Run: ICPMS204-B_160519B			05/20/16 05:40	
Barium		0.0592	mg/L	0.050	99	70	130			
Beryllium		0.0507	mg/L	0.0010	101	70	130			
Boron		0.0625	mg/L	0.050	99	70	130			
Cadmium		0.0494	mg/L	0.0010	98	70	130			
Calcium		51.4	mg/L	1.0		70	130			A
Chromium		0.0493	mg/L	0.0050	98	70	130			
Cobalt		0.0494	mg/L	0.0050	98	70	130			
Copper		0.0512	mg/L	0.0050	100	70	130			
Iron		0.177	mg/L	0.020	103	70	130			
Lead		0.0487	mg/L	0.0010	97	70	130			
Magnesium		14.7	mg/L	1.0		70	130			A
Manganese		0.0859	mg/L	0.0010	99	70	130			
Molybdenum		0.0561	mg/L	0.0010	100	70	130			
Nickel		0.0505	mg/L	0.0050	99	70	130			
Potassium		5.70	mg/L	1.0		70	130			A
Selenium		0.0480	mg/L	0.0010	96	70	130			
Silver		0.0187	mg/L	0.0010	94	70	130			
Sodium		12.1	mg/L	1.0		70	130			A
Uranium		0.0682	mg/L	0.00030	97	70	130			
Vanadium		0.0482	mg/L	0.010	96	70	130			
Zinc		0.0982	mg/L	0.010	101	70	130			
Lab ID: H16050279-006AMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 05:44	
Aluminum		0.0715	mg/L	0.030	98	70	130	1.2	20	
Antimony		0.0485	mg/L	0.0010	97	70	130	0.3	20	
Arsenic		0.0702	mg/L	0.0010	98	70	130	1.2	20	
Barium		0.0586	mg/L	0.050	98	70	130	1.0	20	
Beryllium		0.0487	mg/L	0.0010	97	70	130	4.0	20	
Boron		0.0603	mg/L	0.050	94	70	130	3.6	20	
Cadmium		0.0492	mg/L	0.0010	98	70	130	0.4	20	
Calcium		50.6	mg/L	1.0		70	130	1.4	20	A
Chromium		0.0490	mg/L	0.0050	98	70	130	0.6	20	
Cobalt		0.0491	mg/L	0.0050	97	70	130	0.7	20	
Copper		0.0502	mg/L	0.0050	98	70	130	1.9	20	
Iron		0.173	mg/L	0.020	100	70	130	2.5	20	
Lead		0.0478	mg/L	0.0010	96	70	130	1.9	20	
Magnesium		14.6	mg/L	1.0		70	130	0.9	20	A
Manganese		0.0842	mg/L	0.0010	96	70	130	2.0	20	
Molybdenum		0.0556	mg/L	0.0010	99	70	130	0.8	20	
Nickel		0.0495	mg/L	0.0050	97	70	130	1.9	20	
Potassium		5.56	mg/L	1.0		70	130	2.5	20	A
Selenium		0.0473	mg/L	0.0010	95	70	130	1.5	20	
Silver		0.0189	mg/L	0.0010	95	70	130	1.0	20	
Sodium		11.8	mg/L	1.0		70	130	2.3	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R115420	
Lab ID: H16050279-006AMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 05:44	
Uranium		0.0675	mg/L	0.00030	95	70	130	1.1	20	
Vanadium		0.0470	mg/L	0.010	94	70	130	2.4	20	
Zinc		0.0949	mg/L	0.010	94	70	130	3.4	20	
Lab ID: H16050318-001BMS	24	Sample Matrix Spike				Run: ICPMS204-B_160519B			05/20/16 19:05	
Aluminum		0.0510	mg/L	0.030	99	70	130			
Antimony		0.0492	mg/L	0.0010	98	70	130			
Arsenic		0.0628	mg/L	0.0010	105	70	130			
Barium		0.0631	mg/L	0.050	98	70	130			
Beryllium		0.0494	mg/L	0.0010	99	70	130			
Boron		0.0822	mg/L	0.050	96	70	130			
Cadmium		0.0499	mg/L	0.0010	100	70	130			
Calcium		87.1	mg/L	1.0		70	130			A
Chromium		0.0493	mg/L	0.0050	99	70	130			
Cobalt		0.0493	mg/L	0.0050	99	70	130			
Copper		0.0495	mg/L	0.0050	99	70	130			
Iron		0.158	mg/L	0.020	99	70	130			
Lead		0.0498	mg/L	0.0010	100	70	130			
Magnesium		15.2	mg/L	1.0		70	130			A
Manganese		0.0493	mg/L	0.0010	98	70	130			
Molybdenum		0.0587	mg/L	0.0010	101	70	130			
Nickel		0.0492	mg/L	0.0050	98	70	130			
Potassium		4.90	mg/L	1.0	99	70	130			
Selenium		0.0615	mg/L	0.0010	101	70	130			
Silver		0.0191	mg/L	0.0010	95	70	130			
Sodium		27.8	mg/L	1.0		70	130			A
Uranium		0.0975	mg/L	0.00030	101	70	130			
Vanadium		0.0509	mg/L	0.010	99	70	130			
Zinc		0.0506	mg/L	0.010	97	70	130			
Lab ID: H16050318-001BMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 19:08	
Aluminum		0.0506	mg/L	0.030	98	70	130	0.8	20	
Antimony		0.0501	mg/L	0.0010	100	70	130	1.8	20	
Arsenic		0.0638	mg/L	0.0010	107	70	130	1.5	20	
Barium		0.0647	mg/L	0.050	101	70	130	2.5	20	
Beryllium		0.0483	mg/L	0.0010	97	70	130	2.4	20	
Boron		0.0831	mg/L	0.050	98	70	130	1.0	20	
Cadmium		0.0502	mg/L	0.0010	100	70	130	0.7	20	
Calcium		88.5	mg/L	1.0		70	130	1.6	20	A
Chromium		0.0498	mg/L	0.0050	100	70	130	1.0	20	
Cobalt		0.0497	mg/L	0.0050	99	70	130	0.8	20	
Copper		0.0500	mg/L	0.0050	100	70	130	1.0	20	
Iron		0.169	mg/L	0.020	107	70	130	6.6	20	
Lead		0.0503	mg/L	0.0010	101	70	130	0.9	20	

Qualifiers:

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ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R115420	
Lab ID: H16050318-001BMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 19:08	
Magnesium		15.4	mg/L	1.0		70	130	0.9	20	A
Manganese		0.0499	mg/L	0.0010	100	70	130	1.2	20	
Molybdenum		0.0598	mg/L	0.0010	103	70	130	1.8	20	
Nickel		0.0499	mg/L	0.0050	99	70	130	1.5	20	
Potassium		4.99	mg/L	1.0	109	70	130	2.0	20	
Selenium		0.0611	mg/L	0.0010	101	70	130	0.6	20	
Silver		0.0200	mg/L	0.0010	100	70	130	4.8	20	
Sodium		28.3	mg/L	1.0		70	130	1.9	20	A
Uranium		0.0993	mg/L	0.00030	105	70	130	1.9	20	
Vanadium		0.0515	mg/L	0.010	100	70	130	1.3	20	
Zinc		0.0505	mg/L	0.010	97	70	130	0.1	20	
Lab ID: H16050318-009BMS	24	Sample Matrix Spike				Run: ICPMS204-B_160519B			05/20/16 19:50	
Aluminum		0.0552	mg/L	0.030	100	70	130			
Antimony		0.0487	mg/L	0.0010	97	70	130			
Arsenic		0.0557	mg/L	0.0010	106	70	130			
Barium		0.0816	mg/L	0.050	101	70	130			
Beryllium		0.0488	mg/L	0.0010	98	70	130			
Boron		0.0996	mg/L	0.050	104	70	130			
Cadmium		0.0496	mg/L	0.0010	99	70	130			
Calcium		83.7	mg/L	1.0		70	130			A
Chromium		0.0538	mg/L	0.0050	99	70	130			
Cobalt		0.0487	mg/L	0.0050	97	70	130			
Copper		0.0552	mg/L	0.0050	99	70	130			
Iron		0.824	mg/L	0.020		70	130			A
Lead		0.0501	mg/L	0.0010	100	70	130			
Magnesium		18.9	mg/L	1.0		70	130			A
Manganese		0.0572	mg/L	0.0010	98	70	130			
Molybdenum		0.0538	mg/L	0.0010	102	70	130			
Nickel		0.0496	mg/L	0.0050	98	70	130			
Potassium		3.82	mg/L	1.0	117	70	130			
Selenium		0.0558	mg/L	0.0010	101	70	130			
Silver		0.0192	mg/L	0.0010	96	70	130			
Sodium		30.8	mg/L	1.0		70	130			A
Uranium		0.104	mg/L	0.00030	102	70	130			
Vanadium		0.0499	mg/L	0.010	99	70	130			
Zinc		0.0703	mg/L	0.010	95	70	130			
Lab ID: H16050318-009BMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 19:53	
Aluminum		0.0570	mg/L	0.030	103	70	130	3.2	20	
Antimony		0.0505	mg/L	0.0010	101	70	130	3.7	20	
Arsenic		0.0564	mg/L	0.0010	107	70	130	1.3	20	
Barium		0.0851	mg/L	0.050	108	70	130	4.1	20	
Beryllium		0.0504	mg/L	0.0010	101	70	130	3.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R115420	
Lab ID: H16050318-009BMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 19:53	
Boron		0.103	mg/L	0.050	111	70	130	3.6	20	
Cadmium		0.0504	mg/L	0.0010	101	70	130	1.7	20	
Calcium		86.6	mg/L	1.0		70	130	3.3	20	A
Chromium		0.0553	mg/L	0.0050	102	70	130	2.7	20	
Cobalt		0.0503	mg/L	0.0050	100	70	130	3.2	20	
Copper		0.0567	mg/L	0.0050	102	70	130	2.8	20	
Iron		0.850	mg/L	0.020		70	130	3.1	20	A
Lead		0.0506	mg/L	0.0010	101	70	130	0.9	20	
Magnesium		19.4	mg/L	1.0		70	130	2.6	20	A
Manganese		0.0585	mg/L	0.0010	101	70	130	2.2	20	
Molybdenum		0.0550	mg/L	0.0010	104	70	130	2.3	20	
Nickel		0.0501	mg/L	0.0050	99	70	130	1.0	20	
Potassium		3.98	mg/L	1.0	132	70	130	4.0	20	S
Selenium		0.0576	mg/L	0.0010	105	70	130	3.1	20	
Silver		0.0201	mg/L	0.0010	100	70	130	4.4	20	
Sodium		31.6	mg/L	1.0		70	130	2.5	20	A
Uranium		0.106	mg/L	0.00030	106	70	130	1.8	20	
Vanadium		0.0512	mg/L	0.010	101	70	130	2.5	20	
Zinc		0.0713	mg/L	0.010	97	70	130	1.4	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E245.1**								Analytical Run: HGCV202-H_160524A		
Lab ID:	**ICV**		Initial Calibration Verification Standard							05/24/16 15:00	
Mercury			0.000188	mg/L	0.00010	94	90	110			
Lab ID:	**CCV**		Continuing Calibration Verification Standard							05/24/16 18:10	
Mercury			0.000207	mg/L	0.00010	103	90	110			
Lab ID:	**CCV**		Continuing Calibration Verification Standard							05/24/16 18:51	
Mercury			0.000205	mg/L	0.00010	102	90	110			
Method:	**E245.1**										Batch: 33007
Lab ID:	**MB-33007**		Method Blank				Run: HGCV202-H_160524A			05/24/16 18:14	
Mercury			ND	mg/L	1E-06						
Lab ID:	**LCS-33007**		Laboratory Control Sample				Run: HGCV202-H_160524A			05/24/16 18:17	
Mercury			0.000139	mg/L	0.00010	93	90	110			
Lab ID:	**H16050361-005BMS**		Sample Matrix Spike				Run: HGCV202-H_160524A			05/24/16 18:22	
Mercury			0.000140	mg/L	0.00010	93	70	130			
Lab ID:	**H16050361-005BMSD**		Sample Matrix Spike Duplicate				Run: HGCV202-H_160524A			05/24/16 18:24	
Mercury			0.000140	mg/L	0.00010	93	70	130	0.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC102-H_160518B	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							05/18/16 09:34	
Chloride			100	mg/L	1.0	100	90	110			
Sulfate			394	mg/L	1.0	99	90	110			
Lab ID:	**CCV051816-2**	2	Continuing Calibration Verification Standard							05/18/16 13:55	
Chloride			101	mg/L	1.0	101	90	110			
Sulfate			402	mg/L	1.0	100	90	110			
Lab ID:	**CCV051816-2**	2	Continuing Calibration Verification Standard							05/18/16 16:42	
Chloride			102	mg/L	1.0	102	90	110			
Sulfate			402	mg/L	1.0	100	90	110			
Method:	**E300.0**									Batch: R115395	
Lab ID:	**ICB**	2	Method Blank				Run: IC102-H_160518B			05/18/16 09:23	
Chloride			0.02	mg/L	0.006						
Sulfate			ND	mg/L	0.05						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC102-H_160518B			05/18/16 09:45	
Chloride			47.2	mg/L	1.0	94	90	110			
Sulfate			207	mg/L	1.0	104	90	110			
Lab ID:	**H16050318-008AMS**	2	Sample Matrix Spike				Run: IC102-H_160518B			05/18/16 16:20	
Chloride			48.8	mg/L	1.0	98	90	110			
Sulfate			213	mg/L	1.0	107	90	110			
Lab ID:	**H16050318-008AMSD**	2	Sample Matrix Spike Duplicate				Run: IC102-H_160518B			05/18/16 16:31	
Chloride			49.1	mg/L	1.0	98	90	110	0.5	20	
Sulfate			214	mg/L	1.0	107	90	110	0.3	20	
Lab ID:	**H16050318-009AMS**	2	Sample Matrix Spike				Run: IC102-H_160518B			05/18/16 18:45	
Chloride			74.2	mg/L	1.0	106	90	110			
Sulfate			398	mg/L	1.0	102	90	110			
Lab ID:	**H16050318-009AMSD**	2	Sample Matrix Spike Duplicate				Run: IC102-H_160518B			05/18/16 18:56	
Chloride			74.3	mg/L	1.0	107	90	110	0.2	20	
Sulfate			400	mg/L	1.0	103	90	110	0.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC102-H_160524A	
Lab ID:	**ICV**		Initial Calibration Verification Standard							05/24/16 11:39	
Sulfate			404	mg/L	1.0	101	90	110			
Lab ID:	**CCV052416-1**		Continuing Calibration Verification Standard							05/24/16 12:01	
Sulfate			402	mg/L	1.0	101	90	110			
Method:	**E300.0**									Batch: R115509	
Lab ID:	**ICB**		Method Blank				Run: IC102-H_160524A			05/24/16 11:28	
Sulfate			ND	mg/L	0.05						
Lab ID:	**LFB**		Laboratory Fortified Blank				Run: IC102-H_160524A			05/24/16 11:50	
Sulfate			204	mg/L	1.0	102	90	110			
Lab ID:	**H16050382-030BMS**		Sample Matrix Spike				Run: IC102-H_160524A			05/24/16 14:48	
Sulfate			206	mg/L	1.0	103	90	110			
Lab ID:	**H16050382-030BMSD**		Sample Matrix Spike Duplicate				Run: IC102-H_160524A			05/24/16 14:59	
Sulfate			207	mg/L	1.0	104	90	110	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Work Order Receipt Checklist

MT DEQ-Federal Superfund H16050318

Login completed by: Tracy L. Lorash
Date Received: 5/17/2016
Reviewed by: BL2000\rwilliams
Received by: TLL
Reviewed Date: 5/24/2016
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☐	No ☑	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	1.4°C On Ice - From Field		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	Not Applicable ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Limited Sample volume for samples LYS-01 through 08. Priority analysis is Dissolved Metals, Hardness, Sulfate/Chloride, Alkalinity.
Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. tl 5/23/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Report Mail Address (Required): PO BOX 200901 HELENA, MT 59620

☐ No Hard Copy Email:

Invoice Address (Required): SAME

☐ No Hard Copy Email:

Project Name, PWS, Permit, Etc.: SSTOU GROUNDWATER / NADOSE Q2

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Contact Name: BEN QUINONES

Phone/Fax: 406 461-7128

~~Cell:~~

BEQUINONES@mt.gov

Sampler: (Please Print) BRENT MERRITT, JOE NAUGHTON

Invoice Contact & Phone: SAME

Purchase Order:

Quote/Bottle Order: 20644

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	~~Cond~~ Alk, Anions	Diss As, Cd, Cr, Pb	" Hg, Zn, Al, Sb	" Ba, Be, B, Co	" Cu, Fe, Mn, Mo	" Ni, Se, Ti, Va	Hardness, HCO3, Cations			SEE ATTACHED	Standard Turnaround (TAT)	RUSH
1 MW-2A	9/17/16	1045	IW	X	X	X	X	X	X	X				X	
2 MW-2B		0935	IW	X	X	X	X	X	X	X				X	
3 MW-2C		1029	IW	X	X	X	X	X	X	X				X	
4 MW-2C DUP		1031	IW	X	X	X	X	X	X	X				X	
5 MW-2D		1119	IW	X	X	X	X	X	X	X				X	
6 IGW-1056		1210	IW	X	X	X	X	X	X	X				X	
7 LYP-07		1405	IW	X	X	X	X	X	X	X				X	
8 MW-2A FIELD BLANK	9/17/16	1040	IW	X	X	X	X	X	X	X				X	
9															
10															

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Metals samples NOT filtered NOT Preserved

Shipped by: HAND

Cooler ID(s): Y

Receipt Temp 1.4 °C

On Ice: (Y) N

Custody Seal On Bottle Y (N) On Cooler Y (N)

Intact Y N

Signature Match Y N

LABORATORY USE ONLY H16050318

Custody Record MUST be Signed

Relinquished by (print): BRENT E MERRITT Date/Time: 5/17/16 1800 Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Tracy Crook Date/Time: 5/17/16 17:17 Signature:

Sample Disposal: Return to Client: Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contracted data will be clearly [illegible]

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page _____ of _____

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: SSTOU - GW/Vadose, Q2

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required): PO Box 200901, Helena, MT 59620

Contact Name: Ben Quinones

Phone/Fax: 406-461-7128

Cell:

Sampler: (Please Print) Joe Naughton 406-214-4478

☐ No Hard Copy Email:

Invoice Contact & Phone: bequinones@mt.gov

Purchase Order:

Quote/Bottle Order:

Invoice Address (Required): Same

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data) Format:
☐ POTW/WWTP ☐ LEVEL IV
☐ State: ☐ NELAC
☐ Other:

Number of Containers
Sample Type: AW S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Please filter @ 0.45 µm in lab. Please process for metals 1st and common ions 2nd if there is sufficient volume.

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Dissolved As, Cd, Cu, Hg	Diss. Pb, Zn (all additional metals)	Hardness	Anions & Cations	Alkalinity & Bicarb							
1	LYS-01	5/17/16	1400	lw	✓	✓	✓	✓	✓							
2	LYS-02	↓	1254	lw	✓	✓	✓	✓	✓							
3	LYS-03	↓	1322	lw	✓	✓	✓	✓	✓							
4	LYS-04	↓	1215	↓	✓	✓	✓	✓	✓							
5	LYS-05	↓	1220	↓	✓	✓	✓	✓	✓							
6	LYS-06	↓	1358	↓	✓	✓	✓	✓	✓							
7	LYS-07	↓	1305	↓	✓	✓	✓	✓	✓							
8	LYS-08	↓	1347	↓	✓	✓	✓	✓	✓							
9																
10																

LABORATORY USE ONLY

Shipped by: ~~Hand delivered~~ Hand

Cooler ID(s): Y

Receipt Temp 1.4 °C

On Ice: Y N

Custody Seal On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

H16050318

Custody Record MUST be Signed

Relinquished by (print): Joe Naughton Date/Time: 5/17/16 ~~1800~~ 1717 Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Tracy Lorch Date/Time: 5/17/16 17:17 Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

ANALYTICAL SUMMARY REPORT

H16030349-008	Sediment duplicate #2, SS-01 <0.063mm	03/17/16 16:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030349-009	Sedimenet duplicate #2, SS-01 0.063-1mm	03/17/16 16:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030349-010	Sediment duplicate #2, SS-01 1-2mm	03/17/16 16:45	03/18/16	Sediment	Same As Above
H16030349-011	SS-05A Sediment Sieve <0.063mm	03/17/16 15:30	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030349-012	SS-05A Sediment Sieve 0.063-1mm	03/17/16 15:30	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030349-013	SS-05-Sediment Seive 1-2mm	03/17/16 15:30	03/18/16	Sediment	Same As Above
H16030349-014	SS-15G Sediment Seive <0.063mm	03/16/16 13:30	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030349-015	SS-15G Sediment Seive 0.063-1mm	03/16/16 13:30	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030349-016	SS-15G Sediment Seive 1-2mm	03/16/16 13:30	03/18/16	Sediment	Same As Above
H16030349-017	SLAG-01 Sediment Seive <0.063mm	03/17/16 15:50	03/18/16	Sediment	Metals by ICP/ICPMS, Total Percent Moisture Digestion, Total Metals Sieve Analysis, Wet Soil Preparation
H16030349-018	SS-04 Sediment Seive <0.063mm	03/17/16 16:15	03/18/16	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

ANALYTICAL SUMMARY REPORT

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: Natural Resource Damage Program
Project: Silver Bow Creek Monitoring
Work Order: H16030349

Report Date: 04/12/16

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16030349-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	11	mg/L		1		A2540 D	03/18/16 13:28 / edp		L24 (14410200)_160318B	10	TSS160318A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	03/22/16 08:12 / SR		MISC WC_160322B	2	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	78	mg/L		4		A2320 B	03/21/16 11:29 / SR		PHSC_101-H_160321A	37	R113775
Bicarbonate as HCO3	95	mg/L		4		A2320 B	03/21/16 11:29 / SR		PHSC_101-H_160321A	37	R113775
Chloride	42	mg/L		1		E300.0	03/21/16 16:39 / SR		IC102-H_160321A	18	R113849
Sulfate	30	mg/L		1		E300.0	03/21/16 16:39 / SR		IC102-H_160321A	18	R113849
Hardness as CaCO3	142	mg/L		1		A2340 B	03/24/16 15:35 / sld		WATERCALC_160324A	14	R113964
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.9	mg/L		0.5		A5310 C	03/25/16 00:00 / eli-c		SUB-C210272	4	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:21 / cm		FIA203-HE_160321A	61	R113786
Nitrogen, Nitrate+Nitrite as N	0.61	mg/L		0.02		E353.2	03/21/16 13:50 / cm		FIA203-HE_160321C	37	R113833
Nitrogen, Total	1.01	mg/L		0.05		A4500 N-C	03/22/16 11:01 / cm	03/21/16 14:03	FIA203-HE_160322A	16	32326
Phosphorus, Total as P	0.091	mg/L		0.003		E365.1	03/21/16 13:59 / cm	03/21/16 13:05	FIA202-HE_160321A	35	32324
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Arsenic	0.002	mg/L		0.001		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Barium	0.040	mg/L		0.003		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 12:17 / sld		ICP2-HE_160321B	59	R113847
Cadmium	ND	mg/L		0.00003		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Calcium	29	mg/L		1		E200.7	03/21/16 12:17 / sld		ICP2-HE_160321B	59	R113847
Chromium	ND	mg/L		0.01		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Copper	0.003	mg/L		0.001		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Iron	0.27	mg/L		0.02		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16030349-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Magnesium	15	mg/L		1		E200.7	03/21/16 12:17 / sld		ICP2-HE_160321B	59	R113847
Manganese	0.066	mg/L		0.001		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 13:46 / rgk	03/21/16 12:05	HGCV202-H_160322A	45	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Nickel	ND	mg/L		0.002		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Potassium	3	mg/L		1		E200.7	03/21/16 12:17 / sld		ICP2-HE_160321B	59	R113847
Selenium	ND	mg/L		0.001		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Silver	ND	mg/L		0.0002		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Sodium	16	mg/L		1		E200.7	03/21/16 12:17 / sld		ICP2-HE_160321B	59	R113847
Uranium	0.0027	mg/L		0.0002		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
Zinc	ND	mg/L		0.008		E200.8	03/23/16 22:12 / dck		ICPMS204-B_160323A	142	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.264	mg/L		0.009		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Arsenic	0.004	mg/L		0.001		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Barium	0.045	mg/L		0.003		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Boron	ND	mg/L		0.1		E200.7	03/23/16 12:22 / sld	03/21/16 08:28	ICP2-HE_160323A	66	32316
Cadmium	0.00003	mg/L		0.00003		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Calcium	32	mg/L		1		E200.7	03/23/16 12:22 / sld	03/21/16 08:28	ICP2-HE_160323A	66	32316
Chromium	ND	mg/L		0.01		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Copper	0.006	mg/L		0.001		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Iron	0.98	mg/L		0.02		E200.7	03/23/16 12:22 / sld	03/21/16 08:28	ICP2-HE_160323A	66	32316
Lead	0.0012	mg/L		0.0003		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Magnesium	15	mg/L		1		E200.7	03/23/16 12:22 / sld	03/21/16 08:28	ICP2-HE_160323A	66	32316
Manganese	0.089	mg/L		0.001		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Mercury	5.2E-06	mg/L		5E-06		E245.1	03/22/16 13:55 / rgk	03/21/16 12:05	HGCV202-H_160322A	48	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16030349-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Potassium	3	mg/L		1		E200.7	03/23/16 12:22 / sld	03/21/16 08:28	ICP2-HE_160323A	66	32316
Selenium	ND	mg/L		0.001		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Silver	ND	mg/L		0.0002		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Sodium	16	mg/L		1		E200.7	03/23/16 12:22 / sld	03/21/16 08:28	ICP2-HE_160323A	66	32316
Uranium	0.0031	mg/L		0.0002		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316
Zinc	0.009	mg/L		0.008		E200.8	03/23/16 22:16 / dck	03/21/16 08:28	ICPMS204-B_160323A	143	32316

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Duplicate #2, SS-01
Lab ID: H16030349-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	9	mg/L		1		A2540 D	03/18/16 13:28 / edp		L24 (14410200)_160318B	11	TSS160318A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	3	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	78	mg/L		4		A2320 B	03/21/16 11:34 / SR		PHSC_101-H_160321A	39	R113775
Bicarbonate as HCO3	95	mg/L		4		A2320 B	03/21/16 11:34 / SR		PHSC_101-H_160321A	39	R113775
Chloride	41	mg/L		1		E300.0	03/21/16 16:51 / SR		IC102-H_160321A	19	R113849
Sulfate	29	mg/L		1		E300.0	03/21/16 16:51 / SR		IC102-H_160321A	19	R113849
Hardness as CaCO3	143	mg/L		1		A2340 B	03/24/16 15:35 / sld		WATERCALC_160324A	15	R113964
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.9	mg/L		0.5		A5310 C	03/25/16 01:09 / eli-c		SUB-C210272	8	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:22 / cm		FIA203-HE_160321A	62	R113786
Nitrogen, Nitrate+Nitrite as N	0.61	mg/L		0.02		E353.2	03/21/16 13:51 / cm		FIA203-HE_160321C	38	R113833
Nitrogen, Total	0.95	mg/L		0.05		A4500 N-C	03/22/16 11:02 / cm	03/21/16 14:03	FIA203-HE_160322A	17	32326
Phosphorus, Total as P	0.080	mg/L		0.003		E365.1	03/21/16 14:00 / cm	03/21/16 13:05	FIA202-HE_160321A	36	32324
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Arsenic	0.002	mg/L		0.001		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Barium	0.040	mg/L		0.003		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 12:21 / sld		ICP2-HE_160321B	60	R113847
Cadmium	ND	mg/L		0.00003		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Calcium	29	mg/L		1		E200.7	03/21/16 12:21 / sld		ICP2-HE_160321B	60	R113847
Chromium	ND	mg/L		0.01		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Copper	0.003	mg/L		0.001		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Iron	0.22	mg/L		0.02		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Duplicate #2, SS-01
Lab ID: H16030349-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Magnesium	14	mg/L		1		E200.7	03/21/16 12:21 / sld		ICP2-HE_160321B	60	R113847
Manganese	0.063	mg/L		0.001		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 13:58 / rgk	03/21/16 12:05	HGCV202-H_160322A	49	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Nickel	ND	mg/L		0.002		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Potassium	3	mg/L		1		E200.7	03/21/16 12:21 / sld		ICP2-HE_160321B	60	R113847
Selenium	ND	mg/L		0.001		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Silver	ND	mg/L		0.0002		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Sodium	15	mg/L		1		E200.7	03/21/16 12:21 / sld		ICP2-HE_160321B	60	R113847
Uranium	0.0027	mg/L		0.0002		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
Zinc	ND	mg/L		0.008		E200.8	03/23/16 22:19 / dck		ICPMS204-B_160323A	144	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.260	mg/L		0.009		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Arsenic	0.004	mg/L		0.001		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Barium	0.046	mg/L		0.003		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Boron	ND	mg/L		0.1		E200.7	03/23/16 12:26 / sld	03/21/16 08:28	ICP2-HE_160323A	67	32316
Cadmium	0.00004	mg/L		0.00003		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Calcium	32	mg/L		1		E200.7	03/23/16 12:26 / sld	03/21/16 08:28	ICP2-HE_160323A	67	32316
Chromium	ND	mg/L		0.01		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Copper	0.006	mg/L		0.001		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Iron	0.98	mg/L		0.02		E200.7	03/23/16 12:26 / sld	03/21/16 08:28	ICP2-HE_160323A	67	32316
Lead	0.0013	mg/L		0.0003		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Magnesium	15	mg/L		1		E200.7	03/23/16 12:26 / sld	03/21/16 08:28	ICP2-HE_160323A	67	32316
Manganese	0.087	mg/L		0.001		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Mercury	9.2E-06	mg/L		5E-06		E245.1	03/22/16 14:01 / rgk	03/21/16 12:05	HGCV202-H_160322A	50	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Duplicate #2, SS-01
Lab ID: H16030349-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Potassium	3	mg/L		1		E200.7	03/23/16 12:26 / sld	03/21/16 08:28	ICP2-HE_160323A	67	32316
Selenium	ND	mg/L		0.001		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Silver	ND	mg/L		0.0002		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Sodium	16	mg/L		1		E200.7	03/23/16 12:26 / sld	03/21/16 08:28	ICP2-HE_160323A	67	32316
Uranium	0.0030	mg/L		0.0002		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316
Zinc	0.011	mg/L		0.008		E200.8	03/23/16 22:22 / dck	03/21/16 08:28	ICPMS204-B_160323A	145	32316

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16030349-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 15:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	22	mg/L		1		A2540 D	03/18/16 14:52 / edp		L24 (14410200)_160318B	35	TSS160318A
Solids, Volatile Suspended	5	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	4	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	89	mg/L		4		A2320 B	03/21/16 11:39 / SR		PHSC_101-H_160321A	41	R113775
Bicarbonate as HCO3	110	mg/L		4		A2320 B	03/21/16 11:39 / SR		PHSC_101-H_160321A	41	R113775
Chloride	90	mg/L		1		E300.0	03/21/16 17:02 / SR		IC102-H_160321A	20	R113849
Sulfate	36	mg/L		1		E300.0	03/21/16 17:02 / SR		IC102-H_160321A	20	R113849
Hardness as CaCO3	213	mg/L		1		A2340 B	03/21/16 12:25 / abc		CALC_160325A	170	R114010
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.0	mg/L		0.5		A5310 C	03/25/16 01:28 / eli-c		SUB-C210272	9	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:23 / cm		FIA203-HE_160321A	63	R113786
Nitrogen, Nitrate+Nitrite as N	0.77	mg/L		0.02		E353.2	03/21/16 13:52 / cm		FIA203-HE_160321C	39	R113833
Nitrogen, Total	1.30	mg/L		0.05		A4500 N-C	03/22/16 11:04 / cm	03/21/16 14:03	FIA203-HE_160322A	18	32326
Phosphorus, Total as P	0.119	mg/L		0.003		E365.1	03/21/16 14:01 / cm	03/21/16 13:05	FIA202-HE_160321A	37	32324
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Arsenic	0.003	mg/L		0.001		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Barium	0.047	mg/L		0.003		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Boron	0.2	mg/L		0.1		E200.7	03/21/16 12:25 / sld		ICP2-HE_160321B	61	R113847
Cadmium	0.00004	mg/L		0.00003		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Calcium	35	mg/L		1		E200.7	03/21/16 12:25 / sld		ICP2-HE_160321B	61	R113847
Chromium	ND	mg/L		0.01		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Copper	0.004	mg/L		0.001		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Iron	0.16	mg/L		0.02		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16030349-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 15:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Magnesium	31	mg/L		1		E200.7	03/21/16 12:25 / sld		ICP2-HE_160321B	61	R113847
Manganese	0.087	mg/L		0.001		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:03 / rgk	03/21/16 12:05	HGCV202-H_160322A	51	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Nickel	ND	mg/L		0.002		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Potassium	3	mg/L		1		E200.7	03/21/16 12:25 / sld		ICP2-HE_160321B	61	R113847
Selenium	ND	mg/L		0.001		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Silver	ND	mg/L		0.0002		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Sodium	17	mg/L		1		E200.7	03/21/16 12:25 / sld		ICP2-HE_160321B	61	R113847
Uranium	0.0037	mg/L		0.0002		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
Zinc	0.011	mg/L		0.008		E200.8	03/23/16 22:25 / dck		ICPMS204-B_160323A	146	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.445	mg/L		0.009		E200.8	03/25/16 17:45 / dck	03/21/16 08:28	ICPMS204-B_160325B	57	32317
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Arsenic	0.005	mg/L		0.001		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Barium	0.053	mg/L		0.003		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Boron	0.2	mg/L		0.1		E200.7	03/23/16 12:37 / sld	03/21/16 08:28	ICP2-HE_160323A	70	32317
Cadmium	0.00013	mg/L		0.00003		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Calcium	38	mg/L		1		E200.7	03/23/16 12:37 / sld	03/21/16 08:28	ICP2-HE_160323A	70	32317
Chromium	ND	mg/L		0.01		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Copper	0.013	mg/L		0.001		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Iron	1.21	mg/L		0.02		E200.7	03/23/16 12:37 / sld	03/21/16 08:28	ICP2-HE_160323A	70	32317
Lead	0.0038	mg/L		0.0003		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Magnesium	31	mg/L		1		E200.7	03/23/16 12:37 / sld	03/21/16 08:28	ICP2-HE_160323A	70	32317
Manganese	0.113	mg/L		0.001		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Mercury	7.2E-06	mg/L		5E-06		E245.1	03/22/16 14:06 / rgk	03/21/16 12:05	HGCV202-H_160322A	52	32322
Molybdenum	0.005	mg/L		0.005		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16030349-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 15:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Potassium	4	mg/L		1		E200.7	03/23/16 12:37 / sld	03/21/16 08:28	ICP2-HE_160323A	70	32317
Selenium	ND	mg/L		0.001		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Silver	ND	mg/L		0.0002		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Sodium	17	mg/L		1		E200.7	03/23/16 12:37 / sld	03/21/16 08:28	ICP2-HE_160323A	70	32317
Uranium	0.0040	mg/L		0.0002		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317
Zinc	0.029	mg/L		0.008		E200.8	03/23/16 22:51 / dck	03/21/16 08:28	ICPMS204-B_160323A	154	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16030349-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/16/16 13:30 **DateReceived:** 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	14	mg/L		1		A2540 D	03/18/16 13:29 / edp		L24 (14410200)_160318B	12	TSS160318A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	5	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	90	mg/L		4		A2320 B	03/21/16 11:45 / SR		PHSC_101-H_160321A	43	R113775
Bicarbonate as HCO3	110	mg/L		4		A2320 B	03/21/16 11:45 / SR		PHSC_101-H_160321A	43	R113775
Chloride	1	mg/L		1		E300.0	03/21/16 17:13 / SR		IC102-H_160321A	21	R113849
Sulfate	33	mg/L		1		E300.0	03/21/16 17:13 / SR		IC102-H_160321A	21	R113849
Hardness as CaCO3	112	mg/L		1		A2340 B	03/21/16 12:28 / abc		CALC_160325A	181	R114010
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.1	mg/L		0.5		A5310 C	03/25/16 01:48 / eli-c		SUB-C210272	10	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:25 / cm		FIA203-HE_160321A	64	R113786
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	03/21/16 13:53 / cm		FIA203-HE_160321C	40	R113833
Nitrogen, Total	0.18	mg/L		0.05		A4500 N-C	03/22/16 11:05 / cm	03/21/16 14:03	FIA203-HE_160322A	19	32326
Phosphorus, Total as P	0.048	mg/L		0.003		E365.1	04/12/16 08:35 / cm	04/11/16 14:36	FIA202-HE_160412A	15	32574
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 12:28 / sld		ICP2-HE_160321B	62	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Arsenic	0.003	mg/L		0.001		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Barium	0.022	mg/L		0.003		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 12:28 / sld		ICP2-HE_160321B	62	R113847
Cadmium	ND	mg/L		0.00003		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Calcium	34	mg/L		1		E200.7	03/21/16 12:28 / sld		ICP2-HE_160321B	62	R113847
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Copper	ND	mg/L		0.001		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Iron	ND	mg/L		0.02		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16030349-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/16/16 13:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Magnesium	6	mg/L		1		E200.7	03/21/16 12:28 / sld		ICP2-HE_160321B	62	R113847
Manganese	0.003	mg/L		0.001		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:09 / rgk	03/21/16 12:05	HGCV202-H_160322A	53	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Potassium	2	mg/L		1		E200.7	03/21/16 12:28 / sld		ICP2-HE_160321B	62	R113847
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Silver	ND	mg/L		0.0002		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Sodium	5	mg/L		1		E200.7	03/21/16 12:28 / sld		ICP2-HE_160321B	62	R113847
Uranium	0.0009	mg/L		0.0002		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
Zinc	ND	mg/L		0.008		E200.8	03/23/16 23:08 / dck		ICPMS204-B_160323A	159	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.286	mg/L		0.009		E200.8	03/25/16 17:48 / dck	03/21/16 08:28	ICPMS204-B_160325B	58	32317
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Arsenic	0.004	mg/L		0.001		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Barium	0.024	mg/L		0.003		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 13:29 / sld	03/21/16 08:28	ICP2-HE_160323A	84	32317
Cadmium	ND	mg/L		0.00003		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Calcium	35	mg/L		1		E200.7	03/23/16 13:29 / sld	03/21/16 08:28	ICP2-HE_160323A	84	32317
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Copper	0.002	mg/L		0.001		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Iron	0.28	mg/L		0.02		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Lead	0.0004	mg/L		0.0003		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Magnesium	6	mg/L		1		E200.7	03/23/16 13:29 / sld	03/21/16 08:28	ICP2-HE_160323A	84	32317
Manganese	0.017	mg/L		0.001		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:12 / rgk	03/21/16 12:05	HGCV202-H_160322A	54	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16030349-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 03/16/16 13:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Potassium	2	mg/L		1		E200.7	03/23/16 13:29 / sld	03/21/16 08:28	ICP2-HE_160323A	84	32317
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Silver	ND	mg/L		0.0002		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Sodium	6	mg/L		1		E200.7	03/23/16 13:29 / sld	03/21/16 08:28	ICP2-HE_160323A	84	32317
Uranium	0.0010	mg/L		0.0002		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317
Zinc	ND	mg/L		0.008		E200.8	03/23/16 23:11 / dck	03/21/16 08:28	ICPMS204-B_160323A	160	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve <0.063mm
Lab ID: H16030349-005
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	58.8	wt%		0.2		D2974	04/05/16 08:35 / AH		'ING OVEN - BB_160404A	1	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.2	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	1	R114303
3050 EXTRACTABLE METALS											
Aluminum	29400	mg/kg-dry		9		SW6010B	04/05/16 11:48 / sld	04/01/16 10:14	ICP2-HE_160405B	31	32433
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Arsenic	63	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Barium	416	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Boron	13	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Cadmium	3.1	mg/kg-dry		0.4		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Chromium	79	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Cobalt	15	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Copper	495	mg/kg-dry		5		SW6010B	04/05/16 11:48 / sld	04/01/16 10:14	ICP2-HE_160405B	31	32433
Iron	50900	mg/kg-dry	D	20		SW6010B	04/05/16 11:48 / sld	04/01/16 10:14	ICP2-HE_160405B	31	32433
Lead	202	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Manganese	1710	mg/kg-dry		5		SW6010B	04/05/16 11:48 / sld	04/01/16 10:14	ICP2-HE_160405B	31	32433
Molybdenum	31	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Nickel	35	mg/kg-dry		5		SW6010B	04/05/16 11:48 / sld	04/01/16 10:14	ICP2-HE_160405B	31	32433
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Uranium	14	mg/kg-dry		5		SW6020	04/05/16 17:30 / dck	04/01/16 10:14	ICPMS204-B_160405B	49	32433
Vanadium	145	mg/kg-dry		2		SW6010B	04/05/16 11:48 / sld	04/01/16 10:14	ICP2-HE_160405B	31	32433
Zinc	576	mg/kg-dry		5		SW6010B	04/05/16 11:48 / sld	04/01/16 10:14	ICP2-HE_160405B	31	32433
METALS, TOTAL											
Mercury	0.31	mg/kg-dry		0.10		SW7471B	04/04/16 11:05 / rgk	04/01/16 12:39	HGCV201-H_160404A	13	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Seive 0.063-1mm
Lab ID: H16030349-006
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	15.8	wt%		0.2		D2974	04/05/16 08:35 / AH		'ING OVEN - BB_160404A	3	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Retained	58.1	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	2	R114303
3050 EXTRACTABLE METALS											
Aluminum	3340	mg/kg-dry		5		SW6010B	04/05/16 13:41 / sld	04/01/16 10:15	ICP2-HE_160405B	62	32434
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Arsenic	5	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Barium	40	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Cadmium	0.2	mg/kg-dry		0.2		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Chromium	12	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Copper	35	mg/kg-dry		5		SW6010B	04/05/16 13:41 / sld	04/01/16 10:15	ICP2-HE_160405B	62	32434
Iron	16100	mg/kg-dry	D	8		SW6010B	04/05/16 13:41 / sld	04/01/16 10:15	ICP2-HE_160405B	62	32434
Lead	20	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Manganese	203	mg/kg-dry		5		SW6010B	04/05/16 13:41 / sld	04/01/16 10:15	ICP2-HE_160405B	62	32434
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 13:41 / sld	04/01/16 10:15	ICP2-HE_160405B	62	32434
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 18:38 / dck	04/01/16 10:15	ICPMS204-B_160405B	70	32434
Vanadium	48	mg/kg-dry		1		SW6010B	04/05/16 13:41 / sld	04/01/16 10:15	ICP2-HE_160405B	62	32434
Zinc	127	mg/kg-dry		5		SW6010B	04/05/16 13:41 / sld	04/01/16 10:15	ICP2-HE_160405B	62	32434
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/04/16 11:13 / rgk	04/01/16 12:39	HGCV201-H_160404A	17	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve 1-2mm
Lab ID: H16030349-007
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	11.9	wt%		0.2		D2974	04/05/16 08:35 / AH		'ING OVEN - BB_160404A	4	R114229
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	17.7	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	3	R114303
3050 EXTRACTABLE METALS											
Aluminum	3640	mg/kg-dry		5		SW6010B	04/05/16 14:51 / sld	04/01/16 10:17	ICP2-HE_160405B	81	32435
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Arsenic	6	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Barium	36	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Cadmium	ND	mg/kg-dry		0.2		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Chromium	5	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Copper	28	mg/kg-dry		5		SW6010B	04/05/16 14:51 / sld	04/01/16 10:17	ICP2-HE_160405B	81	32435
Iron	6180	mg/kg-dry	D	7		SW6010B	04/05/16 14:51 / sld	04/01/16 10:17	ICP2-HE_160405B	81	32435
Lead	8	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Manganese	132	mg/kg-dry		5		SW6010B	04/05/16 14:51 / sld	04/01/16 10:17	ICP2-HE_160405B	81	32435
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 14:51 / sld	04/01/16 10:17	ICP2-HE_160405B	81	32435
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 19:53 / dck	04/01/16 10:17	ICPMS204-B_160405B	93	32435
Vanadium	14	mg/kg-dry		1		SW6010B	04/05/16 14:51 / sld	04/01/16 10:17	ICP2-HE_160405B	81	32435
Zinc	52	mg/kg-dry		5		SW6010B	04/05/16 14:51 / sld	04/01/16 10:17	ICP2-HE_160405B	81	32435
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/04/16 11:15 / rgk	04/01/16 12:39	HGCV201-H_160404A	18	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Sediment duplicate #2, SS-01 <0.063mm
Lab ID: H16030349-008
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	50.7	wt%		0.2		D2974	04/05/16 08:35 / AH		'ING OVEN - BB_160404A	5	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.9	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	4	R114303
3050 EXTRACTABLE METALS											
Aluminum	23300	mg/kg-dry		8		SW6010B	04/05/16 11:52 / sld	04/01/16 10:14	ICP2-HE_160405B	32	32433
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Arsenic	41	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Barium	296	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Boron	10	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Cadmium	2.0	mg/kg-dry		0.3		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Chromium	71	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Cobalt	12	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Copper	358	mg/kg-dry		5		SW6010B	04/05/16 11:52 / sld	04/01/16 10:14	ICP2-HE_160405B	32	32433
Iron	39000	mg/kg-dry	D	10		SW6010B	04/05/16 11:52 / sld	04/01/16 10:14	ICP2-HE_160405B	32	32433
Lead	207	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Manganese	941	mg/kg-dry		5		SW6010B	04/05/16 11:52 / sld	04/01/16 10:14	ICP2-HE_160405B	32	32433
Molybdenum	23	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Nickel	34	mg/kg-dry		5		SW6010B	04/05/16 11:52 / sld	04/01/16 10:14	ICP2-HE_160405B	32	32433
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Uranium	11	mg/kg-dry		5		SW6020	04/05/16 17:34 / dck	04/01/16 10:14	ICPMS204-B_160405B	50	32433
Vanadium	116	mg/kg-dry		2		SW6010B	04/05/16 11:52 / sld	04/01/16 10:14	ICP2-HE_160405B	32	32433
Zinc	436	mg/kg-dry		5		SW6010B	04/05/16 11:52 / sld	04/01/16 10:14	ICP2-HE_160405B	32	32433
METALS, TOTAL											
Mercury	0.21	mg/kg-dry		0.10		SW7471B	04/04/16 11:17 / rgk	04/01/16 12:39	HGCV201-H_160404A	19	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Sedimenet duplicate #2, SS-01 0.063-1mm
Lab ID: H16030349-009
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.7	wt%		0.2		D2974	04/05/16 08:35 / AH		'ING OVEN - BB_160404A	6	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Retained	61.7	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	5	R114303
3050 EXTRACTABLE METALS											
Aluminum	4800	mg/kg-dry		5		SW6010B	04/05/16 13:45 / sld	04/01/16 10:15	ICP2-HE_160405B	63	32434
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Arsenic	ND	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Barium	58	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Cadmium	ND	mg/kg-dry		0.2		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Chromium	12	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Copper	39	mg/kg-dry		5		SW6010B	04/05/16 13:45 / sld	04/01/16 10:15	ICP2-HE_160405B	63	32434
Iron	15800	mg/kg-dry	D	9		SW6010B	04/05/16 13:45 / sld	04/01/16 10:15	ICP2-HE_160405B	63	32434
Lead	13	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Manganese	175	mg/kg-dry		5		SW6010B	04/05/16 13:45 / sld	04/01/16 10:15	ICP2-HE_160405B	63	32434
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 13:45 / sld	04/01/16 10:15	ICP2-HE_160405B	63	32434
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 18:42 / dck	04/01/16 10:15	ICPMS204-B_160405B	71	32434
Vanadium	46	mg/kg-dry		1		SW6010B	04/05/16 13:45 / sld	04/01/16 10:15	ICP2-HE_160405B	63	32434
Zinc	160	mg/kg-dry		5		SW6010B	04/05/16 13:45 / sld	04/01/16 10:15	ICP2-HE_160405B	63	32434
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/04/16 11:19 / rgk	04/01/16 12:39	HGCV201-H_160404A	20	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Sediment duplicate #2, SS-01 1-2mm
Lab ID: H16030349-010
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:45
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.7	wt%		0.2		D2974	04/05/16 08:35 / AH		'ING OVEN - BB_160404A	7	R114229
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	18.7	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	6	R114303
3050 EXTRACTABLE METALS											
Aluminum	3210	mg/kg-dry		5		SW6010B	04/05/16 14:54 / sld	04/01/16 10:17	ICP2-HE_160405B	82	32435
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Arsenic	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Barium	41	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Cadmium	ND	mg/kg-dry		0.2		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Chromium	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Copper	14	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Iron	5560	mg/kg-dry	D	8		SW6010B	04/05/16 14:54 / sld	04/01/16 10:17	ICP2-HE_160405B	82	32435
Lead	11	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Manganese	118	mg/kg-dry		5		SW6010B	04/05/16 14:54 / sld	04/01/16 10:17	ICP2-HE_160405B	82	32435
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 14:54 / sld	04/01/16 10:17	ICP2-HE_160405B	82	32435
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 19:57 / dck	04/01/16 10:17	ICPMS204-B_160405B	94	32435
Vanadium	14	mg/kg-dry		1		SW6010B	04/05/16 14:54 / sld	04/01/16 10:17	ICP2-HE_160405B	82	32435
Zinc	29	mg/kg-dry		5		SW6010B	04/05/16 14:54 / sld	04/01/16 10:17	ICP2-HE_160405B	82	32435
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/04/16 11:21 / rgk	04/01/16 12:39	HGCV201-H_160404A	21	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve <0.063mm
Lab ID: H16030349-011
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 15:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	64.6	wt%		0.2		D2974	04/05/16 08:35 / AH		'ING OVEN - BB_160404A	8	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	7	R114303
3050 EXTRACTABLE METALS											
Aluminum	28300	mg/kg-dry		10		SW6010B	04/05/16 11:55 / sld	04/01/16 10:14	ICP2-HE_160405B	33	32433
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Arsenic	511	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Barium	468	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Boron	17	mg/kg-dry		6		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Cadmium	20.2	mg/kg-dry		0.5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Chromium	78	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Cobalt	20	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Copper	4140	mg/kg-dry		5		SW6010B	04/05/16 11:55 / sld	04/01/16 10:14	ICP2-HE_160405B	33	32433
Iron	65600	mg/kg-dry	D	20		SW6010B	04/05/16 11:55 / sld	04/01/16 10:14	ICP2-HE_160405B	33	32433
Lead	1000	mg/kg-dry	D	20		SW6010B	04/05/16 11:55 / sld	04/01/16 10:14	ICP2-HE_160405B	33	32433
Manganese	2940	mg/kg-dry		5		SW6010B	04/05/16 11:55 / sld	04/01/16 10:14	ICP2-HE_160405B	33	32433
Molybdenum	24	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Nickel	32	mg/kg-dry		5		SW6010B	04/05/16 11:55 / sld	04/01/16 10:14	ICP2-HE_160405B	33	32433
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Silver	17	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Uranium	15	mg/kg-dry		5		SW6020	04/05/16 17:37 / dck	04/01/16 10:14	ICPMS204-B_160405B	51	32433
Vanadium	135	mg/kg-dry		2		SW6010B	04/05/16 11:55 / sld	04/01/16 10:14	ICP2-HE_160405B	33	32433
Zinc	3860	mg/kg-dry		5		SW6010B	04/05/16 11:55 / sld	04/01/16 10:14	ICP2-HE_160405B	33	32433
METALS, TOTAL											
Mercury	1.6	mg/kg-dry		0.10		SW7471B	04/04/16 11:51 / rgk	04/01/16 12:39	HGCV201-H_160404A	34	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve 0.063-1mm
Lab ID: H16030349-012
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 15:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	15.7	wt%		0.2		D2974	04/05/16 08:35 / AH		'ING OVEN - BB_160404A	9	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Retained	40.9	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	8	R114303
3050 EXTRACTABLE METALS											
Aluminum	4600	mg/kg-dry	D	9		SW6010B	04/06/16 10:14 / sld	04/01/16 10:15	ICP2-HE_160405C	25	32434
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Arsenic	134	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Barium	82	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Cadmium	3.5	mg/kg-dry		0.2		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Chromium	29	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Cobalt	15	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Copper	927	mg/kg-dry		5		SW6010B	04/06/16 10:14 / sld	04/01/16 10:15	ICP2-HE_160405C	25	32434
Iron	75700	mg/kg-dry	D	20		SW6010B	04/06/16 10:14 / sld	04/01/16 10:15	ICP2-HE_160405C	25	32434
Lead	194	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Manganese	1390	mg/kg-dry		5		SW6010B	04/06/16 10:14 / sld	04/01/16 10:15	ICP2-HE_160405C	25	32434
Molybdenum	7	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Nickel	13	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Vanadium	93	mg/kg-dry		1		SW6020	04/05/16 18:45 / dck	04/01/16 10:15	ICPMS204-B_160405B	72	32434
Zinc	1560	mg/kg-dry		5		SW6010B	04/06/16 10:14 / sld	04/01/16 10:15	ICP2-HE_160405C	25	32434
METALS, TOTAL											
Mercury	0.12	mg/kg-dry		0.10		SW7471B	04/04/16 11:25 / rgk	04/01/16 12:39	HGCV201-H_160404A	23	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05-Sediment Seive 1-2mm
Lab ID: H16030349-013
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 15:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	18.2	wt%		0.2		D2974	04/05/16 08:35 / AH		NG OVEN - BB_160404A	10	R114229
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	12.2	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	9	R114303
3050 EXTRACTABLE METALS											
Aluminum	4470	mg/kg-dry		5		SW6010B	04/05/16 14:58 / sld	04/01/16 10:17	ICP2-HE_160405B	83	32435
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Arsenic	101	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Barium	67	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Cadmium	0.9	mg/kg-dry		0.2		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Chromium	8	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Copper	450	mg/kg-dry		5		SW6010B	04/05/16 14:58 / sld	04/01/16 10:17	ICP2-HE_160405B	83	32435
Iron	17500	mg/kg-dry	D	8		SW6010B	04/05/16 14:58 / sld	04/01/16 10:17	ICP2-HE_160405B	83	32435
Lead	65	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Manganese	2230	mg/kg-dry		5		SW6010B	04/05/16 14:58 / sld	04/01/16 10:17	ICP2-HE_160405B	83	32435
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 14:58 / sld	04/01/16 10:17	ICP2-HE_160405B	83	32435
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 20:00 / dck	04/01/16 10:17	ICPMS204-B_160405B	95	32435
Vanadium	24	mg/kg-dry		1		SW6010B	04/05/16 14:58 / sld	04/01/16 10:17	ICP2-HE_160405B	83	32435
Zinc	579	mg/kg-dry		5		SW6010B	04/05/16 14:58 / sld	04/01/16 10:17	ICP2-HE_160405B	83	32435
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/04/16 11:31 / rgk	04/01/16 12:39	HGCV201-H_160404A	26	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G Sediment Seive <0.063mm
Lab ID: H16030349-014
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/16/16 13:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	70.8	wt%		0.2		D2974	04/05/16 08:35 / AH		NG OVEN - BB_160404A	11	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Passed	7.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	10	R114303
3050 EXTRACTABLE METALS											
Aluminum	30000	mg/kg-dry		10		SW6010B	04/05/16 12:13 / sld	04/01/16 10:14	ICP2-HE_160405B	38	32433
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Arsenic	42	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Barium	280	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Boron	11	mg/kg-dry		7		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Cadmium	1.5	mg/kg-dry		0.6		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Chromium	46	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Cobalt	10	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Copper	109	mg/kg-dry		5		SW6010B	04/05/16 12:13 / sld	04/01/16 10:14	ICP2-HE_160405B	38	32433
Iron	26100	mg/kg-dry	D	20		SW6010B	04/05/16 12:13 / sld	04/01/16 10:14	ICP2-HE_160405B	38	32433
Lead	105	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Manganese	877	mg/kg-dry		5		SW6010B	04/05/16 12:13 / sld	04/01/16 10:14	ICP2-HE_160405B	38	32433
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Nickel	26	mg/kg-dry		5		SW6010B	04/05/16 12:13 / sld	04/01/16 10:14	ICP2-HE_160405B	38	32433
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 17:40 / dck	04/01/16 10:14	ICPMS204-B_160405B	52	32433
Vanadium	61	mg/kg-dry		3		SW6010B	04/05/16 12:13 / sld	04/01/16 10:14	ICP2-HE_160405B	38	32433
Zinc	136	mg/kg-dry		6		SW6010B	04/05/16 12:13 / sld	04/01/16 10:14	ICP2-HE_160405B	38	32433
METALS, TOTAL											
Mercury	0.22	mg/kg-dry		0.10		SW7471B	04/04/16 11:39 / rgk	04/01/16 12:39	HGCV201-H_160404A	30	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G Sediment Seive 0.063-1mm
Lab ID: H16030349-015
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/16/16 13:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	30.0	wt%		0.2		D2974	04/05/16 08:35 / AH		NG OVEN - BB_160404A	12	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Retained	52.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	11	R114303
3050 EXTRACTABLE METALS											
Aluminum	9440	mg/kg-dry		5		SW6010B	04/05/16 14:00 / sld	04/01/16 10:15	ICP2-HE_160405B	67	32434
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Arsenic	35	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Barium	137	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Cadmium	ND	mg/kg-dry		0.2		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Chromium	16	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Cobalt	5	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Copper	25	mg/kg-dry		5		SW6010B	04/05/16 14:00 / sld	04/01/16 10:15	ICP2-HE_160405B	67	32434
Iron	16000	mg/kg-dry	D	9		SW6010B	04/05/16 14:00 / sld	04/01/16 10:15	ICP2-HE_160405B	67	32434
Lead	9	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Manganese	191	mg/kg-dry		5		SW6010B	04/05/16 14:00 / sld	04/01/16 10:15	ICP2-HE_160405B	67	32434
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Nickel	9	mg/kg-dry		5		SW6010B	04/05/16 14:00 / sld	04/01/16 10:15	ICP2-HE_160405B	67	32434
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 18:58 / dck	04/01/16 10:15	ICPMS204-B_160405B	76	32434
Vanadium	42	mg/kg-dry		1		SW6010B	04/05/16 14:00 / sld	04/01/16 10:15	ICP2-HE_160405B	67	32434
Zinc	36	mg/kg-dry		5		SW6010B	04/05/16 14:00 / sld	04/01/16 10:15	ICP2-HE_160405B	67	32434
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/04/16 11:41 / rgk	04/01/16 12:39	HGCV201-H_160404A	31	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G Sediment Seive 1-2mm
Lab ID: H16030349-016
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/16/16 13:30
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	28.7	wt%		0.2		D2974	04/05/16 08:35 / AH		NG OVEN - BB_160404A	14	R114229
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	16.9	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	12	R114303
3050 EXTRACTABLE METALS											
Aluminum	9880	mg/kg-dry		5		SW6010B	04/05/16 15:02 / sld	04/01/16 10:17	ICP2-HE_160405B	84	32435
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Arsenic	19	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Barium	183	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Cadmium	ND	mg/kg-dry		0.2		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Chromium	13	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Copper	36	mg/kg-dry		5		SW6010B	04/05/16 15:02 / sld	04/01/16 10:17	ICP2-HE_160405B	84	32435
Iron	13000	mg/kg-dry	D	9		SW6010B	04/05/16 15:02 / sld	04/01/16 10:17	ICP2-HE_160405B	84	32435
Lead	11	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Manganese	226	mg/kg-dry		5		SW6010B	04/05/16 15:02 / sld	04/01/16 10:17	ICP2-HE_160405B	84	32435
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Nickel	9	mg/kg-dry		5		SW6010B	04/05/16 15:02 / sld	04/01/16 10:17	ICP2-HE_160405B	84	32435
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 20:03 / dck	04/01/16 10:17	ICPMS204-B_160405B	96	32435
Vanadium	23	mg/kg-dry		1		SW6010B	04/05/16 15:02 / sld	04/01/16 10:17	ICP2-HE_160405B	84	32435
Zinc	161	mg/kg-dry		5		SW6010B	04/05/16 15:02 / sld	04/01/16 10:17	ICP2-HE_160405B	84	32435
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/04/16 11:43 / rgk	04/01/16 12:39	HGCV201-H_160404A	32	32441

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SLAG-01 Sediment Seive <0.063mm
Lab ID: H16030349-017
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 15:50
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	65.1	wt%		0.2		D2974	04/05/16 08:35 / AH		NG OVEN - BB_160404A	15	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Passed	6.5	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	13	R114303
3050 EXTRACTABLE METALS											
Arsenic	180	mg/kg-dry		9		SW6010B	04/05/16 12:17 / sld	04/01/16 10:14	ICP2-HE_160405B	39	32433
Cadmium	13.9	mg/kg-dry		0.3		SW6010B	04/05/16 12:17 / sld	04/01/16 10:14	ICP2-HE_160405B	39	32433
Copper	1330	mg/kg-dry		5		SW6010B	04/05/16 12:17 / sld	04/01/16 10:14	ICP2-HE_160405B	39	32433
Lead	720	mg/kg-dry	D	20		SW6010B	04/05/16 12:17 / sld	04/01/16 10:14	ICP2-HE_160405B	39	32433
Zinc	2320	mg/kg-dry		5		SW6010B	04/05/16 12:17 / sld	04/01/16 10:14	ICP2-HE_160405B	39	32433

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-04 Sediment Seive <0.063mm
Lab ID: H16030349-018
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 03/17/16 16:15
DateReceived: 03/18/16
Report Date: 04/12/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	53.2	wt%		0.2		D2974	04/05/16 08:35 / AH		NG OVEN - BB_160404A	16	R114229
SIEVE ANALYSIS											
No. 230 (63 um), Passed	12.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	14	R114303
3050 EXTRACTABLE METALS											
Arsenic	123	mg/kg-dry		7		SW6010B	04/05/16 12:21 / sld	04/01/16 10:14	ICP2-HE_160405B	40	32433
Cadmium	5.9	mg/kg-dry		0.3		SW6010B	04/05/16 12:21 / sld	04/01/16 10:14	ICP2-HE_160405B	40	32433
Copper	803	mg/kg-dry		5		SW6010B	04/05/16 12:21 / sld	04/01/16 10:14	ICP2-HE_160405B	40	32433
Lead	299	mg/kg-dry	D	10		SW6010B	04/05/16 12:21 / sld	04/01/16 10:14	ICP2-HE_160405B	40	32433
Zinc	1690	mg/kg-dry		5		SW6010B	04/05/16 12:21 / sld	04/01/16 10:14	ICP2-HE_160405B	40	32433

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160322A-SLDS-VSS-W

Date: *12-Apr-16*

Run ID :Run Order: **MISC WC_160322B: 1** SampType: **Method Blank** Lab ID: **MBLK1_160322A** Method: **A2540 E**

Analysis Date: **03/22/16 08:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	ND	1									

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **MISC WC_160322B: 16** SampType: **Sample Duplicate** Lab ID: **H16030355-010ADUP** Method: **A2540 E**

Analysis Date: **03/22/16 08:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	4	10		0				4.2		30	

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160322wa-hgcv202

Date: *12-Apr-16*

Run ID :Run Order: **HGCV202-H_160322A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **03/22/16 11:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000201	0.00010	0.0002	0	101	90	110				

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **HGCV202-H_160322A: 39** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **03/22/16 13:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000200	0.00010	0.0002	0	100	90	110				

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160404sa-hgcv201

Date: *12-Apr-16*

Run ID :Run Order: **HGCV201-H_160404A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **04/04/16 10:51** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	102	90	110				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Run ID :Run Order: **HGCV201-H_160404A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/04/16 10:53** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	99	90	110				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Run ID :Run Order: **HGCV201-H_160404A: 24** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/04/16 11:27** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	100	90	110				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32316

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 33** SampType: **Method Blank** Lab ID: **MB-32316** Method: **E200.7**

Analysis Date: **03/23/16 10:17** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.003									
Calcium	0.06	0.04									
Iron	ND	0.003									
Magnesium	ND	0.01									
Potassium	ND	0.04									
Sodium	ND	0.02									

Associated samples: **H16030349-001C, H16030349-002C**

Run ID :Run Order: **ICP2-HE_160323A: 34** SampType: **Laboratory Control Sample** Lab ID: **LCS-32316** Method: **E200.7**

Analysis Date: **03/23/16 10:21** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.507	0.050	0.5	0	**101**	85	115				
Calcium	27.0	1.0	25	0.06129	**108**	85	115				
Iron	2.62	0.020	2.5	0	**105**	85	115				
Magnesium	26.0	1.0	25	0	**104**	85	115				
Potassium	26.6	1.0	25	0	**106**	85	115				
Sodium	26.4	1.0	25	0	**106**	85	115				

Associated samples: **H16030349-001C, H16030349-002C**

Run ID :Run Order: **ICP2-HE_160323A: 40** SampType: **Serial Dilution** Lab ID: **H16030338-007BDIL** Method: **E200.7**

Analysis Date: **03/23/16 10:44** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0304	0.050		0		0	0	0.02956		10	N
Calcium	102	1.0		0		0	0	101.7	**0.5**	10	
Iron	7.21	0.020		0		0	0	7.194	**0.2**	10	
Magnesium	38.0	1.0		0		0	0	37.82	**0.5**	10	
Potassium	25.6	1.0		0		0	0	25.88	**1.0**	10	
Sodium	256	1.0		0		0	0	257.4	**0.4**	10	

Associated samples: **H16030349-001C, H16030349-002C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32316

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 41** SampType: **Sample Matrix Spike** Lab ID: **H16030338-007BMS3** Method: **E200.7**

Analysis Date: **03/23/16 10:48** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.530	0.050	0.5	0.02956	**100**	70	130				
Calcium	127	1.0	25	101.7		70	130				A
Iron	9.86	0.020	2.5	7.194	**107**	70	130				
Magnesium	63.4	1.0	25	37.82	**102**	70	130				
Potassium	53.5	1.0	25	25.88	**111**	70	130				
Sodium	287	1.0	25	257.4		70	130				A

Associated samples: **H16030349-001C, H16030349-002C**

Run ID :Run Order: **ICP2-HE_160323A: 42** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030338-007BMSD3** Method: **E200.7**

Analysis Date: **03/23/16 10:51** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.532	0.050	0.5	0.02956	**100**	70	130	0.5296	**0.4**	20	
Calcium	128	1.0	25	101.7		70	130	127.3	**0.5**	20	A
Iron	9.95	0.020	2.5	7.194	**110**	70	130	9.863	**0.9**	20	
Magnesium	63.6	1.0	25	37.82	**103**	70	130	63.4	**0.3**	20	
Potassium	53.9	1.0	25	25.88	**112**	70	130	53.52	**0.6**	20	
Sodium	287	1.0	25	257.4		70	130	287	**0.1**	20	A

Associated samples: **H16030349-001C, H16030349-002C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32316

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 84** SampType: **Method Blank** Lab ID: **MB-32316** Method: **E200.8**

Analysis Date: **03/23/16 19:05** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	ND	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	ND	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	0.0002	5E-05									
Iron	ND	0.002									
Lead	2E-05	2E-05									
Magnesium	ND	0.002									
Manganese	0.0003	0.0002									
Molybdenum	3E-05	3E-05									
Nickel	ND	3E-05									
Potassium	ND	0.01									
Selenium	ND	0.0003									
Silver	6E-05	1E-05									
Sodium	0.006	0.005									
Uranium	ND	1E-05									
Vanadium	ND	0.00010									
Zinc	0.002	0.0003									

Associated samples: **H16030349-001C, H16030349-002C**

Run ID :Run Order: **ICPMS204-B_160323A: 85** SampType: **Laboratory Control Sample** Lab ID: **LCS-32316** Method: **E200.8**

Analysis Date: **03/23/16 19:08** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.31	0.030	2.5	0	**92**	85	115				
Antimony	0.477	0.0010	0.5	0	**95**	85	115				
Arsenic	0.484	0.0010	0.5	0	**97**	85	115				
Barium	0.481	0.050	0.5	0	**96**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32316

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 85** SampType: **Laboratory Control Sample** Lab ID: **LCS-32316** Method: **E200.8**

Analysis Date: **03/23/16 19:08** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.236	0.0010	0.25	0	94	85	115				
Boron	0.453	0.050	0.5	0	91	85	115				
Cadmium	0.239	0.0010	0.25	0	96	85	115				
Calcium	24.5	1.0	25	0	98	85	115				
Chromium	0.481	0.0050	0.5	0	96	85	115				
Cobalt	0.480	0.0050	0.5	0	96	85	115				
Copper	0.472	0.0050	0.5	0.0002193	94	85	115				
Iron	2.40	0.020	2.5	0	96	85	115				
Lead	0.481	0.0010	0.5	0.0000239	96	85	115				
Magnesium	23.9	1.0	25	0	96	85	115				
Manganese	2.34	0.0010	2.5	0.0003184	94	85	115				
Molybdenum	0.476	0.0010	0.5	0.0000345	95	85	115				
Nickel	0.472	0.0050	0.5	0	94	85	115				
Potassium	23.8	1.0	25	0	95	85	115				
Selenium	0.476	0.0010	0.5	0	95	85	115				
Silver	0.0472	0.0010	0.05	0.0000644	94	85	115				
Sodium	23.9	1.0	25	0.005847	96	85	115				
Uranium	0.482	0.00030	0.5	0	96	85	115				
Vanadium	0.484	0.010	0.5	0	97	85	115				
Zinc	0.472	0.010	0.5	0.001705	94	85	115				

Associated samples: **H16030349-001C, H16030349-002C**

Run ID :Run Order: **ICPMS204-B_160323A: 88** SampType: **Sample Matrix Spike** Lab ID: **H16030338-007BMS3** Method: **E200.8**

Analysis Date: **03/23/16 19:18** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7.76	0.030	2.5	3.727	161	70	130				S
Antimony	0.486	0.0010	0.5	0.01658	94	70	130				
Arsenic	2.28	0.0010	0.5	1.865	83	70	130				
Barium	0.582	0.050	0.5	0.07496	101	70	130				
Beryllium	0.221	0.0010	0.25	0.0002019	88	70	130				
Boron	0.448	0.050	0.5	0.03074	84	70	130				
Cadmium	0.228	0.0010	0.25	0.000247	91	70	130				
Calcium	118	1.0	25	99.5	74	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32316

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 88** SampType: **Sample Matrix Spike** Lab ID: **H16030338-007BMS3** Method: **E200.8**

Analysis Date: **03/23/16 19:18** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.493	0.0050	0.5	0.008316	97	70	130				
Cobalt	0.517	0.0050	0.5	0.03847	96	70	130				
Copper	0.481	0.0050	0.5	0.02488	91	70	130				
Iron	8.90	0.020	2.5	6.585	93	70	130				
Lead	0.491	0.0010	0.5	0.009128	96	70	130				
Magnesium	56.2	1.0	25	34.72	86	70	130				
Manganese	2.56	0.0010	2.5	0.2207	94	70	130				
Molybdenum	0.653	0.0010	0.5	0.1684	97	70	130				
Nickel	0.474	0.0050	0.5	0.01163	92	70	130				
Potassium	48.4	1.0	25	24.34	96	70	130				
Selenium	0.464	0.0010	0.5	0.007489	91	70	130				
Silver	0.0449	0.0010	0.05	0.0002662	89	70	130				
Sodium	248	1.0	25	236.6		70	130				A
Uranium	0.504	0.00030	0.5	0.009328	99	70	130				
Vanadium	0.511	0.010	0.5	0.009199	100	70	130				
Zinc	0.452	0.010	0.5	0.02677	85	70	130				

Associated samples: **H16030349-001C, H16030349-002C**

Run ID :Run Order: **ICPMS204-B_160323A: 89** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030338-007BMSD3** Method: **E200.8**

Analysis Date: **03/23/16 19:21** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7.86	0.030	2.5	3.727	166	70	130	7.759	1.4	20	S
Antimony	0.488	0.0010	0.5	0.01658	94	70	130	0.4858	0.5	20	
Arsenic	2.28	0.0010	0.5	1.865	83	70	130	2.282	0.1	20	
Barium	0.583	0.050	0.5	0.07496	102	70	130	0.5818	0.2	20	
Beryllium	0.221	0.0010	0.25	0.0002019	88	70	130	0.2208	0.0	20	
Boron	0.455	0.050	0.5	0.03074	85	70	130	0.4485	1.5	20	
Cadmium	0.227	0.0010	0.25	0.000247	91	70	130	0.2275	0.2	20	
Calcium	118	1.0	25	99.5	73	70	130	118.1	0.3	20	
Chromium	0.493	0.0050	0.5	0.008316	97	70	130	0.4935	0.1	20	
Cobalt	0.518	0.0050	0.5	0.03847	96	70	130	0.5171	0.2	20	
Copper	0.482	0.0050	0.5	0.02488	91	70	130	0.4815	0.0	20	
Iron	8.96	0.020	2.5	6.585	95	70	130	8.898	0.6	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32316

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 89** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030338-007BMSD3** Method: **E200.8**

Analysis Date: **03/23/16 19:21** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.485	0.0010	0.5	0.009128	**95**	70	130	0.4907	**1.1**	20	
Magnesium	56.5	1.0	25	34.72	**87**	70	130	56.15	**0.6**	20	
Manganese	2.56	0.0010	2.5	0.2207	**94**	70	130	2.56	**0.2**	20	
Molybdenum	0.661	0.0010	0.5	0.1684	**99**	70	130	0.653	**1.3**	20	
Nickel	0.473	0.0050	0.5	0.01163	**92**	70	130	0.4738	**0.1**	20	
Potassium	48.3	1.0	25	24.34	**96**	70	130	48.36	**0.1**	20	
Selenium	0.461	0.0010	0.5	0.007489	**91**	70	130	0.4645	**0.7**	20	
Silver	0.0453	0.0010	0.05	0.0002662	**90**	70	130	0.04487	**0.9**	20	
Sodium	250	1.0	25	236.6		70	130	248.1	**0.8**	20	A
Uranium	0.509	0.00030	0.5	0.009328	**100**	70	130	0.5036	**1.1**	20	
Vanadium	0.510	0.010	0.5	0.009199	**100**	70	130	0.511	**0.2**	20	
Zinc	0.449	0.010	0.5	0.02677	**84**	70	130	0.4524	**0.7**	20	

Associated samples: **H16030349-001C, H16030349-002C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 68** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.7**

Analysis Date: **03/23/16 12:29** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.003									
Calcium	0.07	0.04									
Iron	ND	0.003									
Magnesium	ND	0.01									
Potassium	ND	0.04									
Sodium	ND	0.02									

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICP2-HE_160323A: 69** SampType: **Laboratory Control Sample** Lab ID: **LCS-32317** Method: **E200.7**

Analysis Date: **03/23/16 12:33** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.507	0.050	0.5	0	**101**	85	115				
Calcium	27.7	1.0	25	0.06768	**111**	85	115				
Iron	2.64	0.020	2.5	0	**106**	85	115				
Magnesium	26.4	1.0	25	0	**106**	85	115				
Potassium	27.3	1.0	25	0	**109**	85	115				
Sodium	26.8	1.0	25	0	**107**	85	115				

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICP2-HE_160323A: 71** SampType: **Serial Dilution** Lab ID: **H16030349-003CDIL** Method: **E200.7**

Analysis Date: **03/23/16 12:41** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.172	0.050		0		0	0	0.1748	**1.5**	10	
Calcium	36.9	1.0		0		0	0	37.64	**1.9**	10	
Iron	1.18	0.020		0		0	0	1.215	**3.0**	10	
Magnesium	30.4	1.0		0		0	0	31.12	**2.2**	10	
Potassium	3.38	1.0		0		0	0	3.566	**5.5**	10	
Sodium	16.3	1.0		0		0	0	17.09	**4.7**	10	

Associated samples: **H16030349-003C, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 72** SampType: **Sample Matrix Spike** Lab ID: **H16030349-003CMS3** Method: **E200.7**

Analysis Date: **03/23/16 12:44** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.697	0.050	0.5	0.1748	104	70	130				
Calcium	66.6	1.0	25	37.64	116	70	130				
Iron	3.97	0.020	2.5	1.215	110	70	130				
Magnesium	59.0	1.0	25	31.12	112	70	130				
Potassium	30.9	1.0	25	3.566	109	70	130				
Sodium	44.2	1.0	25	17.09	108	70	130				

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICP2-HE_160323A: 83** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-003CMSD3** Method: **E200.7**

Analysis Date: **03/23/16 13:25** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.685	0.050	0.5	0.1748	102	70	130	0.6967	1.7	20	
Calcium	61.3	1.0	25	37.64	95	70	130	66.59	8.2	20	
Iron	3.78	0.020	2.5	1.215	103	70	130	3.972	5.0	20	
Magnesium	56.4	1.0	25	31.12	101	70	130	59.04	4.5	20	
Potassium	29.3	1.0	25	3.566	103	70	130	30.85	5.3	20	
Sodium	42.3	1.0	25	17.09	101	70	130	44.2	4.5	20	

Associated samples: **H16030349-003C, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 148** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.8**

Analysis Date: **03/23/16 22:32** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	ND	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	0.002	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	5E-05	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	0.002	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	3E-05									
Potassium	0.02	0.01									
Selenium	ND	0.0003									
Silver	ND	1E-05									
Sodium	0.06	0.005									
Uranium	ND	1E-05									
Vanadium	ND	0.00010									
Zinc	0.003	0.0003									

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160323A: 149** SampType: **Laboratory Control Sample** Lab ID: **LCS-32317** Method: **E200.8**

Analysis Date: **03/23/16 22:35** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.35	0.030	2.5	0	**94**	85	115				
Antimony	0.485	0.0010	0.5	0	**97**	85	115				
Arsenic	0.485	0.0010	0.5	0	**97**	85	115				
Barium	0.490	0.050	0.5	0	**98**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 149** SampType: **Laboratory Control Sample** Lab ID: **LCS-32317** Method: **E200.8**

Analysis Date: **03/23/16 22:35** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.241	0.0010	0.25	0	96	85	115				
Boron	0.472	0.050	0.5	0.00245	94	85	115				
Cadmium	0.241	0.0010	0.25	0	96	85	115				
Calcium	25.0	1.0	25	0	100	85	115				
Chromium	0.492	0.0050	0.5	0	98	85	115				
Cobalt	0.485	0.0050	0.5	0	97	85	115				
Copper	0.481	0.0050	0.5	0.0000515	96	85	115				
Iron	2.43	0.020	2.5	0	97	85	115				
Lead	0.485	0.0010	0.5	0	97	85	115				
Magnesium	24.6	1.0	25	0.001896	98	85	115				
Manganese	2.40	0.0010	2.5	0	96	85	115				
Molybdenum	0.480	0.0010	0.5	0	96	85	115				
Nickel	0.480	0.0050	0.5	0	96	85	115				
Potassium	24.8	1.0	25	0.02328	99	85	115				
Selenium	0.475	0.0010	0.5	0	95	85	115				
Silver	0.0478	0.0010	0.05	0	96	85	115				
Sodium	25.0	1.0	25	0.06129	100	85	115				
Uranium	0.490	0.00030	0.5	0	98	85	115				
Vanadium	0.494	0.010	0.5	0	99	85	115				
Zinc	0.478	0.010	0.5	0.002977	95	85	115				

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160323A: 155** SampType: **Sample Matrix Spike** Lab ID: **H16030349-003CMS3** Method: **E200.8**

Analysis Date: **03/23/16 22:55** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.88	0.030	2.5	0.4105	99	70	130				
Antimony	0.473	0.0010	0.5	0.0002913	95	70	130				
Arsenic	0.475	0.0010	0.5	0.00533	94	70	130				
Barium	0.538	0.050	0.5	0.05263	97	70	130				
Beryllium	0.238	0.0010	0.25	0	95	70	130				
Boron	0.622	0.050	0.5	0.1605	92	70	130				
Cadmium	0.233	0.0010	0.25	0.0001341	93	70	130				
Calcium	58.4	1.0	25	32.79	103	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 155** SampType: **Sample Matrix Spike** Lab ID: **H16030349-003CMS3** Method: **E200.8**

Analysis Date: **03/23/16 22:55** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.485	0.0050	0.5	0.0007413	97	70	130				
Cobalt	0.476	0.0050	0.5	0.0003839	95	70	130				
Copper	0.479	0.0050	0.5	0.01306	93	70	130				
Iron	3.49	0.020	2.5	1.103	96	70	130				
Lead	0.484	0.0010	0.5	0.003781	96	70	130				
Magnesium	52.3	1.0	25	28.25	96	70	130				
Manganese	2.48	0.0010	2.5	0.1132	95	70	130				
Molybdenum	0.480	0.0010	0.5	0.005038	95	70	130				
Nickel	0.466	0.0050	0.5	0.0007046	93	70	130				
Potassium	27.5	1.0	25	3.238	97	70	130				
Selenium	0.447	0.0010	0.5	0	89	70	130				
Silver	0.0464	0.0010	0.05	0.000105	93	70	130				
Sodium	39.9	1.0	25	15.6	97	70	130				
Uranium	0.493	0.00030	0.5	0.003957	98	70	130				
Vanadium	0.490	0.010	0.5	0.002999	98	70	130				
Zinc	0.483	0.010	0.5	0.02864	91	70	130				

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160323A: 156** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-003CMSD3** Method: **E200.8**

Analysis Date: **03/23/16 22:58** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.88	0.030	2.5	0.4105	99	70	130	2.882	0.1	20	
Antimony	0.486	0.0010	0.5	0.0002913	97	70	130	0.4728	2.7	20	
Arsenic	0.488	0.0010	0.5	0.00533	96	70	130	0.4754	2.6	20	
Barium	0.551	0.050	0.5	0.05263	100	70	130	0.5383	2.4	20	
Beryllium	0.243	0.0010	0.25	0	97	70	130	0.2377	2.1	20	
Boron	0.651	0.050	0.5	0.1605	98	70	130	0.6219	4.6	20	
Cadmium	0.239	0.0010	0.25	0.0001341	96	70	130	0.233	2.6	20	
Calcium	59.2	1.0	25	32.79	106	70	130	58.45	1.3	20	
Chromium	0.496	0.0050	0.5	0.0007413	99	70	130	0.4846	2.2	20	
Cobalt	0.486	0.0050	0.5	0.0003839	97	70	130	0.4763	2.0	20	
Copper	0.489	0.0050	0.5	0.01306	95	70	130	0.4787	2.1	20	
Iron	3.57	0.020	2.5	1.103	99	70	130	3.491	2.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 156** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-003CMSD3** Method: **E200.8**

Analysis Date: **03/23/16 22:58** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.497	0.0010	0.5	0.003781	99	70	130	0.4835	2.7	20	
Magnesium	53.3	1.0	25	28.25	100	70	130	52.28	1.9	20	
Manganese	2.54	0.0010	2.5	0.1132	97	70	130	2.479	2.3	20	
Molybdenum	0.492	0.0010	0.5	0.005038	97	70	130	0.4802	2.5	20	
Nickel	0.476	0.0050	0.5	0.0007046	95	70	130	0.4664	1.9	20	
Potassium	28.1	1.0	25	3.238	99	70	130	27.51	2.1	20	
Selenium	0.462	0.0010	0.5	0	92	70	130	0.4474	3.2	20	
Silver	0.0482	0.0010	0.05	0.000105	96	70	130	0.04638	3.8	20	
Sodium	40.8	1.0	25	15.6	101	70	130	39.88	2.2	20	
Uranium	0.508	0.00030	0.5	0.003957	101	70	130	0.4931	3.1	20	
Vanadium	0.502	0.010	0.5	0.002999	100	70	130	0.4905	2.2	20	
Zinc	0.488	0.010	0.5	0.02864	92	70	130	0.4834	0.9	20	

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160325B: 56** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.8**

Analysis Date: **03/25/16 17:41** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	ND	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	ND	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	ND	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160325B: 56** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.8**

Analysis Date: **03/25/16 17:41** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	ND	3E-05									
Potassium	ND	0.01									
Selenium	ND	0.0003									
Silver	6E-05	1E-05									
Sodium	ND	0.005									
Uranium	ND	1E-05									
Vanadium	ND	0.00010									
Zinc	0.001	0.0003									

Associated samples: **H16030349-003C, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32322

Date: *12-Apr-16*

Run ID :Run Order: **HGCV202-H_160322A: 41** SampType: **Method Blank** Lab ID: **MB-32322** Method: **E245.1**
Analysis Date: **03/22/16 13:34** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **HGCV202-H_160322A: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-32322** Method: **E245.1**
Analysis Date: **03/22/16 13:37** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000138	0.00010	0.00015	0	92	90	110				

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **HGCV202-H_160322A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16030349-001BMS** Method: **E245.1**
Analysis Date: **03/22/16 13:49** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000141	0.00010	0.00015	0	94	70	130				

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **HGCV202-H_160322A: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-001BMSD** Method: **E245.1**
Analysis Date: **03/22/16 13:52** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000137	0.00010	0.00015	0	92	70	130	0.0001409	2.5	20	

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **HGCV202-H_160322A: 59** SampType: **Sample Matrix Spike** Lab ID: **H16030355-001CMS** Method: **E245.1**
Analysis Date: **03/22/16 14:27** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000789	99	70	130				

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32322

Date: *12-Apr-16*

Run ID :Run Order: **HGCV202-H_160322A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-001CMSD** Method: **E245.1**

Analysis Date: **03/22/16 14:29** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000789	**101**	70	130	0.0001567	**1.4**	20	

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32324

Date: *12-Apr-16*

Run ID :Run Order: **FIA202-HE_160321A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-32324** Method: **E365.1**
Analysis Date: **03/21/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.429	0.010	0.4	0.00515	**106**	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D**

Run ID :Run Order: **FIA202-HE_160321A: 13** SampType: **Method Blank** Lab ID: **MB-32324** Method: **E365.1**
Analysis Date: **03/21/16 13:36** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.005	0.001									

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D**

Run ID :Run Order: **FIA202-HE_160321A: 29** SampType: **Sample Matrix Spike** Lab ID: **H16030313-004BMS** Method: **E365.1**
Analysis Date: **03/21/16 13:53** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.201	0.010	0.2	0	**101**	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D**

Run ID :Run Order: **FIA202-HE_160321A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030313-004BMSD** Method: **E365.1**
Analysis Date: **03/21/16 13:54** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.202	0.010	0.2	0	**101**	90	110	0.2014	**0.1**	20	

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32326

Date: *12-Apr-16*

Run ID :Run Order: **FIA203-HE_160322A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-32326** Method: **A4500 N-C**
Analysis Date: **03/22/16 10:55** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	5.95	0.15	6.37	0	93	90	110				

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **FIA203-HE_160322A: 12** SampType: **Method Blank** Lab ID: **MB-32326** Method: **A4500 N-C**
Analysis Date: **03/22/16 10:56** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.007									

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **FIA203-HE_160322A: 14** SampType: **Sample Matrix Spike** Lab ID: **H16030343-004BMS** Method: **A4500 N-C**
Analysis Date: **03/22/16 10:59** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.12	0.10	1	0.06285	106	90	110				

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **FIA203-HE_160322A: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030343-004BMSD** Method: **A4500 N-C**
Analysis Date: **03/22/16 11:00** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.09	0.10	1	0.06285	103	90	110	1.121	3.0	20	

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 28** SampType: **Method Blank** Lab ID: **MB-32433** Method: **SW6010B**

Analysis Date: **04/05/16 11:37** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Arsenic	ND	0.7									
Cadmium	ND	0.02									
Copper	0.2	0.2									
Iron	20	1									
Lead	ND	1									
Manganese	0.07	0.05									
Nickel	ND	0.1									
Vanadium	ND	0.2									
Zinc	ND	0.3									

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A, H16030349-017A, H16030349-018A**

Run ID :Run Order: **ICP2-HE_160405B: 29** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32433** Method: **SW6010B**

Analysis Date: **04/05/16 11:41** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	263	5.0	249.2	0	**105**	80	120				
Arsenic	52.5	1.0	49.85	0	**105**	80	120				
Cadmium	26.4	1.0	24.92	0	**106**	80	120				
Copper	51.2	1.0	49.85	0.243	**102**	80	120				
Iron	294	5.0	249.2	15.07	**112**	80	120				
Lead	51.2	1.2	49.85	0	**103**	80	120				
Manganese	267	1.0	249.2	0.06539	**107**	80	120				
Nickel	52.9	1.0	49.85	0	**106**	80	120				
Vanadium	54.4	1.0	49.85	0	**109**	80	120				
Zinc	50.4	1.0	49.85	0	**101**	80	120				

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A, H16030349-017A, H16030349-018A**

Run ID :Run Order: **ICP2-HE_160405B: 30** SampType: **Laboratory Control Sample** Lab ID: **LCS-32433** Method: **SW6010B**

Analysis Date: **04/05/16 11:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10100	5.0	9830	0	**102**	46.3	130.2				
Arsenic	174	3.3	196	0	**89**	71.4	105.1				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 30** SampType: **Laboratory Control Sample** Lab ID: **LCS-32433** Method: **SW6010B**

Analysis Date: **04/05/16 11:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	96.7	1.0	99	0	**98**	73.9	106.1				
Copper	126	1.0	137	0.243	**91**	76.6	108.8				
Iron	16800	6.6	16300	15.07	**103**	51.7	131.9				
Lead	107	6.1	105	0	**102**	74.4	108.6				
Manganese	454	1.0	434	0.06539	**105**	81.1	116.6				
Nickel	83.0	1.0	86.2	0	**96**	72.3	105				
Vanadium	115	1.0	114	0	**100**	67	107				
Zinc	242	1.7	231	0	**105**	75.3	111.7				

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A, H16030349-017A, H16030349-018A**

Run ID :Run Order: **ICP2-HE_160405B: 42** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-018APDS** Method: **SW6010B**

Analysis Date: **04/05/16 12:28** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	21500	8.3	2645	18570		75	125				A
Arsenic	643	7.2	528.9	122.6	**98**	75	125				
Cadmium	264	1.0	264.5	5.872	**98**	75	125				
Copper	1310	1.9	528.9	803	**96**	75	125				
Iron	41500	14	2645	38470		75	125				A
Lead	810	13	528.9	298.5	**97**	75	125				
Manganese	3770	1.0	2645	1207	**97**	75	125				
Nickel	534	1.1	528.9	15.64	**98**	75	125				
Vanadium	600	1.8	528.9	80.4	**98**	75	125				
Zinc	2220	3.6	528.9	1692	**100**	75	125				

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A, H16030349-017A, H16030349-018A**

Run ID :Run Order: **ICP2-HE_160405B: 43** SampType: **Sample Matrix Spike** Lab ID: **H16030349-018AMS** Method: **SW6010B**

Analysis Date: **04/05/16 12:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23300	8.1	510.8	18570		75	125				A
Arsenic	235	6.9	102.2	122.6	**110**	75	125				
Cadmium	61.1	1.0	51.08	5.872	**108**	75	125				
Copper	926	1.8	102.2	803		75	125				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 43** SampType: **Sample Matrix Spike** Lab ID: **H16030349-018AMS** Method: **SW6010B**

Analysis Date: **04/05/16 12:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	41500	14	510.8	38470		75	125				A
Lead	423	13	102.2	298.5	**122**	75	125				
Manganese	1770	1.0	510.8	1207	**111**	75	125				
Nickel	128	1.1	102.2	15.64	**110**	75	125				
Vanadium	197	1.8	102.2	80.4	**114**	75	125				
Zinc	1850	3.4	102.2	1692		75	125				A

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A, H16030349-017A, H16030349-018A**

Run ID :Run Order: **ICP2-HE_160405B: 44** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-018AMSD** Method: **SW6010B**

Analysis Date: **04/05/16 12:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23400	8.1	515.1	18570		75	125	23340	**0.2**	20	A
Arsenic	233	7.0	103	122.6	**108**	75	125	235.1	**0.8**	20	
Cadmium	59.4	1.0	51.51	5.872	**104**	75	125	61.1	**2.8**	20	
Copper	940	1.8	103	803		75	125	926.1	**1.4**	20	A
Iron	41200	14	515.1	38470		75	125	41540	**0.8**	20	A
Lead	417	13	103	298.5	**115**	75	125	422.7	**1.5**	20	
Manganese	1790	1.0	515.1	1207	**113**	75	125	1774	**0.8**	20	
Nickel	125	1.1	103	15.64	**106**	75	125	127.6	**2.2**	20	
Vanadium	197	1.8	103	80.4	**113**	75	125	196.6	**0.2**	20	
Zinc	1830	3.5	103	1692		75	125	1848	**0.7**	20	A

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A, H16030349-017A, H16030349-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 43** SampType: **Method Blank** Lab ID: **MB-32433** Method: **SW6020**

Analysis Date: **04/05/16 17:11** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.06	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	0.1	0.04									
Cobalt	ND	0.03									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Selenium	ND	0.2									
Silver	ND	0.05									
Uranium	ND	0.06									

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A**

Run ID :Run Order: **ICPMS204-B_160405B: 44** SampType: **Laboratory Control Sample** Lab ID: **LCS-32433** Method: **SW6020**

Analysis Date: **04/05/16 17:14** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	59.4	1.0	240	0	**25**	0	92.9				
Arsenic	167	1.0	196	0.05827	**85**	71.4	105.1				
Barium	181	1.0	187	0	**97**	78.6	112.8				
Beryllium	77.9	1.0	83.6	0	**93**	76.2	108				
Boron	110	2.1	129	0	**85**	59.5	106.2				
Cadmium	95.6	1.0	99	0	**97**	73.9	106.1				
Chromium	111	1.0	117	0.122	**95**	73.5	108.5				
Cobalt	110	1.0	108	0	**102**	74.2	105.6				
Lead	104	1.0	105	0	**99**	74.4	108.6				
Molybdenum	117	1.0	127	0	**92**	66.5	103.1				
Selenium	188	1.0	205	0	**92**	71.2	110.2				
Silver	44.0	1.0	42.1	0	**104**	70.8	111.9				
Uranium	96.5	1.0	99.9	0	**97**	80.1	120.1				

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 45** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32433** Method: **SW6020**

Analysis Date: **04/05/16 17:17** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.1	1.0	49.85	0	103	80	120				
Arsenic	50.6	1.0	49.85	0.05827	101	80	120				
Barium	51.5	1.0	49.85	0	103	80	120				
Beryllium	26.2	1.0	24.92	0	105	80	120				
Boron	51.3	2.2	49.85	0	103	80	120				
Cadmium	26.0	1.0	24.92	0	104	80	120				
Chromium	50.5	1.0	49.85	0.122	101	80	120				
Cobalt	50.9	1.0	49.85	0	102	80	120				
Lead	50.4	1.0	49.85	0	101	80	120				
Molybdenum	51.3	1.0	49.85	0	103	80	120				
Selenium	48.5	1.0	49.85	0	97	80	120				
Silver	26.5	1.0	24.92	0	106	80	120				
Uranium	51.6	1.0	49.85	0	103	80	120				

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A**

Run ID :Run Order: **ICPMS204-B_160405B: 56** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-018APDS** Method: **SW6020**

Analysis Date: **04/05/16 17:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	999	1.0	1027	2.015	97	75	125				
Arsenic	1080	1.0	1027	118.6	94	75	125				
Barium	1330	1.0	1027	322.4	98	75	125				
Beryllium	470	1.0	513.5	0.6732	91	75	125				
Boron	914	4.4	1027	7.476	88	75	125				
Cadmium	492	1.0	513.5	6.054	95	75	125				
Chromium	1040	1.0	1027	37.79	97	75	125				
Cobalt	1010	1.0	1027	7.944	98	75	125				
Lead	1290	1.0	1027	290.9	98	75	125				
Molybdenum	1040	1.0	1027	13.45	100	75	125				
Selenium	908	1.0	1027	1.213	88	75	125				
Silver	422	1.0	513.5	7.184	81	75	125				
Uranium	1010	1.0	1027	5.81	98	75	125				

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 57** SampType: **Sample Matrix Spike** Lab ID: **H16030349-018AMS** Method: **SW6020**

Analysis Date: **04/05/16 17:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.5	1.0	102.2	2.015	45	75	125				S
Arsenic	227	1.0	102.2	118.6	106	75	125				
Barium	448	1.0	102.2	322.4	123	75	125				
Beryllium	52.4	1.0	51.08	0.6732	101	75	125				
Boron	113	4.4	102.2	7.476	104	75	125				
Cadmium	59.3	1.0	51.08	6.054	104	75	125				
Chromium	145	1.0	102.2	37.79	105	75	125				
Cobalt	114	1.0	102.2	7.944	104	75	125				
Lead	413	1.0	102.2	290.9	120	75	125				
Molybdenum	119	1.0	102.2	13.45	104	75	125				
Selenium	99.3	1.0	102.2	1.213	96	75	125				
Silver	61.1	1.0	51.08	7.184	106	75	125				
Uranium	114	1.0	102.2	5.81	106	75	125				

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A**

Run ID :Run Order: **ICPMS204-B_160405B: 58** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-018AMSD** Method: **SW6020**

Analysis Date: **04/05/16 17:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.0	1.0	103	2.015	43	75	125	47.5	3.1	20	S
Arsenic	224	1.0	103	118.6	102	75	125	227.3	1.5	20	
Barium	443	1.0	103	322.4	117	75	125	447.9	1.2	20	
Beryllium	51.3	1.0	51.51	0.6732	98	75	125	52.36	2.0	20	
Boron	106	4.5	103	7.476	96	75	125	113.4	6.5	20	
Cadmium	58.1	1.0	51.51	6.054	101	75	125	59.35	2.2	20	
Chromium	143	1.0	103	37.79	102	75	125	145.2	1.4	20	
Cobalt	113	1.0	103	7.944	102	75	125	113.8	1.2	20	
Lead	405	1.0	103	290.9	111	75	125	413.2	2.0	20	
Molybdenum	117	1.0	103	13.45	101	75	125	119.3	1.9	20	
Selenium	97.9	1.0	103	1.213	94	75	125	99.34	1.4	20	
Silver	59.2	1.0	51.51	7.184	101	75	125	61.12	3.2	20	
Uranium	112	1.0	103	5.81	103	75	125	113.9	1.8	20	

Associated samples: **H16030349-005A, H16030349-008A, H16030349-011A, H16030349-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 59** SampType: **Method Blank** Lab ID: **MB-32434** Method: **SW6010B**

Analysis Date: **04/05/16 13:30** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.8	0.8									
Copper	ND	0.2									
Iron	5	1									
Manganese	ND	0.05									
Nickel	ND	0.1									
Vanadium	ND	0.2									
Zinc	ND	0.3									

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICP2-HE_160405B: 60** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32434** Method: **SW6010B**

Analysis Date: **04/05/16 13:34** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	259	5.0	250	0.8352	**103**	80	120				
Copper	51.3	1.0	50	0	**103**	80	120				
Iron	267	5.0	250	4.584	**105**	80	120				
Manganese	257	1.0	250	0	**103**	80	120				
Nickel	50.9	1.0	50	0	**102**	80	120				
Vanadium	51.6	1.0	50	0	**103**	80	120				
Zinc	49.8	1.0	50	0	**100**	80	120				

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICP2-HE_160405B: 61** SampType: **Laboratory Control Sample** Lab ID: **LCS-32434** Method: **SW6010B**

Analysis Date: **04/05/16 13:38** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9760	5.0	9830	0.8352	**99**	46.3	130.2				
Copper	124	1.0	137	0	**90**	76.6	108.8				
Iron	15900	6.7	16300	4.584	**97**	51.7	131.9				
Manganese	417	1.0	434	0	**96**	81.1	116.6				
Nickel	77.3	1.0	86.2	0	**90**	72.3	105				
Vanadium	109	1.0	114	0	**95**	67	107				
Zinc	234	1.7	231	0	**101**	75.3	111.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 61** SampType: **Laboratory Control Sample** Lab ID: **LCS-32434** Method: **SW6010B**
Analysis Date: **04/05/16 13:38** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICP2-HE_160405B: 69** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-015APDS** Method: **SW6010B**
Analysis Date: **04/05/16 14:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11500	5.7	1796	9437		75	125				A
Copper	370	1.3	359.2	25.35	96	75	125				
Iron	18100	9.6	1796	15990		75	125				A
Manganese	1920	1.0	1796	191.4	96	75	125				
Nickel	358	1.0	359.2	8.9	97	75	125				
Vanadium	391	1.2	359.2	42.13	97	75	125				
Zinc	377	2.4	359.2	35.89	95	75	125				

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICP2-HE_160405B: 70** SampType: **Sample Matrix Spike** Lab ID: **H16030349-015AMS** Method: **SW6010B**
Analysis Date: **04/05/16 14:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11600	5.5	352	9437		75	125				A
Copper	96.0	1.2	70.41	25.35	100	75	125				
Iron	16200	9.4	352	15990		75	125				A
Manganese	590	1.0	352	191.4	113	75	125				
Nickel	81.4	1.0	70.41	8.9	103	75	125				
Vanadium	118	1.2	70.41	42.13	107	75	125				
Zinc	109	2.4	70.41	35.89	103	75	125				

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICP2-HE_160405B: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-015AMSD** Method: **SW6010B**
Analysis Date: **04/05/16 14:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11500	5.6	352.8	9437		75	125	11560	0.4	20	A
Copper	104	1.3	70.55	25.35	111	75	125	96.01	7.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-015AMSD** Method: **SW6010B**

Analysis Date: **04/05/16 14:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	17400	9.4	352.8	15990		75	125	16180	7.1	20	A
Manganese	563	1.0	352.8	191.4	105	75	125	590.4	4.7	20	
Nickel	83.6	1.0	70.55	8.9	106	75	125	81.42	2.6	20	
Vanadium	117	1.2	70.55	42.13	106	75	125	117.7	0.6	20	
Zinc	115	2.4	70.55	35.89	112	75	125	108.6	5.7	20	

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICP2-HE_160405C: 24** SampType: **Method Blank** Lab ID: **MB-32434** Method: **SW6010B**

Analysis Date: **04/06/16 10:10** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Copper	ND	0.2									
Iron	5	1									
Manganese	0.08	0.05									
Nickel	ND	0.1									
Vanadium	ND	0.2									
Zinc	ND	0.3									

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 67** SampType: **Method Blank** Lab ID: **MB-32434** Method: **SW6020**

Analysis Date: **04/05/16 18:28** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.09	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	0.10	0.04									
Cobalt	ND	0.03									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.05									
Uranium	ND	0.06									
Vanadium	0.6	0.4									

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICPMS204-B_160405B: 68** SampType: **Laboratory Control Sample** Lab ID: **LCS-32434** Method: **SW6020**

Analysis Date: **04/05/16 18:32** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	57.2	1.0	240	0	**24**	0	92.9				
Arsenic	165	1.0	196	0.08602	**84**	71.4	105.1				
Barium	174	1.0	187	0	**93**	78.6	112.8				
Beryllium	78.2	1.0	83.6	0	**94**	76.2	108				
Boron	102	2.2	129	0	**79**	59.5	106.2				
Cadmium	94.8	1.0	99	0	**96**	73.9	106.1				
Chromium	107	1.0	117	0.09683	**92**	73.5	108.5				
Cobalt	107	1.0	108	0	**99**	74.2	105.6				
Lead	97.3	1.0	105	0	**93**	74.4	108.6				
Molybdenum	116	1.0	127	0	**91**	66.5	103.1				
Nickel	80.7	1.0	86.2	0	**94**	72.3	105				
Selenium	184	1.0	205	0	**90**	71.2	110.2				
Silver	41.4	1.0	42.1	0	**98**	70.8	111.9				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 68** SampType: **Laboratory Control Sample** Lab ID: **LCS-32434** Method: **SW6020**

Analysis Date: **04/05/16 18:32** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	93.0	1.0	99.9	0	93	80.1	120.1				
Vanadium	104	1.0	114	0.6486	91	67	107				

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICPMS204-B_160405B: 69** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32434** Method: **SW6020**

Analysis Date: **04/05/16 18:35** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.7	1.0	50	0	105	80	120				
Arsenic	52.0	1.0	50	0.08602	104	80	120				
Barium	53.1	1.0	50	0	106	80	120				
Beryllium	26.5	1.0	25	0	106	80	120				
Boron	50.8	2.2	50	0	102	80	120				
Cadmium	26.8	1.0	25	0	107	80	120				
Chromium	51.9	1.0	50	0.09683	104	80	120				
Cobalt	52.7	1.0	50	0	105	80	120				
Lead	52.0	1.0	50	0	104	80	120				
Molybdenum	52.8	1.0	50	0	106	80	120				
Nickel	53.6	1.0	50	0	107	80	120				
Selenium	50.7	1.0	50	0	101	80	120				
Silver	27.5	1.0	25	0	110	80	120				
Uranium	53.4	1.0	50	0	107	80	120				
Vanadium	50.6	1.0	50	0.6486	100	80	120				

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICPMS204-B_160405B: 78** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-015APDS** Method: **SW6020**

Analysis Date: **04/05/16 19:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	688	1.0	697.6	0.2426	99	75	125				
Arsenic	703	1.0	697.6	35.46	96	75	125				
Barium	837	1.0	697.6	137.3	100	75	125				
Beryllium	324	1.0	348.8	0.3555	93	75	125				
Boron	626	3.0	697.6	0	90	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 78** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-015APDS** Method: **SW6020**

Analysis Date: **04/05/16 19:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	337	1.0	348.8	0	97	75	125				
Chromium	696	1.0	697.6	16.36	97	75	125				
Cobalt	684	1.0	697.6	5.032	97	75	125				
Lead	700	1.0	697.6	9.466	99	75	125				
Molybdenum	714	1.0	697.6	0.2579	102	75	125				
Nickel	673	1.0	697.6	9.299	95	75	125				
Selenium	623	1.0	697.6	0.5565	89	75	125				
Silver	316	1.0	348.8	0.08775	91	75	125				
Uranium	675	1.0	697.6	0.9585	97	75	125				
Vanadium	713	1.0	697.6	42.97	96	75	125				

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Run ID :Run Order: **ICPMS204-B_160405B: 79** SampType: **Sample Matrix Spike** Lab ID: **H16030349-015AMS** Method: **SW6020**

Analysis Date: **04/05/16 19:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	42.2	1.0	70.41	0.2426	60	75	125				S
Arsenic	92.8	1.0	70.41	35.46	82	75	125				
Barium	231	1.0	70.41	137.3	133	75	125				S
Beryllium	35.2	1.0	35.2	0.3555	99	75	125				
Boron	72.7	3.0	70.41	0	103	75	125				
Cadmium	36.1	1.0	35.2	0	103	75	125				
Chromium	86.7	1.0	70.41	16.36	100	75	125				
Cobalt	76.0	1.0	70.41	5.032	101	75	125				
Lead	78.6	1.0	70.41	9.466	98	75	125				
Molybdenum	71.8	1.0	70.41	0.2579	102	75	125				
Nickel	80.7	1.0	70.41	9.299	101	75	125				
Selenium	68.8	1.0	70.41	0.5565	97	75	125				
Silver	37.8	1.0	35.2	0.08775	107	75	125				
Uranium	72.8	1.0	70.41	0.9585	102	75	125				
Vanadium	109	1.0	70.41	42.97	93	75	125				

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 80** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-015AMSD** Method: **SW6020**

Analysis Date: **04/05/16 19:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	40.9	1.0	70.55	0.2426	58	75	125	42.16	3.1	20	S
Arsenic	91.3	1.0	70.55	35.46	79	75	125	92.84	1.7	20	
Barium	207	1.0	70.55	137.3	98	75	125	230.8	11	20	
Beryllium	35.3	1.0	35.28	0.3555	99	75	125	35.19	0.4	20	
Boron	70.4	3.1	70.55	0	100	75	125	72.73	3.3	20	
Cadmium	35.8	1.0	35.28	0	102	75	125	36.1	0.7	20	
Chromium	86.9	1.0	70.55	16.36	100	75	125	86.66	0.3	20	
Cobalt	75.9	1.0	70.55	5.032	100	75	125	76.03	0.1	20	
Lead	79.5	1.0	70.55	9.466	99	75	125	78.57	1.2	20	
Molybdenum	71.1	1.0	70.55	0.2579	100	75	125	71.81	1.0	20	
Nickel	80.1	1.0	70.55	9.299	100	75	125	80.75	0.8	20	
Selenium	67.6	1.0	70.55	0.5565	95	75	125	68.83	1.9	20	
Silver	37.8	1.0	35.28	0.08775	107	75	125	37.82	0.1	20	
Uranium	73.2	1.0	70.55	0.9585	102	75	125	72.8	0.5	20	
Vanadium	110	1.0	70.55	42.97	96	75	125	108.7	1.5	20	

Associated samples: **H16030349-006A, H16030349-009A, H16030349-012A, H16030349-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 76** SampType: **Method Blank** Lab ID: **MB-32435** Method: **SW6010B**

Analysis Date: **04/05/16 14:32** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1	0.8									
Copper	ND	0.2									
Iron	6	1									
Manganese	ND	0.05									
Nickel	ND	0.1									
Vanadium	ND	0.2									
Zinc	ND	0.3									

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICP2-HE_160405B: 79** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32435** Method: **SW6010B**

Analysis Date: **04/05/16 14:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	257	5.0	246.8	1.169	103	80	120				
Copper	51.1	1.0	49.35	0	104	80	120				
Iron	263	5.0	246.8	6.459	104	80	120				
Manganese	256	1.0	246.8	0	104	80	120				
Nickel	51.1	1.0	49.35	0	104	80	120				
Vanadium	51.4	1.0	49.35	0	104	80	120				
Zinc	49.7	1.0	49.35	0	101	80	120				

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICP2-HE_160405B: 80** SampType: **Laboratory Control Sample** Lab ID: **LCS-32435** Method: **SW6010B**

Analysis Date: **04/05/16 14:47** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10300	5.0	9830	1.169	105	46.3	130.2				
Copper	128	1.0	137	0	94	76.6	108.8				
Iron	16600	6.5	16300	6.459	102	51.7	131.9				
Manganese	444	1.0	434	0	102	81.1	116.6				
Nickel	81.7	1.0	86.2	0	95	72.3	105				
Vanadium	112	1.0	114	0	98	67	107				
Zinc	241	1.6	231	0	105	75.3	111.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 80** SampType: **Laboratory Control Sample** Lab ID: **LCS-32435** Method: **SW6010B**
Analysis Date: **04/05/16 14:47** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICP2-HE_160405B: 86** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-016APDS** Method: **SW6010B**
Analysis Date: **04/05/16 15:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11700	5.6	1783	9881		75	125				A
Copper	375	1.3	356.6	36.38	95	75	125				
Iron	14700	9.5	1783	13010		75	125				A
Manganese	1950	1.0	1783	226	97	75	125				
Nickel	361	1.0	356.6	9.181	99	75	125				
Vanadium	366	1.2	356.6	22.82	96	75	125				
Zinc	509	2.4	356.6	160.9	98	75	125				

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICP2-HE_160405B: 87** SampType: **Sample Matrix Spike** Lab ID: **H16030349-016AMS** Method: **SW6010B**
Analysis Date: **04/05/16 15:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10000	5.5	346.6	9881		75	125				A
Copper	136	1.2	69.32	36.38	143	75	125				S
Iron	14800	9.3	346.6	13010		75	125				A
Manganese	557	1.0	346.6	226	96	75	125				
Nickel	80.8	1.0	69.32	9.181	103	75	125				
Vanadium	97.3	1.2	69.32	22.82	107	75	125				
Zinc	332	2.3	69.32	160.9	247	75	125				S

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICP2-HE_160405B: 88** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-016AMSD** Method: **SW6010B**
Analysis Date: **04/05/16 15:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	12200	5.4	343.4	9881		75	125	10010	20	20	A
Copper	90.5	1.2	68.69	36.38	79	75	125	135.6	40	20	R

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 88** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-016AMSD** Method: **SW6010B**

Analysis Date: **04/05/16 15:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	13300	9.2	343.4	13010		75	125	14790	**11**	20	A
Manganese	550	1.0	343.4	226	**94**	75	125	557.2	**1.4**	20	
Nickel	83.0	1.0	68.69	9.181	**107**	75	125	80.85	**2.6**	20	
Vanadium	96.8	1.2	68.69	22.82	**108**	75	125	97.27	**0.5**	20	
Zinc	101	2.3	68.69	160.9	**-87**	75	125	332.2	**110**	20	SR

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 89** SampType: **Method Blank** Lab ID: **MB-32435** Method: **SW6020**

Analysis Date: **04/05/16 19:40** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.06	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	0.1	0.04									
Cobalt	ND	0.03									
Copper	0.3	0.1									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Selenium	ND	0.2									
Silver	ND	0.05									
Uranium	ND	0.06									

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICPMS204-B_160405B: 90** SampType: **Laboratory Control Sample** Lab ID: **LCS-32435** Method: **SW6020**

Analysis Date: **04/05/16 19:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	62.4	1.0	240	0	**26**	0	92.9				
Arsenic	165	1.0	196	0.05735	**84**	71.4	105.1				
Barium	178	1.0	187	0	**95**	78.6	112.8				
Beryllium	78.3	1.0	83.6	0	**94**	76.2	108				
Boron	105	2.1	129	0	**81**	59.5	106.2				
Cadmium	94.8	1.0	99	0	**96**	73.9	106.1				
Chromium	109	1.0	117	0.1032	**93**	73.5	108.5				
Cobalt	108	1.0	108	0	**100**	74.2	105.6				
Copper	127	1.0	137	0.2506	**93**	76.6	108.8				
Lead	98.1	1.0	105	0	**93**	74.4	108.6				
Molybdenum	117	1.0	127	0	**92**	66.5	103.1				
Selenium	183	1.0	205	0	**89**	71.2	110.2				
Silver	41.2	1.0	42.1	0	**98**	70.8	111.9				
Uranium	95.3	1.0	99.9	0	**95**	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 90** SampType: **Laboratory Control Sample** Lab ID: **LCS-32435** Method: **SW6020**
Analysis Date: **04/05/16 19:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICPMS204-B_160405B: 91** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32435** Method: **SW6020**
Analysis Date: **04/05/16 19:47** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.0	1.0	49.35	0	103	80	120				
Arsenic	50.6	1.0	49.35	0.05735	102	80	120				
Barium	51.2	1.0	49.35	0	104	80	120				
Beryllium	26.4	1.0	24.68	0	107	80	120				
Boron	50.5	2.1	49.35	0	102	80	120				
Cadmium	25.8	1.0	24.68	0	105	80	120				
Chromium	50.6	1.0	49.35	0.1032	102	80	120				
Cobalt	51.5	1.0	49.35	0	104	80	120				
Copper	52.4	1.0	49.35	0.2506	106	80	120				
Lead	50.2	1.0	49.35	0	102	80	120				
Molybdenum	51.5	1.0	49.35	0	104	80	120				
Selenium	48.8	1.0	49.35	0	99	80	120				
Silver	26.8	1.0	24.68	0	109	80	120				
Uranium	51.4	1.0	49.35	0	104	80	120				

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICPMS204-B_160405B: 98** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-016APDS** Method: **SW6020**
Analysis Date: **04/05/16 20:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	690	1.0	692.5	0.7791	99	75	125				
Arsenic	691	1.0	692.5	19.37	97	75	125				
Barium	886	1.0	692.5	182.6	102	75	125				
Beryllium	323	1.0	346.2	0.353	93	75	125				
Boron	632	3.0	692.5	0	91	75	125				
Cadmium	342	1.0	346.2	0	99	75	125				
Chromium	699	1.0	692.5	12.92	99	75	125				
Cobalt	692	1.0	692.5	4.442	99	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 98** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-016APDS** Method: **SW6020**

Analysis Date: **04/05/16 20:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	709	1.0	692.5	35.2	97	75	125				
Lead	716	1.0	692.5	10.72	102	75	125				
Molybdenum	726	1.0	692.5	0.2332	105	75	125				
Selenium	622	1.0	692.5	0.3782	90	75	125				
Silver	245	1.0	346.2	0.1103	71	75	125				S
Uranium	695	1.0	692.5	1.199	100	75	125				

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICPMS204-B_160406A: 21** SampType: **Sample Matrix Spike** Lab ID: **H16030349-016AMS** Method: **SW6020**

Analysis Date: **04/06/16 12:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.8	1.0	69.32	0.8968	68	75	125				S
Arsenic	83.2	1.0	69.32	19.94	91	75	125				
Barium	241	1.0	69.32	189.8	74	75	125				S
Beryllium	36.5	1.0	34.66	0.3878	104	75	125				
Boron	74.4	3.0	69.32	0	107	75	125				
Cadmium	34.8	1.0	34.66	0	101	75	125				
Chromium	83.3	1.0	69.32	13.44	101	75	125				
Cobalt	73.3	1.0	69.32	4.542	99	75	125				
Copper	132	1.0	69.32	38.03	136	75	125				S
Lead	84.8	1.0	69.32	12.02	105	75	125				
Molybdenum	67.5	1.0	69.32	0.2515	97	75	125				
Selenium	65.4	1.0	69.32	0.5343	94	75	125				
Silver	34.7	1.0	34.66	0.09453	100	75	125				
Uranium	72.6	1.0	69.32	1.305	103	75	125				

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Run ID :Run Order: **ICPMS204-B_160406A: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-016AMSD** Method: **SW6020**

Analysis Date: **04/06/16 12:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.3	1.0	68.69	0.8968	66	75	125	47.76	3.0	20	S
Arsenic	79.1	1.0	68.69	19.94	86	75	125	83.17	5.0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160406A: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-016AMSD** Method: **SW6020**

Analysis Date: **04/06/16 12:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	207	1.0	68.69	189.8	25	75	125	241.3	15	20	S
Beryllium	36.9	1.0	34.34	0.3878	106	75	125	36.45	1.3	20	
Boron	76.5	3.0	68.69	0	111	75	125	74.44	2.8	20	
Cadmium	35.8	1.0	34.34	0	104	75	125	34.85	2.8	20	
Chromium	89.2	1.0	68.69	13.44	110	75	125	83.31	6.9	20	
Cobalt	77.1	1.0	68.69	4.542	106	75	125	73.27	5.1	20	
Copper	91.2	1.0	68.69	38.03	77	75	125	132	37	20	R
Lead	77.3	1.0	68.69	12.02	95	75	125	84.76	9.2	20	
Molybdenum	70.2	1.0	68.69	0.2515	102	75	125	67.55	3.9	20	
Selenium	67.8	1.0	68.69	0.5343	98	75	125	65.36	3.7	20	
Silver	35.7	1.0	34.34	0.09453	104	75	125	34.67	3.0	20	
Uranium	74.7	1.0	68.69	1.305	107	75	125	72.57	2.8	20	

Associated samples: **H16030349-007A, H16030349-010A, H16030349-013A, H16030349-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32441

Date: *12-Apr-16*

Run ID :Run Order: **HGCV201-H_160404A: 10** SampType: **Method Blank** Lab ID: **MB-32441** Method: **SW7471B**
Analysis Date: **04/04/16 11:00** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.010									

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Run ID :Run Order: **HGCV201-H_160404A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-32441** Method: **SW7471B**
Analysis Date: **04/04/16 11:02** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.8	0.50	5	0	115	71	126.4				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Run ID :Run Order: **HGCV201-H_160404A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32441** Method: **SW7471B**
Analysis Date: **04/04/16 11:03** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.1	0.50	1	0	105	80	120				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Run ID :Run Order: **HGCV201-H_160404A: 15** SampType: **Sample Matrix Spike** Lab ID: **H16030349-005AMS** Method: **SW7471B**
Analysis Date: **04/04/16 11:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.7	0.50	2.353	0.3126	102	80	120				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Run ID :Run Order: **HGCV201-H_160404A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-005AMSD** Method: **SW7471B**
Analysis Date: **04/04/16 11:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.9	0.50	2.353	0.3126	108	80	120	2.711	5.1	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32441

Date: *12-Apr-16*

Run ID :Run Order: **HGCV201-H_160404A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-005AMSD** Method: **SW7471B**

Analysis Date: **04/04/16 11:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Run ID :Run Order: **HGCV201-H_160404A: 28** SampType: **Sample Matrix Spike** Lab ID: **H16030349-013AMS** Method: **SW7471B**

Analysis Date: **04/04/16 11:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.3	0.50	1.161	0.02364	**110**	80	120				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Run ID :Run Order: **HGCV201-H_160404A: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-013AMSD** Method: **SW7471B**

Analysis Date: **04/04/16 11:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.3	0.50	1.161	0.02364	**109**	80	120	1.297	**0.2**	20	

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32574

Date: *12-Apr-16*

Run ID :Run Order: **FIA202-HE_160412A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-32574** Method: **E365.1**
Analysis Date: **04/12/16 08:32** Units: **mg/L** **Prep Info:** Prep Date: **4/11/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.417	0.010	0.4	0	**104**	90	110				

Associated samples: **H16030349-004D**

Run ID :Run Order: **FIA202-HE_160412A: 13** SampType: **Method Blank** Lab ID: **MB-32574** Method: **E365.1**
Analysis Date: **04/12/16 08:33** Units: **mg/L** **Prep Info:** Prep Date: **4/11/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H16030349-004D**

Run ID :Run Order: **FIA202-HE_160412A: 22** SampType: **Sample Matrix Spike** Lab ID: **H16040135-001Cms** Method: **E365.1**
Analysis Date: **04/12/16 08:42** Units: **mg/L** **Prep Info:** Prep Date: **4/11/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.224	0.010	0.2	0.01806	**103**	90	110				

Associated samples: **H16030349-004D**

Run ID :Run Order: **FIA202-HE_160412A: 23** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16040135-001Cmsd** Method: **E365.1**
Analysis Date: **04/12/16 08:43** Units: **mg/L** **Prep Info:** Prep Date: **4/11/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.220	0.010	0.2	0.01806	**101**	90	110	0.2241	**1.7**	20	

Associated samples: **H16030349-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R210272

Date: *12-Apr-16*

Run ID :Run Order: **SUB-C210272: 1** SampType: **Method Blank** Lab ID: **MBLK** Method: **A5310 C**
Analysis Date: **03/24/16 23:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.04									

Associated samples: **H16030349-001E, H16030349-002E, H16030349-003E, H16030349-004E**

Run ID :Run Order: **SUB-C210272: 2** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **A5310 C**
Analysis Date: **03/24/16 23:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.75	0.50	5	0	**95**	90	110	0			

Associated samples: **H16030349-001E, H16030349-002E, H16030349-003E, H16030349-004E**

Run ID :Run Order: **SUB-C210272: 3** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A5310 C**
Analysis Date: **03/24/16 23:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.69	0.50	5	0	**94**	90	110	0			

Associated samples: **H16030349-001E, H16030349-002E, H16030349-003E, H16030349-004E**

Run ID :Run Order: **SUB-C210272: 6** SampType: **Sample Matrix Spike** Lab ID: **C16030737-001EMS** Method: **A5310 C**
Analysis Date: **03/25/16 00:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	22.7	0.50	20	3.758	**95**	85	115	0			

Associated samples: **H16030349-001E, H16030349-002E, H16030349-003E, H16030349-004E**

Run ID :Run Order: **SUB-C210272: 7** SampType: **Sample Matrix Spike Duplicate** Lab ID: **C16030737-001EMSD** Method: **A5310 C**
Analysis Date: **03/25/16 00:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	23.1	0.50	20	3.758	**97**	85	115	22.66	**1.8**	10	

Associated samples: **H16030349-001E, H16030349-002E, H16030349-003E, H16030349-004E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R210272

Date: *12-Apr-16*

Run ID :Run Order: **SUB-C210272: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-8946** Method: **A5310 C**

Analysis Date: **03/25/16 07:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.73	0.50	5	0	95	90	110	0			

Associated samples: **H16030349-001E, H16030349-002E, H16030349-003E, H16030349-004E**

Run ID :Run Order: **SUB-C210272: 37** SampType: **Laboratory Control Sample** Lab ID: **LCS-8946** Method: **A5310 C**

Analysis Date: **03/25/16 10:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.75	0.50	5	0	95	90	110	0			

Associated samples: **H16030349-001E, H16030349-002E, H16030349-003E, H16030349-004E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113775

Date: *12-Apr-16*

Run ID :Run Order: **PHSC_101-H_160321A: 6** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**
Analysis Date: **03/21/16 09:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **PHSC_101-H_160321A: 8** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**
Analysis Date: **03/21/16 09:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	1.8	96	90	110				

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **PHSC_101-H_160321A: 11** SampType: **Sample Duplicate** Lab ID: **H16030347-001ADUP** Method: **A2320 B**
Analysis Date: **03/21/16 09:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	130	4.0		0				122	3.1	10	
Bicarbonate as HCO3	ND	4.0		0				0		10	

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **PHSC_101-H_160321A: 51** SampType: **Sample Duplicate** Lab ID: **H16030355-003ADUP** Method: **A2320 B**
Analysis Date: **03/21/16 12:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	110	4.0		0				104.4	1.2	10	
Bicarbonate as HCO3	130	4.0		0				126.8	1.2	10	

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113786

Date: *12-Apr-16*

Run ID :Run Order: **FIA203-HE_160321A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **03/21/16 09:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	9.62	0.25	9.25	0	104	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321A: 8** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **03/21/16 09:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.06	0.055	1	0	106	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E350.1**
Analysis Date: **03/21/16 09:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.0498	0.050		0		0	0				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **03/21/16 09:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.965	0.050	1	0	97	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321A: 52** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **03/21/16 10:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.502	0.050	0.5	0	100	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113786

Date: *12-Apr-16*

Run ID :Run Order: **FIA203-HE_160321A: 55** SampType: **Sample Matrix Spike** Lab ID: **H16030313-004BMS** Method: **E350.1**

Analysis Date: **03/21/16 10:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.05	0.055	1	0	**105**	80	120				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321A: 56** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030313-004BMSD** Method: **E350.1**

Analysis Date: **03/21/16 10:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.06	0.055	1	0	**106**	80	120	1.049	**0.7**	10	

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113830

Date: *12-Apr-16*

Run ID :Run Order: **FIA202-HE_160321A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **03/21/16 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.253	0.010	0.25	0	101	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D**

Run ID :Run Order: **FIA202-HE_160321A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **03/21/16 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00384	0.010		0		0	0				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D**

Run ID :Run Order: **FIA202-HE_160321A: 27** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **03/21/16 13:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0980	0.010	0.1	0	98	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113833

Date: *12-Apr-16*

Run ID :Run Order: **FIA203-HE_160321C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **03/21/16 13:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.972	0.010	1	0	97	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E353.2**
Analysis Date: **03/21/16 13:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.00826	0.010		0		0	0				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321C: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **03/21/16 13:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.00	0.011	1	0	100	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321C: 28** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **03/21/16 13:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.500	0.010	0.5	0	100	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321C: 30** SampType: **Sample Matrix Spike** Lab ID: **H16030348-004DMS** Method: **E353.2**
Analysis Date: **03/21/16 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	37.1	0.22	20	18.32	94	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113833

Date: *12-Apr-16*

Run ID :Run Order: **FIA203-HE_160321C: 31** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030348-004DMSD** Method: **E353.2**

Analysis Date: **03/21/16 13:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	36.5	0.22	20	18.32	**91**	90	110	37.07	**1.6**	20	

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321C: 44** SampType: **Sample Matrix Spike** Lab ID: **H16030354-001BMS** Method: **E353.2**

Analysis Date: **03/21/16 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.60	0.011	1	0.5905	**101**	90	110				

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Run ID :Run Order: **FIA203-HE_160321C: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030354-001BMSD** Method: **E353.2**

Analysis Date: **03/21/16 13:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.60	0.011	1	0.5905	**101**	90	110	1.597	**0.4**	20	

Associated samples: **H16030349-001D, H16030349-002D, H16030349-003D, H16030349-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/21/16 08:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.06	0.10	4	0	101	95	105				
Boron	0.783	0.10	0.8	0	98	95	105				
Calcium	40.1	1.0	40	0	100	95	105				
Magnesium	39.6	1.0	40	0	99	95	105				
Potassium	40.2	1.0	40	0	100	95	105				
Sodium	40.2	1.0	40	0	100	95	105				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICP2-HE_160321B: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/21/16 09:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.01	0.10	4	0	100	95	105				
Boron	0.792	0.10	0.8	0	99	95	105				
Calcium	40.3	1.0	40	0	101	95	105				
Magnesium	40.1	1.0	40	0	100	95	105				
Potassium	40.5	1.0	40	0	101	95	105				
Sodium	40.5	1.0	40	0	101	95	105				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICP2-HE_160321B: 19** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/21/16 09:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.00	0.10	4	0	100	95	105				
Boron	0.794	0.10	0.8	0	99	95	105				
Calcium	39.8	1.0	40	0	100	95	105				
Magnesium	39.4	1.0	40	0	99	95	105				
Potassium	38.6	1.0	40	0	97	95	105				
Sodium	38.6	1.0	40	0	97	95	105				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 20** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **03/21/16 09:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	101	95	105				
Boron	2.50	0.10	2.5	0	100	95	105				
Calcium	25.1	1.0	25	0	100	95	105				
Magnesium	24.8	1.0	25	0	99	95	105				
Potassium	24.9	1.0	25	0	100	95	105				
Sodium	24.8	1.0	25	0	99	95	105				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICP2-HE_160321B: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **03/21/16 10:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519	0.10	500	0	104	80	120				
Boron	0.00161	0.10		0		0	0				
Calcium	481	1.0	500	0	96	80	120				
Magnesium	505	1.0	500	0	101	80	120				
Potassium	0.0458	1.0		0		0	0				
Sodium	0.0336	1.0		0		0	0				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICP2-HE_160321B: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **03/21/16 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	524	0.10	500	0	105	80	120				
Boron	1.01	0.10	1	0	101	80	120				
Calcium	485	1.0	500	0	97	80	120				
Magnesium	508	1.0	500	0	102	80	120				
Potassium	20.0	1.0	20	0	100	80	120				
Sodium	19.9	1.0	20	0	99	80	120				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 34** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **03/21/16 10:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.007	0.002									
Boron	ND	0.002									
Calcium	0.08	0.02									
Magnesium	0.008	0.003									
Potassium	ND	0.03									
Sodium	ND	0.02									

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICP2-HE_160321B: 35** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **03/21/16 10:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.22	0.10	5	0.00739	**104**	85	115				
Boron	1.04	0.10	1	0	**104**	85	115				
Calcium	52.0	1.0	50	0.07502	**104**	85	115				
Magnesium	51.6	1.0	50	0.00827	**103**	85	115				
Potassium	51.2	1.0	50	0	**102**	85	115				
Sodium	51.2	1.0	50	0	**102**	85	115				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICP2-HE_160321B: 53** SampType: **Sample Matrix Spike** Lab ID: **H16030348-007CMS2** Method: **E200.7**

Analysis Date: **03/21/16 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.17	0.030	5	0.01257	**103**	70	130				
Boron	1.01	0.050	1	0.00207	**101**	70	130				
Calcium	105	1.0	50	56.12	**97**	70	130				
Magnesium	94.2	1.0	50	44.14	**100**	70	130				
Potassium	54.2	1.0	50	3.222	**102**	70	130				
Sodium	60.2	1.0	50	9.011	**102**	70	130				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 54** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030348-007CMSD2** Method: **E200.7**

Analysis Date: **03/21/16 11:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.21	0.030	5	0.01257	104	70	130	5.166	0.8	20	
Boron	1.00	0.050	1	0.00207	100	70	130	1.012	0.7	20	
Calcium	105	1.0	50	56.12	98	70	130	104.8	0.5	20	
Magnesium	94.5	1.0	50	44.14	101	70	130	94.16	0.3	20	
Potassium	54.2	1.0	50	3.222	102	70	130	54.16	0.1	20	
Sodium	60.1	1.0	50	9.011	102	70	130	60.23	0.2	20	

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICP2-HE_160321B: 56** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/21/16 12:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.56	0.10	2.5	0	102	90	110				
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	25.0	1.0	25	0	100	90	110				
Magnesium	25.0	1.0	25	0	100	90	110				
Potassium	24.5	1.0	25	0	98	90	110				
Sodium	24.6	1.0	25	0	98	90	110				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICP2-HE_160321B: 70** SampType: **Sample Matrix Spike** Lab ID: **H16030355-004BMS2** Method: **E200.7**

Analysis Date: **03/21/16 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.20	0.030	5	0	104	70	130				
Boron	1.02	0.050	1	0	102	70	130				
Calcium	52.0	1.0	50	0.08731	104	70	130				
Magnesium	52.1	1.0	50	0	104	70	130				
Potassium	51.1	1.0	50	0.05056	102	70	130				
Sodium	50.9	1.0	50	0	102	70	130				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-004BMSD2** Method: **E200.7**

Analysis Date: **03/21/16 13:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.17	0.030	5	0	**103**	70	130	5.195	**0.5**	20	
Boron	1.03	0.050	1	0	**103**	70	130	1.023	**0.4**	20	
Calcium	52.0	1.0	50	0.08731	**104**	70	130	51.96	**0.0**	20	
Magnesium	51.9	1.0	50	0	**104**	70	130	52.09	**0.3**	20	
Potassium	52.4	1.0	50	0.05056	**105**	70	130	51.1	**2.6**	20	
Sodium	52.2	1.0	50	0	**104**	70	130	50.85	**2.6**	20	

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113849

Date: *12-Apr-16*

Run ID :Run Order: **IC102-H_160321A: 12** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **03/21/16 15:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.03	0.006									
Sulfate	ND	0.05									

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **IC102-H_160321A: 13** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **03/21/16 15:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	402	1.0	400	0	101	90	110				

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **IC102-H_160321A: 14** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **03/21/16 15:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	47.8	1.0	50	0.029	96	90	110				
Sulfate	209	1.0	200	0	105	90	110				

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **IC102-H_160321A: 15** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV032116-1** Method: **E300.0**
Analysis Date: **03/21/16 16:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	399	1.0	400	0	100	90	110				

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **IC102-H_160321A: 28** SampType: **Sample Matrix Spike** Lab ID: **H16030355-006AMS** Method: **E300.0**
Analysis Date: **03/21/16 18:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	78.1	1.0	50	27.26	102	90	110				
Sulfate	281	1.0	200	79.42	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113849

Date: *12-Apr-16*

Run ID :Run Order: **IC102-H_160321A: 28** SampType: **Sample Matrix Spike** Lab ID: **H16030355-006AMS** Method: **E300.0**

Analysis Date: **03/21/16 18:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **IC102-H_160321A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-006AMSD** Method: **E300.0**

Analysis Date: **03/21/16 18:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	79.2	1.0	50	27.26	**104**	90	110	78.13	**1.3**	20	
Sulfate	283	1.0	200	79.42	**102**	90	110	281.1	**0.6**	20	

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113865

Date: *12-Apr-16*

Run ID :Run Order: **FIA203-HE_160322A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **03/22/16 10:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.473	0.10	0.5	0	95	90	110				

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **FIA203-HE_160322A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **03/22/16 10:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.00210	0.10		0		0	0				

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **03/23/16 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.300	0.10	0.3	0	100	90	110				
Antimony	0.0582	0.050	0.06	0	97	90	110				
Arsenic	0.0616	0.0050	0.06	0	103	90	110				
Barium	0.0595	0.10	0.06	0	99	90	110				
Beryllium	0.0312	0.0010	0.03	0	104	90	110				
Cadmium	0.0302	0.0010	0.03	0	101	90	110				
Chromium	0.0610	0.010	0.06	0	102	90	110				
Cobalt	0.0612	0.010	0.06	0	102	90	110				
Copper	0.0623	0.010	0.06	0	104	90	110				
Iron	0.310	0.020	0.3	0	104	90	110				
Lead	0.0595	0.010	0.06	0	99	90	110				
Manganese	0.305	0.010	0.3	0	102	90	110				
Molybdenum	0.0585	0.0050	0.06	0	98	90	110				
Nickel	0.0617	0.010	0.06	0	103	90	110				
Selenium	0.0623	0.0050	0.06	0	104	90	110				
Silver	0.0302	0.0050	0.03	0	101	90	110				
Uranium	0.0589	0.0010	0.06	0	98	90	110				
Vanadium	0.0596	0.10	0.06	0	99	90	110				
Zinc	0.0631	0.010	0.06	0	105	90	110				

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160323A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/23/16 11:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.5	0.10	40	0	104	70	130				
Antimony	0.000302	0.050		0							
Arsenic	9.00E-06	0.0050		0							
Barium	0.000170	0.10		0							
Beryllium	3.00E-06	0.0010		0							
Cadmium	0.000654	0.0010		0							
Chromium	0.00129	0.010		0							
Cobalt	5.00E-05	0.010		0							
Copper	0.000441	0.010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/23/16 11:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104	0.020	100	0	**104**	70	130				
Lead	0.000246	0.010		0							
Manganese	0.000434	0.010		0							
Molybdenum	0.880	0.0050	0.8	0	**110**	70	130				
Nickel	0.000285	0.010		0							
Selenium	0.000461	0.0050		0							
Silver	0.000195	0.0050		0							
Uranium	9.60E-05	0.0010		0							
Vanadium	-0.00157	0.10		0							
Zinc	0.000624	0.010		0							

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160323A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/23/16 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.4	0.10	40	0	**101**	70	130				
Antimony	0.000111	0.050		0		0	0				
Arsenic	0.0106	0.0050	0.01	0	**106**	70	130				
Barium	0.000122	0.10		0		0	0				
Beryllium	2.00E-06	0.0010		0		0	0				
Cadmium	0.0109	0.0010	0.01	0	**109**	70	130				
Chromium	0.0222	0.010	0.02	0	**111**	70	130				
Cobalt	0.0210	0.010	0.02	0	**105**	70	130				
Copper	0.0209	0.010	0.02	0	**104**	70	130				
Iron	100	0.020	100	0	**100**	70	130				
Lead	0.000218	0.010		0		0	0				
Manganese	0.0218	0.010	0.02	0	**109**	70	130				
Molybdenum	0.858	0.0050	0.8	0	**107**	70	130				
Nickel	0.0211	0.010	0.02	0	**105**	70	130				
Selenium	0.0108	0.0050	0.01	0	**108**	70	130				
Silver	0.0202	0.0050	0.02	0	**101**	70	130				
Uranium	1.60E-05	0.0010		0		0	0				
Vanadium	0.0200	0.10	0.02	0	**100**	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/23/16 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0101	0.010	0.01	0	101	70	130				

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160323A: 73** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **03/23/16 18:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.278	0.10	0.3	0	93	90	110				
Antimony	0.0547	0.050	0.06	0	91	90	110				
Arsenic	0.0586	0.0050	0.06	0	98	90	110				
Barium	0.0566	0.10	0.06	0	94	90	110				
Beryllium	0.0288	0.0010	0.03	0	96	90	110				
Cadmium	0.0286	0.0010	0.03	0	95	90	110				
Chromium	0.0578	0.010	0.06	0	96	90	110				
Cobalt	0.0581	0.010	0.06	0	97	90	110				
Copper	0.0588	0.010	0.06	0	98	90	110				
Iron	0.293	0.020	0.3	0	98	90	110				
Lead	0.0568	0.010	0.06	0	95	90	110				
Manganese	0.288	0.010	0.3	0	96	90	110				
Molybdenum	0.0553	0.0050	0.06	0	92	90	110				
Nickel	0.0583	0.010	0.06	0	97	90	110				
Selenium	0.0590	0.0050	0.06	0	98	90	110				
Silver	0.0291	0.0050	0.03	0	97	90	110				
Uranium	0.0561	0.0010	0.06	0	93	90	110				
Vanadium	0.0560	0.10	0.06	0	93	90	110				
Zinc	0.0588	0.010	0.06	0	98	90	110				

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160323A: 74** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/23/16 18:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38.4	0.10	40	0	96	70	130				
Antimony	0.000271	0.050		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 74** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/23/16 18:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	-0.000137	0.0050		0							
Barium	0.000172	0.10		0							
Beryllium	8.70E-05	0.0010		0							
Cadmium	0.000678	0.0010		0							
Chromium	0.00115	0.010		0							
Cobalt	4.70E-05	0.010		0							
Copper	0.000370	0.010		0							
Iron	97.0	0.020	100	0	**97**	70	130				
Lead	0.000229	0.010		0							
Manganese	0.000356	0.010		0							
Molybdenum	0.820	0.0050	0.8	0	**103**	70	130				
Nickel	0.000259	0.010		0							
Selenium	0.000312	0.0050		0							
Silver	0.000172	0.0050		0							
Uranium	9.60E-05	0.0010		0							
Vanadium	-0.00194	0.10		0							
Zinc	0.000568	0.010		0							

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160323A: 75** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/23/16 18:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38.8	0.10	40	0	**97**	70	130				
Antimony	0.000143	0.050		0		0	0				
Arsenic	0.0103	0.0050	0.01	0	**103**	70	130				
Barium	0.000126	0.10		0		0	0				
Beryllium	1.80E-05	0.0010		0		0	0				
Cadmium	0.0108	0.0010	0.01	0	**107**	70	130				
Chromium	0.0218	0.010	0.02	0	**109**	70	130				
Cobalt	0.0208	0.010	0.02	0	**104**	70	130				
Copper	0.0202	0.010	0.02	0	**101**	70	130				
Iron	98.2	0.020	100	0	**98**	70	130				
Lead	0.000224	0.010		0		0	0				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 75** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/23/16 18:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0206	0.010	0.02	0	**103**	70	130				
Molybdenum	0.828	0.0050	0.8	0	**103**	70	130				
Nickel	0.0203	0.010	0.02	0	**102**	70	130				
Selenium	0.00985	0.0050	0.01	0	**98**	70	130				
Silver	0.0194	0.0050	0.02	0	**97**	70	130				
Uranium	1.40E-05	0.0010		0		0	0				
Vanadium	0.0191	0.10	0.02	0	**96**	70	130				
Zinc	0.00997	0.010	0.01	0	**100**	70	130				

Associated samples: **H16030349-001B, H16030349-001C, H16030349-002B, H16030349-002C, H16030349-003B, H16030349-003C, H16030349-004B, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160323A: 80** SampType: **Method Blank** Lab ID: **ICB** Method: **E200.8**

Analysis Date: **03/23/16 18:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0005									
Antimony	ND	3E-05									
Arsenic	ND	6E-05									
Barium	ND	0.0001									
Beryllium	ND	5E-05									
Cadmium	ND	1E-05									
Chromium	ND	3E-05									
Cobalt	ND	2E-05									
Copper	ND	6E-05									
Iron	0.002	0.0002									
Lead	7E-06	5E-06									
Manganese	ND	6E-05									
Molybdenum	6E-05	2E-05									
Nickel	ND	4E-05									
Selenium	ND	0.0003									
Silver	ND	9E-06									
Uranium	6E-06	6E-06									
Vanadium	ND	0.0001									
Zinc	0.0004	0.0002									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 80** SampType: **Method Blank** Lab ID: **ICB** Method: **E200.8**

Analysis Date: **03/23/16 18:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICPMS204-B_160323A: 81** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/23/16 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.10	0.05	0	101	85	115				
Antimony	0.0463	0.050	0.05	0	93	85	115				
Arsenic	0.0505	0.0050	0.05	0	101	85	115				
Barium	0.0494	0.10	0.05	0	99	85	115				
Beryllium	0.0498	0.0010	0.05	0	100	85	115				
Cadmium	0.0506	0.0010	0.05	0	101	85	115				
Chromium	0.0508	0.010	0.05	0	101	85	115				
Cobalt	0.0511	0.010	0.05	0	102	85	115				
Copper	0.0518	0.010	0.05	0	104	85	115				
Iron	0.157	0.020	0.15	0.001629	104	85	115				
Lead	0.0501	0.010	0.05	0.0000071	100	85	115				
Manganese	0.0505	0.010	0.05	0	101	85	115				
Molybdenum	0.0474	0.0050	0.05	0.0000583	95	85	115				
Nickel	0.0514	0.010	0.05	0	103	85	115				
Selenium	0.0532	0.0050	0.05	0	106	85	115				
Silver	0.0202	0.0050	0.02	0	101	85	115				
Uranium	0.0492	0.0010	0.05	0.0000065	98	85	115				
Vanadium	0.0487	0.10	0.05	0	97	85	115				
Zinc	0.0550	0.010	0.05	0.0004272	109	85	115				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICPMS204-B_160323A: 130** SampType: **Sample Matrix Spike** Lab ID: **H16030348-006CMS** Method: **E200.8**

Analysis Date: **03/23/16 21:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.030	0.05	0.001109	99	70	130				
Antimony	0.0464	0.0010	0.05	0.0000347	93	70	130				
Arsenic	0.0512	0.0010	0.05	0	102	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 130** SampType: **Sample Matrix Spike** Lab ID: **H16030348-006CMS** Method: **E200.8**

Analysis Date: **03/23/16 21:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0589	0.050	0.05	0.008246	101	70	130				
Beryllium	0.0503	0.0010	0.05	0	101	70	130				
Cadmium	0.0498	0.0010	0.05	0	100	70	130				
Chromium	0.0496	0.0050	0.05	0	99	70	130				
Cobalt	0.0491	0.0050	0.05	0.0000594	98	70	130				
Copper	0.0494	0.0050	0.05	0.0003034	98	70	130				
Iron	0.154	0.020	0.15	0.001446	101	70	130				
Lead	0.0489	0.0010	0.05	0.0000123	98	70	130				
Manganese	0.0495	0.0010	0.05	0.0002521	98	70	130				
Molybdenum	0.0481	0.0010	0.05	0.0005529	95	70	130				
Nickel	0.0486	0.0050	0.05	0.0002112	97	70	130				
Selenium	0.0535	0.0010	0.05	0.0007164	106	70	130				
Silver	0.0188	0.0010	0.02	0	94	70	130				
Uranium	0.0553	0.00030	0.05	0.005696	99	70	130				
Vanadium	0.0481	0.010	0.05	0	96	70	130				
Zinc	0.0507	0.010	0.05	0.001187	99	70	130				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICPMS204-B_160323A: 131** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030348-006CMSD** Method: **E200.8**

Analysis Date: **03/23/16 21:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.030	0.05	0.001109	99	70	130	0.0504	0.0	20	
Antimony	0.0477	0.0010	0.05	0.0000347	95	70	130	0.04644	2.8	20	
Arsenic	0.0521	0.0010	0.05	0	104	70	130	0.05121	1.7	20	
Barium	0.0590	0.050	0.05	0.008246	102	70	130	0.05887	0.3	20	
Beryllium	0.0503	0.0010	0.05	0	101	70	130	0.05027	0.1	20	
Cadmium	0.0506	0.0010	0.05	0	101	70	130	0.04977	1.7	20	
Chromium	0.0509	0.0050	0.05	0	102	70	130	0.04962	2.5	20	
Cobalt	0.0502	0.0050	0.05	0.0000594	100	70	130	0.04914	2.1	20	
Copper	0.0502	0.0050	0.05	0.0003034	100	70	130	0.04937	1.7	20	
Iron	0.156	0.020	0.15	0.001446	103	70	130	0.1536	1.4	20	
Lead	0.0501	0.0010	0.05	0.0000123	100	70	130	0.04895	2.3	20	
Manganese	0.0502	0.0010	0.05	0.0002521	100	70	130	0.04947	1.5	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 131** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030348-006CMSD** Method: **E200.8**

Analysis Date: **03/23/16 21:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0496	0.0010	0.05	0.0005529	98	70	130	0.04811	3.0	20	
Nickel	0.0497	0.0050	0.05	0.0002112	99	70	130	0.0486	2.2	20	
Selenium	0.0554	0.0010	0.05	0.0007164	109	70	130	0.05349	3.5	20	
Silver	0.0201	0.0010	0.02	0	101	70	130	0.01879	6.7	20	
Uranium	0.0570	0.00030	0.05	0.005696	103	70	130	0.0553	2.9	20	
Vanadium	0.0490	0.010	0.05	0	98	70	130	0.04808	1.8	20	
Zinc	0.0524	0.010	0.05	0.001187	102	70	130	0.05067	3.3	20	

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Run ID :Run Order: **ICPMS204-B_160323A: 169** SampType: **Sample Matrix Spike** Lab ID: **H16030355-003BMS** Method: **E200.8**

Analysis Date: **03/23/16 23:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0515	0.030	0.05	0.003371	96	70	130				
Antimony	0.0464	0.0010	0.05	0.0002645	92	70	130				
Arsenic	0.0536	0.0010	0.05	0.002882	101	70	130				
Barium	0.0869	0.050	0.05	0.03755	99	70	130				
Beryllium	0.0490	0.0010	0.05	0	98	70	130				
Cadmium	0.0500	0.0010	0.05	0.0001269	100	70	130				
Chromium	0.0494	0.0050	0.05	0	99	70	130				
Cobalt	0.0493	0.0050	0.05	0.00023	98	70	130				
Copper	0.0563	0.0050	0.05	0.007038	99	70	130				
Iron	0.289	0.020	0.15	0.139	100	70	130				
Lead	0.0487	0.0010	0.05	0.0002633	97	70	130				
Manganese	0.208	0.0010	0.05	0.159	97	70	130				
Molybdenum	0.0512	0.0010	0.05	0.004608	93	70	130				
Nickel	0.0490	0.0050	0.05	0.0008727	96	70	130				
Selenium	0.0532	0.0010	0.05	0	106	70	130				
Silver	0.0181	0.0010	0.02	0	90	70	130				
Uranium	0.0541	0.00030	0.05	0.005009	98	70	130				
Vanadium	0.0490	0.010	0.05	0	98	70	130				
Zinc	0.105	0.010	0.05	0.05374	102	70	130				

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 170** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-003BMSD** Method: **E200.8**

Analysis Date: **03/23/16 23:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0501	0.030	0.05	0.003371	93	70	130	0.05146	2.7	20	
Antimony	0.0433	0.0010	0.05	0.0002645	86	70	130	0.04645	6.9	20	
Arsenic	0.0503	0.0010	0.05	0.002882	95	70	130	0.05359	6.3	20	
Barium	0.0806	0.050	0.05	0.03755	86	70	130	0.08687	7.5	20	
Beryllium	0.0450	0.0010	0.05	0	90	70	130	0.04905	8.5	20	
Cadmium	0.0460	0.0010	0.05	0.0001269	92	70	130	0.05003	8.4	20	
Chromium	0.0464	0.0050	0.05	0	93	70	130	0.04944	6.5	20	
Cobalt	0.0461	0.0050	0.05	0.00023	92	70	130	0.04931	6.7	20	
Copper	0.0532	0.0050	0.05	0.007038	92	70	130	0.05633	5.7	20	
Iron	0.274	0.020	0.15	0.139	90	70	130	0.289	5.5	20	
Lead	0.0455	0.0010	0.05	0.0002633	90	70	130	0.04866	6.8	20	
Manganese	0.197	0.0010	0.05	0.159	75	70	130	0.2077	5.5	20	
Molybdenum	0.0480	0.0010	0.05	0.004608	87	70	130	0.05116	6.3	20	
Nickel	0.0466	0.0050	0.05	0.0008727	91	70	130	0.04898	5.1	20	
Selenium	0.0486	0.0010	0.05	0	97	70	130	0.05323	9.1	20	
Silver	0.0162	0.0010	0.02	0	81	70	130	0.01807	11	20	
Uranium	0.0512	0.00030	0.05	0.005009	92	70	130	0.05414	5.6	20	
Vanadium	0.0459	0.010	0.05	0	92	70	130	0.04904	6.5	20	
Zinc	0.101	0.010	0.05	0.05374	96	70	130	0.1047	3.1	20	

Associated samples: **H16030349-001B, H16030349-002B, H16030349-003B, H16030349-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113926

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/23/16 08:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.790	0.10	0.8	0	99	95	105				
Calcium	40.6	1.0	40	0	101	95	105				
Iron	4.02	0.020	4	0	101	95	105				
Magnesium	40.1	1.0	40	0	100	95	105				
Potassium	40.3	1.0	40	0	101	95	105				
Sodium	40.3	1.0	40	0	101	95	105				

Associated samples: **H16030349-001C, H16030349-002C, H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICP2-HE_160323A: 13** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **03/23/16 09:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	95	105				
Calcium	25.7	1.0	25	0	103	95	105				
Iron	2.53	0.020	2.5	0	101	95	105				
Magnesium	25.1	1.0	25	0	101	95	105				
Potassium	25.0	1.0	25	0	100	95	105				
Sodium	25.0	1.0	25	0	100	95	105				

Associated samples: **H16030349-001C, H16030349-002C, H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICP2-HE_160323A: 22** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **03/23/16 09:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00442	0.10		0		0	0				
Calcium	490	1.0	500	0	98	80	120				
Iron	191	0.020	200	0	95	80	120				
Magnesium	508	1.0	500	0	102	80	120				
Potassium	0.0341	1.0		0		0	0				
Sodium	0.0223	1.0		0		0	0				

Associated samples: **H16030349-001C, H16030349-002C, H16030349-003C, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113926

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 23** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **03/23/16 09:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.987	0.10	1	0	99	80	120				
Calcium	501	1.0	500	0	100	80	120				
Iron	193	0.020	200	0	96	80	120				
Magnesium	513	1.0	500	0	103	80	120				
Potassium	20.3	1.0	20	0	101	80	120				
Sodium	20.0	1.0	20	0	100	80	120				

Associated samples: **H16030349-001C, H16030349-002C, H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICP2-HE_160323A: 61** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/23/16 12:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.52	0.10	2.5	0	101	90	110				
Calcium	27.0	1.0	25	0	108	90	110				
Iron	2.59	0.020	2.5	0	104	90	110				
Magnesium	25.7	1.0	25	0	103	90	110				
Potassium	26.2	1.0	25	0	105	90	110				
Sodium	25.8	1.0	25	0	103	90	110				

Associated samples: **H16030349-001C, H16030349-002C, H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICP2-HE_160323A: 80** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/23/16 13:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	98	90	110				
Calcium	25.0	1.0	25	0	100	90	110				
Iron	2.47	0.020	2.5	0	99	90	110				
Magnesium	24.7	1.0	25	0	99	90	110				
Potassium	24.8	1.0	25	0	99	90	110				
Sodium	24.7	1.0	25	0	99	90	110				

Associated samples: **H16030349-001C, H16030349-002C, H16030349-003C, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114008

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160325B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**
Analysis Date: **03/25/16 13:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.309	0.10	0.3	0	**103**	90	110				

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160325B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **03/25/16 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	43.5	0.10	40	0	**109**	70	130				

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160325B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **03/25/16 13:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.8	0.10	40	0	**112**	70	130				

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160325B: 38** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**
Analysis Date: **03/25/16 16:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.288	0.10	0.3	0	**96**	90	110				

Associated samples: **H16030349-003C, H16030349-004C**

Run ID :Run Order: **ICPMS204-B_160325B: 39** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **03/25/16 16:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.8	0.10	40	0	**104**	70	130				

Associated samples: **H16030349-003C, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114008

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160325B: 40** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/25/16 16:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.7	0.10	40	0	**107**	70	130				

Associated samples: **H16030349-003C, H16030349-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114229

Date: *12-Apr-16*

Run ID :Run Order: **SOIL DRYING OVEN - BB_160404** SampType: **Sample Duplicate** Lab ID: **H16030349-005ADUP** Method: **D2974**

Analysis Date: **04/05/16 08:35** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	57.5	0.20		0				58.78	2.2	20	

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A, H16030349-017A, H16030349-018A**

Run ID :Run Order: **SOIL DRYING OVEN - BB_160404** SampType: **Sample Duplicate** Lab ID: **H16030349-015ADUP** Method: **D2974**

Analysis Date: **04/05/16 08:35** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	31.0	0.20		0				29.98	3.5	20	

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A, H16030349-017A, H16030349-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114254

Date: *12-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **04/05/16 11:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0575	0.0010	0.06	0	**96**	90	110				
Arsenic	0.0616	0.0010	0.06	0	**103**	90	110				
Barium	0.0590	0.0010	0.06	0	**98**	90	110				
Beryllium	0.0296	0.0010	0.03	0	**99**	90	110				
Boron	0.0618	0.0011	0.06	0	**103**	90	110				
Cadmium	0.0309	0.0010	0.03	0	**103**	90	110				
Chromium	0.0604	0.0010	0.06	0	**101**	90	110				
Cobalt	0.0606	0.0010	0.06	0	**101**	90	110				
Copper	0.0614	0.0010	0.06	0	**102**	90	110				
Lead	0.0589	0.0010	0.06	0	**98**	90	110				
Molybdenum	0.0574	0.0010	0.06	0	**96**	90	110				
Nickel	0.0611	0.0010	0.06	0	**102**	90	110				
Selenium	0.0618	0.0010	0.06	0	**103**	90	110				
Silver	0.0302	0.0010	0.03	0	**101**	90	110				
Uranium	0.0561	0.00030	0.06	0	**94**	90	110				
Vanadium	0.0591	0.0010	0.06	0	**98**	90	110				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-012A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114271

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/05/16 08:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.04	0.10	4	0	101	90	110				
Arsenic	0.799	0.10	0.8	0	100	90	110				
Cadmium	0.399	0.010	0.4	0	100	90	110				
Copper	0.796	0.010	0.8	0	100	90	110				
Iron	4.08	0.030	4	0	102	90	110				
Lead	0.792	0.050	0.8	0	99	90	110				
Manganese	4.04	0.010	4	0	101	90	110				
Nickel	0.799	0.050	0.8	0	100	90	110				
Vanadium	0.815	0.10	0.8	0	102	90	110				
Zinc	0.796	0.010	0.8	0	99	90	110				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A, H16030349-017A, H16030349-018A**

Run ID :Run Order: **ICP2-HE_160405B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/05/16 09:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	521	0.10	500	0	104	80	120				
Arsenic	-0.00245	0.10		0		0	0				
Cadmium	ND	0.010		0		0	0				
Copper	-0.00226	0.010		0		0	0				
Iron	192	0.030	200	0	96	80	120				
Lead	-5.00E-05	0.050		0		0	0				
Manganese	-0.00211	0.010		0		0	0				
Nickel	0.00313	0.050		0		0	0				
Vanadium	-0.000580	0.10		0		0	0				
Zinc	0.00295	0.010		0		0	0				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A, H16030349-017A, H16030349-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114271

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/05/16 09:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528	0.10	500	0	**106**	80	120				
Arsenic	1.01	0.10	1	0	**101**	80	120				
Cadmium	0.945	0.010	1	0	**95**	80	120				
Copper	0.505	0.010	0.5	0	**101**	80	120				
Iron	195	0.030	200	0	**98**	80	120				
Lead	0.952	0.050	1	0	**95**	80	120				
Manganese	0.491	0.010	0.5	0	**98**	80	120				
Nickel	0.947	0.050	1	0	**95**	80	120				
Vanadium	0.501	0.10	0.5	0	**100**	80	120				
Zinc	0.989	0.010	1	0	**99**	80	120				

Associated samples: **H16030349-005A, H16030349-006A, H16030349-007A, H16030349-008A, H16030349-009A, H16030349-010A, H16030349-011A, H16030349-013A, H16030349-014A, H16030349-015A, H16030349-016A, H16030349-017A, H16030349-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114297

Date: *12-Apr-16*

Run ID :Run Order: **ICP2-HE_160405C: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/06/16 09:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.02	0.10	4	0	100	90	110				
Copper	0.794	0.010	0.8	0	99	90	110				
Iron	4.07	0.030	4	0	102	90	110				
Manganese	3.96	0.010	4	0	99	90	110				
Zinc	0.799	0.010	0.8	0	100	90	110				

Associated samples: **H16030349-012A**

Run ID :Run Order: **ICP2-HE_160405C: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/06/16 09:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	510	0.10	500	0	102	80	120				
Copper	-0.00474	0.010		0		0	0				
Iron	189	0.030	200	0	94	80	120				
Manganese	-0.000150	0.010		0		0	0				
Zinc	-0.00217	0.010		0		0	0				

Associated samples: **H16030349-012A**

Run ID :Run Order: **ICP2-HE_160405C: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/06/16 09:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	512	0.10	500	0	102	80	120				
Copper	0.487	0.010	0.5	0	97	80	120				
Iron	189	0.030	200	0	95	80	120				
Manganese	0.471	0.010	0.5	0	94	80	120				
Zinc	0.987	0.010	1	0	99	80	120				

Associated samples: **H16030349-012A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114414

Date: *12-Apr-16*

Run ID :Run Order: **FIA202-HE_160412A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **04/12/16 08:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.246	0.010	0.25	0	98	90	110				

Associated samples: **H16030349-004D**

Run ID :Run Order: **FIA202-HE_160412A: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **04/12/16 08:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0940	0.010	0.1	0	94	90	110				

Associated samples: **H16030349-004D**

Run ID :Run Order: **FIA202-HE_160412A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **04/12/16 08:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00141	0.010		0		0	0				

Associated samples: **H16030349-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16030349
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160318A

Date: *12-Apr-16*

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 1** SampType: **Method Blank** Lab ID: **MB-1_160318A** Method: **A2540 D**

Analysis Date: **03/18/16 13:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_160318A** Method: **A2540 D**

Analysis Date: **03/18/16 13:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	90.0	10	100	0	90	80	120				

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 4** SampType: **Sample Duplicate** Lab ID: **H16030307-002BDUP** Method: **A2540 D**

Analysis Date: **03/18/16 13:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	3.00	10		0				1		5	

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 1** SampType: **Sample Duplicate** Lab ID: **H16030350-001BDUP** Method: **A2540 D**

Analysis Date: **03/18/16 13:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	82.0	20		0				88	7.1	5	R

Associated samples: **H16030349-001A, H16030349-002A, H16030349-003A, H16030349-004A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

Natural Resource Damage Program H16030349

Login completed by: Wanda Johnson
Reviewed by: BL2000\rwilliams
Reviewed Date: 3/22/2016

Date Received: 3/18/2016
Received by: bjs
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	Not Applicable ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Cooler 1 was received at 0.2C, Cooler 2 at -0.2C, Cooler 3 at 0.0C, Cooler 4 at 0.2, Cooler 5 at -0.8 on ice and temperature blanks received. Box 1 was received at 0.2C & box 2 at 0.3 with no ice or temperature blanks. Sediment samples were received partially frozen. wj 03/18/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 1 of 1

PLEASE PRINT (Provide as much information as possible.)

Company Name: NRDP/DOJ	Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☑
Report Mail Address (Required): MT DEQ, P.O. Box 200901, Helena, MT 59620-0901 ☐ No Hard Copy Email:	Contact Name: Ben Quinones; Phone/Fax:	Cell: email bequinones@mt.gov	Sampler: (Please Print) Joe Naughton
	Invoice Contact & Phone: Greg Mullen 444-0228	Purchase Order:	Quote/Bottle Order: 1088
Invoice Address (Required): 1501 E. Lockey, Helena, MT 59620 ☐ No Hard Copy Email:			

Special Report/Formats:
☐ DW ☐ POTW/WWTP ☐ State: ☐ Other:
☐ EDD/EDT (Electronic Data) Format: ☐ LEVEL IV ☐ NELAC

Number of Containers; Sample Type: A W S V B O DW; Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Diss metals and DOC were field filtered. Lab to sieve sediment samples into 3 size fractions. Report sediment metals as dry weight

Shipped by: Hand delivery; Cooler ID(s): Y; Receipt Temp: See comments; On Ice: Y N; Custody Seal On Bottle Y N, On Cooler Y N; Intact Y N; Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR Metals (See list)	Diss. metals (See list)	TPN	NH_3-N, NO_2+NO_3, TP	TSS, VSS	Hardness (TR Ca & Mg)	Total Alk, HCO_3, SO_4, Cl, F	DOC	Total metals sediment (dry weight, see list)	SEE ATTACHED	Comments	LABORATORY USE ONLY
1	SS-01	3-17-2016	1645	SW, IS	↓	↓	↓	↓	↓	↓	↓	↓	↓		C1 = 0.2	H16030349
2	Field duplicate #2, SS-01	3-17-2016	1645	SW	↓	↓	↓	↓	↓	↓	↓	↓			C2 = -0.2	
3	Sediment duplicate #2, SS01	3-17-2016	1645	IS									↓		C3 = 0.0	
4	SS-05A	3-17-2016	1530	SW, IS	↓	↓	↓	↓	↓	↓	↓	↓	↓		C4 = 0.2	
5	SS-15G	3-16-2016	1330	SW, IS	↓	↓	↓	↓	↓	↓	↓	↓	↓		C5 = -0.8	
6	SLAG-01	3-17-2016	1550	IS									↓		Total metals, Sediment, <0.125mm size fraction only, Cu, Zn, Pb, Cd, As only (just these 2 samples)	
7	SS-04	3-17-2016	1615	IS									↓			
8															b1 = 0.2	
9															b2 = 0.3	
10																

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Gary L. Ingman	3/18/2016 0930	Gary L Ingman			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: B. Scher	3/18/16 9:30	Brandy Scher

Sample Disposal: Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ANALYTICAL SUMMARY REPORT

April 13, 2016

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H16030355 Quote ID: H1088

Project Name: Silver Bow Monitoring

Energy Laboratories Inc Helena MT received the following 62 samples for MT DEQ-Federal Superfund on 3/18/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16030355-001	SS-06G	03/17/16 14:30	03/18/16	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended Solids, Suspended Volatile
H16030355-002	SS-07	03/17/16 14:00	03/18/16	Aqueous	Same As Above
H16030355-003	SS-08	03/17/16 13:00	03/18/16	Aqueous	Same As Above
H16030355-004	Field Blank #2, SS-08	03/17/16 12:30	03/18/16	Aqueous	Same As Above
H16030355-005	SS-10A	03/17/16 11:15	03/18/16	Aqueous	Same As Above
H16030355-006	SS-10B	03/17/16 10:45	03/18/16	Aqueous	Same As Above
H16030355-007	SS-11C	03/17/16 9:45	03/18/16	Aqueous	Same As Above
H16030355-008	SS-11D	03/17/16 9:00	03/18/16	Aqueous	Same As Above
H16030355-009	SS-13	03/16/16 16:45	03/18/16	Aqueous	Same As Above
H16030355-010	SS-14	03/16/16 16:00	03/18/16	Aqueous	Same As Above
H16030355-011	SS-15A	03/16/16 14:30	03/18/16	Aqueous	Same As Above
H16030355-012	Field Blank #1, SS-15A	03/16/16 14:00	03/18/16	Aqueous	Same As Above
H16030355-013	SS-15B	03/16/16 13:00	03/18/16	Aqueous	Same As Above
H16030355-014	SS-16B	03/16/16 11:15	03/18/16	Aqueous	Same As Above
H16030355-015	Field Duplicate #1, SS-16B	03/16/16 11:15	03/18/16	Aqueous	Same As Above
H16030355-016	SS-17D	03/16/16 10:15	03/18/16	Aqueous	Same As Above
H16030355-017	SS-19	03/16/16 9:00	03/18/16	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H16030355-018	SS-06G Sediment Seive <0.063mm	03/17/16 14:30	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-019	SS-06G Sediment Seive 0.063-1mm	03/17/16 14:30	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-020	SS-06G Sediment Seive 1-2mm	03/17/16 14:30	03/18/16	Sediment	Same As Above
H16030355-021	SS-07 Sediment Seive <0.063mm	03/17/16 14:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-022	SS-07 Sediment Seive 0.063-1mm	03/17/16 14:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-023	SS-07 Sediment Seive 1-2mm	03/17/16 14:00	03/18/16	Sediment	Same As Above
H16030355-024	SS-08 Sediment Seive <0.063	03/17/16 13:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-025	SS-08 Sediment Seive 0.063-1mm	03/17/16 13:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-026	SS-08 Sediment Seive 1-2mm	03/17/16 13:00	03/18/16	Sediment	Same As Above
H16030355-027	SS-10A Sediment Seive <0.063mm	03/17/16 11:15	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-028	SS-10A Sediment Seive 0.063-1mm	03/17/16 11:15	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet

ANALYTICAL SUMMARY REPORT

H16030355-029	SS-10 Sediment Seive 1-2mm	03/17/16 11:15	03/18/16	Sediment	Same As Above
H16030355-030	SS-10B Sediment Seive <0.063	03/17/16 10:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-031	SS-10B Sediment Seive 0.063-1mm	03/17/16 10:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-032	SS-10B Sediment Seive 1-2mm	03/17/16 10:45	03/18/16	Sediment	Same As Above
H16030355-033	SS-11C Sediment Seive <0.063	03/17/16 9:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-034	SS-11C Sediment Seive 0.063-1mm	03/17/16 9:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-035	SS-11C Sediment Seive 1-2mm	03/17/16 9:45	03/18/16	Sediment	Same As Above
H16030355-036	SS-11D Sediment Seive <0.063	03/17/16 9:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-037	SS-11D Sediment Seive 0.063-1mm	03/17/16 9:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-038	SS-11D Sediment Seive 1-2mm	03/17/16 9:00	03/18/16	Sediment	Same As Above
H16030355-039	SS-13 Sediment Seive <0.063	03/16/16 16:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation

ANALYTICAL SUMMARY REPORT

H16030355-040	SS-13 Sediment Seive 0.063-1mm	03/16/16 16:45	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-041	SS-13 Sediment Seive 1-2mm	03/16/16 16:45	03/18/16	Sediment	Same As Above
H16030355-042	SS-14 Sediment Seive <0.063	03/16/16 16:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-043	SS-14 Sediment Seive 0.063-1mm	03/16/16 16:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-044	SS-14 Sediment Seive 1-2mm	03/16/16 16:00	03/18/16	Sediment	Same As Above
H16030355-045	SS-15A Sediment Seive <0.063	03/16/16 14:30	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-046	SS-15A Sediment Seive 0.063-1mm	03/16/16 14:30	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-047	SS-15A Sediment Seive 1-2mm	03/16/16 14:30	03/18/16	Sediment	Same As Above
H16030355-048	SS-15B Sediment Seive <0.063	03/16/16 13:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-049	SS-15B Sediment Seive 0.063-1mm	03/16/16 13:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-050	SS-15B Sediment Seive 1-2mm	03/16/16 13:00	03/18/16	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H16030355-051	Sediment duplicate #1, SS-15B Sediment Seive <0.063	03/16/16 13:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-052	Sediment duplicate #1, SS-15B Sediment Seive 0.063-1mm	03/16/16 13:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-053	Sediment duplicate #1, SS-15B Sediment Seive 1-2mm	03/16/16 13:00	03/18/16	Sediment	Same As Above
H16030355-054	SS-16B Sediment Seive <0.063	03/16/16 11:15	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-055	SS-16B Sediment Seive 0.063-1mm	03/16/16 11:15	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-056	SS-16B Sediment Seive 1-2mm	03/16/16 11:15	03/18/16	Sediment	Same As Above
H16030355-060	SS-17D Sediment Seive <0.063	03/16/16 10:15	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16030355-061	SS-17D Sediment Seive 0.063-1mm	03/16/16 10:15	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-062	SS-17D Sediment Seive 1-2mm	03/16/16 10:15	03/18/16	Sediment	Same As Above
H16030355-063	SS-19 Sediment Seive <0.063	03/16/16 9:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation

ANALYTICAL SUMMARY REPORT

H16030355-064	SS-19 Sediment Seive 0.063-1mm	03/16/16 9:00	03/18/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16030355-065	SS-19 Sediment Seive 1-2mm	03/16/16 9:00	03/18/16	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Work Order: H16030355

Report Date: 04/13/16

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16030355-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	20	mg/L		1		A2540 D	03/18/16 13:30 / edp		L24 (14410200)_160318B	15	TSS160318A
Solids, Volatile Suspended	5	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	6	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	93	mg/L		4		A2320 B	03/21/16 11:50 / SR		PHSC_101-H_160321A	45	R113775
Bicarbonate as HCO3	110	mg/L		4		A2320 B	03/21/16 11:50 / SR		PHSC_101-H_160321A	45	R113775
Chloride	71	mg/L		1		E300.0	03/21/16 17:24 / SR		IC102-H_160321A	22	R113849
Sulfate	77	mg/L		1		E300.0	03/21/16 17:24 / SR		IC102-H_160321A	22	R113849
Hardness as CaCO3	223	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	2	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.3	mg/L		0.5		A5310 C	03/25/16 02:07 / eli-c		SUB-C210272	12	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:26 / cm		FIA203-HE_160321A	65	R113786
Nitrogen, Nitrate+Nitrite as N	1.08	mg/L		0.02		E353.2	03/21/16 14:00 / cm		FIA203-HE_160321C	46	R113833
Nitrogen, Total	1.53	mg/L		0.05		A4500 N-C	03/22/16 11:39 / cm	03/21/16 14:04	FIA203-HE_160322A	48	32327
Phosphorus, Total as P	0.099	mg/L		0.003		E365.1	03/21/16 14:03 / cm	03/21/16 13:05	FIA202-HE_160321A	39	32324
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 12:32 / sld		ICP2-HE_160321B	63	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Arsenic	0.003	mg/L		0.001		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Barium	0.042	mg/L		0.003		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Boron	0.1	mg/L		0.1		E200.7	03/21/16 12:32 / sld		ICP2-HE_160321B	63	R113847
Cadmium	0.00003	mg/L		0.00003		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Calcium	47	mg/L		1		E200.7	03/21/16 12:32 / sld		ICP2-HE_160321B	63	R113847
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Copper	0.004	mg/L		0.001		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Iron	0.09	mg/L		0.02		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16030355-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Magnesium	26	mg/L		1		E200.7	03/21/16 12:32 / sld		ICP2-HE_160321B	63	R113847
Manganese	0.116	mg/L		0.001		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:21 / rgk	03/21/16 12:05	HGCV202-H_160322A	57	32322
Molybdenum	0.005	mg/L		0.005		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Potassium	4	mg/L		1		E200.7	03/21/16 12:32 / sld		ICP2-HE_160321B	63	R113847
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Silver	ND	mg/L		0.0002		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Sodium	21	mg/L		1		E200.7	03/21/16 12:32 / sld		ICP2-HE_160321B	63	R113847
Uranium	0.0050	mg/L		0.0002		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
Zinc	0.011	mg/L		0.008		E200.8	03/23/16 23:14 / dck		ICPMS204-B_160323A	161	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.435	mg/L		0.009		E200.7	03/23/16 13:32 / sld	03/21/16 08:28	ICP2-HE_160323A	85	32317
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Arsenic	0.005	mg/L		0.001		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Barium	0.051	mg/L		0.003		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Boron	0.1	mg/L		0.1		E200.7	03/23/16 13:32 / sld	03/21/16 08:28	ICP2-HE_160323A	85	32317
Cadmium	0.00014	mg/L		0.00003		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Calcium	47	mg/L		1		E200.7	03/23/16 13:32 / sld	03/21/16 08:28	ICP2-HE_160323A	85	32317
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Copper	0.014	mg/L		0.001		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Iron	1.02	mg/L		0.02		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Lead	0.0041	mg/L		0.0003		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Magnesium	26	mg/L		1		E200.7	03/23/16 13:32 / sld	03/21/16 08:28	ICP2-HE_160323A	85	32317
Manganese	0.156	mg/L		0.001		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Mercury	7.9E-06	mg/L		5E-06		E245.1	03/22/16 14:24 / rgk	03/21/16 12:05	HGCV202-H_160322A	58	32322
Molybdenum	0.005	mg/L		0.005		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16030355-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Potassium	4	mg/L		1		E200.7	03/23/16 13:32 / sld	03/21/16 08:28	ICP2-HE_160323A	85	32317
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Silver	ND	mg/L		0.0002		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Sodium	21	mg/L		1		E200.7	03/23/16 13:32 / sld	03/21/16 08:28	ICP2-HE_160323A	85	32317
Uranium	0.0057	mg/L		0.0002		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317
Zinc	0.033	mg/L		0.008		E200.8	03/23/16 23:17 / dck	03/21/16 08:28	ICPMS204-B_160323A	162	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16030355-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	14	mg/L		1		A2540 D	03/18/16 13:31 / edp		L24 (14410200)_160318B	16	TSS160318A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	7	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	03/21/16 11:56 / SR		PHSC_101-H_160321A	47	R113775
Bicarbonate as HCO3	130	mg/L		4		A2320 B	03/21/16 11:56 / SR		PHSC_101-H_160321A	47	R113775
Chloride	85	mg/L		1		E300.0	03/21/16 17:35 / SR		IC102-H_160321A	23	R113849
Sulfate	70	mg/L		1		E300.0	03/21/16 17:35 / SR		IC102-H_160321A	23	R113849
Hardness as CaCO3	220	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	3	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.3	mg/L		0.5		A5310 C	03/25/16 02:26 / eli-c		SUB-C210272	13	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	1.7	mg/L	D	0.1		E350.1	03/21/16 10:44 / cm		FIA203-HE_160321A	80	R113786
Nitrogen, Nitrate+Nitrite as N	2.58	mg/L		0.02		E353.2	03/21/16 14:44 / cm		FIA203-HE_160321C	83	R113833
Nitrogen, Total	4.9	mg/L	D	0.2		A4500 N-C	03/22/16 12:08 / cm	03/21/16 14:04	FIA203-HE_160322A	72	32327
Phosphorus, Total as P	0.347	mg/L		0.003		E365.1	03/23/16 14:25 / cm	03/22/16 12:38	FIA202-HE_160323A	14	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 12:36 / sld		ICP2-HE_160321B	64	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Arsenic	0.003	mg/L		0.001		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Barium	0.040	mg/L		0.003		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Boron	0.2	mg/L		0.1		E200.7	03/21/16 12:36 / sld		ICP2-HE_160321B	64	R113847
Cadmium	0.00005	mg/L		0.00003		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Calcium	46	mg/L		1		E200.7	03/21/16 12:36 / sld		ICP2-HE_160321B	64	R113847
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Copper	0.005	mg/L		0.001		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Iron	0.08	mg/L		0.02		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16030355-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Magnesium	28	mg/L		1		E200.7	03/21/16 12:36 / sld		ICP2-HE_160321B	64	R113847
Manganese	0.102	mg/L		0.001		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:32 / rgk	03/21/16 12:05	HGCV202-H_160322A	61	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 12:36 / sld		ICP2-HE_160321B	64	R113847
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Silver	ND	mg/L		0.0002		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Sodium	29	mg/L		1		E200.7	03/21/16 12:36 / sld		ICP2-HE_160321B	64	R113847
Uranium	0.0042	mg/L		0.0002		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
Zinc	0.036	mg/L		0.008		E200.8	03/23/16 23:20 / dck		ICPMS204-B_160323A	163	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.265	mg/L		0.009		E200.7	03/23/16 13:36 / sld	03/21/16 08:28	ICP2-HE_160323A	86	32317
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Arsenic	0.005	mg/L		0.001		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Barium	0.045	mg/L		0.003		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Boron	0.2	mg/L		0.1		E200.7	03/23/16 13:36 / sld	03/21/16 08:28	ICP2-HE_160323A	86	32317
Cadmium	0.00013	mg/L		0.00003		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Calcium	45	mg/L		1		E200.7	03/23/16 13:36 / sld	03/21/16 08:28	ICP2-HE_160323A	86	32317
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Copper	0.011	mg/L		0.001		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Iron	0.69	mg/L		0.02		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Lead	0.0026	mg/L		0.0003		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Magnesium	27	mg/L		1		E200.7	03/23/16 13:36 / sld	03/21/16 08:28	ICP2-HE_160323A	86	32317
Manganese	0.132	mg/L		0.001		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:35 / rgk	03/21/16 12:05	HGCV202-H_160322A	62	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16030355-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Potassium	5	mg/L		1		E200.7	03/23/16 13:36 / sld	03/21/16 08:28	ICP2-HE_160323A	86	32317
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Silver	ND	mg/L		0.0002		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Sodium	28	mg/L		1		E200.7	03/23/16 13:36 / sld	03/21/16 08:28	ICP2-HE_160323A	86	32317
Uranium	0.0047	mg/L		0.0002		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317
Zinc	0.050	mg/L		0.008		E200.8	03/23/16 23:24 / dck	03/21/16 08:28	ICPMS204-B_160323A	164	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16030355-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	03/18/16 13:31 / edp		L24 (14410200)_160318B	17	TSS160318A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	8	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	03/21/16 12:01 / SR		PHSC_101-H_160321A	49	R113775
Bicarbonate as HCO3	130	mg/L		4		A2320 B	03/21/16 12:01 / SR		PHSC_101-H_160321A	49	R113775
Chloride	31	mg/L		1		E300.0	03/21/16 17:46 / SR		IC102-H_160321A	24	R113849
Sulfate	77	mg/L		1		E300.0	03/21/16 17:46 / SR		IC102-H_160321A	24	R113849
Hardness as CaCO3	160	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	4	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.6	mg/L		0.5		A5310 C	03/25/16 02:46 / eli-c		SUB-C210272	14	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	0.17	mg/L		0.05		E350.1	03/21/16 10:33 / cm		FIA203-HE_160321A	71	R113786
Nitrogen, Nitrate+Nitrite as N	1.84	mg/L		0.02		E353.2	03/21/16 14:03 / cm		FIA203-HE_160321C	48	R113833
Nitrogen, Total	2.57	mg/L	D	0.06		A4500 N-C	03/22/16 12:09 / cm	03/21/16 14:04	FIA203-HE_160322A	73	32327
Phosphorus, Total as P	0.170	mg/L		0.003		E365.1	03/23/16 14:28 / cm	03/22/16 12:38	FIA202-HE_160323A	17	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 12:40 / sld		ICP2-HE_160321B	65	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Arsenic	0.003	mg/L		0.001		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Barium	0.038	mg/L		0.003		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 12:40 / sld		ICP2-HE_160321B	65	R113847
Cadmium	0.00013	mg/L		0.00003		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Calcium	46	mg/L		1		E200.7	03/21/16 12:40 / sld		ICP2-HE_160321B	65	R113847
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Copper	0.007	mg/L		0.001		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Iron	0.14	mg/L		0.02		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16030355-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Magnesium	12	mg/L		1		E200.7	03/21/16 12:40 / sld		ICP2-HE_160321B	65	R113847
Manganese	0.159	mg/L		0.001		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:38 / rgk	03/21/16 12:05	HGCV202-H_160322A	63	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 12:40 / sld		ICP2-HE_160321B	65	R113847
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Silver	ND	mg/L		0.0002		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Sodium	29	mg/L		1		E200.7	03/21/16 12:40 / sld		ICP2-HE_160321B	65	R113847
Uranium	0.0050	mg/L		0.0002		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
Zinc	0.054	mg/L		0.008		E200.8	03/23/16 23:37 / dck		ICPMS204-B_160323A	168	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.134	mg/L		0.009		E200.7	03/23/16 13:40 / sld	03/21/16 08:28	ICP2-HE_160323A	87	32317
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Arsenic	0.004	mg/L		0.001		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Barium	0.039	mg/L		0.003		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 13:40 / sld	03/21/16 08:28	ICP2-HE_160323A	87	32317
Cadmium	0.00020	mg/L		0.00003		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Calcium	45	mg/L		1		E200.7	03/23/16 13:40 / sld	03/21/16 08:28	ICP2-HE_160323A	87	32317
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Copper	0.014	mg/L		0.001		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Iron	0.51	mg/L		0.02		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Lead	0.0021	mg/L		0.0003		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Magnesium	12	mg/L		1		E200.7	03/23/16 13:40 / sld	03/21/16 08:28	ICP2-HE_160323A	87	32317
Manganese	0.176	mg/L		0.001		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Mercury	8.1E-06	mg/L		5E-06		E245.1	03/22/16 14:41 / rgk	03/21/16 12:05	HGCV202-H_160322A	64	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16030355-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Potassium	5	mg/L		1		E200.7	03/23/16 13:40 / sld	03/21/16 08:28	ICP2-HE_160323A	87	32317
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 21:58 / dck	03/21/16 08:28	ICPMS204-B_160324B	49	32317
Sodium	28	mg/L		1		E200.7	03/23/16 13:40 / sld	03/21/16 08:28	ICP2-HE_160323A	87	32317
Uranium	0.0052	mg/L		0.0002		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317
Zinc	0.066	mg/L		0.008		E200.8	03/23/16 23:50 / dck	03/21/16 08:28	ICPMS204-B_160323A	172	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2, SS-08
Lab ID: H16030355-004
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 12:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	03/18/16 13:31 / edp		L24 (14410200)_160318B	18	TSS160318A
Solids, Volatile Suspended	ND	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	9	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	03/21/16 12:31 / SR		PHSC_101-H_160321A	56	R113775
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	03/21/16 12:31 / SR		PHSC_101-H_160321A	56	R113775
Chloride	ND	mg/L		1		E300.0	03/21/16 17:57 / SR		IC102-H_160321A	25	R113849
Sulfate	ND	mg/L		1		E300.0	03/21/16 17:57 / SR		IC102-H_160321A	25	R113849
Hardness as CaCO3	ND	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	5	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	03/25/16 03:05 / eli-c		SUB-C210272	15	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:34 / cm		FIA203-HE_160321A	72	R113786
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	03/21/16 14:04 / cm		FIA203-HE_160321C	49	R113833
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	03/22/16 11:43 / cm	03/21/16 14:04	FIA203-HE_160322A	51	32327
Phosphorus, Total as P	ND	mg/L		0.003		E365.1	03/23/16 14:29 / cm	03/22/16 12:38	FIA202-HE_160323A	18	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 12:43 / sld		ICP2-HE_160321B	66	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Arsenic	ND	mg/L		0.001		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Barium	ND	mg/L		0.003		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 12:43 / sld		ICP2-HE_160321B	66	R113847
Cadmium	ND	mg/L		0.00003		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Calcium	ND	mg/L		1		E200.7	03/21/16 12:43 / sld		ICP2-HE_160321B	66	R113847
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Copper	ND	mg/L		0.001		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Iron	ND	mg/L		0.02		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2, SS-08
Lab ID: H16030355-004
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 12:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Magnesium	ND	mg/L		1		E200.7	03/21/16 12:43 / sld		ICP2-HE_160321B	66	R113847
Manganese	ND	mg/L		0.001		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:44 / rgk	03/21/16 12:05	HGCV202-H_160322A	65	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Potassium	ND	mg/L		1		E200.7	03/21/16 12:43 / sld		ICP2-HE_160321B	66	R113847
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Silver	ND	mg/L		0.0002		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Sodium	ND	mg/L		1		E200.7	03/21/16 12:43 / sld		ICP2-HE_160321B	66	R113847
Uranium	ND	mg/L		0.0002		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:53 / dck		ICPMS204-B_160323A	173	R113908
Zinc	0.013	mg/L		0.008		E200.8	03/24/16 22:02 / dck		ICPMS204-B_160324B	50	R113987
METALS, TOTAL RECOVERABLE											
Aluminum	ND	mg/L		0.009		E200.7	03/23/16 13:44 / sld	03/21/16 08:28	ICP2-HE_160323A	88	32317
Antimony	ND	mg/L		0.0005		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Arsenic	ND	mg/L		0.001		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Barium	ND	mg/L		0.003		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 13:44 / sld	03/21/16 08:28	ICP2-HE_160323A	88	32317
Cadmium	ND	mg/L		0.00003		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Calcium	ND	mg/L		1		E200.7	03/23/16 13:44 / sld	03/21/16 08:28	ICP2-HE_160323A	88	32317
Chromium	ND	mg/L		0.01		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Cobalt	ND	mg/L		0.01		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Copper	ND	mg/L		0.001		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Iron	ND	mg/L		0.02		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Lead	ND	mg/L		0.0003		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Magnesium	ND	mg/L		1		E200.7	03/23/16 13:44 / sld	03/21/16 08:28	ICP2-HE_160323A	88	32317
Manganese	ND	mg/L		0.001		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:47 / rgk	03/21/16 12:05	HGCV202-H_160322A	66	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2, SS-08
Lab ID: H16030355-004
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 12:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Potassium	ND	mg/L		1		E200.7	03/23/16 13:44 / sld	03/21/16 08:28	ICP2-HE_160323A	88	32317
Selenium	ND	mg/L		0.001		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Silver	ND	mg/L		0.0002		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Sodium	ND	mg/L		1		E200.7	03/23/16 13:44 / sld	03/21/16 08:28	ICP2-HE_160323A	88	32317
Uranium	ND	mg/L		0.0002		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Vanadium	ND	mg/L		0.1		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317
Zinc	ND	mg/L		0.008		E200.8	03/23/16 23:56 / dck	03/21/16 08:28	ICPMS204-B_160323A	174	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16030355-005
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	14	mg/L		1		A2540 D	03/18/16 13:32 / edp		L24 (14410200)_160318B	19	TSS160318A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	10	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	03/21/16 12:48 / SR		PHSC_101-H_160321A	62	R113775
Bicarbonate as HCO3	120	mg/L		4		A2320 B	03/21/16 12:48 / SR		PHSC_101-H_160321A	62	R113775
Chloride	28	mg/L		1		E300.0	03/21/16 18:08 / SR		IC102-H_160321A	26	R113849
Sulfate	79	mg/L		1		E300.0	03/21/16 18:08 / SR		IC102-H_160321A	26	R113849
Hardness as CaCO3	161	mg/L		1		A2340 B	03/24/16 15:35 / sld		WATERCALC_160324A	16	R113964
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.5	mg/L		0.5		A5310 C	03/25/16 03:20 / eli-c		SUB-C210272	16	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	0.06	mg/L		0.05		E350.1	03/21/16 10:35 / cm		FIA203-HE_160321A	73	R113786
Nitrogen, Nitrate+Nitrite as N	1.22	mg/L		0.02		E353.2	03/21/16 14:05 / cm		FIA203-HE_160321C	50	R113833
Nitrogen, Total	1.83	mg/L		0.05		A4500 N-C	03/22/16 11:44 / cm	03/21/16 14:04	FIA203-HE_160322A	52	32327
Phosphorus, Total as P	0.206	mg/L		0.003		E365.1	03/23/16 14:30 / cm	03/22/16 12:38	FIA202-HE_160323A	19	32336
METALS, DISSOLVED											
Aluminum	0.010	mg/L		0.009		E200.8	03/25/16 18:01 / dck		ICPMS204-B_160325B	62	R114008
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Arsenic	0.003	mg/L		0.001		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Barium	0.036	mg/L		0.003		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 13:05 / sld		ICP2-HE_160321B	72	R113847
Cadmium	0.00021	mg/L		0.00003		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Calcium	47	mg/L		1		E200.7	03/21/16 13:05 / sld		ICP2-HE_160321B	72	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Copper	0.017	mg/L		0.001		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Iron	0.14	mg/L		0.02		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16030355-005
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	0.0003	mg/L		0.0003		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Magnesium	12	mg/L		1		E200.7	03/21/16 13:05 / sld		ICP2-HE_160321B	72	R113847
Manganese	0.209	mg/L		0.001		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/22/16 14:50 / rgk	03/21/16 12:05	HGCV202-H_160322A	67	32322
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 13:05 / sld		ICP2-HE_160321B	72	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Sodium	26	mg/L		1		E200.7	03/21/16 13:05 / sld		ICP2-HE_160321B	72	R113847
Uranium	0.0049	mg/L		0.0002		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
Zinc	0.079	mg/L		0.008		E200.8	03/24/16 00:00 / dck		ICPMS204-B_160323A	175	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.229	mg/L		0.009		E200.7	03/23/16 13:48 / sld	03/21/16 08:28	ICP2-HE_160323A	89	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Arsenic	0.004	mg/L		0.001		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Barium	0.042	mg/L		0.003		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 13:48 / sld	03/21/16 08:28	ICP2-HE_160323A	89	32317
Cadmium	0.00040	mg/L		0.00003		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Calcium	45	mg/L		1		E200.7	03/23/16 13:48 / sld	03/21/16 08:28	ICP2-HE_160323A	89	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Copper	0.038	mg/L		0.001		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Iron	0.74	mg/L		0.02		E200.8	03/25/16 18:04 / dck	03/21/16 08:28	ICPMS204-B_160325B	63	32317
Lead	0.0032	mg/L		0.0003		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Magnesium	11	mg/L		1		E200.7	03/23/16 13:48 / sld	03/21/16 08:28	ICP2-HE_160323A	89	32317
Manganese	0.242	mg/L		0.001		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Mercury	0.000012	mg/L		5E-06		E245.1	03/22/16 14:53 / rgk	03/21/16 12:05	HGCV202-H_160322A	68	32322
Molybdenum	0.005	mg/L		0.005		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16030355-005
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Potassium	5	mg/L		1		E200.7	03/23/16 13:48 / sld	03/21/16 08:28	ICP2-HE_160323A	89	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Sodium	26	mg/L		1		E200.7	03/23/16 13:48 / sld	03/21/16 08:28	ICP2-HE_160323A	89	32317
Uranium	0.0056	mg/L		0.0002		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317
Zinc	0.116	mg/L		0.008		E200.8	03/24/16 00:03 / dck	03/21/16 08:28	ICPMS204-B_160323A	176	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16030355-006
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 10:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	13	mg/L		1		A2540 D	03/18/16 13:32 / edp		L24 (14410200)_160318B	20	TSS160318A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	11	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	03/21/16 12:43 / SR		PHSC_101-H_160321A	60	R113775
Bicarbonate as HCO3	120	mg/L		4		A2320 B	03/21/16 12:43 / SR		PHSC_101-H_160321A	60	R113775
Chloride	27	mg/L		1		E300.0	03/21/16 18:20 / SR		IC102-H_160321A	27	R113849
Sulfate	79	mg/L		1		E300.0	03/21/16 18:20 / SR		IC102-H_160321A	27	R113849
Hardness as CaCO3	158	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	6	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.7	mg/L		0.5		A5310 C	03/25/16 04:13 / eli-c		SUB-C210272	18	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	0.08	mg/L		0.05		E350.1	03/21/16 10:36 / cm		FIA203-HE_160321A	74	R113786
Nitrogen, Nitrate+Nitrite as N	1.26	mg/L		0.02		E353.2	03/21/16 14:06 / cm		FIA203-HE_160321C	51	R113833
Nitrogen, Total	1.88	mg/L		0.05		A4500 N-C	03/22/16 11:45 / cm	03/21/16 14:04	FIA203-HE_160322A	53	32327
Phosphorus, Total as P	0.221	mg/L		0.003		E365.1	03/23/16 14:31 / cm	03/22/16 12:38	FIA202-HE_160323A	20	32336
METALS, DISSOLVED											
Aluminum	0.010	mg/L		0.009		E200.8	03/25/16 18:08 / dck		ICPMS204-B_160325B	64	R114008
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Arsenic	0.003	mg/L		0.001		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Barium	0.037	mg/L		0.003		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 13:09 / sld		ICP2-HE_160321B	73	R113847
Cadmium	0.00023	mg/L		0.00003		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Calcium	47	mg/L		1		E200.7	03/21/16 13:09 / sld		ICP2-HE_160321B	73	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Copper	0.017	mg/L		0.001		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Iron	0.15	mg/L		0.02		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16030355-006
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 10:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Magnesium	12	mg/L		1		E200.7	03/21/16 13:09 / sld		ICP2-HE_160321B	73	R113847
Manganese	0.214	mg/L		0.001		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/08/16 12:35 / rgk	03/22/16 08:32	HGCV202-H_160408A	15	32332
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 13:09 / sld		ICP2-HE_160321B	73	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Sodium	26	mg/L		1		E200.7	03/21/16 13:09 / sld		ICP2-HE_160321B	73	R113847
Uranium	0.0049	mg/L		0.0002		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
Zinc	0.086	mg/L		0.008		E200.8	03/24/16 00:06 / dck		ICPMS204-B_160323A	177	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.196	mg/L		0.009		E200.7	03/23/16 13:51 / sld	03/21/16 08:28	ICP2-HE_160323A	90	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Arsenic	0.004	mg/L		0.001		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Barium	0.042	mg/L		0.003		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 13:51 / sld	03/21/16 08:28	ICP2-HE_160323A	90	32317
Cadmium	0.00039	mg/L		0.00003		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Calcium	45	mg/L		1		E200.7	03/23/16 13:51 / sld	03/21/16 08:28	ICP2-HE_160323A	90	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Copper	0.035	mg/L		0.001		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Iron	0.64	mg/L		0.02		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Lead	0.0027	mg/L		0.0003		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Magnesium	11	mg/L		1		E200.7	03/23/16 13:51 / sld	03/21/16 08:28	ICP2-HE_160323A	90	32317
Manganese	0.242	mg/L		0.001		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Mercury	0.000016	mg/L		5E-06		E245.1	04/12/16 11:47 / rgk	04/11/16 08:14	HGCV202-H_160412A	22	32552
Molybdenum	0.005	mg/L		0.005		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16030355-006
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 10:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Potassium	4	mg/L		1		E200.7	03/23/16 13:51 / sld	03/21/16 08:28	ICP2-HE_160323A	90	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Sodium	25	mg/L		1		E200.7	03/23/16 13:51 / sld	03/21/16 08:28	ICP2-HE_160323A	90	32317
Uranium	0.0054	mg/L		0.0002		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317
Zinc	0.114	mg/L		0.008		E200.8	03/24/16 00:09 / dck	03/21/16 08:28	ICPMS204-B_160323A	178	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16030355-007
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	10	mg/L		1		A2540 D	03/18/16 13:32 / edp		L24 (14410200)_160318B	21	TSS160318A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	12	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	03/21/16 12:53 / SR		PHSC_101-H_160321A	64	R113775
Bicarbonate as HCO3	130	mg/L		4		A2320 B	03/21/16 12:53 / SR		PHSC_101-H_160321A	64	R113775
Chloride	52	mg/L		1		E300.0	03/21/16 19:26 / SR		IC102-H_160321A	33	R113849
Sulfate	88	mg/L		1		E300.0	03/21/16 19:26 / SR		IC102-H_160321A	33	R113849
Hardness as CaCO3	203	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	7	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.5	mg/L		0.5		A5310 C	03/25/16 05:22 / eli-c		SUB-C210272	22	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	0.29	mg/L		0.05		E350.1	03/21/16 10:38 / cm		FIA203-HE_160321A	75	R113786
Nitrogen, Nitrate+Nitrite as N	1.43	mg/L		0.02		E353.2	03/21/16 14:07 / cm		FIA203-HE_160321C	52	R113833
Nitrogen, Total	2.31	mg/L	D	0.06		A4500 N-C	03/22/16 12:10 / cm	03/21/16 14:04	FIA203-HE_160322A	74	32327
Phosphorus, Total as P	0.262	mg/L		0.003		E365.1	03/23/16 14:32 / cm	03/22/16 12:38	FIA202-HE_160323A	21	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 13:13 / sld		ICP2-HE_160321B	74	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Arsenic	0.004	mg/L		0.001		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Barium	0.040	mg/L		0.003		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 13:13 / sld		ICP2-HE_160321B	74	R113847
Cadmium	0.00028	mg/L		0.00003		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Calcium	61	mg/L		1		E200.7	03/21/16 13:13 / sld		ICP2-HE_160321B	74	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Copper	0.018	mg/L		0.001		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Iron	0.14	mg/L		0.02		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16030355-007
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	0.0003	mg/L		0.0003		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Magnesium	13	mg/L		1		E200.7	03/21/16 13:13 / sld		ICP2-HE_160321B	74	R113847
Manganese	0.280	mg/L		0.001		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/08/16 12:47 / rgk	03/22/16 08:32	HGCV202-H_160408A	19	32332
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 13:13 / sld		ICP2-HE_160321B	74	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Sodium	30	mg/L		1		E200.7	03/21/16 13:13 / sld		ICP2-HE_160321B	74	R113847
Uranium	0.0051	mg/L		0.0002		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
Zinc	0.136	mg/L		0.008		E200.8	03/24/16 00:22 / dck		ICPMS204-B_160323A	182	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.132	mg/L		0.009		E200.7	03/23/16 13:55 / sld	03/21/16 08:28	ICP2-HE_160323A	91	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Barium	0.045	mg/L		0.003		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 13:55 / sld	03/21/16 08:28	ICP2-HE_160323A	91	32317
Cadmium	0.00047	mg/L		0.00003		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Calcium	60	mg/L		1		E200.7	03/23/16 13:55 / sld	03/21/16 08:28	ICP2-HE_160323A	91	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Copper	0.031	mg/L		0.001		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Iron	0.49	mg/L		0.02		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Lead	0.0018	mg/L		0.0003		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Magnesium	13	mg/L		1		E200.7	03/23/16 13:55 / sld	03/21/16 08:28	ICP2-HE_160323A	91	32317
Manganese	0.313	mg/L		0.001		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Mercury	0.000014	mg/L		5E-06		E245.1	04/12/16 11:56 / rgk	04/11/16 08:14	HGCV202-H_160412A	25	32552
Molybdenum	0.005	mg/L		0.005		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16030355-007
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Potassium	5	mg/L		1		E200.7	03/23/16 13:55 / sld	03/21/16 08:28	ICP2-HE_160323A	91	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Sodium	30	mg/L		1		E200.7	03/23/16 13:55 / sld	03/21/16 08:28	ICP2-HE_160323A	91	32317
Uranium	0.0057	mg/L		0.0002		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317
Zinc	0.162	mg/L		0.008		E200.8	03/24/16 00:26 / dck	03/21/16 08:28	ICPMS204-B_160323A	183	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16030355-008
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	10	mg/L		1		A2540 D	03/18/16 13:33 / edp		L24 (14410200)_160318B	22	TSS160318A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	13	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	03/21/16 12:59 / SR		PHSC_101-H_160321A	66	R113775
Bicarbonate as HCO3	120	mg/L		4		A2320 B	03/21/16 12:59 / SR		PHSC_101-H_160321A	66	R113775
Chloride	51	mg/L		1		E300.0	03/21/16 19:37 / SR		IC102-H_160321A	34	R113849
Sulfate	81	mg/L		1		E300.0	03/21/16 19:37 / SR		IC102-H_160321A	34	R113849
Hardness as CaCO3	187	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	8	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	6.3	mg/L		0.5		A5310 C	03/25/16 05:41 / eli-c		SUB-C210272	23	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	0.38	mg/L		0.05		E350.1	03/21/16 10:39 / cm		FIA203-HE_160321A	76	R113786
Nitrogen, Nitrate+Nitrite as N	1.34	mg/L		0.02		E353.2	03/21/16 14:09 / cm		FIA203-HE_160321C	53	R113833
Nitrogen, Total	2.51	mg/L	D	0.06		A4500 N-C	03/22/16 12:12 / cm	03/21/16 14:04	FIA203-HE_160322A	75	32327
Phosphorus, Total as P	0.266	mg/L		0.003		E365.1	03/23/16 14:33 / cm	03/22/16 12:38	FIA202-HE_160323A	22	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 13:17 / sld		ICP2-HE_160321B	75	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Arsenic	0.005	mg/L		0.001		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Barium	0.040	mg/L		0.003		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 13:17 / sld		ICP2-HE_160321B	75	R113847
Cadmium	0.00028	mg/L		0.00003		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Calcium	57	mg/L		1		E200.7	03/21/16 13:17 / sld		ICP2-HE_160321B	75	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Copper	0.017	mg/L		0.001		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Iron	0.14	mg/L		0.02		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16030355-008
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	0.0003	mg/L		0.0003		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Magnesium	12	mg/L		1		E200.7	03/21/16 13:17 / sld		ICP2-HE_160321B	75	R113847
Manganese	0.263	mg/L		0.001		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/08/16 12:53 / rgk	03/22/16 08:32	HGCV202-H_160408A	21	32332
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 13:17 / sld		ICP2-HE_160321B	75	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Sodium	28	mg/L		1		E200.7	03/21/16 13:17 / sld		ICP2-HE_160321B	75	R113847
Uranium	0.0048	mg/L		0.0002		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
Zinc	0.133	mg/L		0.008		E200.8	03/24/16 00:29 / dck		ICPMS204-B_160323A	184	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.157	mg/L		0.009		E200.7	03/23/16 14:06 / sld	03/21/16 08:28	ICP2-HE_160323A	94	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Barium	0.042	mg/L		0.003		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:06 / sld	03/21/16 08:28	ICP2-HE_160323A	94	32317
Cadmium	0.00037	mg/L		0.00003		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Calcium	55	mg/L		1		E200.7	03/23/16 14:06 / sld	03/21/16 08:28	ICP2-HE_160323A	94	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Copper	0.028	mg/L		0.001		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Iron	0.46	mg/L		0.02		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Lead	0.0017	mg/L		0.0003		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Magnesium	12	mg/L		1		E200.7	03/23/16 14:06 / sld	03/21/16 08:28	ICP2-HE_160323A	94	32317
Manganese	0.279	mg/L		0.001		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Mercury	0.000011	mg/L		5E-06		E245.1	04/12/16 12:04 / rgk	04/11/16 08:14	HGCV202-H_160412A	27	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16030355-008
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Potassium	5	mg/L		1		E200.7	03/23/16 14:06 / sld	03/21/16 08:28	ICP2-HE_160323A	94	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Sodium	27	mg/L		1		E200.7	03/23/16 14:06 / sld	03/21/16 08:28	ICP2-HE_160323A	94	32317
Uranium	0.0049	mg/L		0.0002		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317
Zinc	0.141	mg/L		0.008		E200.8	03/24/16 00:32 / dck	03/21/16 08:28	ICPMS204-B_160323A	185	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16030355-009
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	11	mg/L		1		A2540 D	03/18/16 13:33 / edp		L24 (14410200)_160318B	23	TSS160318A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	14	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	03/21/16 13:05 / SR		PHSC_101-H_160321A	68	R113775
Bicarbonate as HCO3	130	mg/L		4		A2320 B	03/21/16 13:05 / SR		PHSC_101-H_160321A	68	R113775
Chloride	46	mg/L		1		E300.0	03/21/16 19:49 / SR		IC102-H_160321A	35	R113849
Sulfate	94	mg/L		1		E300.0	03/21/16 19:49 / SR		IC102-H_160321A	35	R113849
Hardness as CaCO3	194	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	9	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.9	mg/L		0.5		A5310 C	03/25/16 05:56 / eli-c		SUB-C210272	24	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:40 / cm		FIA203-HE_160321A	77	R113786
Nitrogen, Nitrate+Nitrite as N	1.25	mg/L		0.02		E353.2	03/21/16 14:10 / cm		FIA203-HE_160321C	54	R113833
Nitrogen, Total	1.82	mg/L		0.05		A4500 N-C	03/22/16 11:54 / cm	03/21/16 14:04	FIA203-HE_160322A	60	32327
Phosphorus, Total as P	0.209	mg/L		0.003		E365.1	03/23/16 14:34 / cm	03/22/16 12:38	FIA202-HE_160323A	23	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 13:20 / sld		ICP2-HE_160321B	76	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Arsenic	0.005	mg/L		0.001		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Barium	0.036	mg/L		0.003		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 13:20 / sld		ICP2-HE_160321B	76	R113847
Cadmium	0.00016	mg/L		0.00003		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Calcium	59	mg/L		1		E200.7	03/21/16 13:20 / sld		ICP2-HE_160321B	76	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Copper	0.014	mg/L		0.001		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Iron	0.09	mg/L		0.02		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16030355-009
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Magnesium	13	mg/L		1		E200.7	03/21/16 13:20 / sld		ICP2-HE_160321B	76	R113847
Manganese	0.236	mg/L		0.001		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/08/16 12:59 / rgk	03/22/16 08:32	HGCV202-H_160408A	23	32332
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Potassium	6	mg/L		1		E200.7	03/21/16 13:20 / sld		ICP2-HE_160321B	76	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Sodium	30	mg/L		1		E200.7	03/21/16 13:20 / sld		ICP2-HE_160321B	76	R113847
Uranium	0.0058	mg/L		0.0002		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
Zinc	0.048	mg/L		0.008		E200.8	03/24/16 00:35 / dck		ICPMS204-B_160323A	186	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.180	mg/L		0.009		E200.7	03/23/16 14:10 / sld	03/21/16 08:28	ICP2-HE_160323A	95	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Barium	0.038	mg/L		0.003		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:10 / sld	03/21/16 08:28	ICP2-HE_160323A	95	32317
Cadmium	0.00029	mg/L		0.00003		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Calcium	57	mg/L		1		E200.7	03/23/16 14:10 / sld	03/21/16 08:28	ICP2-HE_160323A	95	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Copper	0.024	mg/L		0.001		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Iron	0.45	mg/L		0.02		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Lead	0.0018	mg/L		0.0003		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Magnesium	12	mg/L		1		E200.7	03/23/16 14:10 / sld	03/21/16 08:28	ICP2-HE_160323A	95	32317
Manganese	0.252	mg/L		0.001		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Mercury	0.000012	mg/L		5E-06		E245.1	04/12/16 12:07 / rgk	04/11/16 08:14	HGCV202-H_160412A	28	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16030355-009
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Potassium	5	mg/L		1		E200.7	03/23/16 14:10 / sld	03/21/16 08:28	ICP2-HE_160323A	95	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Sodium	29	mg/L		1		E200.7	03/23/16 14:10 / sld	03/21/16 08:28	ICP2-HE_160323A	95	32317
Uranium	0.0058	mg/L		0.0002		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317
Zinc	0.076	mg/L		0.008		E200.8	03/24/16 00:39 / dck	03/21/16 08:28	ICPMS204-B_160323A	187	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16030355-010
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	12	mg/L	D	2		A2540 D	03/18/16 13:34 / edp		L24 (14410200)_160318B	26	TSS160318A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	15	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	03/21/16 13:10 / SR		PHSC_101-H_160321A	70	R113775
Bicarbonate as HCO3	130	mg/L		4		A2320 B	03/21/16 13:10 / SR		PHSC_101-H_160321A	70	R113775
Chloride	48	mg/L		1		E300.0	03/21/16 20:00 / SR		IC102-H_160321A	36	R113849
Sulfate	94	mg/L		1		E300.0	03/21/16 20:00 / SR		IC102-H_160321A	36	R113849
Hardness as CaCO3	192	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	10	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.9	mg/L		0.5		A5310 C	03/25/16 06:16 / eli-c		SUB-C210272	25	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:41 / cm		FIA203-HE_160321A	78	R113786
Nitrogen, Nitrate+Nitrite as N	1.25	mg/L		0.02		E353.2	03/21/16 14:28 / cm		FIA203-HE_160321C	69	R113833
Nitrogen, Total	1.83	mg/L		0.05		A4500 N-C	03/22/16 11:55 / cm	03/21/16 14:04	FIA203-HE_160322A	61	32327
Phosphorus, Total as P	0.210	mg/L		0.003		E365.1	03/23/16 14:35 / cm	03/22/16 12:38	FIA202-HE_160323A	24	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 13:24 / sld		ICP2-HE_160321B	77	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Arsenic	0.005	mg/L		0.001		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Barium	0.037	mg/L		0.003		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 13:24 / sld		ICP2-HE_160321B	77	R113847
Cadmium	0.00015	mg/L		0.00003		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Calcium	60	mg/L		1		E200.7	03/21/16 13:24 / sld		ICP2-HE_160321B	77	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Copper	0.014	mg/L		0.001		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Iron	0.08	mg/L		0.02		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16030355-010
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Magnesium	13	mg/L		1		E200.7	03/21/16 13:24 / sld		ICP2-HE_160321B	77	R113847
Manganese	0.249	mg/L		0.001		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/08/16 13:05 / rgk	03/22/16 08:32	HGCV202-H_160408A	25	32332
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 13:24 / sld		ICP2-HE_160321B	77	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Sodium	30	mg/L		1		E200.7	03/21/16 13:24 / sld		ICP2-HE_160321B	77	R113847
Uranium	0.0057	mg/L		0.0002		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
Zinc	0.044	mg/L		0.008		E200.8	03/24/16 00:55 / dck		ICPMS204-B_160323A	192	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.221	mg/L		0.009		E200.7	03/23/16 14:25 / sld	03/21/16 08:28	ICP2-HE_160323A	99	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Barium	0.040	mg/L		0.003		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:25 / sld	03/21/16 08:28	ICP2-HE_160323A	99	32317
Cadmium	0.00036	mg/L		0.00003		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Calcium	57	mg/L		1		E200.7	03/23/16 14:25 / sld	03/21/16 08:28	ICP2-HE_160323A	99	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Copper	0.028	mg/L		0.001		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Iron	0.57	mg/L		0.02		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Lead	0.0025	mg/L		0.0003		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Magnesium	12	mg/L		1		E200.7	03/23/16 14:25 / sld	03/21/16 08:28	ICP2-HE_160323A	99	32317
Manganese	0.268	mg/L		0.001		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Mercury	0.000018	mg/L		5E-06		E245.1	04/12/16 12:10 / rgk	04/11/16 08:14	HGCV202-H_160412A	29	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16030355-010
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Potassium	5	mg/L		1		E200.7	03/23/16 14:25 / sld	03/21/16 08:28	ICP2-HE_160323A	99	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Sodium	29	mg/L		1		E200.7	03/23/16 14:25 / sld	03/21/16 08:28	ICP2-HE_160323A	99	32317
Uranium	0.0058	mg/L		0.0002		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317
Zinc	0.087	mg/L		0.008		E200.8	03/24/16 00:58 / dck	03/21/16 08:28	ICPMS204-B_160323A	193	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16030355-011
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	10	mg/L		1		A2540 D	03/18/16 13:35 / edp		L24 (14410200)_160318B	28	TSS160318A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	17	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	03/21/16 13:15 / SR		PHSC_101-H_160321A	72	R113775
Bicarbonate as HCO3	120	mg/L		4		A2320 B	03/21/16 13:15 / SR		PHSC_101-H_160321A	72	R113775
Chloride	47	mg/L		1		E300.0	03/21/16 20:11 / SR		IC102-H_160321A	37	R113849
Sulfate	91	mg/L		1		E300.0	03/21/16 20:11 / SR		IC102-H_160321A	37	R113849
Hardness as CaCO3	190	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	11	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.0	mg/L		0.5		A5310 C	03/25/16 06:32 / eli-c		SUB-C210272	26	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	0.06	mg/L		0.05		E350.1	03/21/16 10:42 / cm		FIA203-HE_160321A	79	R113786
Nitrogen, Nitrate+Nitrite as N	1.68	mg/L		0.02		E353.2	03/21/16 14:17 / cm		FIA203-HE_160321C	60	R113833
Nitrogen, Total	2.41	mg/L	D	0.06		A4500 N-C	03/22/16 12:15 / cm	03/21/16 14:04	FIA203-HE_160322A	78	32327
Phosphorus, Total as P	0.237	mg/L		0.003		E365.1	03/23/16 14:36 / cm	03/22/16 12:38	FIA202-HE_160323A	25	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 13:28 / sld		ICP2-HE_160321B	78	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Arsenic	0.005	mg/L		0.001		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Barium	0.034	mg/L		0.003		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 13:28 / sld		ICP2-HE_160321B	78	R113847
Cadmium	0.00015	mg/L		0.00003		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Calcium	58	mg/L		1		E200.7	03/21/16 13:28 / sld		ICP2-HE_160321B	78	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Copper	0.013	mg/L		0.001		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Iron	0.09	mg/L		0.02		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16030355-011
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	0.0003	mg/L		0.0003		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Magnesium	13	mg/L		1		E200.7	03/21/16 13:28 / sld		ICP2-HE_160321B	78	R113847
Manganese	0.246	mg/L		0.001		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/08/16 13:17 / rgk	03/22/16 08:32	HGCV202-H_160408A	29	32332
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 13:28 / sld		ICP2-HE_160321B	78	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Sodium	30	mg/L		1		E200.7	03/21/16 13:28 / sld		ICP2-HE_160321B	78	R113847
Uranium	0.0048	mg/L		0.0002		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
Zinc	0.054	mg/L		0.008		E200.8	03/24/16 01:11 / dck		ICPMS204-B_160323A	197	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.160	mg/L		0.009		E200.7	03/23/16 14:28 / sld	03/21/16 08:28	ICP2-HE_160323A	100	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Barium	0.037	mg/L		0.003		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:28 / sld	03/21/16 08:28	ICP2-HE_160323A	100	32317
Cadmium	0.00031	mg/L		0.00003		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Calcium	56	mg/L		1		E200.7	03/23/16 14:28 / sld	03/21/16 08:28	ICP2-HE_160323A	100	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Copper	0.023	mg/L		0.001		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Iron	0.48	mg/L		0.02		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Lead	0.0019	mg/L		0.0003		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Magnesium	12	mg/L		1		E200.7	03/23/16 14:28 / sld	03/21/16 08:28	ICP2-HE_160323A	100	32317
Manganese	0.271	mg/L		0.001		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Mercury	0.000013	mg/L		5E-06		E245.1	04/12/16 12:13 / rgk	04/11/16 08:14	HGCV202-H_160412A	30	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16030355-011
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Potassium	5	mg/L		1		E200.7	03/23/16 14:28 / sld	03/21/16 08:28	ICP2-HE_160323A	100	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Sodium	30	mg/L		1		E200.7	03/23/16 14:28 / sld	03/21/16 08:28	ICP2-HE_160323A	100	32317
Uranium	0.0050	mg/L		0.0002		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317
Zinc	0.090	mg/L		0.008		E200.8	03/24/16 01:14 / dck	03/21/16 08:28	ICPMS204-B_160323A	198	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1, SS-15A
Lab ID: H16030355-012
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 14:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	03/18/16 13:36 / edp		L24 (14410200)_160318B	29	TSS160318A
Solids, Volatile Suspended	ND	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	18	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	03/21/16 13:21 / SR		PHSC_101-H_160321A	74	R113775
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	03/21/16 13:21 / SR		PHSC_101-H_160321A	74	R113775
Chloride	ND	mg/L		1		E300.0	03/21/16 20:22 / SR		IC102-H_160321A	38	R113849
Sulfate	ND	mg/L		1		E300.0	03/21/16 20:22 / SR		IC102-H_160321A	38	R113849
Hardness as CaCO3	ND	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	12	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	03/25/16 06:51 / eli-c		SUB-C210272	27	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:50 / cm		FIA203-HE_160321A	85	R113786
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	03/21/16 14:18 / cm		FIA203-HE_160321C	61	R113833
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	03/22/16 11:57 / cm	03/21/16 14:04	FIA203-HE_160322A	63	32327
Phosphorus, Total as P	ND	mg/L		0.003		E365.1	03/22/16 13:52 / cm	03/22/16 12:38	FIA202-HE_160322A	45	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 13:32 / sld		ICP2-HE_160321B	79	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Arsenic	ND	mg/L		0.001		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Barium	ND	mg/L		0.003		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 13:32 / sld		ICP2-HE_160321B	79	R113847
Cadmium	ND	mg/L		0.00003		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Calcium	ND	mg/L		1		E200.7	03/21/16 13:32 / sld		ICP2-HE_160321B	79	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Copper	ND	mg/L		0.001		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Iron	ND	mg/L		0.02		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1, SS-15A
Lab ID: H16030355-012
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 14:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Magnesium	ND	mg/L		1		E200.7	03/21/16 13:32 / sld		ICP2-HE_160321B	79	R113847
Manganese	ND	mg/L		0.001		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/12/16 12:16 / rgk	04/11/16 11:25	HGCV202-H_160412A	31	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Potassium	ND	mg/L		1		E200.7	03/21/16 13:32 / sld		ICP2-HE_160321B	79	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Sodium	ND	mg/L		1		E200.7	03/21/16 13:32 / sld		ICP2-HE_160321B	79	R113847
Uranium	ND	mg/L		0.0002		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 01:18 / dck		ICPMS204-B_160323A	199	R113908
Zinc	0.011	mg/L		0.008		E200.8	03/24/16 22:05 / dck		ICPMS204-B_160324B	51	R113987
METALS, TOTAL RECOVERABLE											
Aluminum	ND	mg/L		0.009		E200.7	03/23/16 14:32 / sld	03/21/16 08:28	ICP2-HE_160323A	101	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Arsenic	ND	mg/L		0.001		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Barium	ND	mg/L		0.003		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:32 / sld	03/21/16 08:28	ICP2-HE_160323A	101	32317
Cadmium	ND	mg/L		0.00003		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Calcium	ND	mg/L		1		E200.7	03/23/16 14:32 / sld	03/21/16 08:28	ICP2-HE_160323A	101	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Copper	ND	mg/L		0.001		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Iron	ND	mg/L		0.02		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Lead	ND	mg/L		0.0003		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Magnesium	ND	mg/L		1		E200.7	03/23/16 14:32 / sld	03/21/16 08:28	ICP2-HE_160323A	101	32317
Manganese	ND	mg/L		0.001		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Mercury	ND	mg/L		5E-06		E245.1	04/08/16 13:32 / rgk	03/22/16 08:32	HGCV202-H_160408A	34	32332
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1, SS-15A
Lab ID: H16030355-012
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 14:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Potassium	ND	mg/L		1		E200.7	03/23/16 14:32 / sld	03/21/16 08:28	ICP2-HE_160323A	101	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Sodium	ND	mg/L		1		E200.7	03/23/16 14:32 / sld	03/21/16 08:28	ICP2-HE_160323A	101	32317
Uranium	ND	mg/L		0.0002		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317
Zinc	ND	mg/L		0.008		E200.8	03/24/16 01:21 / dck	03/21/16 08:28	ICPMS204-B_160323A	200	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16030355-013
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	11	mg/L		1		A2540 D	03/18/16 13:36 / edp		L24 (14410200)_160318B	30	TSS160318A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	19	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	03/21/16 13:27 / SR		PHSC_101-H_160321A	76	R113775
Bicarbonate as HCO3	120	mg/L		4		A2320 B	03/21/16 13:27 / SR		PHSC_101-H_160321A	76	R113775
Chloride	37	mg/L		1		E300.0	03/21/16 20:33 / SR		IC102-H_160321A	39	R113849
Sulfate	78	mg/L		1		E300.0	03/21/16 20:33 / SR		IC102-H_160321A	39	R113849
Hardness as CaCO3	176	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	13	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.5	mg/L		0.5		A5310 C	03/25/16 07:06 / eli-c		SUB-C210272	28	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	0.08	mg/L		0.05		E350.1	03/21/16 10:53 / cm		FIA203-HE_160321A	88	R113786
Nitrogen, Nitrate+Nitrite as N	1.48	mg/L		0.02		E353.2	03/21/16 14:19 / cm		FIA203-HE_160321C	62	R113833
Nitrogen, Total	2.17	mg/L	D	0.06		A4500 N-C	03/22/16 12:16 / cm	03/21/16 14:04	FIA203-HE_160322A	79	32327
Phosphorus, Total as P	0.226	mg/L		0.003		E365.1	03/22/16 13:55 / cm	03/22/16 12:38	FIA202-HE_160322A	48	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 14:13 / sld		ICP2-HE_160321B	90	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Arsenic	0.005	mg/L		0.001		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Barium	0.034	mg/L		0.003		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 14:13 / sld		ICP2-HE_160321B	90	R113847
Cadmium	0.00014	mg/L		0.00003		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Calcium	51	mg/L		1		E200.7	03/21/16 14:13 / sld		ICP2-HE_160321B	90	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Copper	0.010	mg/L		0.001		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Iron	0.07	mg/L		0.02		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16030355-013
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Magnesium	11	mg/L		1		E200.7	03/21/16 14:13 / sld		ICP2-HE_160321B	90	R113847
Manganese	0.226	mg/L		0.001		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/12/16 12:19 / rgk	04/11/16 11:25	HGCV202-H_160412A	32	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 14:13 / sld		ICP2-HE_160321B	90	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Sodium	25	mg/L		1		E200.7	03/21/16 14:13 / sld		ICP2-HE_160321B	90	R113847
Uranium	0.0040	mg/L		0.0002		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
Zinc	0.066	mg/L		0.008		E200.8	03/24/16 01:24 / dck		ICPMS204-B_160323A	201	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.219	mg/L		0.009		E200.7	03/23/16 14:36 / sld	03/21/16 08:28	ICP2-HE_160323A	102	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Barium	0.038	mg/L		0.003		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:36 / sld	03/21/16 08:28	ICP2-HE_160323A	102	32317
Cadmium	0.00032	mg/L		0.00003		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Calcium	52	mg/L		1		E200.7	03/23/16 14:36 / sld	03/21/16 08:28	ICP2-HE_160323A	102	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Copper	0.021	mg/L		0.001		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Iron	0.49	mg/L		0.02		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Lead	0.0019	mg/L		0.0003		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Magnesium	11	mg/L		1		E200.7	03/23/16 14:36 / sld	03/21/16 08:28	ICP2-HE_160323A	102	32317
Manganese	0.251	mg/L		0.001		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Mercury	0.000014	mg/L		5E-06		E245.1	04/12/16 12:22 / rgk	04/11/16 11:25	HGCV202-H_160412A	33	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16030355-013
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Potassium	5	mg/L		1		E200.7	03/23/16 14:36 / sld	03/21/16 08:28	ICP2-HE_160323A	102	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 22:08 / dck	03/21/16 08:28	ICPMS204-B_160324B	52	32317
Sodium	25	mg/L		1		E200.7	03/23/16 14:36 / sld	03/21/16 08:28	ICP2-HE_160323A	102	32317
Uranium	0.0042	mg/L		0.0002		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317
Zinc	0.098	mg/L		0.008		E200.8	03/24/16 01:37 / dck	03/21/16 08:28	ICPMS204-B_160323A	205	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16030355-014
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	03/18/16 13:36 / edp		L24 (14410200)_160318B	31	TSS160318A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	20	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	03/21/16 13:32 / SR		PHSC_101-H_160321A	78	R113775
Bicarbonate as HCO3	130	mg/L		4		A2320 B	03/21/16 13:32 / SR		PHSC_101-H_160321A	78	R113775
Chloride	37	mg/L		1		E300.0	03/21/16 20:44 / SR		IC102-H_160321A	40	R113849
Sulfate	81	mg/L		1		E300.0	03/21/16 20:44 / SR		IC102-H_160321A	40	R113849
Hardness as CaCO3	174	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	14	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.9	mg/L		0.5		A5310 C	03/25/16 07:26 / eli-c		SUB-C210272	29	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	0.13	mg/L		0.05		E350.1	03/21/16 10:54 / cm		FIA203-HE_160321A	89	R113786
Nitrogen, Nitrate+Nitrite as N	1.82	mg/L		0.02		E353.2	03/21/16 14:21 / cm		FIA203-HE_160321C	63	R113833
Nitrogen, Total	2.56	mg/L	D	0.06		A4500 N-C	03/22/16 12:17 / cm	03/21/16 14:04	FIA203-HE_160322A	80	32327
Phosphorus, Total as P	0.280	mg/L		0.003		E365.1	03/22/16 13:56 / cm	03/22/16 12:38	FIA202-HE_160322A	49	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 14:16 / sld		ICP2-HE_160321B	91	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Arsenic	0.005	mg/L		0.001		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Barium	0.034	mg/L		0.003		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 14:16 / sld		ICP2-HE_160321B	91	R113847
Cadmium	0.00018	mg/L		0.00003		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Calcium	51	mg/L		1		E200.7	03/21/16 14:16 / sld		ICP2-HE_160321B	91	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Copper	0.012	mg/L		0.001		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Iron	0.09	mg/L		0.02		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16030355-014
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	0.0003	mg/L		0.0003		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Magnesium	11	mg/L		1		E200.7	03/21/16 14:16 / sld		ICP2-HE_160321B	91	R113847
Manganese	0.268	mg/L		0.001		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/12/16 12:32 / rgk	04/11/16 11:25	HGCV202-H_160412A	36	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 14:16 / sld		ICP2-HE_160321B	91	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Sodium	28	mg/L		1		E200.7	03/21/16 14:16 / sld		ICP2-HE_160321B	91	R113847
Uranium	0.0042	mg/L		0.0002		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
Zinc	0.094	mg/L		0.008		E200.8	03/24/16 01:40 / dck		ICPMS204-B_160323A	206	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.157	mg/L		0.009		E200.7	03/23/16 14:40 / sld	03/21/16 08:28	ICP2-HE_160323A	103	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Arsenic	0.007	mg/L		0.001		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Barium	0.038	mg/L		0.003		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:40 / sld	03/21/16 08:28	ICP2-HE_160323A	103	32317
Cadmium	0.00031	mg/L		0.00003		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Calcium	51	mg/L		1		E200.7	03/23/16 14:40 / sld	03/21/16 08:28	ICP2-HE_160323A	103	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Copper	0.021	mg/L		0.001		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Iron	0.42	mg/L		0.02		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Lead	0.0017	mg/L		0.0003		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Magnesium	11	mg/L		1		E200.7	03/23/16 14:40 / sld	03/21/16 08:28	ICP2-HE_160323A	103	32317
Manganese	0.298	mg/L		0.001		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Mercury	0.000012	mg/L		5E-06		E245.1	04/12/16 12:41 / rgk	04/11/16 11:25	HGCV202-H_160412A	39	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16030355-014
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Potassium	5	mg/L		1		E200.7	03/23/16 14:40 / sld	03/21/16 08:28	ICP2-HE_160323A	103	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Sodium	27	mg/L		1		E200.7	03/23/16 14:40 / sld	03/21/16 08:28	ICP2-HE_160323A	103	32317
Uranium	0.0045	mg/L		0.0002		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317
Zinc	0.123	mg/L		0.008		E200.8	03/24/16 01:44 / dck	03/21/16 08:28	ICPMS204-B_160323A	207	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1, SS-16B
Lab ID: H16030355-015
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	03/18/16 13:37 / edp		L24 (14410200)_160318B	32	TSS160318A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	03/22/16 08:13 / SR		MISC WC_160322B	21	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	03/21/16 13:38 / SR		PHSC_101-H_160321A	80	R113775
Bicarbonate as HCO3	120	mg/L		4		A2320 B	03/21/16 13:38 / SR		PHSC_101-H_160321A	80	R113775
Chloride	37	mg/L		1		E300.0	03/21/16 20:55 / SR		IC102-H_160321A	41	R113849
Sulfate	81	mg/L		1		E300.0	03/21/16 20:55 / SR		IC102-H_160321A	41	R113849
Hardness as CaCO3	173	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	15	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.8	mg/L		0.5		A5310 C	03/25/16 08:34 / eli-c		SUB-C210272	31	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	0.13	mg/L		0.05		E350.1	03/21/16 10:56 / cm		FIA203-HE_160321A	90	R113786
Nitrogen, Nitrate+Nitrite as N	1.82	mg/L		0.02		E353.2	03/21/16 14:22 / cm		FIA203-HE_160321C	64	R113833
Nitrogen, Total	2.59	mg/L	D	0.06		A4500 N-C	03/22/16 12:19 / cm	03/21/16 14:04	FIA203-HE_160322A	81	32327
Phosphorus, Total as P	0.266	mg/L		0.003		E365.1	03/22/16 13:57 / cm	03/22/16 12:38	FIA202-HE_160322A	50	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 14:31 / sld		ICP2-HE_160321B	95	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Barium	0.035	mg/L		0.003		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 14:31 / sld		ICP2-HE_160321B	95	R113847
Cadmium	0.00017	mg/L		0.00003		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Calcium	51	mg/L		1		E200.7	03/21/16 14:31 / sld		ICP2-HE_160321B	95	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Copper	0.012	mg/L		0.001		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Iron	0.09	mg/L		0.02		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1, SS-16B
Lab ID: H16030355-015
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	0.0003	mg/L		0.0003		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Magnesium	11	mg/L		1		E200.7	03/21/16 14:31 / sld		ICP2-HE_160321B	95	R113847
Manganese	0.273	mg/L		0.001		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Mercury	ND	mg/L		5E-06		E245.1	04/08/16 13:46 / rgk	03/22/16 08:32	HGCV202-H_160408A	39	32332
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 14:31 / sld		ICP2-HE_160321B	95	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Sodium	28	mg/L		1		E200.7	03/21/16 14:31 / sld		ICP2-HE_160321B	95	R113847
Uranium	0.0043	mg/L		0.0002		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
Zinc	0.099	mg/L		0.008		E200.8	03/24/16 01:57 / dck		ICPMS204-B_160323A	211	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.165	mg/L		0.009		E200.7	03/23/16 14:51 / sld	03/21/16 08:28	ICP2-HE_160323A	106	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Barium	0.036	mg/L		0.003		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:51 / sld	03/21/16 08:28	ICP2-HE_160323A	106	32317
Cadmium	0.00032	mg/L		0.00003		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Calcium	51	mg/L		1		E200.7	03/23/16 14:51 / sld	03/21/16 08:28	ICP2-HE_160323A	106	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Copper	0.020	mg/L		0.001		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Iron	0.40	mg/L		0.02		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Lead	0.0016	mg/L		0.0003		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Magnesium	11	mg/L		1		E200.7	03/23/16 14:51 / sld	03/21/16 08:28	ICP2-HE_160323A	106	32317
Manganese	0.283	mg/L		0.001		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Mercury	9.1E-06	mg/L		5E-06		E245.1	04/12/16 12:44 / rgk	04/11/16 11:25	HGCV202-H_160412A	40	32552
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1, SS-16B
Lab ID: H16030355-015
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Potassium	5	mg/L		1		E200.7	03/23/16 14:51 / sld	03/21/16 08:28	ICP2-HE_160323A	106	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Sodium	27	mg/L		1		E200.7	03/23/16 14:51 / sld	03/21/16 08:28	ICP2-HE_160323A	106	32317
Uranium	0.0043	mg/L		0.0002		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317
Zinc	0.118	mg/L		0.008		E200.8	03/24/16 02:00 / dck	03/21/16 08:28	ICPMS204-B_160323A	212	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16030355-016
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 10:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	9	mg/L		1		A2540 D	03/18/16 13:37 / edp		L24 (14410200)_160318B	33	TSS160318A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	03/22/16 08:14 / SR		MISC WC_160322B	22	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	03/21/16 13:43 / SR		PHSC_101-H_160321A	82	R113775
Bicarbonate as HCO3	130	mg/L		4		A2320 B	03/21/16 13:43 / SR		PHSC_101-H_160321A	82	R113775
Chloride	39	mg/L		1		E300.0	03/21/16 21:06 / SR		IC102-H_160321A	42	R113849
Sulfate	91	mg/L		1		E300.0	03/21/16 21:06 / SR		IC102-H_160321A	42	R113849
Hardness as CaCO3	184	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	16	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.5	mg/L		0.5		A5310 C	03/25/16 08:54 / eli-c		SUB-C210272	32	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:57 / cm		FIA203-HE_160321A	91	R113786
Nitrogen, Nitrate+Nitrite as N	1.96	mg/L		0.02		E353.2	03/21/16 14:23 / cm		FIA203-HE_160321C	65	R113833
Nitrogen, Total	2.61	mg/L	D	0.06		A4500 N-C	03/22/16 12:20 / cm	03/21/16 14:04	FIA203-HE_160322A	82	32327
Phosphorus, Total as P	0.220	mg/L		0.003		E365.1	03/22/16 13:58 / cm	03/22/16 12:38	FIA202-HE_160322A	51	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	03/25/16 18:11 / dck		ICPMS204-B_160325B	65	R114008
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Arsenic	0.005	mg/L		0.001		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Barium	0.035	mg/L		0.003		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 14:35 / sld		ICP2-HE_160321B	96	R113847
Cadmium	0.00026	mg/L		0.00003		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Calcium	54	mg/L		1		E200.7	03/21/16 14:35 / sld		ICP2-HE_160321B	96	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Copper	0.014	mg/L		0.001		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Iron	0.08	mg/L		0.02		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16030355-016
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 10:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	0.0003	mg/L		0.0003		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Magnesium	12	mg/L		1		E200.7	03/21/16 14:35 / sld		ICP2-HE_160321B	96	R113847
Manganese	0.266	mg/L		0.001		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/24/16 11:53 / rgk	03/23/16 12:21	HGCV202-H_160324A	36	32355
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 14:35 / sld		ICP2-HE_160321B	96	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Sodium	29	mg/L		1		E200.7	03/21/16 14:35 / sld		ICP2-HE_160321B	96	R113847
Uranium	0.0049	mg/L		0.0002		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
Zinc	0.109	mg/L		0.008		E200.8	03/24/16 02:03 / dck		ICPMS204-B_160323A	213	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.174	mg/L		0.009		E200.7	03/23/16 14:55 / sld	03/21/16 08:28	ICP2-HE_160323A	107	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Barium	0.037	mg/L		0.003		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:55 / sld	03/21/16 08:28	ICP2-HE_160323A	107	32317
Cadmium	0.00037	mg/L		0.00003		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Calcium	54	mg/L		1		E200.7	03/23/16 14:55 / sld	03/21/16 08:28	ICP2-HE_160323A	107	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Copper	0.022	mg/L		0.001		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Iron	0.38	mg/L		0.02		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Lead	0.0017	mg/L		0.0003		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Magnesium	12	mg/L		1		E200.7	03/23/16 14:55 / sld	03/21/16 08:28	ICP2-HE_160323A	107	32317
Manganese	0.279	mg/L		0.001		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Mercury	7.8E-06	mg/L		5E-06		E245.1	03/24/16 11:56 / rgk	03/23/16 12:21	HGCV202-H_160324A	37	32355
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16030355-016
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 10:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Potassium	5	mg/L		1		E200.7	03/23/16 14:55 / sld	03/21/16 08:28	ICP2-HE_160323A	107	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Sodium	29	mg/L		1		E200.7	03/23/16 14:55 / sld	03/21/16 08:28	ICP2-HE_160323A	107	32317
Uranium	0.0048	mg/L		0.0002		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317
Zinc	0.123	mg/L		0.008		E200.8	03/24/16 02:06 / dck	03/21/16 08:28	ICPMS204-B_160323A	214	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16030355-017
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	10	mg/L		1		A2540 D	03/18/16 13:38 / edp		L24 (14410200)_160318B	34	TSS160318A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	03/22/16 08:14 / SR		MISC WC_160322B	23	160322A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	03/21/16 13:49 / SR		PHSC_101-H_160321A	84	R113775
Bicarbonate as HCO3	130	mg/L		4		A2320 B	03/21/16 13:49 / SR		PHSC_101-H_160321A	84	R113775
Chloride	36	mg/L		1		E300.0	03/21/16 22:13 / SR		IC102-H_160321A	48	R113849
Sulfate	90	mg/L		1		E300.0	03/21/16 22:13 / SR		IC102-H_160321A	48	R113849
Hardness as CaCO3	184	mg/L		1		A2340 B	03/25/16 11:02 / sld		WATERCALC_160325B	17	R113988
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.4	mg/L		0.5		A5310 C	03/25/16 10:03 / eli-c		SUB-C210272	36	C_R210272
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	03/21/16 10:58 / cm		FIA203-HE_160321A	92	R113786
Nitrogen, Nitrate+Nitrite as N	1.32	mg/L		0.02		E353.2	03/21/16 14:24 / cm		FIA203-HE_160321C	66	R113833
Nitrogen, Total	1.82	mg/L		0.05		A4500 N-C	03/22/16 12:03 / cm	03/21/16 14:04	FIA203-HE_160322A	68	32327
Phosphorus, Total as P	0.175	mg/L		0.003		E365.1	03/22/16 13:59 / cm	03/22/16 12:38	FIA202-HE_160322A	52	32336
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.7	03/21/16 14:38 / sld		ICP2-HE_160321B	97	R113847
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Arsenic	0.005	mg/L		0.001		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Barium	0.035	mg/L		0.003		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Boron	ND	mg/L		0.1		E200.7	03/21/16 14:38 / sld		ICP2-HE_160321B	97	R113847
Cadmium	0.00029	mg/L		0.00003		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Calcium	54	mg/L		1		E200.7	03/21/16 14:38 / sld		ICP2-HE_160321B	97	R113847
Chromium	ND	mg/L		0.01		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Copper	0.013	mg/L		0.001		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Iron	0.06	mg/L		0.02		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16030355-017
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Magnesium	12	mg/L		1		E200.7	03/21/16 14:38 / sld		ICP2-HE_160321B	97	R113847
Manganese	0.230	mg/L		0.001		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Mercury	ND	mg/L		5E-06		E245.1	03/24/16 11:59 / rgk	03/23/16 12:21	HGCV202-H_160324A	38	32355
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Nickel	ND	mg/L		0.002		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Potassium	5	mg/L		1		E200.7	03/21/16 14:38 / sld		ICP2-HE_160321B	97	R113847
Selenium	ND	mg/L		0.001		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Silver	ND	mg/L		0.0002		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Sodium	29	mg/L		1		E200.7	03/21/16 14:38 / sld		ICP2-HE_160321B	97	R113847
Uranium	0.0051	mg/L		0.0002		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
Zinc	0.099	mg/L		0.008		E200.8	03/24/16 02:10 / dck		ICPMS204-B_160323A	215	R113908
METALS, TOTAL RECOVERABLE											
Aluminum	0.209	mg/L		0.009		E200.7	03/23/16 14:58 / sld	03/21/16 08:28	ICP2-HE_160323A	108	32317
Antimony	ND	mg/L		0.0005		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Arsenic	0.006	mg/L		0.001		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Barium	0.036	mg/L		0.003		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Boron	ND	mg/L		0.1		E200.7	03/23/16 14:58 / sld	03/21/16 08:28	ICP2-HE_160323A	108	32317
Cadmium	0.00038	mg/L		0.00003		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Calcium	54	mg/L		1		E200.7	03/23/16 14:58 / sld	03/21/16 08:28	ICP2-HE_160323A	108	32317
Chromium	ND	mg/L		0.01		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Cobalt	ND	mg/L		0.01		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Copper	0.021	mg/L		0.001		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Iron	0.41	mg/L		0.02		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Lead	0.0018	mg/L		0.0003		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Magnesium	12	mg/L		1		E200.7	03/23/16 14:58 / sld	03/21/16 08:28	ICP2-HE_160323A	108	32317
Manganese	0.252	mg/L		0.001		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Mercury	7.4E-06	mg/L		5E-06		E245.1	03/24/16 12:02 / rgk	03/23/16 12:21	HGCV202-H_160324A	39	32355
Molybdenum	ND	mg/L		0.005		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16030355-017
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 03/16/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Potassium	5	mg/L		1		E200.7	03/23/16 14:58 / sld	03/21/16 08:28	ICP2-HE_160323A	108	32317
Selenium	ND	mg/L		0.001		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Silver	ND	mg/L		0.0002		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Sodium	28	mg/L		1		E200.7	03/23/16 14:58 / sld	03/21/16 08:28	ICP2-HE_160323A	108	32317
Uranium	0.0051	mg/L		0.0002		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Vanadium	ND	mg/L		0.1		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317
Zinc	0.119	mg/L		0.008		E200.8	03/24/16 02:13 / dck	03/21/16 08:28	ICPMS204-B_160323A	216	32317

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Seive <0.063mm
Lab ID: H16030355-018
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	68.4	wt%		0.2		D2974	04/06/16 09:19 / AH		'ING OVEN - BB_160405A	1	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	7.2	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	15	R114303
3050 EXTRACTABLE METALS											
Aluminum	22600	mg/kg-dry		10		SW6010B	04/05/16 12:39 / sld	04/01/16 14:59	ICP2-HE_160405B	45	32433
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Arsenic	142	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Barium	575	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Boron	22	mg/kg-dry		7		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Cadmium	13.1	mg/kg-dry		0.5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Chromium	67	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Cobalt	27	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Copper	1030	mg/kg-dry		5		SW6010B	04/05/16 12:39 / sld	04/01/16 14:59	ICP2-HE_160405B	45	32433
Iron	47200	mg/kg-dry	D	20		SW6010B	04/05/16 12:39 / sld	04/01/16 14:59	ICP2-HE_160405B	45	32433
Lead	544	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Manganese	11100	mg/kg-dry		5		SW6010B	04/05/16 12:39 / sld	04/01/16 14:59	ICP2-HE_160405B	45	32433
Molybdenum	17	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Nickel	40	mg/kg-dry		5		SW6010B	04/05/16 12:39 / sld	04/01/16 14:59	ICP2-HE_160405B	45	32433
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Silver	7	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Uranium	9	mg/kg-dry		5		SW6020	04/05/16 18:12 / dck	04/01/16 14:59	ICPMS204-B_160405B	62	32433
Vanadium	151	mg/kg-dry		3		SW6010B	04/05/16 12:39 / sld	04/01/16 14:59	ICP2-HE_160405B	45	32433
Zinc	2990	mg/kg-dry		5		SW6010B	04/05/16 12:39 / sld	04/01/16 14:59	ICP2-HE_160405B	45	32433
METALS, TOTAL											
Mercury	1.3	mg/kg-dry		0.10		SW7471B	04/07/16 11:16 / rgk	04/05/16 16:26	HGCV201-H_160407B	13	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Seive 0.063-1mm
Lab ID: H16030355-019
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	17.6	wt%		0.2		D2974	04/06/16 09:19 / AH		'ING OVEN - BB_160405A	3	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	42.5	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	16	R114303
3050 EXTRACTABLE METALS											
Aluminum	4850	mg/kg-dry		5		SW6010B	04/05/16 14:18 / sld	04/01/16 15:00	ICP2-HE_160405B	72	32434
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Arsenic	27	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Barium	119	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Cadmium	1.0	mg/kg-dry		0.2		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Chromium	8	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Cobalt	6	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Copper	182	mg/kg-dry		5		SW6010B	04/05/16 14:18 / sld	04/01/16 15:00	ICP2-HE_160405B	72	32434
Iron	12900	mg/kg-dry	D	8		SW6010B	04/05/16 14:18 / sld	04/01/16 15:00	ICP2-HE_160405B	72	32434
Lead	63	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Manganese	1790	mg/kg-dry		5		SW6010B	04/05/16 14:18 / sld	04/01/16 15:00	ICP2-HE_160405B	72	32434
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 14:18 / sld	04/01/16 15:00	ICP2-HE_160405B	72	32434
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 19:17 / dck	04/01/16 15:00	ICPMS204-B_160405B	82	32434
Vanadium	33	mg/kg-dry		1		SW6010B	04/05/16 14:18 / sld	04/01/16 15:00	ICP2-HE_160405B	72	32434
Zinc	471	mg/kg-dry		5		SW6010B	04/05/16 14:18 / sld	04/01/16 15:00	ICP2-HE_160405B	72	32434
METALS, TOTAL											
Mercury	0.13	mg/kg-dry		0.10		SW7471B	04/07/16 11:18 / rgk	04/05/16 16:26	HGCV201-H_160407B	14	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Seive 1-2mm
Lab ID: H16030355-020
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	15.3	wt%		0.2		D2974	04/06/16 09:19 / AH		'ING OVEN - BB_160405A	4	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	24.2	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	17	R114303
3050 EXTRACTABLE METALS											
Aluminum	4120	mg/kg-dry		5		SW6010B	04/05/16 15:27 / sld	04/01/16 15:00	ICP2-HE_160405B	91	32435
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Arsenic	27	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Barium	132	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Boron	5	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Cadmium	0.6	mg/kg-dry		0.2		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Chromium	ND	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Copper	88	mg/kg-dry		5		SW6010B	04/05/16 15:27 / sld	04/01/16 15:00	ICP2-HE_160405B	91	32435
Iron	9470	mg/kg-dry	D	8		SW6010B	04/05/16 15:27 / sld	04/01/16 15:00	ICP2-HE_160405B	91	32435
Lead	81	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Manganese	1830	mg/kg-dry		5		SW6010B	04/05/16 15:27 / sld	04/01/16 15:00	ICP2-HE_160405B	91	32435
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 15:27 / sld	04/01/16 15:00	ICP2-HE_160405B	91	32435
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 20:16 / dck	04/01/16 15:00	ICPMS204-B_160405B	100	32435
Vanadium	23	mg/kg-dry		1		SW6010B	04/05/16 15:27 / sld	04/01/16 15:00	ICP2-HE_160405B	91	32435
Zinc	260	mg/kg-dry		5		SW6010B	04/05/16 15:27 / sld	04/01/16 15:00	ICP2-HE_160405B	91	32435
METALS, TOTAL											
Mercury	0.16	mg/kg-dry		0.10		SW7471B	04/07/16 11:25 / rgk	04/05/16 16:26	HGCV201-H_160407B	18	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Seive <0.063mm
Lab ID: H16030355-021
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	71.8	wt%		0.2		D2974	04/06/16 09:19 / AH		'ING OVEN - BB_160405A	5	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	1.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	18	R114303
3050 EXTRACTABLE METALS											
Aluminum	19400	mg/kg-dry		10		SW6010B	04/05/16 13:19 / sld	04/01/16 14:59	ICP2-HE_160405B	56	32433
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Arsenic	115	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Barium	471	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Boron	15	mg/kg-dry		7		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Cadmium	10.6	mg/kg-dry		0.6		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Chromium	70	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Cobalt	19	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Copper	1110	mg/kg-dry		5		SW6010B	04/05/16 13:19 / sld	04/01/16 14:59	ICP2-HE_160405B	56	32433
Iron	40600	mg/kg-dry	D	20		SW6010B	04/05/16 13:19 / sld	04/01/16 14:59	ICP2-HE_160405B	56	32433
Lead	714	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Manganese	6250	mg/kg-dry		5		SW6010B	04/05/16 13:19 / sld	04/01/16 14:59	ICP2-HE_160405B	56	32433
Molybdenum	26	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Nickel	40	mg/kg-dry		5		SW6010B	04/05/16 13:19 / sld	04/01/16 14:59	ICP2-HE_160405B	56	32433
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Silver	6	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Uranium	11	mg/kg-dry		5		SW6020	04/05/16 18:15 / dck	04/01/16 14:59	ICPMS204-B_160405B	63	32433
Vanadium	105	mg/kg-dry		3		SW6010B	04/05/16 13:19 / sld	04/01/16 14:59	ICP2-HE_160405B	56	32433
Zinc	2900	mg/kg-dry		6		SW6010B	04/05/16 13:19 / sld	04/01/16 14:59	ICP2-HE_160405B	56	32433
METALS, TOTAL											
Mercury	0.93	mg/kg-dry		0.10		SW7471B	04/07/16 11:27 / rgk	04/05/16 16:26	HGCV201-H_160407B	19	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Seive 0.063-1mm
Lab ID: H16030355-022
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.9	wt%		0.2		D2974	04/06/16 09:19 / AH		'ING OVEN - BB_160405A	6	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	23.7	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	19	R114303
3050 EXTRACTABLE METALS											
Aluminum	4480	mg/kg-dry		5		SW6010B	04/05/16 14:21 / sld	04/01/16 15:00	ICP2-HE_160405B	73	32434
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Arsenic	27	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Barium	68	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Cadmium	2.0	mg/kg-dry		0.2		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Chromium	15	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Cobalt	7	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Copper	321	mg/kg-dry		5		SW6010B	04/05/16 14:21 / sld	04/01/16 15:00	ICP2-HE_160405B	73	32434
Iron	32500	mg/kg-dry	D	9		SW6010B	04/05/16 14:21 / sld	04/01/16 15:00	ICP2-HE_160405B	73	32434
Lead	66	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Manganese	715	mg/kg-dry		5		SW6010B	04/05/16 14:21 / sld	04/01/16 15:00	ICP2-HE_160405B	73	32434
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Nickel	6	mg/kg-dry		5		SW6010B	04/05/16 14:21 / sld	04/01/16 15:00	ICP2-HE_160405B	73	32434
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 19:21 / dck	04/01/16 15:00	ICPMS204-B_160405B	83	32434
Vanadium	71	mg/kg-dry		1		SW6010B	04/05/16 14:21 / sld	04/01/16 15:00	ICP2-HE_160405B	73	32434
Zinc	807	mg/kg-dry		5		SW6010B	04/05/16 14:21 / sld	04/01/16 15:00	ICP2-HE_160405B	73	32434
METALS, TOTAL											
Mercury	0.14	mg/kg-dry		0.10		SW7471B	04/07/16 11:29 / rgk	04/05/16 16:26	HGCV201-H_160407B	20	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Seive 1-2mm
Lab ID: H16030355-023
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 14:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	23.3	wt%		0.2		D2974	04/06/16 09:19 / AH		'ING OVEN - BB_160405A	7	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	26.1	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	20	R114303
3050 EXTRACTABLE METALS											
Aluminum	3600	mg/kg-dry		5		SW6010B	04/05/16 15:31 / sld	04/01/16 15:00	ICP2-HE_160405B	92	32435
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Arsenic	254	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Barium	57	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Cadmium	0.6	mg/kg-dry		0.2		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Chromium	ND	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Copper	763	mg/kg-dry		5		SW6010B	04/05/16 15:31 / sld	04/01/16 15:00	ICP2-HE_160405B	92	32435
Iron	9920	mg/kg-dry	D	8		SW6010B	04/05/16 15:31 / sld	04/01/16 15:00	ICP2-HE_160405B	92	32435
Lead	26	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Manganese	500	mg/kg-dry		5		SW6010B	04/05/16 15:31 / sld	04/01/16 15:00	ICP2-HE_160405B	92	32435
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 15:31 / sld	04/01/16 15:00	ICP2-HE_160405B	92	32435
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 20:29 / dck	04/01/16 15:00	ICPMS204-B_160405B	104	32435
Vanadium	19	mg/kg-dry		1		SW6010B	04/05/16 15:31 / sld	04/01/16 15:00	ICP2-HE_160405B	92	32435
Zinc	365	mg/kg-dry		5		SW6010B	04/05/16 15:31 / sld	04/01/16 15:00	ICP2-HE_160405B	92	32435
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 11:31 / rgk	04/05/16 16:26	HGCV201-H_160407B	21	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Seive <0.063
Lab ID: H16030355-024
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	74.6	wt%		0.2		D2974	04/06/16 09:19 / AH		'ING OVEN - BB_160405A	8	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	6.0	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	21	R114303
3050 EXTRACTABLE METALS											
Aluminum	24100	mg/kg-dry		20		SW6010B	04/05/16 13:23 / sld	04/01/16 14:59	ICP2-HE_160405B	57	32433
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Arsenic	74	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Barium	367	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Boron	19	mg/kg-dry		8		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Cadmium	12.2	mg/kg-dry		0.7		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Chromium	52	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Cobalt	12	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Copper	956	mg/kg-dry		5		SW6010B	04/05/16 13:23 / sld	04/01/16 14:59	ICP2-HE_160405B	57	32433
Iron	36400	mg/kg-dry	D	30		SW6010B	04/05/16 13:23 / sld	04/01/16 14:59	ICP2-HE_160405B	57	32433
Lead	534	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Manganese	1600	mg/kg-dry		5		SW6010B	04/05/16 13:23 / sld	04/01/16 14:59	ICP2-HE_160405B	57	32433
Molybdenum	19	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Nickel	27	mg/kg-dry		5		SW6010B	04/05/16 13:23 / sld	04/01/16 14:59	ICP2-HE_160405B	57	32433
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Silver	7	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Uranium	10	mg/kg-dry		5		SW6020	04/05/16 18:19 / dck	04/01/16 14:59	ICPMS204-B_160405B	64	32433
Vanadium	71	mg/kg-dry		3		SW6010B	04/05/16 13:23 / sld	04/01/16 14:59	ICP2-HE_160405B	57	32433
Zinc	2410	mg/kg-dry		7		SW6010B	04/05/16 13:23 / sld	04/01/16 14:59	ICP2-HE_160405B	57	32433
METALS, TOTAL											
Mercury	2.4	mg/kg-dry		0.10		SW7471B	04/07/16 12:13 / rgk	04/05/16 16:26	HGCV201-H_160407B	40	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Seive 0.063-1mm
Lab ID: H16030355-025
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	30.2	wt%		0.2		D2974	04/06/16 09:19 / AH		'ING OVEN - BB_160405A	9	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	39.8	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	22	R114303
3050 EXTRACTABLE METALS											
Aluminum	6920	mg/kg-dry		5		SW6010B	04/05/16 14:25 / sld	04/01/16 15:00	ICP2-HE_160405B	74	32434
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Arsenic	17	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Barium	96	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Cadmium	3.8	mg/kg-dry		0.2		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Chromium	9	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Copper	267	mg/kg-dry		5		SW6010B	04/05/16 14:25 / sld	04/01/16 15:00	ICP2-HE_160405B	74	32434
Iron	15000	mg/kg-dry	D	9		SW6010B	04/05/16 14:25 / sld	04/01/16 15:00	ICP2-HE_160405B	74	32434
Lead	90	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Manganese	466	mg/kg-dry		5		SW6010B	04/05/16 14:25 / sld	04/01/16 15:00	ICP2-HE_160405B	74	32434
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 14:25 / sld	04/01/16 15:00	ICP2-HE_160405B	74	32434
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 19:24 / dck	04/01/16 15:00	ICPMS204-B_160405B	84	32434
Vanadium	34	mg/kg-dry		1		SW6010B	04/05/16 14:25 / sld	04/01/16 15:00	ICP2-HE_160405B	74	32434
Zinc	742	mg/kg-dry		5		SW6010B	04/05/16 14:25 / sld	04/01/16 15:00	ICP2-HE_160405B	74	32434
METALS, TOTAL											
Mercury	0.38	mg/kg-dry		0.10		SW7471B	04/07/16 11:35 / rgk	04/05/16 16:26	HGCV201-H_160407B	23	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Seive 1-2mm
Lab ID: H16030355-026
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.6	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	10	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	39.0	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	23	R114303
3050 EXTRACTABLE METALS											
Aluminum	4410	mg/kg-dry		5		SW6010B	04/05/16 15:35 / sld	04/01/16 15:00	ICP2-HE_160405B	93	32435
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Arsenic	13	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Barium	74	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Cadmium	1.2	mg/kg-dry		0.2		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Chromium	5	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Copper	161	mg/kg-dry		5		SW6010B	04/05/16 15:35 / sld	04/01/16 15:00	ICP2-HE_160405B	93	32435
Iron	7500	mg/kg-dry	D	8		SW6010B	04/05/16 15:35 / sld	04/01/16 15:00	ICP2-HE_160405B	93	32435
Lead	50	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Manganese	630	mg/kg-dry		5		SW6010B	04/05/16 15:35 / sld	04/01/16 15:00	ICP2-HE_160405B	93	32435
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 15:35 / sld	04/01/16 15:00	ICP2-HE_160405B	93	32435
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Silver	38	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 20:33 / dck	04/01/16 15:00	ICPMS204-B_160405B	105	32435
Vanadium	15	mg/kg-dry		1		SW6010B	04/05/16 15:35 / sld	04/01/16 15:00	ICP2-HE_160405B	93	32435
Zinc	171	mg/kg-dry		5		SW6010B	04/05/16 15:35 / sld	04/01/16 15:00	ICP2-HE_160405B	93	32435
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 11:37 / rgk	04/05/16 16:26	HGCV201-H_160407B	24	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Seive <0.063mm
Lab ID: H16030355-027
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	78.9	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	11	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	15.3	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	24	R114303
3050 EXTRACTABLE METALS											
Aluminum	35000	mg/kg-dry		20		SW6010B	04/05/16 13:27 / sld	04/01/16 14:59	ICP2-HE_160405B	58	32433
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Arsenic	55	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Barium	417	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Boron	20	mg/kg-dry		10		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Cadmium	12.2	mg/kg-dry		0.8		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Chromium	33	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Cobalt	15	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Copper	1000	mg/kg-dry		5		SW6010B	04/05/16 13:27 / sld	04/01/16 14:59	ICP2-HE_160405B	58	32433
Iron	38200	mg/kg-dry	D	30		SW6010B	04/05/16 13:27 / sld	04/01/16 14:59	ICP2-HE_160405B	58	32433
Lead	263	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Manganese	2690	mg/kg-dry		5		SW6010B	04/05/16 13:27 / sld	04/01/16 14:59	ICP2-HE_160405B	58	32433
Molybdenum	12	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Nickel	19	mg/kg-dry		5		SW6010B	04/05/16 13:27 / sld	04/01/16 14:59	ICP2-HE_160405B	58	32433
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Uranium	8	mg/kg-dry		5		SW6020	04/05/16 18:22 / dck	04/01/16 14:59	ICPMS204-B_160405B	65	32433
Vanadium	73	mg/kg-dry		4		SW6010B	04/05/16 13:27 / sld	04/01/16 14:59	ICP2-HE_160405B	58	32433
Zinc	2310	mg/kg-dry		8		SW6010B	04/05/16 13:27 / sld	04/01/16 14:59	ICP2-HE_160405B	58	32433
METALS, TOTAL											
Mercury	1.1	mg/kg-dry		0.10		SW7471B	04/07/16 11:43 / rgk	04/05/16 16:26	HGCV201-H_160407B	27	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Seive 0.063-1mm
Lab ID: H16030355-028
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	37.6	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	12	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	27.0	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	25	R114303
3050 EXTRACTABLE METALS											
Aluminum	12300	mg/kg-dry		6		SW6010B	04/05/16 14:29 / sld	04/01/16 15:00	ICP2-HE_160405B	75	32434
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Arsenic	14	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Barium	171	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Cadmium	3.6	mg/kg-dry		0.3		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Chromium	12	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Cobalt	6	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Copper	188	mg/kg-dry		5		SW6010B	04/05/16 14:29 / sld	04/01/16 15:00	ICP2-HE_160405B	75	32434
Iron	21400	mg/kg-dry	D	10		SW6010B	04/05/16 14:29 / sld	04/01/16 15:00	ICP2-HE_160405B	75	32434
Lead	54	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Manganese	962	mg/kg-dry		5		SW6010B	04/05/16 14:29 / sld	04/01/16 15:00	ICP2-HE_160405B	75	32434
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 14:29 / sld	04/01/16 15:00	ICP2-HE_160405B	75	32434
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 19:27 / dck	04/01/16 15:00	ICPMS204-B_160405B	85	32434
Vanadium	49	mg/kg-dry		1		SW6010B	04/05/16 14:29 / sld	04/01/16 15:00	ICP2-HE_160405B	75	32434
Zinc	504	mg/kg-dry		5		SW6010B	04/05/16 14:29 / sld	04/01/16 15:00	ICP2-HE_160405B	75	32434
METALS, TOTAL											
Mercury	0.29	mg/kg-dry		0.10		SW7471B	04/07/16 11:51 / rgk	04/05/16 16:26	HGCV201-H_160407B	31	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10 Sediment Seive 1-2mm
Lab ID: H16030355-029
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	32.0	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	14	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	15.1	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	26	R114303
3050 EXTRACTABLE METALS											
Aluminum	6920	mg/kg-dry		6		SW6010B	04/05/16 15:38 / sld	04/01/16 15:00	ICP2-HE_160405B	94	32435
Antimony	ND	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Arsenic	16	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Barium	93	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Beryllium	ND	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Boron	ND	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Cadmium	1.0	mg/kg-dry		0.2		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Chromium	ND	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Cobalt	ND	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Copper	83	mg/kg-dry		5		SW6010B	04/05/16 15:38 / sld	04/01/16 15:00	ICP2-HE_160405B	94	32435
Iron	8470	mg/kg-dry	D	10		SW6010B	04/05/16 15:38 / sld	04/01/16 15:00	ICP2-HE_160405B	94	32435
Lead	21	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Manganese	716	mg/kg-dry		5		SW6010B	04/05/16 15:38 / sld	04/01/16 15:00	ICP2-HE_160405B	94	32435
Molybdenum	ND	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Nickel	ND	mg/kg-dry		5		SW6010B	04/05/16 15:38 / sld	04/01/16 15:00	ICP2-HE_160405B	94	32435
Selenium	ND	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Silver	ND	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Uranium	ND	mg/kg-dry		5		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Vanadium	13	mg/kg-dry		1		SW6020	04/05/16 20:36 / dck	04/01/16 15:00	ICPMS204-B_160405B	106	32435
Zinc	250	mg/kg-dry		5		SW6010B	04/05/16 15:38 / sld	04/01/16 15:00	ICP2-HE_160405B	94	32435
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 11:53 / rgk	04/05/16 16:26	HGCV201-H_160407B	32	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Seive <0.063
Lab ID: H16030355-030
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 10:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	63.0	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	15	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	2.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	27	R114303
3050 EXTRACTABLE METALS											
Aluminum	33300	mg/kg-dry		10		SW6010B	04/07/16 11:15 / sld	04/05/16 11:50	ICP2-HE_160407B	28	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Arsenic	30	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Barium	347	mg/kg-dry		5		SW6010B	04/07/16 11:15 / sld	04/05/16 11:50	ICP2-HE_160407B	28	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Boron	16	mg/kg-dry	D	6		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Cadmium	6.4	mg/kg-dry		0.5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Chromium	28	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Cobalt	11	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Copper	427	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Iron	31100	mg/kg-dry	D	20		SW6010B	04/07/16 11:15 / sld	04/05/16 11:50	ICP2-HE_160407B	28	32482
Lead	218	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Manganese	2190	mg/kg-dry		5		SW6010B	04/07/16 11:15 / sld	04/05/16 11:50	ICP2-HE_160407B	28	32482
Molybdenum	6	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Nickel	17	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 15:24 / dck	04/05/16 11:50	ICPMS204-B_160407A	49	32482
Vanadium	55	mg/kg-dry		2		SW6010B	04/07/16 11:15 / sld	04/05/16 11:50	ICP2-HE_160407B	28	32482
Zinc	1280	mg/kg-dry		5		SW6010B	04/07/16 11:15 / sld	04/05/16 11:50	ICP2-HE_160407B	28	32482
METALS, TOTAL											
Mercury	0.66	mg/kg-dry		0.10		SW7471B	04/07/16 11:55 / rgk	04/05/16 16:26	HGCV201-H_160407B	33	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Seive 0.063-1mm
Lab ID: H16030355-031
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 10:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.8	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	16	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	17.2	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	28	R114303
3050 EXTRACTABLE METALS											
Aluminum	5850	mg/kg-dry		5		SW6010B	04/07/16 12:35 / sld	04/05/16 11:51	ICP2-HE_160407B	50	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Arsenic	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Barium	66	mg/kg-dry		5		SW6010B	04/07/16 12:35 / sld	04/05/16 11:51	ICP2-HE_160407B	50	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Cadmium	1.4	mg/kg-dry		0.2		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Chromium	19	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Copper	68	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Iron	33100	mg/kg-dry	D	9		SW6010B	04/07/16 12:35 / sld	04/05/16 11:51	ICP2-HE_160407B	50	32483
Lead	20	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Manganese	324	mg/kg-dry		5		SW6010B	04/07/16 12:35 / sld	04/05/16 11:51	ICP2-HE_160407B	50	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Nickel	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 17:43 / dck	04/05/16 11:51	ICPMS204-B_160407A	79	32483
Vanadium	104	mg/kg-dry		1		SW6010B	04/07/16 12:35 / sld	04/05/16 11:51	ICP2-HE_160407B	50	32483
Zinc	190	mg/kg-dry		5		SW6010B	04/07/16 12:35 / sld	04/05/16 11:51	ICP2-HE_160407B	50	32483
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 11:57 / rgk	04/05/16 16:26	HGCV201-H_160407B	34	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Seive 1-2mm
Lab ID: H16030355-032
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 10:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.1	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	17	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	17.6	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	29	R114303
3050 EXTRACTABLE METALS											
Aluminum	3080	mg/kg-dry		6		SW6010B	04/07/16 14:25 / sld	04/05/16 11:52	ICP2-HE_160407B	80	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Arsenic	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Barium	32	mg/kg-dry		5		SW6010B	04/07/16 14:25 / sld	04/05/16 11:52	ICP2-HE_160407B	80	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Cadmium	0.6	mg/kg-dry		0.2		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Chromium	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Copper	31	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Iron	4350	mg/kg-dry	D	9		SW6010B	04/07/16 14:25 / sld	04/05/16 11:52	ICP2-HE_160407B	80	32484
Lead	6	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Manganese	193	mg/kg-dry		5		SW6010B	04/07/16 14:25 / sld	04/05/16 11:52	ICP2-HE_160407B	80	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Nickel	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Vanadium	10	mg/kg-dry		1		SW6020	04/07/16 19:05 / dck	04/05/16 11:52	ICPMS204-B_160407A	104	32484
Zinc	80	mg/kg-dry		5		SW6010B	04/07/16 14:25 / sld	04/05/16 11:52	ICP2-HE_160407B	80	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 11:59 / rgk	04/05/16 16:26	HGCV201-H_160407B	35	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Seive <0.063
Lab ID: H16030355-033
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	57.1	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	18	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	1.8	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	30	R114303
3050 EXTRACTABLE METALS											
Aluminum	28400	mg/kg-dry		10		SW6010B	04/07/16 11:19 / sld	04/05/16 11:50	ICP2-HE_160407B	29	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Arsenic	23	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Barium	564	mg/kg-dry		5		SW6010B	04/07/16 11:19 / sld	04/05/16 11:50	ICP2-HE_160407B	29	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Boron	19	mg/kg-dry	D	6		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Cadmium	8.8	mg/kg-dry		0.4		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Chromium	27	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Cobalt	12	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Copper	410	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Iron	26700	mg/kg-dry	D	20		SW6010B	04/07/16 11:19 / sld	04/05/16 11:50	ICP2-HE_160407B	29	32482
Lead	170	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Manganese	4420	mg/kg-dry		5		SW6010B	04/07/16 11:19 / sld	04/05/16 11:50	ICP2-HE_160407B	29	32482
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Nickel	18	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 15:27 / dck	04/05/16 11:50	ICPMS204-B_160407A	50	32482
Vanadium	70	mg/kg-dry		2		SW6010B	04/07/16 11:19 / sld	04/05/16 11:50	ICP2-HE_160407B	29	32482
Zinc	832	mg/kg-dry		5		SW6010B	04/07/16 11:19 / sld	04/05/16 11:50	ICP2-HE_160407B	29	32482
METALS, TOTAL											
Mercury	0.34	mg/kg-dry		0.10		SW7471B	04/07/16 12:01 / rgk	04/05/16 16:26	HGCV201-H_160407B	36	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Seive 0.063-1mm
Lab ID: H16030355-034
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	22.9	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	19	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	9.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	31	R114303
3050 EXTRACTABLE METALS											
Aluminum	5060	mg/kg-dry		6		SW6010B	04/07/16 12:38 / sld	04/05/16 11:51	ICP2-HE_160407B	51	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Arsenic	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Barium	98	mg/kg-dry		5		SW6010B	04/07/16 12:38 / sld	04/05/16 11:51	ICP2-HE_160407B	51	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Cadmium	1.0	mg/kg-dry		0.2		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Chromium	10	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Copper	37	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Iron	13600	mg/kg-dry	D	9		SW6010B	04/07/16 12:38 / sld	04/05/16 11:51	ICP2-HE_160407B	51	32483
Lead	83	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Manganese	588	mg/kg-dry		5		SW6010B	04/07/16 12:38 / sld	04/05/16 11:51	ICP2-HE_160407B	51	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Nickel	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 17:46 / dck	04/05/16 11:51	ICPMS204-B_160407A	80	32483
Vanadium	38	mg/kg-dry		1		SW6010B	04/07/16 12:38 / sld	04/05/16 11:51	ICP2-HE_160407B	51	32483
Zinc	126	mg/kg-dry		5		SW6010B	04/07/16 12:38 / sld	04/05/16 11:51	ICP2-HE_160407B	51	32483
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 12:03 / rgk	04/05/16 16:26	HGCV201-H_160407B	37	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Seive 1-2mm
Lab ID: H16030355-035
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	13.8	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	20	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	23.5	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	32	R114303
3050 EXTRACTABLE METALS											
Aluminum	4110	mg/kg-dry		5		SW6010B	04/07/16 14:29 / sld	04/05/16 11:52	ICP2-HE_160407B	81	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Arsenic	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Barium	70	mg/kg-dry		5		SW6010B	04/07/16 14:29 / sld	04/05/16 11:52	ICP2-HE_160407B	81	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Cadmium	0.3	mg/kg-dry		0.2		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Chromium	6	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Copper	18	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Iron	5760	mg/kg-dry	D	7		SW6010B	04/07/16 14:29 / sld	04/05/16 11:52	ICP2-HE_160407B	81	32484
Lead	7	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Manganese	760	mg/kg-dry		5		SW6010B	04/07/16 14:29 / sld	04/05/16 11:52	ICP2-HE_160407B	81	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Nickel	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Vanadium	13	mg/kg-dry		1		SW6020	04/07/16 19:08 / dck	04/05/16 11:52	ICPMS204-B_160407A	105	32484
Zinc	70	mg/kg-dry		5		SW6010B	04/07/16 14:29 / sld	04/05/16 11:52	ICP2-HE_160407B	81	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 12:05 / rgk	04/05/16 16:26	HGCV201-H_160407B	38	32496

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Seive <0.063
Lab ID: H16030355-036
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	66.2	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	21	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.0	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	33	R114303
3050 EXTRACTABLE METALS											
Aluminum	27700	mg/kg-dry		10		SW6010B	04/07/16 11:22 / sld	04/05/16 11:50	ICP2-HE_160407B	30	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Arsenic	31	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Barium	388	mg/kg-dry		5		SW6010B	04/07/16 11:22 / sld	04/05/16 11:50	ICP2-HE_160407B	30	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Boron	18	mg/kg-dry	D	7		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Cadmium	7.8	mg/kg-dry		0.5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Chromium	35	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Cobalt	13	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Copper	389	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Iron	27900	mg/kg-dry	D	20		SW6010B	04/07/16 11:22 / sld	04/05/16 11:50	ICP2-HE_160407B	30	32482
Lead	177	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Manganese	3310	mg/kg-dry		5		SW6010B	04/07/16 11:22 / sld	04/05/16 11:50	ICP2-HE_160407B	30	32482
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Nickel	21	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Uranium	6	mg/kg-dry		5		SW6020	04/07/16 15:30 / dck	04/05/16 11:50	ICPMS204-B_160407A	51	32482
Vanadium	69	mg/kg-dry		2		SW6010B	04/07/16 11:22 / sld	04/05/16 11:50	ICP2-HE_160407B	30	32482
Zinc	1230	mg/kg-dry		5		SW6010B	04/07/16 11:22 / sld	04/05/16 11:50	ICP2-HE_160407B	30	32482
METALS, TOTAL											
Mercury	0.62	mg/kg-dry		0.10		SW7471B	04/07/16 13:06 / rgk	04/05/16 16:29	HGCV201-H_160407B	46	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Seive 0.063-1mm
Lab ID: H16030355-037
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	26.3	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	22	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	27.0	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	34	R114303
3050 EXTRACTABLE METALS											
Aluminum	5680	mg/kg-dry		5		SW6010B	04/07/16 12:42 / sld	04/05/16 11:51	ICP2-HE_160407B	52	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Arsenic	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Barium	135	mg/kg-dry		5		SW6010B	04/07/16 12:42 / sld	04/05/16 11:51	ICP2-HE_160407B	52	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Cadmium	0.8	mg/kg-dry		0.2		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Chromium	9	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Copper	29	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Iron	8790	mg/kg-dry	D	8		SW6010B	04/07/16 12:42 / sld	04/05/16 11:51	ICP2-HE_160407B	52	32483
Lead	12	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Manganese	368	mg/kg-dry		5		SW6010B	04/07/16 12:42 / sld	04/05/16 11:51	ICP2-HE_160407B	52	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Nickel	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 17:49 / dck	04/05/16 11:51	ICPMS204-B_160407A	81	32483
Vanadium	21	mg/kg-dry		1		SW6010B	04/07/16 12:42 / sld	04/05/16 11:51	ICP2-HE_160407B	52	32483
Zinc	117	mg/kg-dry		5		SW6010B	04/07/16 12:42 / sld	04/05/16 11:51	ICP2-HE_160407B	52	32483
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 13:13 / rgk	04/05/16 16:29	HGCV201-H_160407B	50	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Seive 1-2mm
Lab ID: H16030355-038
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/17/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	17.3	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	23	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	14.8	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	35	R114303
3050 EXTRACTABLE METALS											
Aluminum	5160	mg/kg-dry		5		SW6010B	04/07/16 14:32 / sld	04/05/16 11:52	ICP2-HE_160407B	82	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Arsenic	ND	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Barium	112	mg/kg-dry		5		SW6010B	04/07/16 14:32 / sld	04/05/16 11:52	ICP2-HE_160407B	82	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Cadmium	0.4	mg/kg-dry		0.2		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Chromium	10	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Copper	16	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Iron	6870	mg/kg-dry	D	8		SW6010B	04/07/16 14:32 / sld	04/05/16 11:52	ICP2-HE_160407B	82	32484
Lead	8	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Manganese	458	mg/kg-dry		5		SW6010B	04/07/16 14:32 / sld	04/05/16 11:52	ICP2-HE_160407B	82	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Nickel	5	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Vanadium	14	mg/kg-dry		1		SW6020	04/07/16 19:12 / dck	04/05/16 11:52	ICPMS204-B_160407A	106	32484
Zinc	79	mg/kg-dry		5		SW6010B	04/07/16 14:32 / sld	04/05/16 11:52	ICP2-HE_160407B	82	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 13:15 / rgk	04/05/16 16:29	HGCV201-H_160407B	51	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Seive <0.063
Lab ID: H16030355-039
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	76.0	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	25	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	12.2	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	36	R114303
3050 EXTRACTABLE METALS											
Aluminum	23500	mg/kg-dry		20		SW6010B	04/07/16 11:33 / sld	04/05/16 11:50	ICP2-HE_160407B	33	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Arsenic	40	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Barium	385	mg/kg-dry		5		SW6010B	04/07/16 11:33 / sld	04/05/16 11:50	ICP2-HE_160407B	33	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Boron	18	mg/kg-dry	D	10		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Cadmium	13.1	mg/kg-dry		0.7		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Chromium	29	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Cobalt	14	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Copper	727	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Iron	28500	mg/kg-dry	D	30		SW6010B	04/07/16 11:33 / sld	04/05/16 11:50	ICP2-HE_160407B	33	32482
Lead	157	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Manganese	2320	mg/kg-dry		5		SW6010B	04/07/16 11:33 / sld	04/05/16 11:50	ICP2-HE_160407B	33	32482
Molybdenum	6	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Nickel	17	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Uranium	8	mg/kg-dry		5		SW6020	04/07/16 15:54 / dck	04/05/16 11:50	ICPMS204-B_160407A	53	32482
Vanadium	64	mg/kg-dry		4		SW6010B	04/07/16 11:33 / sld	04/05/16 11:50	ICP2-HE_160407B	33	32482
Zinc	2230	mg/kg-dry		7		SW6010B	04/07/16 11:33 / sld	04/05/16 11:50	ICP2-HE_160407B	33	32482
METALS, TOTAL											
Mercury	0.94	mg/kg-dry		0.10		SW7471B	04/07/16 13:17 / rgk	04/05/16 16:29	HGCV201-H_160407B	52	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Seive 0.063-1mm
Lab ID: H16030355-040
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	29.2	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	26	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	25.9	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	37	R114303
3050 EXTRACTABLE METALS											
Aluminum	6860	mg/kg-dry		6		SW6010B	04/07/16 12:46 / sld	04/05/16 11:51	ICP2-HE_160407B	53	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Arsenic	8	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Barium	171	mg/kg-dry		5		SW6010B	04/07/16 12:46 / sld	04/05/16 11:51	ICP2-HE_160407B	53	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Cadmium	1.4	mg/kg-dry		0.3		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Chromium	10	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Copper	50	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Iron	10700	mg/kg-dry	D	10		SW6010B	04/07/16 12:46 / sld	04/05/16 11:51	ICP2-HE_160407B	53	32483
Lead	19	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Manganese	489	mg/kg-dry		5		SW6010B	04/07/16 12:46 / sld	04/05/16 11:51	ICP2-HE_160407B	53	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Nickel	6	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 17:53 / dck	04/05/16 11:51	ICPMS204-B_160407A	82	32483
Vanadium	24	mg/kg-dry		1		SW6010B	04/07/16 12:46 / sld	04/05/16 11:51	ICP2-HE_160407B	53	32483
Zinc	206	mg/kg-dry		5		SW6010B	04/07/16 12:46 / sld	04/05/16 11:51	ICP2-HE_160407B	53	32483
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 13:19 / rgk	04/05/16 16:29	HGCV201-H_160407B	53	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Seive 1-2mm
Lab ID: H16030355-041
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:45
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	27.4	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	27	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	10.9	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	38	R114303
3050 EXTRACTABLE METALS											
Aluminum	5450	mg/kg-dry		6		SW6010B	04/07/16 14:36 / sld	04/05/16 11:52	ICP2-HE_160407B	83	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Arsenic	5	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Barium	158	mg/kg-dry		5		SW6010B	04/07/16 14:36 / sld	04/05/16 11:52	ICP2-HE_160407B	83	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Cadmium	0.6	mg/kg-dry		0.2		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Chromium	9	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Copper	25	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Iron	7230	mg/kg-dry	D	9		SW6010B	04/07/16 14:36 / sld	04/05/16 11:52	ICP2-HE_160407B	83	32484
Lead	10	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Manganese	386	mg/kg-dry		5		SW6010B	04/07/16 14:36 / sld	04/05/16 11:52	ICP2-HE_160407B	83	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Nickel	5	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Vanadium	14	mg/kg-dry		1		SW6020	04/07/16 19:15 / dck	04/05/16 11:52	ICPMS204-B_160407A	107	32484
Zinc	145	mg/kg-dry		5		SW6010B	04/07/16 14:36 / sld	04/05/16 11:52	ICP2-HE_160407B	83	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 13:21 / rgk	04/05/16 16:29	HGCV201-H_160407B	54	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Seive <0.063
Lab ID: H16030355-042
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	66.0	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	28	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	6.0	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	39	R114303
3050 EXTRACTABLE METALS											
Aluminum	25000	mg/kg-dry		10		SW6010B	04/07/16 11:37 / sld	04/05/16 11:50	ICP2-HE_160407B	34	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Arsenic	30	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Barium	401	mg/kg-dry		5		SW6010B	04/07/16 11:37 / sld	04/05/16 11:50	ICP2-HE_160407B	34	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Boron	14	mg/kg-dry	D	6		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Cadmium	7.3	mg/kg-dry		0.5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Chromium	30	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Cobalt	11	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Copper	498	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Iron	29500	mg/kg-dry	D	20		SW6010B	04/07/16 11:37 / sld	04/05/16 11:50	ICP2-HE_160407B	34	32482
Lead	118	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Manganese	4220	mg/kg-dry		5		SW6010B	04/07/16 11:37 / sld	04/05/16 11:50	ICP2-HE_160407B	34	32482
Molybdenum	6	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Nickel	17	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Uranium	6	mg/kg-dry		5		SW6020	04/07/16 15:57 / dck	04/05/16 11:50	ICPMS204-B_160407A	54	32482
Vanadium	63	mg/kg-dry		2		SW6010B	04/07/16 11:37 / sld	04/05/16 11:50	ICP2-HE_160407B	34	32482
Zinc	1380	mg/kg-dry		5		SW6010B	04/07/16 11:37 / sld	04/05/16 11:50	ICP2-HE_160407B	34	32482
METALS, TOTAL											
Mercury	0.72	mg/kg-dry		0.10		SW7471B	04/07/16 13:23 / rgk	04/05/16 16:29	HGCV201-H_160407B	55	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Seive 0.063-1mm
Lab ID: H16030355-043
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	30.2	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	29	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	18.8	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	40	R114303
3050 EXTRACTABLE METALS											
Aluminum	6970	mg/kg-dry		6		SW6010B	04/07/16 12:49 / sld	04/05/16 11:51	ICP2-HE_160407B	54	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Arsenic	7	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Barium	148	mg/kg-dry		5		SW6010B	04/07/16 12:49 / sld	04/05/16 11:51	ICP2-HE_160407B	54	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Cadmium	1.3	mg/kg-dry		0.2		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Chromium	12	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Copper	64	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Iron	17300	mg/kg-dry	D	10		SW6010B	04/07/16 12:49 / sld	04/05/16 11:51	ICP2-HE_160407B	54	32483
Lead	17	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Manganese	910	mg/kg-dry		5		SW6010B	04/07/16 12:49 / sld	04/05/16 11:51	ICP2-HE_160407B	54	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Nickel	5	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 17:56 / dck	04/05/16 11:51	ICPMS204-B_160407A	83	32483
Vanadium	48	mg/kg-dry		1		SW6010B	04/07/16 12:49 / sld	04/05/16 11:51	ICP2-HE_160407B	54	32483
Zinc	255	mg/kg-dry		5		SW6010B	04/07/16 12:49 / sld	04/05/16 11:51	ICP2-HE_160407B	54	32483
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 13:25 / rgk	04/05/16 16:29	HGCV201-H_160407B	56	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Seive 1-2mm
Lab ID: H16030355-044
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 16:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.3	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	30	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	12.8	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	41	R114303
3050 EXTRACTABLE METALS											
Aluminum	2710	mg/kg-dry		5		SW6010B	04/07/16 14:40 / sld	04/05/16 11:52	ICP2-HE_160407B	84	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Arsenic	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Barium	64	mg/kg-dry		5		SW6010B	04/07/16 14:40 / sld	04/05/16 11:52	ICP2-HE_160407B	84	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Cadmium	0.3	mg/kg-dry		0.2		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Chromium	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Copper	16	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Iron	4950	mg/kg-dry	D	8		SW6010B	04/07/16 14:40 / sld	04/05/16 11:52	ICP2-HE_160407B	84	32484
Lead	8	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Manganese	794	mg/kg-dry		5		SW6010B	04/07/16 14:40 / sld	04/05/16 11:52	ICP2-HE_160407B	84	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Nickel	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Vanadium	11	mg/kg-dry		1		SW6020	04/07/16 19:18 / dck	04/05/16 11:52	ICPMS204-B_160407A	108	32484
Zinc	110	mg/kg-dry		5		SW6010B	04/07/16 14:40 / sld	04/05/16 11:52	ICP2-HE_160407B	84	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 13:27 / rgk	04/05/16 16:29	HGCV201-H_160407B	57	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A Sediment Seive <0.063
Lab ID: H16030355-045
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	65.6	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	31	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	2.0	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	42	R114303
3050 EXTRACTABLE METALS											
Aluminum	33600	mg/kg-dry		10		SW6010B	04/07/16 11:40 / sld	04/05/16 11:50	ICP2-HE_160407B	35	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Arsenic	96	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Barium	699	mg/kg-dry		5		SW6010B	04/07/16 11:40 / sld	04/05/16 11:50	ICP2-HE_160407B	35	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Boron	16	mg/kg-dry	D	7		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Cadmium	11.0	mg/kg-dry		0.5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Chromium	50	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Cobalt	19	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Copper	1270	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Iron	36300	mg/kg-dry	D	20		SW6010B	04/07/16 11:40 / sld	04/05/16 11:50	ICP2-HE_160407B	35	32482
Lead	577	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Manganese	8170	mg/kg-dry		5		SW6010B	04/07/16 11:40 / sld	04/05/16 11:50	ICP2-HE_160407B	35	32482
Molybdenum	7	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Nickel	31	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Silver	6	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Uranium	6	mg/kg-dry		5		SW6020	04/07/16 16:01 / dck	04/05/16 11:50	ICPMS204-B_160407A	55	32482
Vanadium	91	mg/kg-dry		3		SW6010B	04/07/16 11:40 / sld	04/05/16 11:50	ICP2-HE_160407B	35	32482
Zinc	1900	mg/kg-dry		5		SW6010B	04/07/16 11:40 / sld	04/05/16 11:50	ICP2-HE_160407B	35	32482
METALS, TOTAL											
Mercury	1.8	mg/kg-dry		0.10		SW7471B	04/13/16 10:55 / rgk	04/05/16 16:29	HGCV201-H_160413A	13	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A Sediment Seive 0.063-1mm
Lab ID: H16030355-046
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	17.0	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	32	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	17.8	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	43	R114303
3050 EXTRACTABLE METALS											
Aluminum	3600	mg/kg-dry	D	10		SW6010B	04/08/16 12:34 / sld	04/05/16 11:51	ICP2-HE_160408A	36	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Arsenic	88	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Barium	93	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Cadmium	8.0	mg/kg-dry		0.2		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Chromium	57	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Cobalt	10	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Copper	358	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Iron	106000	mg/kg-dry	D	20		SW6010B	04/08/16 12:34 / sld	04/05/16 11:51	ICP2-HE_160408A	36	32483
Lead	192	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Manganese	1980	mg/kg-dry		5		SW6010B	04/08/16 12:34 / sld	04/05/16 11:51	ICP2-HE_160408A	36	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Nickel	9	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Uranium	28	mg/kg-dry		5		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Vanadium	309	mg/kg-dry		1		SW6020	04/07/16 17:59 / dck	04/05/16 11:51	ICPMS204-B_160407A	84	32483
Zinc	2740	mg/kg-dry		5		SW6010B	04/08/16 12:34 / sld	04/05/16 11:51	ICP2-HE_160408A	36	32483
METALS, TOTAL											
Mercury	0.71	mg/kg-dry		0.10		SW7471B	04/13/16 10:57 / rgk	04/05/16 16:29	HGCV201-H_160413A	14	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A Sediment Seive 1-2mm
Lab ID: H16030355-047
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 14:30
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	15.0	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	33	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	24.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	44	R114303
3050 EXTRACTABLE METALS											
Aluminum	4290	mg/kg-dry		5		SW6010B	04/07/16 14:43 / sld	04/05/16 11:52	ICP2-HE_160407B	85	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Arsenic	44	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Barium	108	mg/kg-dry		5		SW6010B	04/07/16 14:43 / sld	04/05/16 11:52	ICP2-HE_160407B	85	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Cadmium	6.6	mg/kg-dry		0.2		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Chromium	17	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Cobalt	6	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Copper	323	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Iron	25400	mg/kg-dry	D	7		SW6010B	04/07/16 14:43 / sld	04/05/16 11:52	ICP2-HE_160407B	85	32484
Lead	142	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Manganese	1810	mg/kg-dry		5		SW6010B	04/07/16 14:43 / sld	04/05/16 11:52	ICP2-HE_160407B	85	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Nickel	7	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Vanadium	49	mg/kg-dry		1		SW6020	04/07/16 19:22 / dck	04/05/16 11:52	ICPMS204-B_160407A	109	32484
Zinc	2610	mg/kg-dry		5		SW6010B	04/07/16 14:43 / sld	04/05/16 11:52	ICP2-HE_160407B	85	32484
METALS, TOTAL											
Mercury	0.11	mg/kg-dry		0.10		SW7471B	04/07/16 13:37 / rgk	04/05/16 16:29	HGCV201-H_160407B	62	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Seive <0.063
Lab ID: H16030355-048
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	60.6	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	34	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.9	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	45	R114303
3050 EXTRACTABLE METALS											
Aluminum	33800	mg/kg-dry		9		SW6010B	04/07/16 11:44 / sld	04/05/16 11:50	ICP2-HE_160407B	36	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Arsenic	92	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Barium	642	mg/kg-dry		5		SW6010B	04/07/16 11:44 / sld	04/05/16 11:50	ICP2-HE_160407B	36	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Boron	14	mg/kg-dry	D	6		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Cadmium	13.1	mg/kg-dry		0.4		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Chromium	53	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Cobalt	16	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Copper	916	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Iron	38300	mg/kg-dry	D	20		SW6010B	04/07/16 11:44 / sld	04/05/16 11:50	ICP2-HE_160407B	36	32482
Lead	361	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Manganese	4360	mg/kg-dry		5		SW6010B	04/07/16 11:44 / sld	04/05/16 11:50	ICP2-HE_160407B	36	32482
Molybdenum	6	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Nickel	32	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Uranium	5	mg/kg-dry		5		SW6020	04/07/16 16:04 / dck	04/05/16 11:50	ICPMS204-B_160407A	56	32482
Vanadium	83	mg/kg-dry		2		SW6010B	04/07/16 11:44 / sld	04/05/16 11:50	ICP2-HE_160407B	36	32482
Zinc	2020	mg/kg-dry		5		SW6010B	04/07/16 11:44 / sld	04/05/16 11:50	ICP2-HE_160407B	36	32482
METALS, TOTAL											
Mercury	1.6	mg/kg-dry		0.10		SW7471B	04/13/16 10:59 / rgk	04/05/16 16:29	HGCV201-H_160413A	15	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Seive 0.063-1mm
Lab ID: H16030355-049
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.2	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	36	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	33.7	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	46	R114303
3050 EXTRACTABLE METALS											
Aluminum	7160	mg/kg-dry		5		SW6010B	04/07/16 13:34 / sld	04/05/16 11:51	ICP2-HE_160407B	66	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Arsenic	52	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Barium	123	mg/kg-dry		5		SW6010B	04/07/16 13:34 / sld	04/05/16 11:51	ICP2-HE_160407B	66	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Cadmium	1.4	mg/kg-dry		0.2		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Chromium	18	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Copper	164	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Iron	25700	mg/kg-dry	D	8		SW6010B	04/07/16 13:34 / sld	04/05/16 11:51	ICP2-HE_160407B	66	32483
Lead	53	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Manganese	563	mg/kg-dry		5		SW6010B	04/07/16 13:34 / sld	04/05/16 11:51	ICP2-HE_160407B	66	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Nickel	8	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Uranium	13	mg/kg-dry		5		SW6020	04/07/16 18:03 / dck	04/05/16 11:51	ICPMS204-B_160407A	85	32483
Vanadium	69	mg/kg-dry		1		SW6010B	04/07/16 13:34 / sld	04/05/16 11:51	ICP2-HE_160407B	66	32483
Zinc	553	mg/kg-dry		5		SW6010B	04/07/16 13:34 / sld	04/05/16 11:51	ICP2-HE_160407B	66	32483
METALS, TOTAL											
Mercury	0.16	mg/kg-dry		0.10		SW7471B	04/07/16 13:41 / rgk	04/05/16 16:29	HGCV201-H_160407B	64	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Seive 1-2mm
Lab ID: H16030355-050
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 13:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.2	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	37	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	31.1	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	47	R114303
3050 EXTRACTABLE METALS											
Aluminum	7190	mg/kg-dry		5		SW6010B	04/07/16 14:54 / sld	04/05/16 11:52	ICP2-HE_160407B	88	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Arsenic	28	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Barium	114	mg/kg-dry		5		SW6010B	04/07/16 14:54 / sld	04/05/16 11:52	ICP2-HE_160407B	88	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Cadmium	0.3	mg/kg-dry		0.2		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Chromium	15	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Copper	146	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Iron	10900	mg/kg-dry	D	8		SW6010B	04/07/16 14:54 / sld	04/05/16 11:52	ICP2-HE_160407B	88	32484
Lead	35	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Manganese	562	mg/kg-dry		5		SW6010B	04/07/16 14:54 / sld	04/05/16 11:52	ICP2-HE_160407B	88	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Nickel	8	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Vanadium	19	mg/kg-dry		1		SW6020	04/07/16 19:25 / dck	04/05/16 11:52	ICPMS204-B_160407A	110	32484
Zinc	162	mg/kg-dry		5		SW6010B	04/07/16 14:54 / sld	04/05/16 11:52	ICP2-HE_160407B	88	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 13:49 / rgk	04/05/16 16:29	HGCV201-H_160407B	68	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment duplicate #1, SS-15B Sediment Seive <0.063
Collection Date: 03/16/16 13:00
DateReceived: 03/18/16
Lab ID: H16030355-051
Report Date: 04/13/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	63.0	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	38	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	5.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	48	R114303
3050 EXTRACTABLE METALS											
Aluminum	31200	mg/kg-dry		10		SW6010B	04/07/16 11:48 / sld	04/05/16 11:50	ICP2-HE_160407B	37	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Arsenic	66	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Barium	535	mg/kg-dry		5		SW6010B	04/07/16 11:48 / sld	04/05/16 11:50	ICP2-HE_160407B	37	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Boron	14	mg/kg-dry	D	6		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Cadmium	11.6	mg/kg-dry		0.4		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Chromium	43	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Cobalt	14	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Copper	881	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Iron	32400	mg/kg-dry	D	20		SW6010B	04/07/16 11:48 / sld	04/05/16 11:50	ICP2-HE_160407B	37	32482
Lead	312	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Manganese	3810	mg/kg-dry		5		SW6010B	04/07/16 11:48 / sld	04/05/16 11:50	ICP2-HE_160407B	37	32482
Molybdenum	6	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Nickel	26	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 16:07 / dck	04/05/16 11:50	ICPMS204-B_160407A	57	32482
Vanadium	74	mg/kg-dry		2		SW6010B	04/07/16 11:48 / sld	04/05/16 11:50	ICP2-HE_160407B	37	32482
Zinc	2020	mg/kg-dry		5		SW6010B	04/07/16 11:48 / sld	04/05/16 11:50	ICP2-HE_160407B	37	32482
METALS, TOTAL											
Mercury	1.4	mg/kg-dry		0.10		SW7471B	04/13/16 11:00 / rgk	04/05/16 16:29	HGCV201-H_160413A	16	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment duplicate #1, SS-15B Sediment Seive 0.063-1mm
Collection Date: 03/16/16 13:00
DateReceived: 03/18/16
Lab ID: H16030355-052
Report Date: 04/13/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	23.4	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	39	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	30.8	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	49	R114303
3050 EXTRACTABLE METALS											
Aluminum	7610	mg/kg-dry		5		SW6010B	04/07/16 13:38 / sld	04/05/16 11:51	ICP2-HE_160407B	67	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Arsenic	44	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Barium	143	mg/kg-dry		5		SW6010B	04/07/16 13:38 / sld	04/05/16 11:51	ICP2-HE_160407B	67	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Cadmium	2.4	mg/kg-dry		0.2		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Chromium	18	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Cobalt	6	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Copper	166	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Iron	24300	mg/kg-dry	D	8		SW6010B	04/07/16 13:38 / sld	04/05/16 11:51	ICP2-HE_160407B	67	32483
Lead	61	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Manganese	703	mg/kg-dry		5		SW6010B	04/07/16 13:38 / sld	04/05/16 11:51	ICP2-HE_160407B	67	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Nickel	7	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 18:16 / dck	04/05/16 11:51	ICPMS204-B_160407A	89	32483
Vanadium	65	mg/kg-dry		1		SW6010B	04/07/16 13:38 / sld	04/05/16 11:51	ICP2-HE_160407B	67	32483
Zinc	910	mg/kg-dry		5		SW6010B	04/07/16 13:38 / sld	04/05/16 11:51	ICP2-HE_160407B	67	32483
METALS, TOTAL											
Mercury	0.19	mg/kg-dry		0.10		SW7471B	04/07/16 13:53 / rgk	04/05/16 16:29	HGCV201-H_160407B	70	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment duplicate #1, SS-15B Sediment Seive 1-2mm
Collection Date: 03/16/16 13:00
DateReceived: 03/18/16
Lab ID: H16030355-053
Report Date: 04/13/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	13.3	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	40	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	33.5	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	50	R114303
3050 EXTRACTABLE METALS											
Aluminum	7770	mg/kg-dry		5		SW6010B	04/07/16 14:58 / sld	04/05/16 11:52	ICP2-HE_160407B	89	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Arsenic	15	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Barium	114	mg/kg-dry		5		SW6010B	04/07/16 14:58 / sld	04/05/16 11:52	ICP2-HE_160407B	89	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Cadmium	2.2	mg/kg-dry		0.2		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Chromium	15	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Copper	68	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Iron	11000	mg/kg-dry	D	8		SW6010B	04/07/16 14:58 / sld	04/05/16 11:52	ICP2-HE_160407B	89	32484
Lead	30	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Manganese	471	mg/kg-dry		5		SW6010B	04/07/16 14:58 / sld	04/05/16 11:52	ICP2-HE_160407B	89	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Nickel	9	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Vanadium	21	mg/kg-dry		1		SW6020	04/07/16 19:38 / dck	04/05/16 11:52	ICPMS204-B_160407A	114	32484
Zinc	356	mg/kg-dry		5		SW6010B	04/07/16 14:58 / sld	04/05/16 11:52	ICP2-HE_160407B	89	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 13:55 / rgk	04/05/16 16:29	HGCV201-H_160407B	71	32497

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Seive <0.063
Lab ID: H16030355-054
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	56.0	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	41	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	5.0	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	51	R114303
3050 EXTRACTABLE METALS											
Aluminum	31400	mg/kg-dry		9		SW6010B	04/07/16 11:51 / sld	04/05/16 11:50	ICP2-HE_160407B	38	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Arsenic	55	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Barium	381	mg/kg-dry		5		SW6010B	04/07/16 11:51 / sld	04/05/16 11:50	ICP2-HE_160407B	38	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Boron	9	mg/kg-dry	D	6		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Cadmium	8.3	mg/kg-dry		0.4		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Chromium	50	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Cobalt	16	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Copper	569	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Iron	39100	mg/kg-dry	D	20		SW6010B	04/07/16 11:51 / sld	04/05/16 11:50	ICP2-HE_160407B	38	32482
Lead	251	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Manganese	5180	mg/kg-dry		5		SW6010B	04/07/16 11:51 / sld	04/05/16 11:50	ICP2-HE_160407B	38	32482
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Nickel	30	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 16:10 / dck	04/05/16 11:50	ICPMS204-B_160407A	58	32482
Vanadium	100	mg/kg-dry		2		SW6010B	04/07/16 11:51 / sld	04/05/16 11:50	ICP2-HE_160407B	38	32482
Zinc	1370	mg/kg-dry		5		SW6010B	04/07/16 11:51 / sld	04/05/16 11:50	ICP2-HE_160407B	38	32482
METALS, TOTAL											
Mercury	1.1	mg/kg-dry		0.10		SW7471B	04/07/16 15:33 / rgk	04/05/16 16:31	HGCV201-H_160407B	97	32498

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Seive 0.063-1mm
Lab ID: H16030355-055
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.8	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	42	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	70.2	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	52	R114303
3050 EXTRACTABLE METALS											
Aluminum	5240	mg/kg-dry		5		SW6010B	04/07/16 13:41 / sld	04/05/16 11:51	ICP2-HE_160407B	68	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Arsenic	18	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Barium	84	mg/kg-dry		5		SW6010B	04/07/16 13:41 / sld	04/05/16 11:51	ICP2-HE_160407B	68	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Boron	ND	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Cadmium	0.6	mg/kg-dry		0.2		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Chromium	12	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Cobalt	ND	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Copper	107	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Iron	17500	mg/kg-dry	D	8		SW6010B	04/07/16 13:41 / sld	04/05/16 11:51	ICP2-HE_160407B	68	32483
Lead	39	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Manganese	653	mg/kg-dry		5		SW6010B	04/07/16 13:41 / sld	04/05/16 11:51	ICP2-HE_160407B	68	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Nickel	ND	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Silver	ND	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Uranium	ND	mg/kg-dry		5		SW6020	04/08/16 16:03 / dck	04/05/16 11:51	ICPMS204-B_160408A	64	32483
Vanadium	50	mg/kg-dry		1		SW6010B	04/07/16 13:41 / sld	04/05/16 11:51	ICP2-HE_160407B	68	32483
Zinc	270	mg/kg-dry		5		SW6010B	04/07/16 13:41 / sld	04/05/16 11:51	ICP2-HE_160407B	68	32483
METALS, TOTAL											
Mercury	0.10	mg/kg-dry		0.10		SW7471B	04/07/16 14:52 / rgk	04/05/16 16:31	HGCV201-H_160407B	81	32498

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Seive 1-2mm
Lab ID: H16030355-056
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 11:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	16.4	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	43	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	16.4	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	53	R114303
3050 EXTRACTABLE METALS											
Aluminum	3740	mg/kg-dry		5		SW6010B	04/07/16 15:02 / sld	04/05/16 11:52	ICP2-HE_160407B	90	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Arsenic	9	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Barium	65	mg/kg-dry		5		SW6010B	04/07/16 15:02 / sld	04/05/16 11:52	ICP2-HE_160407B	90	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Cadmium	0.3	mg/kg-dry		0.2		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Chromium	7	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Copper	63	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Iron	8110	mg/kg-dry	D	8		SW6010B	04/07/16 15:02 / sld	04/05/16 11:52	ICP2-HE_160407B	90	32484
Lead	23	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Manganese	575	mg/kg-dry		5		SW6010B	04/07/16 15:02 / sld	04/05/16 11:52	ICP2-HE_160407B	90	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Nickel	ND	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Vanadium	17	mg/kg-dry		1		SW6020	04/07/16 19:41 / dck	04/05/16 11:52	ICPMS204-B_160407A	115	32484
Zinc	216	mg/kg-dry		5		SW6010B	04/07/16 15:02 / sld	04/05/16 11:52	ICP2-HE_160407B	90	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 14:54 / rgk	04/05/16 16:31	HGCV201-H_160407B	82	32498

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Seive <0.063
Lab ID: H16030355-060
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 10:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	75.4	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	44	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	9.0	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	54	R114303
3050 EXTRACTABLE METALS											
Aluminum	31700	mg/kg-dry		20		SW6010B	04/07/16 11:55 / sld	04/05/16 11:50	ICP2-HE_160407B	39	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Arsenic	78	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Barium	493	mg/kg-dry		5		SW6010B	04/07/16 11:55 / sld	04/05/16 11:50	ICP2-HE_160407B	39	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Boron	14	mg/kg-dry	D	9		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Cadmium	17.6	mg/kg-dry		0.6		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Chromium	56	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Cobalt	23	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Copper	882	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Iron	46900	mg/kg-dry	D	30		SW6010B	04/07/16 11:55 / sld	04/05/16 11:50	ICP2-HE_160407B	39	32482
Lead	317	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Manganese	9680	mg/kg-dry		5		SW6010B	04/07/16 11:55 / sld	04/05/16 11:50	ICP2-HE_160407B	39	32482
Molybdenum	7	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Nickel	35	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Uranium	7	mg/kg-dry		5		SW6020	04/07/16 16:35 / dck	04/05/16 11:50	ICPMS204-B_160407A	63	32482
Vanadium	130	mg/kg-dry		3		SW6010B	04/07/16 11:55 / sld	04/05/16 11:50	ICP2-HE_160407B	39	32482
Zinc	2770	mg/kg-dry		7		SW6010B	04/07/16 11:55 / sld	04/05/16 11:50	ICP2-HE_160407B	39	32482
METALS, TOTAL											
Mercury	1.5	mg/kg-dry		0.10		SW7471B	04/07/16 14:56 / rgk	04/05/16 16:31	HGCV201-H_160407B	83	32498

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Seive 0.063-1mm
Lab ID: H16030355-061
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 10:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	23.4	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	46	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	48.6	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	55	R114303
3050 EXTRACTABLE METALS											
Aluminum	5450	mg/kg-dry		5		SW6010B	04/07/16 13:45 / sld	04/05/16 11:51	ICP2-HE_160407B	69	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Arsenic	26	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Barium	119	mg/kg-dry		5		SW6010B	04/07/16 13:45 / sld	04/05/16 11:51	ICP2-HE_160407B	69	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Cadmium	1.2	mg/kg-dry		0.2		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Chromium	12	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Copper	110	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Iron	14000	mg/kg-dry	D	8		SW6010B	04/07/16 13:45 / sld	04/05/16 11:51	ICP2-HE_160407B	69	32483
Lead	57	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Manganese	654	mg/kg-dry		5		SW6010B	04/07/16 13:45 / sld	04/05/16 11:51	ICP2-HE_160407B	69	32483
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Nickel	5	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 18:22 / dck	04/05/16 11:51	ICPMS204-B_160407A	91	32483
Vanadium	39	mg/kg-dry		1		SW6010B	04/07/16 13:45 / sld	04/05/16 11:51	ICP2-HE_160407B	69	32483
Zinc	371	mg/kg-dry		5		SW6010B	04/07/16 13:45 / sld	04/05/16 11:51	ICP2-HE_160407B	69	32483
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 15:02 / rgk	04/05/16 16:31	HGCV201-H_160407B	86	32498

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Seive 1-2mm
Lab ID: H16030355-062
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 10:15
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.1	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	47	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	26.7	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	56	R114303
3050 EXTRACTABLE METALS											
Aluminum	3720	mg/kg-dry		5		SW6010B	04/07/16 15:05 / sld	04/05/16 11:52	ICP2-HE_160407B	91	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Arsenic	13	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Barium	80	mg/kg-dry		5		SW6010B	04/07/16 15:05 / sld	04/05/16 11:52	ICP2-HE_160407B	91	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Cadmium	0.5	mg/kg-dry		0.2		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Chromium	8	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Copper	55	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Iron	7990	mg/kg-dry	D	8		SW6010B	04/07/16 15:05 / sld	04/05/16 11:52	ICP2-HE_160407B	91	32484
Lead	23	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Manganese	693	mg/kg-dry		5		SW6010B	04/07/16 15:05 / sld	04/05/16 11:52	ICP2-HE_160407B	91	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Nickel	5	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Vanadium	19	mg/kg-dry		1		SW6020	04/07/16 19:45 / dck	04/05/16 11:52	ICPMS204-B_160407A	116	32484
Zinc	170	mg/kg-dry		5		SW6010B	04/07/16 15:05 / sld	04/05/16 11:52	ICP2-HE_160407B	91	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 15:04 / rgk	04/05/16 16:31	HGCV201-H_160407B	87	32498

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Seive <0.063
Lab ID: H16030355-063
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	56.5	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	48	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Passed	1.7	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	57	R114303
3050 EXTRACTABLE METALS											
Aluminum	28800	mg/kg-dry		10		SW6010B	04/07/16 12:20 / sld	04/05/16 15:56	ICP2-HE_160407B	46	32482
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Arsenic	156	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Barium	403	mg/kg-dry		5		SW6010B	04/07/16 12:20 / sld	04/05/16 15:56	ICP2-HE_160407B	46	32482
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Boron	12	mg/kg-dry	D	6		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Cadmium	14.1	mg/kg-dry		0.4		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Chromium	78	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Cobalt	17	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Copper	1780	mg/kg-dry		5		SW6020	04/11/16 13:25 / dck	04/05/16 15:56	ICPMS204-B_160411B	20	32482
Iron	54000	mg/kg-dry	D	20		SW6010B	04/07/16 12:20 / sld	04/05/16 15:56	ICP2-HE_160407B	46	32482
Lead	466	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Manganese	2850	mg/kg-dry		5		SW6010B	04/07/16 12:20 / sld	04/05/16 15:56	ICP2-HE_160407B	46	32482
Molybdenum	9	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Nickel	45	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Silver	6	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Uranium	11	mg/kg-dry		5		SW6020	04/07/16 17:03 / dck	04/05/16 15:56	ICPMS204-B_160407A	71	32482
Vanadium	115	mg/kg-dry		2		SW6010B	04/07/16 12:20 / sld	04/05/16 15:56	ICP2-HE_160407B	46	32482
Zinc	2460	mg/kg-dry		5		SW6010B	04/07/16 12:20 / sld	04/05/16 15:56	ICP2-HE_160407B	46	32482
METALS, TOTAL											
Mercury	1.6	mg/kg-dry		0.10		SW7471B	04/07/16 15:41 / rgk	04/05/16 16:31	HGCV201-H_160407B	101	32498

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Seive 0.063-1mm
Lab ID: H16030355-064
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	17.3	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	49	R114276
SIEVE ANALYSIS											
No. 230 (63 um), Retained	37.3	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	58	R114303
3050 EXTRACTABLE METALS											
Aluminum	3930	mg/kg-dry		5		SW6010B	04/07/16 13:49 / sld	04/05/16 11:51	ICP2-HE_160407B	70	32483
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Arsenic	34	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Barium	70	mg/kg-dry		5		SW6010B	04/07/16 13:49 / sld	04/05/16 11:51	ICP2-HE_160407B	70	32483
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Cadmium	1.3	mg/kg-dry		0.2		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Chromium	15	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Copper	202	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Iron	23200	mg/kg-dry	D	8		SW6010B	04/07/16 13:49 / sld	04/05/16 11:51	ICP2-HE_160407B	70	32483
Lead	47	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Manganese	479	mg/kg-dry		5		SW6010B	04/07/16 13:49 / sld	04/05/16 11:51	ICP2-HE_160407B	70	32483
Molybdenum	7	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Nickel	ND	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 18:26 / dck	04/05/16 11:51	ICPMS204-B_160407A	92	32483
Vanadium	61	mg/kg-dry		1		SW6010B	04/07/16 13:49 / sld	04/05/16 11:51	ICP2-HE_160407B	70	32483
Zinc	412	mg/kg-dry		5		SW6010B	04/07/16 13:49 / sld	04/05/16 11:51	ICP2-HE_160407B	70	32483
METALS, TOTAL											
Mercury	0.16	mg/kg-dry		0.10		SW7471B	04/07/16 15:08 / rgk	04/05/16 16:31	HGCV201-H_160407B	89	32498

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Seive 1-2mm
Lab ID: H16030355-065
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 03/16/16 09:00
DateReceived: 03/18/16
Report Date: 04/13/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	15.1	wt%		0.2		D2974	04/06/16 09:19 / AH		NG OVEN - BB_160405A	50	R114276
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	29.7	wt%-wet		0.1		SSSA 15-2	03/30/16 08:30 / edp		MISC SOILS_160330C	59	R114303
3050 EXTRACTABLE METALS											
Aluminum	3710	mg/kg-dry		5		SW6010B	04/07/16 15:09 / sld	04/05/16 11:52	ICP2-HE_160407B	92	32484
Antimony	ND	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Arsenic	37	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Barium	82	mg/kg-dry		5		SW6010B	04/07/16 15:09 / sld	04/05/16 11:52	ICP2-HE_160407B	92	32484
Beryllium	ND	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Boron	ND	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Cadmium	0.9	mg/kg-dry		0.2		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Chromium	7	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Cobalt	ND	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Copper	168	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Iron	11300	mg/kg-dry	D	8		SW6010B	04/07/16 15:09 / sld	04/05/16 11:52	ICP2-HE_160407B	92	32484
Lead	39	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Manganese	379	mg/kg-dry		5		SW6010B	04/07/16 15:09 / sld	04/05/16 11:52	ICP2-HE_160407B	92	32484
Molybdenum	ND	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Nickel	ND	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Selenium	ND	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Silver	ND	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Uranium	ND	mg/kg-dry		5		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Vanadium	18	mg/kg-dry		1		SW6020	04/07/16 19:48 / dck	04/05/16 11:52	ICPMS204-B_160407A	117	32484
Zinc	300	mg/kg-dry		5		SW6010B	04/07/16 15:09 / sld	04/05/16 11:52	ICP2-HE_160407B	92	32484
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	04/07/16 15:10 / rgk	04/05/16 16:31	HGCV201-H_160407B	90	32498

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160322A-SLDS-VSS-W

Date: *13-Apr-16*

Run ID :Run Order: **MISC WC_160322B: 1** SampType: **Method Blank** Lab ID: **MBLK1_160322A** Method: **A2540 E**

Analysis Date: **03/22/16 08:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	ND	1									

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **MISC WC_160322B: 16** SampType: **Sample Duplicate** Lab ID: **H16030355-010ADUP** Method: **A2540 E**

Analysis Date: **03/22/16 08:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	4	10		0				4.2		30	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160322wa-hgcv202

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160322A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **03/22/16 11:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000201	0.00010	0.0002	0	101	90	110				

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C**

Run ID :Run Order: **HGCV202-H_160322A: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **03/22/16 14:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0	98	90	110				

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160324wa-hgcv202

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160324A: 24** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **03/24/16 11:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000191	0.00010	0.0002	0	96	90	110				

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **HGCV202-H_160324A: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **03/24/16 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000195	0.00010	0.0002	0	97	90	110				

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160407SA-HGCV201

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160407B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **04/07/16 10:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.00010	0.001	0	101	90	110				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-047A, H16030355-049A, H16030355-050A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/07/16 10:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.00010	0.0025	0	100	90	110				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-047A, H16030355-049A, H16030355-050A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/07/16 11:39** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	98	90	110				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-047A, H16030355-049A, H16030355-050A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/07/16 12:15** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160407SA-HGCV201

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160407B: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/07/16 12:15** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-047A, H16030355-049A, H16030355-050A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 59** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/07/16 13:31** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	101	90	110				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-047A, H16030355-049A, H16030355-050A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 72** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/07/16 13:57** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-047A, H16030355-049A, H16030355-050A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 84** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/07/16 14:58** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160407SA-HGCV201

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160407B: 84** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/07/16 14:58** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-047A, H16030355-049A, H16030355-050A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 95** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/07/16 15:20** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	**104**	90	110				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-047A, H16030355-049A, H16030355-050A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160408wa-hgcv202

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160408A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **04/08/16 12:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000200	0.00010	0.0002	0	100	90	110				

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160408A: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **04/08/16 12:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000209	0.00010	0.0002	0	105	90	110				

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160408A: 27** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **04/08/16 13:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	0.00010	0.0002	0	105	90	110				

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160412WA-HGCV202

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160412A: 16** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **04/12/16 11:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000220	0.00010	0.0002	0	110	90	110				

Associated samples: **H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012B, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015C**

Run ID :Run Order: **HGCV202-H_160412A: 17** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **04/12/16 11:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000208	0.00010	0.0002	0	104	90	110				

Associated samples: **H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012B, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015C**

Run ID :Run Order: **HGCV202-H_160412A: 34** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **04/12/16 12:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002	0	97	90	110				

Associated samples: **H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012B, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160413sa-hgcv201

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160413A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **04/13/16 10:40** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00096	0.50	0.001	0	**96**	90	110				

Associated samples: **H16030355-045A, H16030355-046A, H16030355-048A, H16030355-051A**

Run ID :Run Order: **HGCV201-H_160413A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/13/16 10:42** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**98**	90	110				

Associated samples: **H16030355-045A, H16030355-046A, H16030355-048A, H16030355-051A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 68** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.7**

Analysis Date: **03/23/16 12:29** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.02									
Boron	ND	0.003									
Calcium	0.07	0.04									
Magnesium	ND	0.01									
Potassium	ND	0.04									
Sodium	ND	0.02									

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICP2-HE_160323A: 69** SampType: **Laboratory Control Sample** Lab ID: **LCS-32317** Method: **E200.7**

Analysis Date: **03/23/16 12:33** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.60	0.030	2.5	0	104	85	115				
Boron	0.507	0.050	0.5	0	101	85	115				
Calcium	27.7	1.0	25	0.06768	111	85	115				
Magnesium	26.4	1.0	25	0	106	85	115				
Potassium	27.3	1.0	25	0	109	85	115				
Sodium	26.8	1.0	25	0	107	85	115				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICP2-HE_160323A: 71** SampType: **Serial Dilution** Lab ID: **H16030349-003CDIL** Method: **E200.7**

Analysis Date: **03/23/16 12:41** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.516	0.030		0		0	0	0.4809	7.0	10	
Boron	0.172	0.050		0		0	0	0.1748	1.5	10	
Calcium	36.9	1.0		0		0	0	37.64	1.9	10	
Magnesium	30.4	1.0		0		0	0	31.12	2.2	10	
Potassium	3.38	1.0		0		0	0	3.566	5.5	10	
Sodium	16.3	1.0		0		0	0	17.09	4.7	10	

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 72** SampType: **Sample Matrix Spike** Lab ID: **H16030349-003CMS3** Method: **E200.7**

Analysis Date: **03/23/16 12:44** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.32	0.030	2.5	0.4809	114	70	130				
Boron	0.697	0.050	0.5	0.1748	104	70	130				
Calcium	66.6	1.0	25	37.64	116	70	130				
Magnesium	59.0	1.0	25	31.12	112	70	130				
Potassium	30.9	1.0	25	3.566	109	70	130				
Sodium	44.2	1.0	25	17.09	108	70	130				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICP2-HE_160323A: 83** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-003CMSD3** Method: **E200.7**

Analysis Date: **03/23/16 13:25** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.21	0.030	2.5	0.4809	109	70	130	3.324	3.4	20	
Boron	0.685	0.050	0.5	0.1748	102	70	130	0.6967	1.7	20	
Calcium	61.3	1.0	25	37.64	95	70	130	66.59	8.2	20	
Magnesium	56.4	1.0	25	31.12	101	70	130	59.04	4.5	20	
Potassium	29.3	1.0	25	3.566	103	70	130	30.85	5.3	20	
Sodium	42.3	1.0	25	17.09	101	70	130	44.2	4.5	20	

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICP2-HE_160323A: 96** SampType: **Serial Dilution** Lab ID: **H16030355-009CDIL** Method: **E200.7**

Analysis Date: **03/23/16 14:14** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.203	0.030		0		0	0	0.1804	12	10	R
Boron	0.0504	0.050		0		0	0	0.05121		10	N
Calcium	55.0	1.0		0		0	0	57.02	3.7	10	
Magnesium	12.3	1.0		0		0	0	12.48	1.8	10	
Potassium	5.09	1.0		0		0	0	5.356	5.1	10	
Sodium	27.8	1.0		0		0	0	29.4	5.7	10	

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 97** SampType: **Sample Matrix Spike** Lab ID: **H16030355-009CMS3** Method: **E200.7**

Analysis Date: **03/23/16 14:17** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.81	0.030	2.5	0.1804	**105**	70	130				
Boron	0.556	0.050	0.5	0.05121	**101**	70	130				
Calcium	83.6	1.0	25	57.02	**107**	70	130				
Magnesium	38.5	1.0	25	12.48	**104**	70	130				
Potassium	31.1	1.0	25	5.356	**103**	70	130				
Sodium	55.1	1.0	25	29.4	**103**	70	130				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICP2-HE_160323A: 98** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-009CMSD3** Method: **E200.7**

Analysis Date: **03/23/16 14:21** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.77	0.030	2.5	0.1804	**104**	70	130	2.813	**1.4**	20	
Boron	0.553	0.050	0.5	0.05121	**100**	70	130	0.556	**0.6**	20	
Calcium	82.6	1.0	25	57.02	**102**	70	130	83.65	**1.3**	20	
Magnesium	37.7	1.0	25	12.48	**101**	70	130	38.49	**2.0**	20	
Potassium	30.8	1.0	25	5.356	**102**	70	130	31.05	**0.9**	20	
Sodium	55.0	1.0	25	29.4	**102**	70	130	55.09	**0.2**	20	

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 148** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.8**

Analysis Date: **03/23/16 22:32** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	ND	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	0.002	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	5E-05	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	0.002	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	3E-05									
Potassium	0.02	0.01									
Selenium	ND	0.0003									
Silver	ND	1E-05									
Sodium	0.06	0.005									
Uranium	ND	1E-05									
Vanadium	ND	0.00010									
Zinc	0.003	0.0003									

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 149** SampType: **Laboratory Control Sample** Lab ID: **LCS-32317** Method: **E200.8**

Analysis Date: **03/23/16 22:35** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.35	0.030	2.5	0	**94**	85	115				
Antimony	0.485	0.0010	0.5	0	**97**	85	115				
Arsenic	0.485	0.0010	0.5	0	**97**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 149** SampType: **Laboratory Control Sample** Lab ID: **LCS-32317** Method: **E200.8**

Analysis Date: **03/23/16 22:35** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.490	0.050	0.5	0	98	85	115				
Beryllium	0.241	0.0010	0.25	0	96	85	115				
Boron	0.472	0.050	0.5	0.00245	94	85	115				
Cadmium	0.241	0.0010	0.25	0	96	85	115				
Calcium	25.0	1.0	25	0	100	85	115				
Chromium	0.492	0.0050	0.5	0	98	85	115				
Cobalt	0.485	0.0050	0.5	0	97	85	115				
Copper	0.481	0.0050	0.5	0.0000515	96	85	115				
Iron	2.43	0.020	2.5	0	97	85	115				
Lead	0.485	0.0010	0.5	0	97	85	115				
Magnesium	24.6	1.0	25	0.001896	98	85	115				
Manganese	2.40	0.0010	2.5	0	96	85	115				
Molybdenum	0.480	0.0010	0.5	0	96	85	115				
Nickel	0.480	0.0050	0.5	0	96	85	115				
Potassium	24.8	1.0	25	0.02328	99	85	115				
Selenium	0.475	0.0010	0.5	0	95	85	115				
Silver	0.0478	0.0010	0.05	0	96	85	115				
Sodium	25.0	1.0	25	0.06129	100	85	115				
Uranium	0.490	0.00030	0.5	0	98	85	115				
Vanadium	0.494	0.010	0.5	0	99	85	115				
Zinc	0.478	0.010	0.5	0.002977	95	85	115				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 155** SampType: **Sample Matrix Spike** Lab ID: **H16030349-003CMS3** Method: **E200.8**

Analysis Date: **03/23/16 22:55** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.88	0.030	2.5	0.4105	99	70	130				
Antimony	0.473	0.0010	0.5	0.0002913	95	70	130				
Arsenic	0.475	0.0010	0.5	0.00533	94	70	130				
Barium	0.538	0.050	0.5	0.05263	97	70	130				
Beryllium	0.238	0.0010	0.25	0	95	70	130				
Boron	0.622	0.050	0.5	0.1605	92	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 155** SampType: **Sample Matrix Spike** Lab ID: **H16030349-003CMS3** Method: **E200.8**

Analysis Date: **03/23/16 22:55** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.233	0.0010	0.25	0.0001341	93	70	130				
Calcium	58.4	1.0	25	32.79	103	70	130				
Chromium	0.485	0.0050	0.5	0.0007413	97	70	130				
Cobalt	0.476	0.0050	0.5	0.0003839	95	70	130				
Copper	0.479	0.0050	0.5	0.01306	93	70	130				
Iron	3.49	0.020	2.5	1.103	96	70	130				
Lead	0.484	0.0010	0.5	0.003781	96	70	130				
Magnesium	52.3	1.0	25	28.25	96	70	130				
Manganese	2.48	0.0010	2.5	0.1132	95	70	130				
Molybdenum	0.480	0.0010	0.5	0.005038	95	70	130				
Nickel	0.466	0.0050	0.5	0.0007046	93	70	130				
Potassium	27.5	1.0	25	3.238	97	70	130				
Selenium	0.447	0.0010	0.5	0	89	70	130				
Silver	0.0464	0.0010	0.05	0.000105	93	70	130				
Sodium	39.9	1.0	25	15.6	97	70	130				
Uranium	0.493	0.00030	0.5	0.003957	98	70	130				
Vanadium	0.490	0.010	0.5	0.002999	98	70	130				
Zinc	0.483	0.010	0.5	0.02864	91	70	130				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 156** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-003CMSD3** Method: **E200.8**

Analysis Date: **03/23/16 22:58** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.88	0.030	2.5	0.4105	99	70	130	2.882	0.1	20	
Antimony	0.486	0.0010	0.5	0.0002913	97	70	130	0.4728	2.7	20	
Arsenic	0.488	0.0010	0.5	0.00533	96	70	130	0.4754	2.6	20	
Barium	0.551	0.050	0.5	0.05263	100	70	130	0.5383	2.4	20	
Beryllium	0.243	0.0010	0.25	0	97	70	130	0.2377	2.1	20	
Boron	0.651	0.050	0.5	0.1605	98	70	130	0.6219	4.6	20	
Cadmium	0.239	0.0010	0.25	0.0001341	96	70	130	0.233	2.6	20	
Calcium	59.2	1.0	25	32.79	106	70	130	58.45	1.3	20	
Chromium	0.496	0.0050	0.5	0.0007413	99	70	130	0.4846	2.2	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 156** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-003CMSD3** Method: **E200.8**

Analysis Date: **03/23/16 22:58** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.486	0.0050	0.5	0.0003839	97	70	130	0.4763	2.0	20	
Copper	0.489	0.0050	0.5	0.01306	95	70	130	0.4787	2.1	20	
Iron	3.57	0.020	2.5	1.103	99	70	130	3.491	2.3	20	
Lead	0.497	0.0010	0.5	0.003781	99	70	130	0.4835	2.7	20	
Magnesium	53.3	1.0	25	28.25	100	70	130	52.28	1.9	20	
Manganese	2.54	0.0010	2.5	0.1132	97	70	130	2.479	2.3	20	
Molybdenum	0.492	0.0010	0.5	0.005038	97	70	130	0.4802	2.5	20	
Nickel	0.476	0.0050	0.5	0.0007046	95	70	130	0.4664	1.9	20	
Potassium	28.1	1.0	25	3.238	99	70	130	27.51	2.1	20	
Selenium	0.462	0.0010	0.5	0	92	70	130	0.4474	3.2	20	
Silver	0.0482	0.0010	0.05	0.000105	96	70	130	0.04638	3.8	20	
Sodium	40.8	1.0	25	15.6	101	70	130	39.88	2.2	20	
Uranium	0.508	0.00030	0.5	0.003957	101	70	130	0.4931	3.1	20	
Vanadium	0.502	0.010	0.5	0.002999	100	70	130	0.4905	2.2	20	
Zinc	0.488	0.010	0.5	0.02864	92	70	130	0.4834	0.9	20	

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 188** SampType: **Sample Matrix Spike** Lab ID: **H16030355-009CMS3** Method: **E200.8**

Analysis Date: **03/24/16 00:42** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.60	0.030	2.5	0.1566	98	70	130				
Antimony	0.491	0.0010	0.5	0.0002777	98	70	130				
Arsenic	0.499	0.0010	0.5	0.006108	99	70	130				
Barium	0.549	0.050	0.5	0.03841	102	70	130				
Beryllium	0.246	0.0010	0.25	0	98	70	130				
Boron	0.535	0.050	0.5	0.05091	97	70	130				
Cadmium	0.242	0.0010	0.25	0.0002912	97	70	130				
Calcium	82.2	1.0	25	54.05	112	70	130				
Chromium	0.504	0.0050	0.5	0.0002532	101	70	130				
Cobalt	0.497	0.0050	0.5	0.0003362	99	70	130				
Copper	0.510	0.0050	0.5	0.02386	97	70	130				
Iron	2.97	0.020	2.5	0.4532	101	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 188** SampType: **Sample Matrix Spike** Lab ID: **H16030355-009CMS3** Method: **E200.8**

Analysis Date: **03/24/16 00:42** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.497	0.0010	0.5	0.001776	99	70	130				
Magnesium	37.2	1.0	25	12.15	100	70	130				
Manganese	2.74	0.0010	2.5	0.2523	99	70	130				
Molybdenum	0.496	0.0010	0.5	0.004441	98	70	130				
Nickel	0.483	0.0050	0.5	0.00103	96	70	130				
Potassium	30.6	1.0	25	5.39	101	70	130				
Selenium	0.472	0.0010	0.5	0.0005084	94	70	130				
Silver	0.0480	0.0010	0.05	0	96	70	130				
Sodium	54.8	1.0	25	28.5	105	70	130				
Uranium	0.520	0.00030	0.5	0.005844	103	70	130				
Vanadium	0.510	0.010	0.5	0.001634	102	70	130				
Zinc	0.547	0.010	0.5	0.07645	94	70	130				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 189** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-009CMSD3** Method: **E200.8**

Analysis Date: **03/24/16 00:45** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.030	2.5	0.1566	95	70	130	2.597	2.8	20	
Antimony	0.484	0.0010	0.5	0.0002777	97	70	130	0.4907	1.3	20	
Arsenic	0.491	0.0010	0.5	0.006108	97	70	130	0.4993	1.6	20	
Barium	0.538	0.050	0.5	0.03841	100	70	130	0.5492	2.0	20	
Beryllium	0.241	0.0010	0.25	0	96	70	130	0.246	2.2	20	
Boron	0.525	0.050	0.5	0.05091	95	70	130	0.535	1.8	20	
Cadmium	0.237	0.0010	0.25	0.0002912	95	70	130	0.2425	2.2	20	
Calcium	80.7	1.0	25	54.05	107	70	130	82.15	1.8	20	
Chromium	0.491	0.0050	0.5	0.0002532	98	70	130	0.5043	2.6	20	
Cobalt	0.483	0.0050	0.5	0.0003362	97	70	130	0.4971	2.9	20	
Copper	0.499	0.0050	0.5	0.02386	95	70	130	0.5104	2.3	20	
Iron	2.90	0.020	2.5	0.4532	98	70	130	2.968	2.3	20	
Lead	0.487	0.0010	0.5	0.001776	97	70	130	0.4968	2.0	20	
Magnesium	36.6	1.0	25	12.15	98	70	130	37.18	1.5	20	
Manganese	2.66	0.0010	2.5	0.2523	96	70	130	2.737	3.0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 189** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-009CMSD3** Method: **E200.8**

Analysis Date: **03/24/16 00:45** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.491	0.0010	0.5	0.004441	**97**	70	130	0.4964	**1.1**	20	
Nickel	0.472	0.0050	0.5	0.00103	**94**	70	130	0.4834	**2.5**	20	
Potassium	30.0	1.0	25	5.39	**99**	70	130	30.57	**1.8**	20	
Selenium	0.460	0.0010	0.5	0.0005084	**92**	70	130	0.4724	**2.6**	20	
Silver	0.0474	0.0010	0.05	0	**95**	70	130	0.04805	**1.4**	20	
Sodium	54.1	1.0	25	28.5	**103**	70	130	54.82	**1.3**	20	
Uranium	0.510	0.00030	0.5	0.005844	**101**	70	130	0.5205	**2.1**	20	
Vanadium	0.497	0.010	0.5	0.001634	**99**	70	130	0.5096	**2.5**	20	
Zinc	0.531	0.010	0.5	0.07645	**91**	70	130	0.5471	**3.0**	20	

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160324B: 48** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.8**

Analysis Date: **03/24/16 21:55** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.003	0.002									
Antimony	7E-05	6E-05									
Arsenic	0.0007	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	0.002	0.001									
Cadmium	ND	1E-05									
Calcium	0.06	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	0.003	0.002									
Manganese	ND	0.0002									
Molybdenum	0.0004	3E-05									
Nickel	ND	3E-05									
Potassium	0.08	0.01									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160324B: 48** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.8**

Analysis Date: **03/24/16 21:55** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.0003									
Silver	3E-05	1E-05									
Sodium	0.4	0.005									
Uranium	ND	1E-05									
Vanadium	0.0004	0.00010									
Zinc	0.001	0.0003									

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160325B: 56** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.8**

Analysis Date: **03/25/16 17:41** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	ND	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	ND	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	ND	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	3E-05									
Potassium	ND	0.01									
Selenium	ND	0.0003									
Silver	6E-05	1E-05									
Sodium	ND	0.005									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32317

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160325B: 56** SampType: **Method Blank** Lab ID: **MB-32317** Method: **E200.8**

Analysis Date: **03/25/16 17:41** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	ND	1E-05									
Vanadium	ND	0.00010									
Zinc	0.001	0.0003									

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32322

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160322A: 41** SampType: **Method Blank** Lab ID: **MB-32322** Method: **E245.1**
Analysis Date: **03/22/16 13:34** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C**

Run ID :Run Order: **HGCV202-H_160322A: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-32322** Method: **E245.1**
Analysis Date: **03/22/16 13:37** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000138	0.00010	0.00015	0	92	90	110				

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C**

Run ID :Run Order: **HGCV202-H_160322A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16030349-001BMS** Method: **E245.1**
Analysis Date: **03/22/16 13:49** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000141	0.00010	0.00015	0	94	70	130				

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C**

Run ID :Run Order: **HGCV202-H_160322A: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-001BMSD** Method: **E245.1**
Analysis Date: **03/22/16 13:52** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000137	0.00010	0.00015	0	92	70	130	0.0001409	2.5	20	

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C**

Run ID :Run Order: **HGCV202-H_160322A: 59** SampType: **Sample Matrix Spike** Lab ID: **H16030355-001CMS** Method: **E245.1**
Analysis Date: **03/22/16 14:27** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000789	99	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32322

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160322A: 59** SampType: **Sample Matrix Spike** Lab ID: **H16030355-001CMS** Method: **E245.1**

Analysis Date: **03/22/16 14:27** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C**

Run ID :Run Order: **HGCV202-H_160322A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-001CMSD** Method: **E245.1**

Analysis Date: **03/22/16 14:29** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000789	**101**	70	130	0.0001567	**1.4**	20	

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32324

Date: *13-Apr-16*

Run ID :Run Order: **FIA202-HE_160321A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-32324** Method: **E365.1**
Analysis Date: **03/21/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.429	0.010	0.4	0.00515	**106**	90	110				

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160321A: 13** SampType: **Method Blank** Lab ID: **MB-32324** Method: **E365.1**
Analysis Date: **03/21/16 13:36** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.005	0.001									

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160321A: 29** SampType: **Sample Matrix Spike** Lab ID: **H16030313-004BMS** Method: **E365.1**
Analysis Date: **03/21/16 13:53** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.201	0.010	0.2	0	**101**	90	110				

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160321A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030313-004BMSD** Method: **E365.1**
Analysis Date: **03/21/16 13:54** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.202	0.010	0.2	0	**101**	90	110	0.2014	**0.1**	20	

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160322A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-32324** Method: **E365.1**
Analysis Date: **03/22/16 13:18** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.442	0.010	0.4	0	**110**	90	110				

Associated samples: **H16030355-001D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32324

Date: *13-Apr-16*

Run ID :Run Order: **FIA202-HE_160322A: 13** SampType: **Method Blank** Lab ID: **MB-32324** Method: **E365.1**
Analysis Date: **03/22/16 13:19** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160322A: 16** SampType: **Sample Matrix Spike** Lab ID: **H16030296-014DMS** Method: **E365.1**
Analysis Date: **03/22/16 13:22** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.241	0.010	0.2	0.0219	**110**	90	110				

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160322A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030296-014DMSD** Method: **E365.1**
Analysis Date: **03/22/16 13:23** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.246	0.010	0.2	0.0219	**112**	90	110	0.241	**2.0**	20	S

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160323A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-32324** Method: **E365.1**
Analysis Date: **03/23/16 14:23** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.369	0.010	0.4	0	**92**	90	110				

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160323A: 13** SampType: **Method Blank** Lab ID: **MB-32324** Method: **E365.1**
Analysis Date: **03/23/16 14:24** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H16030355-001D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32327

Date: *13-Apr-16*

Run ID :Run Order: **FIA203-HE_160322A: 41** SampType: **Laboratory Control Sample** Lab ID: **LCS-32327** Method: **A4500 N-C**
Analysis Date: **03/22/16 11:31** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	6.01	0.15	6.37	0	94	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **FIA203-HE_160322A: 42** SampType: **Method Blank** Lab ID: **MB-32327** Method: **A4500 N-C**
Analysis Date: **03/22/16 11:32** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.007									

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **FIA203-HE_160322A: 44** SampType: **Sample Matrix Spike** Lab ID: **H16030353-005BMS** Method: **A4500 N-C**
Analysis Date: **03/22/16 11:35** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total (Persulfate)	1.65	0.10	1	0.5314	112	90	110				S

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **FIA203-HE_160322A: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030353-005BMSD** Method: **A4500 N-C**
Analysis Date: **03/22/16 11:36** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.51	0.10	1	0.5314	98	90	110	1.654	9.2	20	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **FIA203-HE_160322A: 71** SampType: **Sample Matrix Spike** Lab ID: **H16030353-005BMS** Method: **A4500 N-C**
Analysis Date: **03/22/16 12:07** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.57	0.10	1	0.5314	104	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32327

Date: *13-Apr-16*

Run ID :Run Order: **FIA203-HE_160322A: 71** SampType: **Sample Matrix Spike** Lab ID: **H16030353-005BMS** Method: **A4500 N-C**

Analysis Date: **03/22/16 12:07** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **FIA203-HE_160322A: 76** SampType: **Sample Matrix Spike** Lab ID: **H16030355-008AMS** Method: **A4500 N-C**

Analysis Date: **03/22/16 12:13** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	3.30	0.10	1	2.51	79	90	110				S

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **FIA203-HE_160322A: 77** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-008AMSD** Method: **A4500 N-C**

Analysis Date: **03/22/16 12:14** Units: **mg/L** **Prep Info:** Prep Date: **3/21/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	3.70	0.10	1	2.51	119	90	110	3.298	11	20	S

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32332

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160323A: 43** SampType: **Sample Matrix Spike** Lab ID: **H16030355-006BMS** Method: **E245.1**
Analysis Date: **03/23/16 12:42** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000150	0.00010	0.00015	0	100	70	130				

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160323A: 44** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-006BMSD** Method: **E245.1**
Analysis Date: **03/23/16 12:45** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000151	0.00010	0.00015	0	101	70	130	0.0001503	0.5	20	

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160323A: 58** SampType: **Sample Matrix Spike** Lab ID: **H16030355-011CMS** Method: **E245.1**
Analysis Date: **03/23/16 13:25** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.0000018	104	70	130				

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160323A: 59** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-011CMSD** Method: **E245.1**
Analysis Date: **03/23/16 13:28** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.0000018	107	70	130	0.0001573	3.1	20	

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160408A: 12** SampType: **Method Blank** Lab ID: **MB-32332** Method: **E245.1**
Analysis Date: **04/08/16 12:24** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32332

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160408A: 13** SampType: **Laboratory Control Sample** Lab ID: **LCS-32332** Method: **E245.1**
Analysis Date: **04/08/16 12:27** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000159	0.00010	0.00015	0	106	90	110				

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160408A: 16** SampType: **Sample Matrix Spike** Lab ID: **H16030355-006BMS** Method: **E245.1**
Analysis Date: **04/08/16 12:38** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000173	0.00010	0.00015	0	116	70	130				

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160408A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-006BMSD** Method: **E245.1**
Analysis Date: **04/08/16 12:41** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000174	0.00010	0.00015	0	116	70	130	0.0001734	0.3	20	

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160408A: 31** SampType: **Sample Matrix Spike** Lab ID: **H16030355-011CMS** Method: **E245.1**
Analysis Date: **04/08/16 13:23** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00018	0.00010	0.00015	0.00000362	115	70	130				

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Run ID :Run Order: **HGCV202-H_160408A: 32** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-011CMSD** Method: **E245.1**
Analysis Date: **04/08/16 13:26** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00018	0.00010	0.00015	0.00000362	118	70	130	0.0001757	3.2	20	

Associated samples: **H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012C, H16030355-015B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32336

Date: *13-Apr-16*

Run ID :Run Order: **FIA202-HE_160322A: 29** SampType: **Method Blank** Lab ID: **MB-32336** Method: **E365.1**
Analysis Date: **03/22/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.003	0.001									

Associated samples: **H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA202-HE_160322A: 33** SampType: **Laboratory Control Sample** Lab ID: **LCS-32336** Method: **E365.1**
Analysis Date: **03/22/16 13:39** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.396	0.010	0.4	0.00284	98	90	110				

Associated samples: **H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA202-HE_160322A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16030355-012DMS** Method: **E365.1**
Analysis Date: **03/22/16 13:53** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.219	0.010	0.2	0	110	90	110				

Associated samples: **H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA202-HE_160322A: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-012DMSD** Method: **E365.1**
Analysis Date: **03/22/16 13:54** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.209	0.010	0.2	0	105	90	110	0.2191	4.6	20	

Associated samples: **H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA202-HE_160323A: 15** SampType: **Sample Matrix Spike** Lab ID: **H16030355-002DMS** Method: **E365.1**
Analysis Date: **03/23/16 14:26** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.786	0.010	0.4	0.3466	110	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32336

Date: *13-Apr-16*

Run ID :Run Order: **FIA202-HE_160323A: 15** SampType: **Sample Matrix Spike** Lab ID: **H16030355-002DMS** Method: **E365.1**

Analysis Date: **03/23/16 14:26** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA202-HE_160323A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-002DMSD** Method: **E365.1**

Analysis Date: **03/23/16 14:27** Units: **mg/L** **Prep Info:** Prep Date: **3/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.756	0.010	0.4	0.3466	102	90	110	0.7864	3.9	20	

Associated samples: **H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32355

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160324A: 27** SampType: **Method Blank** Lab ID: **MB-32355** Method: **E245.1**
Analysis Date: **03/24/16 11:28** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **HGCV202-H_160324A: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-32355** Method: **E245.1**
Analysis Date: **03/24/16 11:30** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000147	0.00010	0.00015	0	**98**	90	110				

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **HGCV202-H_160324A: 33** SampType: **Sample Matrix Spike** Lab ID: **H16030341-015AMS** Method: **E245.1**
Analysis Date: **03/24/16 11:45** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000154	0.00010	0.00015	0	**102**	70	130				

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **HGCV202-H_160324A: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030341-015AMSD** Method: **E245.1**
Analysis Date: **03/24/16 11:48** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000151	0.00010	0.00015	0	**101**	70	130	0.0001537	**1.9**	20	

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **HGCV202-H_160324A: 44** SampType: **Sample Matrix Spike** Lab ID: **H16030387-001BMS** Method: **E245.1**
Analysis Date: **03/24/16 12:17** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000155	0.00010	0.00015	0	**103**	70	130				

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32355

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160324A: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030387-001BMSD** Method: **E245.1**

Analysis Date: **03/24/16 12:19** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000148	0.00010	0.00015	0	99	70	130	0.0001551	4.4	20	

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32355

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160324A: 27** SampType: **Method Blank** Lab ID: **MB-32355** Method: **E245.1**
Analysis Date: **03/24/16 11:28** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **HGCV202-H_160324A: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-32355** Method: **E245.1**
Analysis Date: **03/24/16 11:30** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000147	0.00010	0.00015	0	**98**	90	110				

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **HGCV202-H_160324A: 33** SampType: **Sample Matrix Spike** Lab ID: **H16030341-015AMS** Method: **E245.1**
Analysis Date: **03/24/16 11:45** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000154	0.00010	0.00015	0	**102**	70	130				

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **HGCV202-H_160324A: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030341-015AMSD** Method: **E245.1**
Analysis Date: **03/24/16 11:48** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000151	0.00010	0.00015	0	**101**	70	130	0.0001537	**1.9**	20	

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **HGCV202-H_160324A: 44** SampType: **Sample Matrix Spike** Lab ID: **H16030387-001BMS** Method: **E245.1**
Analysis Date: **03/24/16 12:17** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000155	0.00010	0.00015	0	**103**	70	130				

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32355

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160324A: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030387-001BMSD** Method: **E245.1**

Analysis Date: **03/24/16 12:19** Units: **mg/L** **Prep Info:** Prep Date: **3/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000148	0.00010	0.00015	0	99	70	130	0.0001551	4.4	20	

Associated samples: **H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 28** SampType: **Method Blank** Lab ID: **MB-32433** Method: **SW6010B**
Analysis Date: **04/05/16 11:37** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Copper	0.2	0.2									
Iron	20	1									
Manganese	0.07	0.05									
Nickel	ND	0.1									
Vanadium	ND	0.2									
Zinc	ND	0.3									

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Run ID :Run Order: **ICP2-HE_160405B: 29** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32433** Method: **SW6010B**
Analysis Date: **04/05/16 11:41** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	263	5.0	249.2	0	105	80	120				
Copper	51.2	1.0	49.85	0.243	102	80	120				
Iron	294	5.0	249.2	15.07	112	80	120				
Manganese	267	1.0	249.2	0.06539	107	80	120				
Nickel	52.9	1.0	49.85	0	106	80	120				
Vanadium	54.4	1.0	49.85	0	109	80	120				
Zinc	50.4	1.0	49.85	0	101	80	120				

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Run ID :Run Order: **ICP2-HE_160405B: 30** SampType: **Laboratory Control Sample** Lab ID: **LCS-32433** Method: **SW6010B**
Analysis Date: **04/05/16 11:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10100	5.0	9830	0	102	46.3	130.2				
Copper	126	1.0	137	0.243	91	76.6	108.8				
Iron	16800	6.6	16300	15.07	103	51.7	131.9				
Manganese	454	1.0	434	0.06539	105	81.1	116.6				
Nickel	83.0	1.0	86.2	0	96	72.3	105				
Vanadium	115	1.0	114	0	100	67	107				
Zinc	242	1.7	231	0	105	75.3	111.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 30** SampType: **Laboratory Control Sample** Lab ID: **LCS-32433** Method: **SW6010B**
Analysis Date: **04/05/16 11:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Run ID :Run Order: **ICP2-HE_160405B: 42** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-018APDS** Method: **SW6010B**
Analysis Date: **04/05/16 12:28** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	21500	8.3	2645	18570		75	125				A
Copper	1310	1.9	528.9	803	**96**	75	125				
Iron	41500	14	2645	38470		75	125				A
Manganese	3770	1.0	2645	1207	**97**	75	125				
Nickel	534	1.1	528.9	15.64	**98**	75	125				
Vanadium	600	1.8	528.9	80.4	**98**	75	125				
Zinc	2220	3.6	528.9	1692	**100**	75	125				

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Run ID :Run Order: **ICP2-HE_160405B: 43** SampType: **Sample Matrix Spike** Lab ID: **H16030349-018AMS** Method: **SW6010B**
Analysis Date: **04/05/16 12:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23300	8.1	510.8	18570		75	125				A
Copper	926	1.8	102.2	803		75	125				A
Iron	41500	14	510.8	38470		75	125				A
Manganese	1770	1.0	510.8	1207	**111**	75	125				
Nickel	128	1.1	102.2	15.64	**110**	75	125				
Vanadium	197	1.8	102.2	80.4	**114**	75	125				
Zinc	1850	3.4	102.2	1692		75	125				A

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Run ID :Run Order: **ICP2-HE_160405B: 44** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-018AMSD** Method: **SW6010B**
Analysis Date: **04/05/16 12:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23400	8.1	515.1	18570		75	125	23340	**0.2**	20	A
Copper	940	1.8	103	803		75	125	926.1	**1.4**	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 44** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-018AMSD** Method: **SW6010B**

Analysis Date: **04/05/16 12:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	41200	14	515.1	38470		75	125	41540	**0.8**	20	A
Manganese	1790	1.0	515.1	1207	**113**	75	125	1774	**0.8**	20	
Nickel	125	1.1	103	15.64	**106**	75	125	127.6	**2.2**	20	
Vanadium	197	1.8	103	80.4	**113**	75	125	196.6	**0.2**	20	
Zinc	1830	3.5	103	1692		75	125	1848	**0.7**	20	A

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 43** SampType: **Method Blank** Lab ID: **MB-32433** Method: **SW6020**

Analysis Date: **04/05/16 17:11** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.06	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	0.1	0.04									
Cobalt	ND	0.03									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Selenium	ND	0.2									
Silver	ND	0.05									
Uranium	ND	0.06									

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Run ID :Run Order: **ICPMS204-B_160405B: 44** SampType: **Laboratory Control Sample** Lab ID: **LCS-32433** Method: **SW6020**

Analysis Date: **04/05/16 17:14** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	59.4	1.0	240	0	**25**	0	92.9				
Arsenic	167	1.0	196	0.05827	**85**	71.4	105.1				
Barium	181	1.0	187	0	**97**	78.6	112.8				
Beryllium	77.9	1.0	83.6	0	**93**	76.2	108				
Boron	110	2.1	129	0	**85**	59.5	106.2				
Cadmium	95.6	1.0	99	0	**97**	73.9	106.1				
Chromium	111	1.0	117	0.122	**95**	73.5	108.5				
Cobalt	110	1.0	108	0	**102**	74.2	105.6				
Lead	104	1.0	105	0	**99**	74.4	108.6				
Molybdenum	117	1.0	127	0	**92**	66.5	103.1				
Selenium	188	1.0	205	0	**92**	71.2	110.2				
Silver	44.0	1.0	42.1	0	**104**	70.8	111.9				
Uranium	96.5	1.0	99.9	0	**97**	80.1	120.1				

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 45** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32433** Method: **SW6020**

Analysis Date: **04/05/16 17:17** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.1	1.0	49.85	0	103	80	120				
Arsenic	50.6	1.0	49.85	0.05827	101	80	120				
Barium	51.5	1.0	49.85	0	103	80	120				
Beryllium	26.2	1.0	24.92	0	105	80	120				
Boron	51.3	2.2	49.85	0	103	80	120				
Cadmium	26.0	1.0	24.92	0	104	80	120				
Chromium	50.5	1.0	49.85	0.122	101	80	120				
Cobalt	50.9	1.0	49.85	0	102	80	120				
Lead	50.4	1.0	49.85	0	101	80	120				
Molybdenum	51.3	1.0	49.85	0	103	80	120				
Selenium	48.5	1.0	49.85	0	97	80	120				
Silver	26.5	1.0	24.92	0	106	80	120				
Uranium	51.6	1.0	49.85	0	103	80	120				

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Run ID :Run Order: **ICPMS204-B_160405B: 56** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-018APDS** Method: **SW6020**

Analysis Date: **04/05/16 17:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	999	1.0	1027	2.015	97	75	125				
Arsenic	1080	1.0	1027	118.6	94	75	125				
Barium	1330	1.0	1027	322.4	98	75	125				
Beryllium	470	1.0	513.5	0.6732	91	75	125				
Boron	914	4.4	1027	7.476	88	75	125				
Cadmium	492	1.0	513.5	6.054	95	75	125				
Chromium	1040	1.0	1027	37.79	97	75	125				
Cobalt	1010	1.0	1027	7.944	98	75	125				
Lead	1290	1.0	1027	290.9	98	75	125				
Molybdenum	1040	1.0	1027	13.45	100	75	125				
Selenium	908	1.0	1027	1.213	88	75	125				
Silver	422	1.0	513.5	7.184	81	75	125				
Uranium	1010	1.0	1027	5.81	98	75	125				

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32433

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 57** SampType: **Sample Matrix Spike** Lab ID: **H16030349-018AMS** Method: **SW6020**

Analysis Date: **04/05/16 17:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.5	1.0	102.2	2.015	45	75	125				S
Arsenic	227	1.0	102.2	118.6	106	75	125				
Barium	448	1.0	102.2	322.4	123	75	125				
Beryllium	52.4	1.0	51.08	0.6732	101	75	125				
Boron	113	4.4	102.2	7.476	104	75	125				
Cadmium	59.3	1.0	51.08	6.054	104	75	125				
Chromium	145	1.0	102.2	37.79	105	75	125				
Cobalt	114	1.0	102.2	7.944	104	75	125				
Lead	413	1.0	102.2	290.9	120	75	125				
Molybdenum	119	1.0	102.2	13.45	104	75	125				
Selenium	99.3	1.0	102.2	1.213	96	75	125				
Silver	61.1	1.0	51.08	7.184	106	75	125				
Uranium	114	1.0	102.2	5.81	106	75	125				

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Run ID :Run Order: **ICPMS204-B_160405B: 58** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-018AMSD** Method: **SW6020**

Analysis Date: **04/05/16 17:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.0	1.0	103	2.015	43	75	125	47.5	3.1	20	S
Arsenic	224	1.0	103	118.6	102	75	125	227.3	1.5	20	
Barium	443	1.0	103	322.4	117	75	125	447.9	1.2	20	
Beryllium	51.3	1.0	51.51	0.6732	98	75	125	52.36	2.0	20	
Boron	106	4.5	103	7.476	96	75	125	113.4	6.5	20	
Cadmium	58.1	1.0	51.51	6.054	101	75	125	59.35	2.2	20	
Chromium	143	1.0	103	37.79	102	75	125	145.2	1.4	20	
Cobalt	113	1.0	103	7.944	102	75	125	113.8	1.2	20	
Lead	405	1.0	103	290.9	111	75	125	413.2	2.0	20	
Molybdenum	117	1.0	103	13.45	101	75	125	119.3	1.9	20	
Selenium	97.9	1.0	103	1.213	94	75	125	99.34	1.4	20	
Silver	59.2	1.0	51.51	7.184	101	75	125	61.12	3.2	20	
Uranium	112	1.0	103	5.81	103	75	125	113.9	1.8	20	

Associated samples: **H16030355-018A, H16030355-021A, H16030355-024A, H16030355-027A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 59** SampType: **Method Blank** Lab ID: **MB-32434** Method: **SW6010B**

Analysis Date: **04/05/16 13:30** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.8	0.8									
Copper	ND	0.2									
Iron	5	1									
Manganese	ND	0.05									
Nickel	ND	0.1									
Vanadium	ND	0.2									
Zinc	ND	0.3									

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Run ID :Run Order: **ICP2-HE_160405B: 60** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32434** Method: **SW6010B**

Analysis Date: **04/05/16 13:34** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	259	5.0	250	0.8352	**103**	80	120				
Copper	51.3	1.0	50	0	**103**	80	120				
Iron	267	5.0	250	4.584	**105**	80	120				
Manganese	257	1.0	250	0	**103**	80	120				
Nickel	50.9	1.0	50	0	**102**	80	120				
Vanadium	51.6	1.0	50	0	**103**	80	120				
Zinc	49.8	1.0	50	0	**100**	80	120				

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Run ID :Run Order: **ICP2-HE_160405B: 61** SampType: **Laboratory Control Sample** Lab ID: **LCS-32434** Method: **SW6010B**

Analysis Date: **04/05/16 13:38** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9760	5.0	9830	0.8352	**99**	46.3	130.2				
Copper	124	1.0	137	0	**90**	76.6	108.8				
Iron	15900	6.7	16300	4.584	**97**	51.7	131.9				
Manganese	417	1.0	434	0	**96**	81.1	116.6				
Nickel	77.3	1.0	86.2	0	**90**	72.3	105				
Vanadium	109	1.0	114	0	**95**	67	107				
Zinc	234	1.7	231	0	**101**	75.3	111.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 61** SampType: **Laboratory Control Sample** Lab ID: **LCS-32434** Method: **SW6010B**
Analysis Date: **04/05/16 13:38** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Run ID :Run Order: **ICP2-HE_160405B: 69** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-015APDS** Method: **SW6010B**
Analysis Date: **04/05/16 14:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11500	5.7	1796	9437		75	125				A
Copper	370	1.3	359.2	25.35	96	75	125				
Iron	18100	9.6	1796	15990		75	125				A
Manganese	1920	1.0	1796	191.4	96	75	125				
Nickel	358	1.0	359.2	8.9	97	75	125				
Vanadium	391	1.2	359.2	42.13	97	75	125				
Zinc	377	2.4	359.2	35.89	95	75	125				

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Run ID :Run Order: **ICP2-HE_160405B: 70** SampType: **Sample Matrix Spike** Lab ID: **H16030349-015AMS** Method: **SW6010B**
Analysis Date: **04/05/16 14:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11600	5.5	352	9437		75	125				A
Copper	96.0	1.2	70.41	25.35	100	75	125				
Iron	16200	9.4	352	15990		75	125				A
Manganese	590	1.0	352	191.4	113	75	125				
Nickel	81.4	1.0	70.41	8.9	103	75	125				
Vanadium	118	1.2	70.41	42.13	107	75	125				
Zinc	109	2.4	70.41	35.89	103	75	125				

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Run ID :Run Order: **ICP2-HE_160405B: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-015AMSD** Method: **SW6010B**
Analysis Date: **04/05/16 14:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11500	5.6	352.8	9437		75	125	11560	0.4	20	A
Copper	104	1.3	70.55	25.35	111	75	125	96.01	7.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-015AMSD** Method: **SW6010B**

Analysis Date: **04/05/16 14:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	17400	9.4	352.8	15990		75	125	16180	7.1	20	A
Manganese	563	1.0	352.8	191.4	105	75	125	590.4	4.7	20	
Nickel	83.6	1.0	70.55	8.9	106	75	125	81.42	2.6	20	
Vanadium	117	1.2	70.55	42.13	106	75	125	117.7	0.6	20	
Zinc	115	2.4	70.55	35.89	112	75	125	108.6	5.7	20	

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 67** SampType: **Method Blank** Lab ID: **MB-32434** Method: **SW6020**

Analysis Date: **04/05/16 18:28** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.09	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	0.10	0.04									
Cobalt	ND	0.03									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Selenium	ND	0.2									
Silver	ND	0.05									
Uranium	ND	0.06									

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Run ID :Run Order: **ICPMS204-B_160405B: 68** SampType: **Laboratory Control Sample** Lab ID: **LCS-32434** Method: **SW6020**

Analysis Date: **04/05/16 18:32** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	57.2	1.0	240	0	**24**	0	92.9				
Arsenic	165	1.0	196	0.08602	**84**	71.4	105.1				
Barium	174	1.0	187	0	**93**	78.6	112.8				
Beryllium	78.2	1.0	83.6	0	**94**	76.2	108				
Boron	102	2.2	129	0	**79**	59.5	106.2				
Cadmium	94.8	1.0	99	0	**96**	73.9	106.1				
Chromium	107	1.0	117	0.09683	**92**	73.5	108.5				
Cobalt	107	1.0	108	0	**99**	74.2	105.6				
Lead	97.3	1.0	105	0	**93**	74.4	108.6				
Molybdenum	116	1.0	127	0	**91**	66.5	103.1				
Selenium	184	1.0	205	0	**90**	71.2	110.2				
Silver	41.4	1.0	42.1	0	**98**	70.8	111.9				
Uranium	93.0	1.0	99.9	0	**93**	80.1	120.1				

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 69** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32434** Method: **SW6020**

Analysis Date: **04/05/16 18:35** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.7	1.0	50	0	105	80	120				
Arsenic	52.0	1.0	50	0.08602	104	80	120				
Barium	53.1	1.0	50	0	106	80	120				
Beryllium	26.5	1.0	25	0	106	80	120				
Boron	50.8	2.2	50	0	102	80	120				
Cadmium	26.8	1.0	25	0	107	80	120				
Chromium	51.9	1.0	50	0.09683	104	80	120				
Cobalt	52.7	1.0	50	0	105	80	120				
Lead	52.0	1.0	50	0	104	80	120				
Molybdenum	52.8	1.0	50	0	106	80	120				
Selenium	50.7	1.0	50	0	101	80	120				
Silver	27.5	1.0	25	0	110	80	120				
Uranium	53.4	1.0	50	0	107	80	120				

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Run ID :Run Order: **ICPMS204-B_160405B: 78** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-015APDS** Method: **SW6020**

Analysis Date: **04/05/16 19:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	688	1.0	697.6	0.2426	99	75	125				
Arsenic	703	1.0	697.6	35.46	96	75	125				
Barium	837	1.0	697.6	137.3	100	75	125				
Beryllium	324	1.0	348.8	0.3555	93	75	125				
Boron	626	3.0	697.6	0	90	75	125				
Cadmium	337	1.0	348.8	0	97	75	125				
Chromium	696	1.0	697.6	16.36	97	75	125				
Cobalt	684	1.0	697.6	5.032	97	75	125				
Lead	700	1.0	697.6	9.466	99	75	125				
Molybdenum	714	1.0	697.6	0.2579	102	75	125				
Selenium	623	1.0	697.6	0.5565	89	75	125				
Silver	316	1.0	348.8	0.08775	91	75	125				
Uranium	675	1.0	697.6	0.9585	97	75	125				

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32434

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 79** SampType: **Sample Matrix Spike** Lab ID: **H16030349-015AMS** Method: **SW6020**

Analysis Date: **04/05/16 19:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	42.2	1.0	70.41	0.2426	60	75	125				S
Arsenic	92.8	1.0	70.41	35.46	82	75	125				
Barium	231	1.0	70.41	137.3	133	75	125				S
Beryllium	35.2	1.0	35.2	0.3555	99	75	125				
Boron	72.7	3.0	70.41	0	103	75	125				
Cadmium	36.1	1.0	35.2	0	103	75	125				
Chromium	86.7	1.0	70.41	16.36	100	75	125				
Cobalt	76.0	1.0	70.41	5.032	101	75	125				
Lead	78.6	1.0	70.41	9.466	98	75	125				
Molybdenum	71.8	1.0	70.41	0.2579	102	75	125				
Selenium	68.8	1.0	70.41	0.5565	97	75	125				
Silver	37.8	1.0	35.2	0.08775	107	75	125				
Uranium	72.8	1.0	70.41	0.9585	102	75	125				

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Run ID :Run Order: **ICPMS204-B_160405B: 80** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-015AMSD** Method: **SW6020**

Analysis Date: **04/05/16 19:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	40.9	1.0	70.55	0.2426	58	75	125	42.16	3.1	20	S
Arsenic	91.3	1.0	70.55	35.46	79	75	125	92.84	1.7	20	
Barium	207	1.0	70.55	137.3	98	75	125	230.8	11	20	
Beryllium	35.3	1.0	35.28	0.3555	99	75	125	35.19	0.4	20	
Boron	70.4	3.1	70.55	0	100	75	125	72.73	3.3	20	
Cadmium	35.8	1.0	35.28	0	102	75	125	36.1	0.7	20	
Chromium	86.9	1.0	70.55	16.36	100	75	125	86.66	0.3	20	
Cobalt	75.9	1.0	70.55	5.032	100	75	125	76.03	0.1	20	
Lead	79.5	1.0	70.55	9.466	99	75	125	78.57	1.2	20	
Molybdenum	71.1	1.0	70.55	0.2579	100	75	125	71.81	1.0	20	
Selenium	67.6	1.0	70.55	0.5565	95	75	125	68.83	1.9	20	
Silver	37.8	1.0	35.28	0.08775	107	75	125	37.82	0.1	20	
Uranium	73.2	1.0	70.55	0.9585	102	75	125	72.8	0.5	20	

Associated samples: **H16030355-019A, H16030355-022A, H16030355-025A, H16030355-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 76** SampType: **Method Blank** Lab ID: **MB-32435** Method: **SW6010B**
Analysis Date: **04/05/16 14:32** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1	0.8									
Copper	ND	0.2									
Iron	6	1									
Manganese	ND	0.05									
Nickel	ND	0.1									
Vanadium	ND	0.2									
Zinc	ND	0.3									

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICP2-HE_160405B: 79** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32435** Method: **SW6010B**
Analysis Date: **04/05/16 14:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	257	5.0	246.8	1.169	**103**	80	120				
Copper	51.1	1.0	49.35	0	**104**	80	120				
Iron	263	5.0	246.8	6.459	**104**	80	120				
Manganese	256	1.0	246.8	0	**104**	80	120				
Nickel	51.1	1.0	49.35	0	**104**	80	120				
Vanadium	51.4	1.0	49.35	0	**104**	80	120				
Zinc	49.7	1.0	49.35	0	**101**	80	120				

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICP2-HE_160405B: 80** SampType: **Laboratory Control Sample** Lab ID: **LCS-32435** Method: **SW6010B**
Analysis Date: **04/05/16 14:47** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10300	5.0	9830	1.169	**105**	46.3	130.2				
Copper	128	1.0	137	0	**94**	76.6	108.8				
Iron	16600	6.5	16300	6.459	**102**	51.7	131.9				
Manganese	444	1.0	434	0	**102**	81.1	116.6				
Nickel	81.7	1.0	86.2	0	**95**	72.3	105				
Vanadium	112	1.0	114	0	**98**	67	107				
Zinc	241	1.6	231	0	**105**	75.3	111.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 80** SampType: **Laboratory Control Sample** Lab ID: **LCS-32435** Method: **SW6010B**
Analysis Date: **04/05/16 14:47** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICP2-HE_160405B: 86** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-016APDS** Method: **SW6010B**
Analysis Date: **04/05/16 15:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11700	5.6	1783	9881		75	125				A
Copper	375	1.3	356.6	36.38	95	75	125				
Iron	14700	9.5	1783	13010		75	125				A
Manganese	1950	1.0	1783	226	97	75	125				
Nickel	361	1.0	356.6	9.181	99	75	125				
Vanadium	366	1.2	356.6	22.82	96	75	125				
Zinc	509	2.4	356.6	160.9	98	75	125				

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICP2-HE_160405B: 87** SampType: **Sample Matrix Spike** Lab ID: **H16030349-016AMS** Method: **SW6010B**
Analysis Date: **04/05/16 15:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10000	5.5	346.6	9881		75	125				A
Copper	136	1.2	69.32	36.38	143	75	125				S
Iron	14800	9.3	346.6	13010		75	125				A
Manganese	557	1.0	346.6	226	96	75	125				
Nickel	80.8	1.0	69.32	9.181	103	75	125				
Vanadium	97.3	1.2	69.32	22.82	107	75	125				
Zinc	332	2.3	69.32	160.9	247	75	125				S

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICP2-HE_160405B: 88** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-016AMSD** Method: **SW6010B**
Analysis Date: **04/05/16 15:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	12200	5.4	343.4	9881		75	125	10010	20	20	A
Copper	90.5	1.2	68.69	36.38	79	75	125	135.6	40	20	R

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 88** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-016AMSD** Method: **SW6010B**

Analysis Date: **04/05/16 15:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	13300	9.2	343.4	13010		75	125	14790	**11**	20	A
Manganese	550	1.0	343.4	226	**94**	75	125	557.2	**1.4**	20	
Nickel	83.0	1.0	68.69	9.181	**107**	75	125	80.85	**2.6**	20	
Vanadium	96.8	1.2	68.69	22.82	**108**	75	125	97.27	**0.5**	20	
Zinc	101	2.3	68.69	160.9	**-87**	75	125	332.2	**110**	20	SR

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 89** SampType: **Method Blank** Lab ID: **MB-32435** Method: **SW6020**

Analysis Date: **04/05/16 19:40** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.06	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	0.1	0.04									
Cobalt	ND	0.03									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Selenium	ND	0.2									
Silver	ND	0.05									
Uranium	ND	0.06									
Vanadium	0.6	0.4									

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICPMS204-B_160405B: 90** SampType: **Laboratory Control Sample** Lab ID: **LCS-32435** Method: **SW6020**

Analysis Date: **04/05/16 19:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	62.4	1.0	240	0	**26**	0	92.9				
Arsenic	165	1.0	196	0.05735	**84**	71.4	105.1				
Barium	178	1.0	187	0	**95**	78.6	112.8				
Beryllium	78.3	1.0	83.6	0	**94**	76.2	108				
Boron	105	2.1	129	0	**81**	59.5	106.2				
Cadmium	94.8	1.0	99	0	**96**	73.9	106.1				
Chromium	109	1.0	117	0.1032	**93**	73.5	108.5				
Cobalt	108	1.0	108	0	**100**	74.2	105.6				
Lead	98.1	1.0	105	0	**93**	74.4	108.6				
Molybdenum	117	1.0	127	0	**92**	66.5	103.1				
Selenium	183	1.0	205	0	**89**	71.2	110.2				
Silver	41.2	1.0	42.1	0	**98**	70.8	111.9				
Uranium	95.3	1.0	99.9	0	**95**	80.1	120.1				
Vanadium	105	1.0	114	0.6402	**92**	67	107				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 90** SampType: **Laboratory Control Sample** Lab ID: **LCS-32435** Method: **SW6020**
Analysis Date: **04/05/16 19:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICPMS204-B_160405B: 91** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32435** Method: **SW6020**
Analysis Date: **04/05/16 19:47** Units: **mg/kg** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.0	1.0	49.35	0	103	80	120				
Arsenic	50.6	1.0	49.35	0.05735	102	80	120				
Barium	51.2	1.0	49.35	0	104	80	120				
Beryllium	26.4	1.0	24.68	0	107	80	120				
Boron	50.5	2.1	49.35	0	102	80	120				
Cadmium	25.8	1.0	24.68	0	105	80	120				
Chromium	50.6	1.0	49.35	0.1032	102	80	120				
Cobalt	51.5	1.0	49.35	0	104	80	120				
Lead	50.2	1.0	49.35	0	102	80	120				
Molybdenum	51.5	1.0	49.35	0	104	80	120				
Selenium	48.8	1.0	49.35	0	99	80	120				
Silver	26.8	1.0	24.68	0	109	80	120				
Uranium	51.4	1.0	49.35	0	104	80	120				
Vanadium	49.5	1.0	49.35	0.6402	99	80	120				

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICPMS204-B_160405B: 98** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-016APDS** Method: **SW6020**
Analysis Date: **04/05/16 20:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	690	1.0	692.5	0.7791	99	75	125				
Arsenic	691	1.0	692.5	19.37	97	75	125				
Barium	886	1.0	692.5	182.6	102	75	125				
Beryllium	323	1.0	346.2	0.353	93	75	125				
Boron	632	3.0	692.5	0	91	75	125				
Cadmium	342	1.0	346.2	0	99	75	125				
Chromium	699	1.0	692.5	12.92	99	75	125				
Cobalt	692	1.0	692.5	4.442	99	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 98** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030349-016APDS** Method: **SW6020**

Analysis Date: **04/05/16 20:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	716	1.0	692.5	10.72	102	75	125				
Molybdenum	726	1.0	692.5	0.2332	105	75	125				
Selenium	622	1.0	692.5	0.3782	90	75	125				
Silver	245	1.0	346.2	0.1103	71	75	125				S
Uranium	695	1.0	692.5	1.199	100	75	125				
Vanadium	704	1.0	692.5	22.67	98	75	125				

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICPMS204-B_160406A: 21** SampType: **Sample Matrix Spike** Lab ID: **H16030349-016AMS** Method: **SW6020**

Analysis Date: **04/06/16 12:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.8	1.0	69.32	0.8968	68	75	125				S
Arsenic	83.2	1.0	69.32	19.94	91	75	125				
Barium	241	1.0	69.32	189.8	74	75	125				S
Beryllium	36.5	1.0	34.66	0.3878	104	75	125				
Boron	74.4	3.0	69.32	0	107	75	125				
Cadmium	34.8	1.0	34.66	0	101	75	125				
Chromium	83.3	1.0	69.32	13.44	101	75	125				
Cobalt	73.3	1.0	69.32	4.542	99	75	125				
Lead	84.8	1.0	69.32	12.02	105	75	125				
Molybdenum	67.5	1.0	69.32	0.2515	97	75	125				
Selenium	65.4	1.0	69.32	0.5343	94	75	125				
Silver	34.7	1.0	34.66	0.09453	100	75	125				
Uranium	72.6	1.0	69.32	1.305	103	75	125				
Vanadium	90.9	1.0	69.32	23.83	97	75	125				

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Run ID :Run Order: **ICPMS204-B_160406A: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-016AMSD** Method: **SW6020**

Analysis Date: **04/06/16 12:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.3	1.0	68.69	0.8968	66	75	125	47.76	3.0	20	S
Arsenic	79.1	1.0	68.69	19.94	86	75	125	83.17	5.0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32435

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160406A: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030349-016AMSD** Method: **SW6020**

Analysis Date: **04/06/16 12:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/1/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	207	1.0	68.69	189.8	25	75	125	241.3	15	20	S
Beryllium	36.9	1.0	34.34	0.3878	106	75	125	36.45	1.3	20	
Boron	76.5	3.0	68.69	0	111	75	125	74.44	2.8	20	
Cadmium	35.8	1.0	34.34	0	104	75	125	34.85	2.8	20	
Chromium	89.2	1.0	68.69	13.44	110	75	125	83.31	6.9	20	
Cobalt	77.1	1.0	68.69	4.542	106	75	125	73.27	5.1	20	
Lead	77.3	1.0	68.69	12.02	95	75	125	84.76	9.2	20	
Molybdenum	70.2	1.0	68.69	0.2515	102	75	125	67.55	3.9	20	
Selenium	67.8	1.0	68.69	0.5343	98	75	125	65.36	3.7	20	
Silver	35.7	1.0	34.34	0.09453	104	75	125	34.67	3.0	20	
Uranium	74.7	1.0	68.69	1.305	107	75	125	72.57	2.8	20	
Vanadium	96.7	1.0	68.69	23.83	106	75	125	90.93	6.2	20	

Associated samples: **H16030355-020A, H16030355-023A, H16030355-026A, H16030355-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32482

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160407B: 25** SampType: **Method Blank** Lab ID: **MB-32482** Method: **SW6010B**

Analysis Date: **04/07/16 11:04** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.8	0.8									
Barium	0.08	0.02									
Iron	2	1									
Manganese	0.05	0.05									
Vanadium	ND	0.2									
Zinc	0.4	0.3									

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Run ID :Run Order: **ICP2-HE_160407B: 26** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32482** Method: **SW6010B**

Analysis Date: **04/07/16 11:08** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	247	5.0	231.2	0.8292	107	80	120				
Barium	48.8	1.0	46.25	0.07665	105	80	120				
Iron	252	5.0	231.2	2.312	108	80	120				
Manganese	241	1.0	231.2	0.0506	104	80	120				
Vanadium	48.7	1.0	46.25	0	105	80	120				
Zinc	46.9	1.0	46.25	0.3722	101	80	120				

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Run ID :Run Order: **ICP2-HE_160407B: 27** SampType: **Laboratory Control Sample** Lab ID: **LCS-32482** Method: **SW6010B**

Analysis Date: **04/07/16 11:11** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9730	5.0	9830	0.8292	99	46.3	130.2				
Barium	189	1.0	187	0.07665	101	78.6	112.8				
Iron	17200	6.7	16300	2.312	105	51.7	131.9				
Manganese	442	1.0	434	0.0506	102	81.1	116.6				
Vanadium	115	1.0	114	0	101	67	107				
Zinc	255	1.7	231	0.3722	110	75.3	111.7				

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32482

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160407B: 41** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030355-060APDS** Method: **SW6010B**

Analysis Date: **04/07/16 12:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	36600	16	5095	31700		75	125				A
Barium	1470	1.0	1019	493	96	75	125				
Iron	51000	27	5095	46900		75	125				A
Manganese	14300	1.0	5095	9685	91	75	125				
Vanadium	1100	3.5	1019	130.4	95	75	125				
Zinc	3820	6.9	1019	2775	103	75	125				

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Run ID :Run Order: **ICP2-HE_160407B: 42** SampType: **Sample Matrix Spike** Lab ID: **H16030355-060AMS** Method: **SW6010B**

Analysis Date: **04/07/16 12:06** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	37900	16	995.5	31700		75	125				A
Barium	696	1.0	199.1	493	102	75	125				
Iron	47300	27	995.5	46900		75	125				A
Manganese	10800	1.0	995.5	9685		75	125				A
Vanadium	341	3.5	199.1	130.4	106	75	125				
Zinc	3090	6.7	199.1	2775		75	125				A

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Run ID :Run Order: **ICP2-HE_160407B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-060AMSD** Method: **SW6010B**

Analysis Date: **04/07/16 12:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41300	16	1008	31700		75	125	37920	8.6	20	A
Barium	757	1.0	201.5	493	131	75	125	695.9	8.5	20	S
Iron	50800	27	1008	46900		75	125	47270	7.2	20	A
Manganese	14500	1.0	1008	9685		75	125	10770	29	20	AR
Vanadium	360	3.5	201.5	130.4	114	75	125	340.5	5.5	20	
Zinc	3230	6.8	201.5	2775		75	125	3086	4.7	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32482

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160407B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-060AMSD** Method: **SW6010B**

Analysis Date: **04/07/16 12:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32482

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 43** SampType: **Method Blank** Lab ID: **MB-32482** Method: **SW6020**

Analysis Date: **04/07/16 15:04** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.2	0.08									
Arsenic	0.1	0.05									
Beryllium	ND	0.1									
Boron	3	2									
Cadmium	ND	0.2									
Chromium	0.1	0.04									
Cobalt	ND	0.04									
Copper	0.3	0.1									
Lead	ND	0.10									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	0.5	0.05									
Uranium	ND	0.06									

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Run ID :Run Order: **ICPMS204-B_160407A: 44** SampType: **Laboratory Control Sample** Lab ID: **LCS-32482** Method: **SW6020**

Analysis Date: **04/07/16 15:08** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	62.8	1.0	240	0.215	**26**	0	92.9				
Arsenic	164	1.0	196	0.1034	**84**	71.4	105.1				
Beryllium	81.8	1.0	83.6	0	**98**	76.2	108				
Boron	116	2.2	129	3.236	**88**	59.5	106.2				
Cadmium	96.4	1.0	99	0	**97**	73.9	106.1				
Chromium	114	1.0	117	0.1129	**97**	73.5	108.5				
Cobalt	110	1.0	108	0	**102**	74.2	105.6				
Copper	128	1.0	137	0.327	**93**	76.6	108.8				
Lead	103	1.0	105	0	**98**	74.4	108.6				
Molybdenum	114	1.0	127	0	**90**	66.5	103.1				
Nickel	83.6	1.0	86.2	0	**97**	72.3	105				
Selenium	195	1.0	205	0	**95**	71.2	110.2				
Silver	40.4	1.0	42.1	0.51	**95**	70.8	111.9				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32482

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 44** SampType: **Laboratory Control Sample** Lab ID: **LCS-32482** Method: **SW6020**

Analysis Date: **04/07/16 15:08** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	101	1.0	99.9	0	101	80.1	120.1				

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Run ID :Run Order: **ICPMS204-B_160407A: 45** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32482** Method: **SW6020**

Analysis Date: **04/07/16 15:11** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	45.3	1.0	46.25	0.215	97	80	120				
Arsenic	44.7	1.0	46.25	0.1034	96	80	120				
Beryllium	23.5	1.0	23.12	0	102	80	120				
Boron	50.3	2.0	46.25	3.236	102	80	120				
Cadmium	23.0	1.0	23.12	0	99	80	120				
Chromium	46.4	1.0	46.25	0.1129	100	80	120				
Cobalt	46.2	1.0	46.25	0	100	80	120				
Copper	46.3	1.0	46.25	0.327	100	80	120				
Lead	45.8	1.0	46.25	0	99	80	120				
Molybdenum	45.2	1.0	46.25	0	98	80	120				
Nickel	46.3	1.0	46.25	0	100	80	120				
Selenium	45.2	1.0	46.25	0	98	80	120				
Silver	23.2	1.0	23.12	0.51	98	80	120				
Uranium	45.9	1.0	46.25	0	99	80	120				

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Run ID :Run Order: **ICPMS204-B_160407A: 68** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030355-060APDS** Method: **SW6020**

Analysis Date: **04/07/16 16:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1800	1.0	1932	0.7411	93	75	125				
Arsenic	1810	1.0	1932	78.03	90	75	125				
Beryllium	855	1.0	965.9	1.302	88	75	125				
Boron	1730	8.4	1932	13.94	89	75	125				
Cadmium	895	1.0	965.9	17.64	91	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32482

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 68** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030355-060APDS** Method: **SW6020**

Analysis Date: **04/07/16 16:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1890	1.0	1932	56.29	95	75	125				
Cobalt	1820	1.0	1932	22.99	93	75	125				
Copper	2580	1.0	1932	881.9	88	75	125				
Lead	2180	1.0	1932	316.8	97	75	125				
Molybdenum	1800	1.0	1932	7.268	93	75	125				
Nickel	1770	1.0	1932	34.95	90	75	125				
Selenium	1750	1.0	1932	2.376	90	75	125				
Silver	814	1.0	965.9	3.359	84	75	125				
Uranium	2340	1.0	1932	6.653	121	75	125				

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Run ID :Run Order: **ICPMS204-B_160407A: 69** SampType: **Sample Matrix Spike** Lab ID: **H16030355-060AMS** Method: **SW6020**

Analysis Date: **04/07/16 16:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	99.4	1.0	194.4	0.7411	51	75	125				S
Arsenic	288	1.0	194.4	78.03	108	75	125				
Beryllium	105	1.0	97.19	1.302	107	75	125				
Boron	242	8.4	194.4	13.94	117	75	125				
Cadmium	123	1.0	97.19	17.64	109	75	125				
Chromium	271	1.0	194.4	56.29	110	75	125				
Cobalt	237	1.0	194.4	22.99	110	75	125				
Copper	1140	1.0	194.4	881.9		75	125				A
Lead	542	1.0	194.4	316.8	116	75	125				
Molybdenum	209	1.0	194.4	7.268	104	75	125				
Nickel	246	1.0	194.4	34.95	109	75	125				
Selenium	215	1.0	194.4	2.376	109	75	125				
Silver	132	1.0	97.19	3.359	132	75	125				S
Uranium	222	1.0	194.4	6.653	111	75	125				

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32482

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 70** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-060AMSD** Method: **SW6020**

Analysis Date: **04/07/16 16:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	89.6	1.0	196.8	0.7411	45	75	125	99.4	10	20	S
Arsenic	282	1.0	196.8	78.03	104	75	125	287.7	2.1	20	
Beryllium	104	1.0	98.38	1.302	105	75	125	104.9	0.5	20	
Boron	217	8.5	196.8	13.94	103	75	125	241.6	11	20	
Cadmium	118	1.0	98.38	17.64	102	75	125	123.4	4.8	20	
Chromium	258	1.0	196.8	56.29	103	75	125	271	4.8	20	
Cobalt	225	1.0	196.8	22.99	103	75	125	236.8	5.2	20	
Copper	1150	1.0	196.8	881.9		75	125	1137	1.3	20	A
Lead	530	1.0	196.8	316.8	108	75	125	541.7	2.2	20	
Molybdenum	198	1.0	196.8	7.268	97	75	125	209.2	5.3	20	
Nickel	234	1.0	196.8	34.95	101	75	125	246.1	5.0	20	
Selenium	200	1.0	196.8	2.376	100	75	125	215.2	7.6	20	
Silver	104	1.0	98.38	3.359	102	75	125	132	24	20	R
Uranium	204	1.0	196.8	6.653	100	75	125	222.2	8.7	20	

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Run ID :Run Order: **ICPMS204-B_160411B: 19** SampType: **Method Blank** Lab ID: **MB-32482** Method: **SW6020**

Analysis Date: **04/11/16 13:22** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	0.3	0.10									
Beryllium	ND	0.3									
Boron	10	4									
Cadmium	ND	0.3									
Chromium	0.2	0.08									
Cobalt	ND	0.07									
Copper	0.3	0.3									
Lead	ND	0.2									
Molybdenum	ND	0.2									
Nickel	ND	0.2									
Selenium	ND	0.3									
Silver	ND	0.1									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32482

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160411B: 19** SampType: **Method Blank** Lab ID: **MB-32482** Method: **SW6020**

Analysis Date: **04/11/16 13:22** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	ND	0.1									

Associated samples: **H16030355-030A, H16030355-033A, H16030355-036A, H16030355-039A, H16030355-042A, H16030355-045A, H16030355-048A, H16030355-051A, H16030355-054A, H16030355-060A, H16030355-063A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32483

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160407B: 47** SampType: **Method Blank** Lab ID: **MB-32483** Method: **SW6010B**

Analysis Date: **04/07/16 12:24** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1	0.8									
Barium	0.06	0.03									
Iron	2	1									
Manganese	0.2	0.05									
Vanadium	ND	0.2									
Zinc	ND	0.4									

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Run ID :Run Order: **ICP2-HE_160407B: 48** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32483** Method: **SW6010B**

Analysis Date: **04/07/16 12:28** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	254	5.0	240	1.08	105	80	120				
Barium	50.5	1.0	48	0.06283	105	80	120				
Iron	254	5.0	240	2.397	105	80	120				
Manganese	244	1.0	240	0.21	102	80	120				
Vanadium	50.3	1.0	48	0	105	80	120				
Zinc	47.9	1.0	48	0	100	80	120				

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Run ID :Run Order: **ICP2-HE_160407B: 49** SampType: **Laboratory Control Sample** Lab ID: **LCS-32483** Method: **SW6010B**

Analysis Date: **04/07/16 12:31** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10100	5.0	9830	1.08	103	46.3	130.2				
Barium	179	1.0	187	0.06283	96	78.6	112.8				
Iron	16400	6.9	16300	2.397	100	51.7	131.9				
Manganese	433	1.0	434	0.21	100	81.1	116.6				
Vanadium	112	1.0	114	0	98	67	107				
Zinc	246	1.7	231	0	107	75.3	111.7				

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32483

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160407B: 72** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030355-064APDS** Method: **SW6010B**

Analysis Date: **04/07/16 13:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5430	5.0	1514	3928	99	75	125				
Barium	360	1.0	302.8	70.49	96	75	125				
Iron	24400	8.1	1514	23160		75	125				A
Manganese	1920	1.0	1514	479.2	95	75	125				
Vanadium	352	1.0	302.8	60.61	96	75	125				
Zinc	700	2.0	302.8	412.3	95	75	125				

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Run ID :Run Order: **ICP2-HE_160407B: 73** SampType: **Sample Matrix Spike** Lab ID: **H16030355-064AMS** Method: **SW6010B**

Analysis Date: **04/07/16 14:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5470	5.0	294.5	3928		75	125				A
Barium	136	1.0	58.91	70.49	111	75	125				
Iron	22800	7.9	294.5	23160		75	125				A
Manganese	744	1.0	294.5	479.2	90	75	125				
Vanadium	123	1.0	58.91	60.61	106	75	125				
Zinc	488	2.0	58.91	412.3		75	125				A

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Run ID :Run Order: **ICP2-HE_160407B: 76** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-064AMSD** Method: **SW6010B**

Analysis Date: **04/07/16 14:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5580	5.0	297.6	3928		75	125	5473	2.0	20	A
Barium	136	1.0	59.51	70.49	110	75	125	135.7	0.1	20	
Iron	21600	8.0	297.6	23160		75	125	22840	5.5	20	A
Manganese	714	1.0	297.6	479.2	79	75	125	744	4.1	20	
Vanadium	115	1.0	59.51	60.61	92	75	125	123.2	6.7	20	
Zinc	488	2.0	59.51	412.3		75	125	488.4	0.2	20	A

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32483

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160408A: 35** SampType: **Method Blank** Lab ID: **MB-32483** Method: **SW6010B**

Analysis Date: **04/08/16 12:30** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1	0.8									
Barium	0.10	0.03									
Iron	2	1									
Manganese	0.2	0.05									
Vanadium	ND	0.2									
Zinc	ND	0.4									

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32483

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 75** SampType: **Method Blank** Lab ID: **MB-32483** Method: **SW6020**

Analysis Date: **04/07/16 17:30** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.08									
Arsenic	0.08	0.05									
Barium	ND	0.4									
Beryllium	ND	0.2									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	0.1	0.04									
Cobalt	ND	0.04									
Copper	0.3	0.1									
Lead	ND	0.1									
Molybdenum	ND	0.1									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	0.07	0.06									
Uranium	ND	0.06									
Vanadium	0.5	0.4									

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Run ID :Run Order: **ICPMS204-B_160407A: 76** SampType: **Laboratory Control Sample** Lab ID: **LCS-32483** Method: **SW6020**

Analysis Date: **04/07/16 17:33** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	57.5	1.0	240	0	**24**	0	92.9				
Arsenic	170	1.0	196	0.07733	**87**	71.4	105.1				
Barium	189	1.0	187	0	**101**	78.6	112.8				
Beryllium	82.8	1.0	83.6	0	**99**	76.2	108				
Boron	118	2.2	129	0	**91**	59.5	106.2				
Cadmium	97.7	1.0	99	0	**99**	73.9	106.1				
Chromium	115	1.0	117	0.1079	**99**	73.5	108.5				
Cobalt	112	1.0	108	0	**104**	74.2	105.6				
Copper	129	1.0	137	0.3412	**94**	76.6	108.8				
Lead	106	1.0	105	0	**101**	74.4	108.6				
Molybdenum	116	1.0	127	0	**91**	66.5	103.1				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32483

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 76** SampType: **Laboratory Control Sample** Lab ID: **LCS-32483** Method: **SW6020**

Analysis Date: **04/07/16 17:33** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	83.5	1.0	86.2	0	97	72.3	105				
Selenium	202	1.0	205	0	98	71.2	110.2				
Silver	41.9	1.0	42.1	0.06777	99	70.8	111.9				
Uranium	102	1.0	99.9	0	102	80.1	120.1				
Vanadium	115	1.0	114	0.4969	100	67	107				

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Run ID :Run Order: **ICPMS204-B_160407A: 77** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32483** Method: **SW6020**

Analysis Date: **04/07/16 17:36** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.1	1.0	48	0	100	80	120				
Arsenic	47.1	1.0	48	0.07733	98	80	120				
Barium	49.8	1.0	48	0	104	80	120				
Beryllium	25.8	1.0	24	0	108	80	120				
Boron	53.2	2.1	48	0	111	80	120				
Cadmium	24.4	1.0	24	0	101	80	120				
Chromium	49.1	1.0	48	0.1079	102	80	120				
Cobalt	48.9	1.0	48	0	102	80	120				
Copper	49.0	1.0	48	0.3412	101	80	120				
Lead	48.1	1.0	48	0	100	80	120				
Molybdenum	47.7	1.0	48	0	99	80	120				
Nickel	48.9	1.0	48	0	102	80	120				
Selenium	47.7	1.0	48	0	99	80	120				
Silver	24.3	1.0	24	0.06777	101	80	120				
Uranium	48.4	1.0	48	0	101	80	120				
Vanadium	49.3	1.0	48	0.4969	102	80	120				

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32483

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 94** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030355-064APDS** Method: **SW6020**

Analysis Date: **04/07/16 18:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	560	1.0	587.9	0.4606	95	75	125				
Arsenic	578	1.0	587.9	34.38	92	75	125				
Barium	667	1.0	587.9	73.07	101	75	125				
Beryllium	273	1.0	293.9	0.3025	93	75	125				
Boron	574	2.5	587.9	0	98	75	125				
Cadmium	280	1.0	293.9	1.28	95	75	125				
Chromium	597	1.0	587.9	14.88	99	75	125				
Cobalt	571	1.0	587.9	3.412	97	75	125				
Copper	747	1.0	587.9	202.1	93	75	125				
Lead	650	1.0	587.9	47.22	102	75	125				
Molybdenum	574	1.0	587.9	7.454	96	75	125				
Nickel	552	1.0	587.9	4.203	93	75	125				
Selenium	539	1.0	587.9	0.576	92	75	125				
Silver	249	1.0	293.9	0.7731	85	75	125				
Uranium	596	1.0	587.9	4.055	101	75	125				
Vanadium	654	1.0	587.9	59.79	101	75	125				

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Run ID :Run Order: **ICPMS204-B_160407A: 95** SampType: **Sample Matrix Spike** Lab ID: **H16030355-064AMS** Method: **SW6020**

Analysis Date: **04/07/16 18:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.9	1.0	58.91	0.4606	79	75	125				
Arsenic	104	1.0	58.91	34.38	118	75	125				
Barium	139	1.0	58.91	73.07	112	75	125				
Beryllium	30.9	1.0	29.45	0.3025	104	75	125				
Boron	65.1	2.5	58.91	0	111	75	125				
Cadmium	32.1	1.0	29.45	1.28	105	75	125				
Chromium	75.6	1.0	58.91	14.88	103	75	125				
Cobalt	64.9	1.0	58.91	3.412	104	75	125				
Copper	326	1.0	58.91	202.1	210	75	125				S
Lead	105	1.0	58.91	47.22	97	75	125				
Molybdenum	62.0	1.0	58.91	7.454	93	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32483

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 95** SampType: **Sample Matrix Spike** Lab ID: **H16030355-064AMS** Method: **SW6020**

Analysis Date: **04/07/16 18:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	65.6	1.0	58.91	4.203	104	75	125				
Selenium	60.3	1.0	58.91	0.576	101	75	125				
Silver	31.7	1.0	29.45	0.7731	105	75	125				
Uranium	66.1	1.0	58.91	4.055	105	75	125				
Vanadium	121	1.0	58.91	59.79	104	75	125				

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Run ID :Run Order: **ICPMS204-B_160407A: 96** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-064AMSD** Method: **SW6020**

Analysis Date: **04/07/16 18:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	45.1	1.0	59.51	0.4606	75	75	125	46.95	3.9	20	
Arsenic	111	1.0	59.51	34.38	128	75	125	103.6	6.7	20	S
Barium	141	1.0	59.51	73.07	114	75	125	139.3	1.3	20	
Beryllium	30.9	1.0	29.76	0.3025	103	75	125	30.86	0.2	20	
Boron	69.0	2.6	59.51	0	116	75	125	65.1	5.8	20	
Cadmium	32.0	1.0	29.76	1.28	103	75	125	32.09	0.2	20	
Chromium	75.0	1.0	59.51	14.88	101	75	125	75.64	0.9	20	
Cobalt	64.9	1.0	59.51	3.412	103	75	125	64.86	0.1	20	
Copper	296	1.0	59.51	202.1	157	75	125	325.9	9.7	20	S
Lead	104	1.0	59.51	47.22	96	75	125	104.6	0.2	20	
Molybdenum	61.8	1.0	59.51	7.454	91	75	125	61.97	0.3	20	
Nickel	65.8	1.0	59.51	4.203	104	75	125	65.57	0.4	20	
Selenium	60.1	1.0	59.51	0.576	100	75	125	60.32	0.5	20	
Silver	32.1	1.0	29.76	0.7731	105	75	125	31.74	1.1	20	
Uranium	64.5	1.0	59.51	4.055	102	75	125	66.1	2.4	20	
Vanadium	115	1.0	59.51	59.79	93	75	125	121.2	5.4	20	

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32483

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160408A: 63** SampType: **Method Blank** Lab ID: **MB-32483** Method: **SW6020**

Analysis Date: **04/08/16 15:59** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.08									
Arsenic	0.05	0.05									
Barium	ND	0.4									
Beryllium	ND	0.2									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	0.1	0.04									
Cobalt	ND	0.04									
Copper	ND	0.1									
Lead	ND	0.1									
Molybdenum	ND	0.1									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.06									
Uranium	ND	0.06									
Vanadium	1	0.4									

Associated samples: **H16030355-031A, H16030355-034A, H16030355-037A, H16030355-040A, H16030355-043A, H16030355-046A, H16030355-049A, H16030355-052A, H16030355-055A, H16030355-061A, H16030355-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32484

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160407B: 77** SampType: **Method Blank** Lab ID: **MB-32484** Method: **SW6010B**

Analysis Date: **04/07/16 14:14** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.9									
Barium	0.05	0.03									
Iron	3	1									
Manganese	ND	0.05									
Zinc	ND	0.4									

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Run ID :Run Order: **ICP2-HE_160407B: 78** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32484** Method: **SW6010B**

Analysis Date: **04/07/16 14:18** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	250	5.0	241.5	0	103	80	120				
Barium	48.9	1.0	48.3	0.05484	101	80	120				
Iron	248	5.0	241.5	2.957	101	80	120				
Manganese	244	1.0	241.5	0	101	80	120				
Zinc	49.3	1.0	48.3	0	102	80	120				

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Run ID :Run Order: **ICP2-HE_160407B: 79** SampType: **Laboratory Control Sample** Lab ID: **LCS-32484** Method: **SW6010B**

Analysis Date: **04/07/16 14:21** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10200	5.0	9830	0	104	46.3	130.2				
Barium	173	1.0	187	0.05484	92	78.6	112.8				
Iron	16800	7.0	16300	2.957	103	51.7	131.9				
Manganese	422	1.0	434	0	97	81.1	116.6				
Zinc	242	1.8	231	0	105	75.3	111.7				

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32484

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160407B: 94** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030355-065APDS** Method: **SW6010B**

Analysis Date: **04/07/16 15:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5280	5.0	1559	3713	100	75	125				
Barium	376	1.0	311.9	81.99	94	75	125				
Iron	12900	8.3	1559	11320		75	125				A
Manganese	1860	1.0	1559	378.6	95	75	125				
Zinc	593	2.1	311.9	300.4	94	75	125				

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Run ID :Run Order: **ICP2-HE_160407B: 95** SampType: **Sample Matrix Spike** Lab ID: **H16030355-065AMS** Method: **SW6010B**

Analysis Date: **04/07/16 15:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5610	5.0	294.6	3713		75	125				A
Barium	139	1.0	58.91	81.99	96	75	125				
Iron	12700	7.9	294.6	11320		75	125				A
Manganese	640	1.0	294.6	378.6	89	75	125				
Zinc	348	2.0	58.91	300.4		75	125				A

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Run ID :Run Order: **ICP2-HE_160407B: 96** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-065AMSD** Method: **SW6010B**

Analysis Date: **04/07/16 15:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5160	5.0	300.5	3713		75	125	5609	8.3	20	A
Barium	130	1.0	60.09	81.99	79	75	125	138.8	6.8	20	
Iron	11700	8.0	300.5	11320		75	125	12720	8.6	20	A
Manganese	1570	1.0	300.5	378.6	397	75	125	640.1	84	20	SR
Zinc	322	2.0	60.09	300.4		75	125	347.7	7.6	20	A

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32484

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 100** SampType: **Method Blank** Lab ID: **MB-32484** Method: **SW6020**

Analysis Date: **04/07/16 18:52** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.08									
Arsenic	ND	0.05									
Beryllium	ND	0.2									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	0.08	0.04									
Cobalt	ND	0.04									
Copper	0.3	0.1									
Lead	ND	0.1									
Molybdenum	ND	0.1									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.06									
Uranium	ND	0.06									
Vanadium	ND	0.5									

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Run ID :Run Order: **ICPMS204-B_160407A: 101** SampType: **Laboratory Control Sample** Lab ID: **LCS-32484** Method: **SW6020**

Analysis Date: **04/07/16 18:55** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	55.8	1.0	240	0	**23**	0	92.9				
Arsenic	166	1.0	196	0	**85**	71.4	105.1				
Beryllium	81.3	1.0	83.6	0	**97**	76.2	108				
Boron	117	2.3	129	0	**90**	59.5	106.2				
Cadmium	94.3	1.0	99	0	**95**	73.9	106.1				
Chromium	112	1.0	117	0.08096	**95**	73.5	108.5				
Cobalt	108	1.0	108	0	**100**	74.2	105.6				
Copper	123	1.0	137	0.2534	**90**	76.6	108.8				
Lead	100	1.0	105	0	**95**	74.4	108.6				
Molybdenum	112	1.0	127	0	**88**	66.5	103.1				
Nickel	79.6	1.0	86.2	0	**92**	72.3	105				
Selenium	195	1.0	205	0	**95**	71.2	110.2				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32484

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 101** SampType: **Laboratory Control Sample** Lab ID: **LCS-32484** Method: **SW6020**

Analysis Date: **04/07/16 18:55** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	41.2	1.0	42.1	0	98	70.8	111.9				
Uranium	99.2	1.0	99.9	0	99	80.1	120.1				
Vanadium	112	1.0	114	0	98	67	107				

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Run ID :Run Order: **ICPMS204-B_160407A: 102** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32484** Method: **SW6020**

Analysis Date: **04/07/16 18:58** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.8	1.0	48.3	0	101	80	120				
Arsenic	47.7	1.0	48.3	0	99	80	120				
Beryllium	25.7	1.0	24.15	0	106	80	120				
Boron	54.3	2.1	48.3	0	112	80	120				
Cadmium	24.8	1.0	24.15	0	103	80	120				
Chromium	50.0	1.0	48.3	0.08096	103	80	120				
Cobalt	50.0	1.0	48.3	0	104	80	120				
Copper	49.8	1.0	48.3	0.2534	103	80	120				
Lead	49.2	1.0	48.3	0	102	80	120				
Molybdenum	48.8	1.0	48.3	0	101	80	120				
Nickel	49.8	1.0	48.3	0	103	80	120				
Selenium	49.8	1.0	48.3	0	103	80	120				
Silver	24.8	1.0	24.15	0	103	80	120				
Uranium	49.5	1.0	48.3	0	102	80	120				
Vanadium	49.8	1.0	48.3	0	103	80	120				

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Run ID :Run Order: **ICPMS204-B_160407A: 119** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030355-065APDS** Method: **SW6020**

Analysis Date: **04/07/16 19:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method:

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	568	1.0	605.6	0.7722	94	75	125				
Arsenic	585	1.0	605.6	36.97	90	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32484

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 119** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16030355-065APDS** Method: **SW6020**

Analysis Date: **04/07/16 19:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method:

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	282	1.0	302.8	0.3092	93	75	125				
Boron	585	2.6	605.6	0	97	75	125				
Cadmium	283	1.0	302.8	0.9206	93	75	125				
Chromium	598	1.0	605.6	7.249	98	75	125				
Cobalt	578	1.0	605.6	2.417	95	75	125				
Copper	717	1.0	605.6	168.5	91	75	125				
Lead	641	1.0	605.6	39.28	99	75	125				
Molybdenum	582	1.0	605.6	1.154	96	75	125				
Nickel	562	1.0	605.6	3.585	92	75	125				
Selenium	543	1.0	605.6	0	90	75	125				
Silver	233	1.0	302.8	0.3292	77	75	125				
Uranium	588	1.0	605.6	1.925	97	75	125				
Vanadium	604	1.0	605.6	18.21	97	75	125				

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Run ID :Run Order: **ICPMS204-B_160407A: 120** SampType: **Sample Matrix Spike** Lab ID: **H16030355-065AMS** Method: **SW6020**

Analysis Date: **04/07/16 19:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	45.9	1.0	58.91	0.7722	77	75	125				
Arsenic	92.4	1.0	58.91	36.97	94	75	125				
Beryllium	29.5	1.0	29.46	0.3092	99	75	125				
Boron	63.2	2.6	58.91	0	107	75	125				
Cadmium	30.3	1.0	29.46	0.9206	100	75	125				
Chromium	67.5	1.0	58.91	7.249	102	75	125				
Cobalt	61.7	1.0	58.91	2.417	101	75	125				
Copper	254	1.0	58.91	168.5	145	75	125				S
Lead	96.1	1.0	58.91	39.28	96	75	125				
Molybdenum	59.0	1.0	58.91	1.154	98	75	125				
Nickel	63.2	1.0	58.91	3.585	101	75	125				
Selenium	58.3	1.0	58.91	0	99	75	125				
Silver	30.5	1.0	29.46	0.3292	102	75	125				
Uranium	60.8	1.0	58.91	1.925	100	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32484

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 120** SampType: **Sample Matrix Spike** Lab ID: **H16030355-065AMS** Method: **SW6020**

Analysis Date: **04/07/16 19:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	80.0	1.0	58.91	18.21	105	75	125				

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Run ID :Run Order: **ICPMS204-B_160407A: 121** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-065AMSD** Method: **SW6020**

Analysis Date: **04/07/16 20:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.2	1.0	60.09	0.7722	81	75	125	45.89	7.0	20	
Arsenic	108	1.0	60.09	36.97	118	75	125	92.38	16	20	
Beryllium	31.2	1.0	30.05	0.3092	103	75	125	29.53	5.6	20	
Boron	67.0	2.6	60.09	0	112	75	125	63.22	5.8	20	
Cadmium	32.3	1.0	30.05	0.9206	105	75	125	30.34	6.4	20	
Chromium	69.0	1.0	60.09	7.249	103	75	125	67.47	2.2	20	
Cobalt	64.6	1.0	60.09	2.417	103	75	125	61.69	4.6	20	
Copper	269	1.0	60.09	168.5	167	75	125	254	5.6	20	S
Lead	99.5	1.0	60.09	39.28	100	75	125	96.1	3.5	20	
Molybdenum	62.3	1.0	60.09	1.154	102	75	125	59.03	5.3	20	
Nickel	65.6	1.0	60.09	3.585	103	75	125	63.22	3.6	20	
Selenium	60.6	1.0	60.09	0	101	75	125	58.29	3.8	20	
Silver	32.3	1.0	30.05	0.3292	107	75	125	30.45	6.0	20	
Uranium	63.0	1.0	60.09	1.925	102	75	125	60.8	3.6	20	
Vanadium	79.4	1.0	60.09	18.21	102	75	125	79.99	0.7	20	

Associated samples: **H16030355-032A, H16030355-035A, H16030355-038A, H16030355-041A, H16030355-044A, H16030355-047A, H16030355-050A, H16030355-053A, H16030355-056A, H16030355-062A, H16030355-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32496

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160407B: 10** SampType: **Method Blank** Lab ID: **MB-32496** Method: **SW7471B**
Analysis Date: **04/07/16 11:10** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.010									

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A**

Run ID :Run Order: **HGCV201-H_160407B: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-32496** Method: **SW7471B**
Analysis Date: **04/07/16 11:12** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.8	0.50	5	0	**116**	71	126.4				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A**

Run ID :Run Order: **HGCV201-H_160407B: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32496** Method: **SW7471B**
Analysis Date: **04/07/16 11:14** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.0	0.50	1	0	**104**	80	120				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A**

Run ID :Run Order: **HGCV201-H_160407B: 16** SampType: **Sample Matrix Spike** Lab ID: **H16030355-019AMS** Method: **SW7471B**
Analysis Date: **04/07/16 11:21** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.177	0.1252	**111**	80	120				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32496

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160407B: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-019AMSD** Method: **SW7471B**

Analysis Date: **04/07/16 11:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.177	0.1252	106	80	120	1.43	4.0	20	

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A**

Run ID :Run Order: **HGCV201-H_160407B: 29** SampType: **Sample Matrix Spike** Lab ID: **H16030355-027AMS** Method: **SW7471B**

Analysis Date: **04/07/16 11:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	6.1	0.50	4.554	1.119	109	80	120				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A**

Run ID :Run Order: **HGCV201-H_160407B: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-027AMSD** Method: **SW7471B**

Analysis Date: **04/07/16 11:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	6.5	0.50	4.602	1.119	117	80	120	6.088	6.6	20	

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32497

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160407B: 43** SampType: **Method Blank** Lab ID: **MB-32497** Method: **SW7471B**
Analysis Date: **04/07/16 12:55** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.010									

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Run ID :Run Order: **HGCV201-H_160407B: 44** SampType: **Laboratory Control Sample** Lab ID: **LCS-32497** Method: **SW7471B**
Analysis Date: **04/07/16 12:57** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.7	0.50	5	0	**113**	71	126.4				

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Run ID :Run Order: **HGCV201-H_160407B: 45** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32497** Method: **SW7471B**
Analysis Date: **04/07/16 12:59** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.0	0.50	1	0	**101**	80	120				

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Run ID :Run Order: **HGCV201-H_160407B: 48** SampType: **Sample Matrix Spike** Lab ID: **H16030355-036AMS** Method: **SW7471B**
Analysis Date: **04/07/16 13:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3.6	0.50	2.897	0.6232	**103**	80	120				

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32497

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160407B: 49** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-036AMSD** Method: **SW7471B**

Analysis Date: **04/07/16 13:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3.8	0.50	2.897	0.6232	108	80	120	3.62	4.0	20	

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Run ID :Run Order: **HGCV201-H_160407B: 66** SampType: **Sample Matrix Spike** Lab ID: **H16030355-049AMS** Method: **SW7471B**

Analysis Date: **04/07/16 13:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.218	0.1631	105	80	120				

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Run ID :Run Order: **HGCV201-H_160407B: 67** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-049AMSD** Method: **SW7471B**

Analysis Date: **04/07/16 13:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.2	0.50	1.218	0.1631	86	80	120	1.444	17	20	

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Run ID :Run Order: **HGCV201-H_160413A: 10** SampType: **Method Blank** Lab ID: **MB-32497** Method: **SW7471B**

Analysis Date: **04/13/16 10:49** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.010									

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32497

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160413A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-32497** Method: **SW7471B**

Analysis Date: **04/13/16 10:51** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.7	0.50	5	0	114	71	126.4				

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Run ID :Run Order: **HGCV201-H_160413A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32497** Method: **SW7471B**

Analysis Date: **04/13/16 10:53** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.92	0.50	1	0	92	80	120				

Associated samples: **H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32498

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160407B: 74** SampType: **Method Blank** Lab ID: **MB-32498** Method: **SW7471B**
Analysis Date: **04/07/16 14:01** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.010									

Associated samples: **H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 75** SampType: **Laboratory Control Sample** Lab ID: **LCS-32498** Method: **SW7471B**
Analysis Date: **04/07/16 14:03** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.6	0.50	5	0	112	71	126.4				

Associated samples: **H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 76** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-32498** Method: **SW7471B**
Analysis Date: **04/07/16 14:05** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.0	0.50	1	0	100	80	120				

Associated samples: **H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 93** SampType: **Sample Matrix Spike** Lab ID: **H16040022-001BMS** Method: **SW7471B**
Analysis Date: **04/07/16 15:16** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.1	0.50	0.98	0.01532	109	80	120				

Associated samples: **H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 94** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16040022-001BMSD** Method: **SW7471B**
Analysis Date: **04/07/16 15:18** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.1	0.50	0.98	0.01532	106	80	120	1.083	2.5	20	

Associated samples: **H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32498

Date: *13-Apr-16*

Run ID :Run Order: **HGCV201-H_160407B: 99** SampType: **Sample Matrix Spike** Lab ID: **H16030355-054AMS** Method: **SW7471B**

Analysis Date: **04/07/16 15:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3.7	0.50	2.158	1.06	121	80	120				S

Associated samples: **H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **HGCV201-H_160407B: 100** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-054AMSD** Method: **SW7471B**

Analysis Date: **04/07/16 15:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3.6	0.50	2.158	1.06	118	80	120	3.666	1.3	20	

Associated samples: **H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32552

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160412A: 20** SampType: **Method Blank** Lab ID: **MB-32552** Method: **E245.1**
Analysis Date: **04/12/16 11:41** Units: **mg/L** **Prep Info:** Prep Date: **4/11/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3E-06	1E-06									

Associated samples: **H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012B, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015C**

Run ID :Run Order: **HGCV202-H_160412A: 23** SampType: **Sample Matrix Spike** Lab ID: **H16030355-006CMS** Method: **E245.1**
Analysis Date: **04/12/16 11:50** Units: **mg/L** **Prep Info:** Prep Date: **4/12/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00018	0.00010	0.00015	0.00001631	108	70	130				

Associated samples: **H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012B, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015C**

Run ID :Run Order: **HGCV202-H_160412A: 24** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-006CMSD** Method: **E245.1**
Analysis Date: **04/12/16 11:53** Units: **mg/L** **Prep Info:** Prep Date: **4/12/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00018	0.00010	0.00015	0.00001631	112	70	130	0.0001779	3.2	20	

Associated samples: **H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012B, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015C**

Run ID :Run Order: **HGCV202-H_160412A: 26** SampType: **Laboratory Control Sample** Lab ID: **LCS-32552** Method: **E245.1**
Analysis Date: **04/12/16 12:01** Units: **mg/L** **Prep Info:** Prep Date: **4/11/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000154	0.00010	0.00015	0.00000269	101	90	110				

Associated samples: **H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012B, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015C**

Run ID :Run Order: **HGCV202-H_160412A: 37** SampType: **Sample Matrix Spike** Lab ID: **H16030355-014BMS** Method: **E245.1**
Analysis Date: **04/12/16 12:35** Units: **mg/L** **Prep Info:** Prep Date: **4/12/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000162	0.00010	0.00015	0.0000042	105	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 32552

Date: *13-Apr-16*

Run ID :Run Order: **HGCV202-H_160412A: 37** SampType: **Sample Matrix Spike** Lab ID: **H16030355-014BMS** Method: **E245.1**

Analysis Date: **04/12/16 12:35** Units: **mg/L** **Prep Info:** Prep Date: **4/12/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012B, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015C**

Run ID :Run Order: **HGCV202-H_160412A: 38** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-014BMSD** Method: **E245.1**

Analysis Date: **04/12/16 12:38** Units: **mg/L** **Prep Info:** Prep Date: **4/12/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000161	0.00010	0.00015	0.0000042	**104**	70	130	0.0001617	**0.5**	20	

Associated samples: **H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012B, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R210272

Date: *13-Apr-16*

Run ID :Run Order: **SUB-C210272: 1** SampType: **Method Blank** Lab ID: **MBLK** Method: **A5310 C**

Analysis Date: **03/24/16 23:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.04									

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 2** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **A5310 C**

Analysis Date: **03/24/16 23:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.75	0.50	5	0	**95**	90	110	0			

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 3** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A5310 C**

Analysis Date: **03/24/16 23:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.69	0.50	5	0	**94**	90	110	0			

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 6** SampType: **Sample Matrix Spike** Lab ID: **C16030737-001EMS** Method: **A5310 C**

Analysis Date: **03/25/16 00:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	22.7	0.50	20	3.758	**95**	85	115	0			

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 7** SampType: **Sample Matrix Spike Duplicate** Lab ID: **C16030737-001EMSD** Method: **A5310 C**

Analysis Date: **03/25/16 00:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	23.1	0.50	20	3.758	**97**	85	115	22.66	**1.8**	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R210272

Date: *13-Apr-16*

Run ID :Run Order: **SUB-C210272: 7** SampType: **Sample Matrix Spike Duplicate** Lab ID: **C16030737-001EMSD** Method: **A5310 C**

Analysis Date: **03/25/16 00:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-8946** Method: **A5310 C**

Analysis Date: **03/25/16 07:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.73	0.50	5	0	95	90	110	0			

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 17** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-8794** Method: **A5310 C**

Analysis Date: **03/25/16 03:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.70	0.50	5	0	94	90	110	0			

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 20** SampType: **Sample Matrix Spike** Lab ID: **H16030355-006E** Method: **A5310 C**

Analysis Date: **03/25/16 04:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	22.6	0.50	20	3.98	93	85	115	0			

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 21** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-006E** Method: **A5310 C**

Analysis Date: **03/25/16 05:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	22.6	0.50	20	3.98	93	85	115	22.62	0.0	10	

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R210272

Date: *13-Apr-16*

Run ID :Run Order: **SUB-C210272: 30** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-8794** Method: **A5310 C**

Analysis Date: **03/25/16 08:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.57	0.50	5	0	91	90	110	0			

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 34** SampType: **Sample Matrix Spike** Lab ID: **H16030355-016E** Method: **A5310 C**

Analysis Date: **03/25/16 09:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	22.5	0.50	20	3.753	94	85	115	0			

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-016E** Method: **A5310 C**

Analysis Date: **03/25/16 09:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	22.8	0.50	20	3.753	95	85	115	22.53	1.1	10	

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Run ID :Run Order: **SUB-C210272: 37** SampType: **Laboratory Control Sample** Lab ID: **LCS-8946** Method: **A5310 C**

Analysis Date: **03/25/16 10:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.75	0.50	5	0	95	90	110	0			

Associated samples: **H16030355-001E, H16030355-002E, H16030355-003E, H16030355-004E, H16030355-005E, H16030355-006E, H16030355-007E, H16030355-008E, H16030355-009E, H16030355-010E, H16030355-011E, H16030355-012E, H16030355-013E, H16030355-014E, H16030355-015E, H16030355-016E, H16030355-017E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113775

Date: *13-Apr-16*

Run ID :Run Order: **PHSC_101-H_160321A: 6** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**
Analysis Date: **03/21/16 09:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **PHSC_101-H_160321A: 8** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**
Analysis Date: **03/21/16 09:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	1.8	96	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **PHSC_101-H_160321A: 11** SampType: **Sample Duplicate** Lab ID: **H16030347-001ADUP** Method: **A2320 B**
Analysis Date: **03/21/16 09:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	130	4.0		0				122	3.1	10	
Bicarbonate as HCO3	ND	4.0		0				0		10	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **PHSC_101-H_160321A: 51** SampType: **Sample Duplicate** Lab ID: **H16030355-003ADUP** Method: **A2320 B**
Analysis Date: **03/21/16 12:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	110	4.0		0				104.4	1.2	10	
Bicarbonate as HCO3	130	4.0		0				126.8	1.2	10	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **PHSC_101-H_160321A: 53** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**
Analysis Date: **03/21/16 12:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113775

Date: *13-Apr-16*

Run ID :Run Order: **PHSC_101-H_160321A: 53** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **03/21/16 12:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **PHSC_101-H_160321A: 55** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **03/21/16 12:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	1.76	**100**	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **PHSC_101-H_160321A: 58** SampType: **Sample Duplicate** Lab ID: **H16030355-005ADUP** Method: **A2320 B**

Analysis Date: **03/21/16 12:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	100	4.0		0							
Bicarbonate as HCO3	130	4.0		0							

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **PHSC_101-H_160321A: 86** SampType: **Sample Duplicate** Lab ID: **H16030355-017ADUP** Method: **A2320 B**

Analysis Date: **03/21/16 13:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	110	4.0		0				107.1	**0.5**	10	
Bicarbonate as HCO3	130	4.0		0				130.1	**0.5**	10	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113786

Date: *13-Apr-16*

Run ID :Run Order: **FIA203-HE_160321A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**

Analysis Date: **03/21/16 09:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	9.62	0.25	9.25	0	104	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321A: 8** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**

Analysis Date: **03/21/16 09:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.06	0.055	1	0	106	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E350.1**

Analysis Date: **03/21/16 09:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.0498	0.050		0		0	0				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**

Analysis Date: **03/21/16 09:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.965	0.050	1	0	97	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321A: 52** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **03/21/16 10:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.502	0.050	0.5	0	100	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113786

Date: *13-Apr-16*

Run ID :Run Order: **FIA203-HE_160321A: 52** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **03/21/16 10:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321A: 66** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **03/21/16 10:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.502	0.050	0.5	0	**100**	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321A: 81** SampType: **Sample Matrix Spike** Lab ID: **H16030355-002DMS** Method: **E350.1**

Analysis Date: **03/21/16 10:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	3.55	0.11	2	1.681	**94**	80	120				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321A: 82** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-002DMSD** Method: **E350.1**

Analysis Date: **03/21/16 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	3.56	0.11	2	1.681	**94**	80	120	3.553	**0.1**	10	

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321A: 83** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **03/21/16 10:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.505	0.050	0.5	0	**101**	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113786

Date: *13-Apr-16*

Run ID :Run Order: **FIA203-HE_160321A: 86** SampType: **Sample Matrix Spike** Lab ID: **H16030355-012DMS** Method: **E350.1**

Analysis Date: **03/21/16 10:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.06	0.055	1	0	**106**	80	120				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321A: 87** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-012DMSD** Method: **E350.1**

Analysis Date: **03/21/16 10:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.08	0.055	1	0	**108**	80	120	1.057	**1.8**	10	

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113830

Date: *13-Apr-16*

Run ID :Run Order: **FIA202-HE_160321A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **03/21/16 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.253	0.010	0.25	0	101	90	110				

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160321A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **03/21/16 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00384	0.010		0		0	0				

Associated samples: **H16030355-001D**

Run ID :Run Order: **FIA202-HE_160321A: 27** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **03/21/16 13:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0980	0.010	0.1	0	98	90	110				

Associated samples: **H16030355-001D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113833

Date: *13-Apr-16*

Run ID :Run Order: **FIA203-HE_160321C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**

Analysis Date: **03/21/16 13:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.972	0.010	1	0	97	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E353.2**

Analysis Date: **03/21/16 13:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.00826	0.010		0		0	0				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**

Analysis Date: **03/21/16 13:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.00	0.011	1	0	100	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 42** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **03/21/16 13:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.501	0.010	0.5	0	100	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 44** SampType: **Sample Matrix Spike** Lab ID: **H16030354-001BMS** Method: **E353.2**

Analysis Date: **03/21/16 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.60	0.011	1	0.5905	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113833

Date: *13-Apr-16*

Run ID :Run Order: **FIA203-HE_160321C: 44** SampType: **Sample Matrix Spike** Lab ID: **H16030354-001BMS** Method: **E353.2**

Analysis Date: **03/21/16 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030354-001BMSD** Method: **E353.2**

Analysis Date: **03/21/16 13:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.60	0.011	1	0.5905	**101**	90	110	1.597	**0.4**	20	

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 56** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **03/21/16 14:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.509	0.010	0.5	0	**102**	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 70** SampType: **Sample Matrix Spike** Lab ID: **H16030355-010DMS** Method: **E353.2**

Analysis Date: **03/21/16 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	3.27	0.022	2	1.247	**101**	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-010DMSD** Method: **E353.2**

Analysis Date: **03/21/16 14:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	3.28	0.022	2	1.247	**102**	90	110	3.271	**0.3**	20	

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113833

Date: *13-Apr-16*

Run ID :Run Order: **FIA203-HE_160321C: 73** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **03/21/16 14:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.507	0.010	0.5	0	101	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 77** SampType: **Sample Matrix Spike** Lab ID: **H16030347-004DMS** Method: **E353.2**

Analysis Date: **03/21/16 14:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	17.1	0.11	10	7.313	98	90	110				

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA203-HE_160321C: 78** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030347-004DMSD** Method: **E353.2**

Analysis Date: **03/21/16 14:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	17.3	0.11	10	7.313	100	90	110	17.07	1.4	20	

Associated samples: **H16030355-001D, H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D, H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/21/16 08:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.06	0.10	4	0	101	95	105				
Boron	0.783	0.10	0.8	0	98	95	105				
Calcium	40.1	1.0	40	0	100	95	105				
Magnesium	39.6	1.0	40	0	99	95	105				
Potassium	40.2	1.0	40	0	100	95	105				
Sodium	40.2	1.0	40	0	100	95	105				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/21/16 09:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.01	0.10	4	0	100	95	105				
Boron	0.792	0.10	0.8	0	99	95	105				
Calcium	40.3	1.0	40	0	101	95	105				
Magnesium	40.1	1.0	40	0	100	95	105				
Potassium	40.5	1.0	40	0	101	95	105				
Sodium	40.5	1.0	40	0	101	95	105				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 19** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/21/16 09:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.00	0.10	4	0	100	95	105				
Boron	0.794	0.10	0.8	0	99	95	105				
Calcium	39.8	1.0	40	0	100	95	105				
Magnesium	39.4	1.0	40	0	99	95	105				
Potassium	38.6	1.0	40	0	97	95	105				
Sodium	38.6	1.0	40	0	97	95	105				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 20** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **03/21/16 09:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	101	95	105				
Boron	2.50	0.10	2.5	0	100	95	105				
Calcium	25.1	1.0	25	0	100	95	105				
Magnesium	24.8	1.0	25	0	99	95	105				
Potassium	24.9	1.0	25	0	100	95	105				
Sodium	24.8	1.0	25	0	99	95	105				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **03/21/16 10:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519	0.10	500	0	104	80	120				
Boron	0.00161	0.10		0		0	0				
Calcium	481	1.0	500	0	96	80	120				
Magnesium	505	1.0	500	0	101	80	120				
Potassium	0.0458	1.0		0		0	0				
Sodium	0.0336	1.0		0		0	0				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **03/21/16 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	524	0.10	500	0	105	80	120				
Boron	1.01	0.10	1	0	101	80	120				
Calcium	485	1.0	500	0	97	80	120				
Magnesium	508	1.0	500	0	102	80	120				
Potassium	20.0	1.0	20	0	100	80	120				
Sodium	19.9	1.0	20	0	99	80	120				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 34** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **03/21/16 10:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.007	0.002									
Boron	ND	0.002									
Calcium	0.08	0.02									
Magnesium	0.008	0.003									
Potassium	ND	0.03									
Sodium	ND	0.02									

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 35** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **03/21/16 10:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.22	0.10	5	0.00739	**104**	85	115				
Boron	1.04	0.10	1	0	**104**	85	115				
Calcium	52.0	1.0	50	0.07502	**104**	85	115				
Magnesium	51.6	1.0	50	0.00827	**103**	85	115				
Potassium	51.2	1.0	50	0	**102**	85	115				
Sodium	51.2	1.0	50	0	**102**	85	115				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 56** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/21/16 12:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.56	0.10	2.5	0	**102**	90	110				
Boron	2.47	0.10	2.5	0	**99**	90	110				
Calcium	25.0	1.0	25	0	**100**	90	110				
Magnesium	25.0	1.0	25	0	**100**	90	110				
Potassium	24.5	1.0	25	0	**98**	90	110				
Sodium	24.6	1.0	25	0	**98**	90	110				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 68** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/21/16 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.61	0.10	2.5	0	105	90	110				
Boron	2.55	0.10	2.5	0	102	90	110				
Calcium	26.0	1.0	25	0	104	90	110				
Magnesium	25.8	1.0	25	0	103	90	110				
Potassium	25.4	1.0	25	0	101	90	110				
Sodium	25.3	1.0	25	0	101	90	110				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 70** SampType: **Sample Matrix Spike** Lab ID: **H16030355-004BMS2** Method: **E200.7**

Analysis Date: **03/21/16 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.20	0.030	5	0	104	70	130				
Boron	1.02	0.050	1	0	102	70	130				
Calcium	52.0	1.0	50	0.08731	104	70	130				
Magnesium	52.1	1.0	50	0	104	70	130				
Potassium	51.1	1.0	50	0.05056	102	70	130				
Sodium	50.9	1.0	50	0	102	70	130				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-004BMSD2** Method: **E200.7**

Analysis Date: **03/21/16 13:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.17	0.030	5	0	103	70	130	5.195	0.5	20	
Boron	1.03	0.050	1	0	103	70	130	1.023	0.4	20	
Calcium	52.0	1.0	50	0.08731	104	70	130	51.96	0.0	20	
Magnesium	51.9	1.0	50	0	104	70	130	52.09	0.3	20	
Potassium	52.4	1.0	50	0.05056	105	70	130	51.1	2.6	20	
Sodium	52.2	1.0	50	0	104	70	130	50.85	2.6	20	

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113847

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160321B: 87** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/21/16 14:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	101	90	110				
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	25.1	1.0	25	0	100	90	110				
Magnesium	24.8	1.0	25	0	99	90	110				
Potassium	25.3	1.0	25	0	101	90	110				
Sodium	25.3	1.0	25	0	101	90	110				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 93** SampType: **Sample Matrix Spike** Lab ID: **H16030355-014BMS2** Method: **E200.7**

Analysis Date: **03/21/16 14:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.18	0.030	5	0.00336	104	70	130				
Boron	1.05	0.050	1	0.04515	100	70	130				
Calcium	101	1.0	50	51.24	99	70	130				
Magnesium	61.6	1.0	50	11.5	100	70	130				
Potassium	56.7	1.0	50	5.092	103	70	130				
Sodium	80.0	1.0	50	27.61	105	70	130				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICP2-HE_160321B: 94** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-014BMSD2** Method: **E200.7**

Analysis Date: **03/21/16 14:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.16	0.030	5	0.00336	103	70	130	5.182	0.4	20	
Boron	1.05	0.050	1	0.04515	100	70	130	1.048	0.0	20	
Calcium	100	1.0	50	51.24	98	70	130	100.6	0.1	20	
Magnesium	61.8	1.0	50	11.5	101	70	130	61.64	0.3	20	
Potassium	56.1	1.0	50	5.092	102	70	130	56.71	1.0	20	
Sodium	79.1	1.0	50	27.61	103	70	130	80	1.1	20	

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113849

Date: *13-Apr-16*

Run ID :Run Order: **IC102-H_160321A: 12** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**

Analysis Date: **03/21/16 15:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.03	0.006									
Sulfate	ND	0.05									

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **IC102-H_160321A: 13** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**

Analysis Date: **03/21/16 15:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	402	1.0	400	0	101	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **IC102-H_160321A: 14** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**

Analysis Date: **03/21/16 15:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	47.8	1.0	50	0.029	96	90	110				
Sulfate	209	1.0	200	0	105	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **IC102-H_160321A: 15** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV032116-1** Method: **E300.0**

Analysis Date: **03/21/16 16:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	399	1.0	400	0	100	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113849

Date: *13-Apr-16*

Run ID :Run Order: **IC102-H_160321A: 28** SampType: **Sample Matrix Spike** Lab ID: **H16030355-006AMS** Method: **E300.0**

Analysis Date: **03/21/16 18:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	78.1	1.0	50	27.26	102	90	110				
Sulfate	281	1.0	200	79.42	101	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **IC102-H_160321A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-006AMSD** Method: **E300.0**

Analysis Date: **03/21/16 18:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	79.2	1.0	50	27.26	104	90	110	78.13	1.3	20	
Sulfate	283	1.0	200	79.42	102	90	110	281.1	0.6	20	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **IC102-H_160321A: 30** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV032116-2** Method: **E300.0**

Analysis Date: **03/21/16 18:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	403	1.0	400	0	101	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **IC102-H_160321A: 43** SampType: **Sample Matrix Spike** Lab ID: **H16030355-016AMS** Method: **E300.0**

Analysis Date: **03/21/16 21:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	89.7	1.0	50	39.03	101	90	110				
Sulfate	294	1.0	200	91.4	101	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Qualifiers:
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N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113849

Date: *13-Apr-16*

Run ID :Run Order: **IC102-H_160321A: 44** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-016AMSD** Method: **E300.0**

Analysis Date: **03/21/16 21:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	90.3	1.0	50	39.03	103	90	110	89.69	0.7	20	
Sulfate	294	1.0	200	91.4	101	90	110	293.5	0.0	20	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **IC102-H_160321A: 45** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV032116-3** Method: **E300.0**

Analysis Date: **03/21/16 21:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	403	1.0	400	0	101	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **IC102-H_160321A: 49** SampType: **Sample Matrix Spike** Lab ID: **H16030355-017AMS** Method: **E300.0**

Analysis Date: **03/21/16 22:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	88.5	1.0	50	36.25	105	90	110				
Sulfate	293	1.0	200	90.23	101	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **IC102-H_160321A: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-017AMSD** Method: **E300.0**

Analysis Date: **03/21/16 22:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	87.8	1.0	50	36.25	103	90	110	88.53	0.8	20	
Sulfate	295	1.0	200	90.23	102	90	110	292.9	0.6	20	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Qualifiers:
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A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113865

Date: *13-Apr-16*

Run ID :Run Order: **FIA203-HE_160322A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **03/22/16 10:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.00210	0.10		0		0	0				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **FIA203-HE_160322A: 40** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **03/22/16 11:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.483	0.10	0.5	0	97	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **FIA203-HE_160322A: 56** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **03/22/16 11:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.482	0.10	0.5	0	96	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **FIA203-HE_160322A: 70** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **03/22/16 12:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.488	0.10	0.5	0	98	90	110				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113880

Date: *13-Apr-16*

Run ID :Run Order: **FIA202-HE_160322A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **03/22/16 13:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.268	0.010	0.25	0	107	90	110				

Associated samples: **H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA202-HE_160322A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **03/22/16 13:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.000300	0.010		0		0	0				

Associated samples: **H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA202-HE_160322A: 27** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **03/22/16 13:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.104	0.010	0.1	0	104	90	110				

Associated samples: **H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Run ID :Run Order: **FIA202-HE_160322A: 44** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **03/22/16 13:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.104	0.010	0.1	0	104	90	110				

Associated samples: **H16030355-012D, H16030355-013D, H16030355-014D, H16030355-015D, H16030355-016D, H16030355-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **03/23/16 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0582	0.050	0.06	0	97	90	110				
Arsenic	0.0616	0.0050	0.06	0	103	90	110				
Barium	0.0595	0.10	0.06	0	99	90	110				
Beryllium	0.0312	0.0010	0.03	0	104	90	110				
Cadmium	0.0302	0.0010	0.03	0	101	90	110				
Chromium	0.0610	0.010	0.06	0	102	90	110				
Cobalt	0.0612	0.010	0.06	0	102	90	110				
Copper	0.0623	0.010	0.06	0	104	90	110				
Iron	0.310	0.020	0.3	0	104	90	110				
Lead	0.0595	0.010	0.06	0	99	90	110				
Manganese	0.305	0.010	0.3	0	102	90	110				
Molybdenum	0.0585	0.0050	0.06	0	98	90	110				
Nickel	0.0617	0.010	0.06	0	103	90	110				
Selenium	0.0623	0.0050	0.06	0	104	90	110				
Silver	0.0302	0.0050	0.03	0	101	90	110				
Uranium	0.0589	0.0010	0.06	0	98	90	110				
Vanadium	0.0596	0.10	0.06	0	99	90	110				
Zinc	0.0631	0.010	0.06	0	105	90	110				

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C, H16030355-006B, H16030355-006C, H16030355-007B, H16030355-007C, H16030355-008B, H16030355-008C, H16030355-009B, H16030355-009C, H16030355-010B, H16030355-010C, H16030355-011B, H16030355-011C, H16030355-012B, H16030355-012C, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015B, H16030355-015C, H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/23/16 11:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000302	0.050		0							
Arsenic	9.00E-06	0.0050		0							
Barium	0.000170	0.10		0							
Beryllium	3.00E-06	0.0010		0							
Cadmium	0.000654	0.0010		0							
Chromium	0.00129	0.010		0							
Cobalt	5.00E-05	0.010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/23/16 11:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000441	0.010		0							
Iron	104	0.020	100	0	**104**	70	130				
Lead	0.000246	0.010		0							
Manganese	0.000434	0.010		0							
Molybdenum	0.880	0.0050	0.8	0	**110**	70	130				
Nickel	0.000285	0.010		0							
Selenium	0.000461	0.0050		0							
Silver	0.000195	0.0050		0							
Uranium	9.60E-05	0.0010		0							
Vanadium	-0.00157	0.10		0							
Zinc	0.000624	0.010		0							

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C, H16030355-006B, H16030355-006C, H16030355-007B, H16030355-007C, H16030355-008B, H16030355-008C, H16030355-009B, H16030355-009C, H16030355-010B, H16030355-010C, H16030355-011B, H16030355-011C, H16030355-012B, H16030355-012C, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015B, H16030355-015C, H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/23/16 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000111	0.050		0		0	0				
Arsenic	0.0106	0.0050	0.01	0	**106**	70	130				
Barium	0.000122	0.10		0		0	0				
Beryllium	2.00E-06	0.0010		0		0	0				
Cadmium	0.0109	0.0010	0.01	0	**109**	70	130				
Chromium	0.0222	0.010	0.02	0	**111**	70	130				
Cobalt	0.0210	0.010	0.02	0	**105**	70	130				
Copper	0.0209	0.010	0.02	0	**104**	70	130				
Iron	100	0.020	100	0	**100**	70	130				
Lead	0.000218	0.010		0		0	0				
Manganese	0.0218	0.010	0.02	0	**109**	70	130				
Molybdenum	0.858	0.0050	0.8	0	**107**	70	130				
Nickel	0.0211	0.010	0.02	0	**105**	70	130				
Selenium	0.0108	0.0050	0.01	0	**108**	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/23/16 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0202	0.0050	0.02	0	101	70	130				
Uranium	1.60E-05	0.0010		0		0	0				
Vanadium	0.0200	0.10	0.02	0	100	70	130				
Zinc	0.0101	0.010	0.01	0	101	70	130				

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C, H16030355-006B, H16030355-006C, H16030355-007B, H16030355-007C, H16030355-008B, H16030355-008C, H16030355-009B, H16030355-009C, H16030355-010B, H16030355-010C, H16030355-011B, H16030355-011C, H16030355-012B, H16030355-012C, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015B, H16030355-015C, H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 73** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **03/23/16 18:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0547	0.050	0.06	0	91	90	110				
Arsenic	0.0586	0.0050	0.06	0	98	90	110				
Barium	0.0566	0.10	0.06	0	94	90	110				
Beryllium	0.0288	0.0010	0.03	0	96	90	110				
Cadmium	0.0286	0.0010	0.03	0	95	90	110				
Chromium	0.0578	0.010	0.06	0	96	90	110				
Cobalt	0.0581	0.010	0.06	0	97	90	110				
Copper	0.0588	0.010	0.06	0	98	90	110				
Iron	0.293	0.020	0.3	0	98	90	110				
Lead	0.0568	0.010	0.06	0	95	90	110				
Manganese	0.288	0.010	0.3	0	96	90	110				
Molybdenum	0.0553	0.0050	0.06	0	92	90	110				
Nickel	0.0583	0.010	0.06	0	97	90	110				
Selenium	0.0590	0.0050	0.06	0	98	90	110				
Silver	0.0291	0.0050	0.03	0	97	90	110				
Uranium	0.0561	0.0010	0.06	0	93	90	110				
Vanadium	0.0560	0.10	0.06	0	93	90	110				
Zinc	0.0588	0.010	0.06	0	98	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 73** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **03/23/16 18:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C, H16030355-006B, H16030355-006C, H16030355-007B, H16030355-007C, H16030355-008B, H16030355-008C, H16030355-009B, H16030355-009C, H16030355-010B, H16030355-010C, H16030355-011B, H16030355-011C, H16030355-012B, H16030355-012C, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015B, H16030355-015C, H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 74** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/23/16 18:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000271	0.050		0							
Arsenic	-0.000137	0.0050		0							
Barium	0.000172	0.10		0							
Beryllium	8.70E-05	0.0010		0							
Cadmium	0.000678	0.0010		0							
Chromium	0.00115	0.010		0							
Cobalt	4.70E-05	0.010		0							
Copper	0.000370	0.010		0							
Iron	97.0	0.020	100	0	**97**	70	130				
Lead	0.000229	0.010		0							
Manganese	0.000356	0.010		0							
Molybdenum	0.820	0.0050	0.8	0	**103**	70	130				
Nickel	0.000259	0.010		0							
Selenium	0.000312	0.0050		0							
Silver	0.000172	0.0050		0							
Uranium	9.60E-05	0.0010		0							
Vanadium	-0.00194	0.10		0							
Zinc	0.000568	0.010		0							

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C, H16030355-006B, H16030355-006C, H16030355-007B, H16030355-007C, H16030355-008B, H16030355-008C, H16030355-009B, H16030355-009C, H16030355-010B, H16030355-010C, H16030355-011B, H16030355-011C, H16030355-012B, H16030355-012C, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015B, H16030355-015C, H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 75** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/23/16 18:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000143	0.050		0		0	0				
Arsenic	0.0103	0.0050	0.01	0	**103**	70	130				
Barium	0.000126	0.10		0		0	0				
Beryllium	1.80E-05	0.0010		0		0	0				
Cadmium	0.0108	0.0010	0.01	0	**107**	70	130				
Chromium	0.0218	0.010	0.02	0	**109**	70	130				
Cobalt	0.0208	0.010	0.02	0	**104**	70	130				
Copper	0.0202	0.010	0.02	0	**101**	70	130				
Iron	98.2	0.020	100	0	**98**	70	130				
Lead	0.000224	0.010		0		0	0				
Manganese	0.0206	0.010	0.02	0	**103**	70	130				
Molybdenum	0.828	0.0050	0.8	0	**103**	70	130				
Nickel	0.0203	0.010	0.02	0	**102**	70	130				
Selenium	0.00985	0.0050	0.01	0	**98**	70	130				
Silver	0.0194	0.0050	0.02	0	**97**	70	130				
Uranium	1.40E-05	0.0010		0		0	0				
Vanadium	0.0191	0.10	0.02	0	**96**	70	130				
Zinc	0.00997	0.010	0.01	0	**100**	70	130				

Associated samples: **H16030355-001B, H16030355-001C, H16030355-002B, H16030355-002C, H16030355-003B, H16030355-003C, H16030355-004B, H16030355-004C, H16030355-005B, H16030355-005C, H16030355-006B, H16030355-006C, H16030355-007B, H16030355-007C, H16030355-008B, H16030355-008C, H16030355-009B, H16030355-009C, H16030355-010B, H16030355-010C, H16030355-011B, H16030355-011C, H16030355-012B, H16030355-012C, H16030355-013B, H16030355-013C, H16030355-014B, H16030355-014C, H16030355-015B, H16030355-015C, H16030355-016B, H16030355-016C, H16030355-017B, H16030355-017C**

Run ID :Run Order: **ICPMS204-B_160323A: 80** SampType: **Method Blank** Lab ID: **ICB** Method: **E200.8**

Analysis Date: **03/23/16 18:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	3E-05									
Arsenic	ND	6E-05									
Barium	ND	0.0001									
Beryllium	ND	5E-05									
Cadmium	ND	1E-05									
Chromium	ND	3E-05									
Cobalt	ND	2E-05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 80** SampType: **Method Blank** Lab ID: **ICB** Method: **E200.8**

Analysis Date: **03/23/16 18:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	6E-05									
Iron	0.002	0.0002									
Lead	7E-06	5E-06									
Manganese	ND	6E-05									
Molybdenum	6E-05	2E-05									
Nickel	ND	4E-05									
Selenium	ND	0.0003									
Silver	ND	9E-06									
Uranium	6E-06	6E-06									
Vanadium	ND	0.0001									
Zinc	0.0004	0.0002									

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICPMS204-B_160323A: 81** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/23/16 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0463	0.050	0.05	0	**93**	85	115				
Arsenic	0.0505	0.0050	0.05	0	**101**	85	115				
Barium	0.0494	0.10	0.05	0	**99**	85	115				
Beryllium	0.0498	0.0010	0.05	0	**100**	85	115				
Cadmium	0.0506	0.0010	0.05	0	**101**	85	115				
Chromium	0.0508	0.010	0.05	0	**101**	85	115				
Cobalt	0.0511	0.010	0.05	0	**102**	85	115				
Copper	0.0518	0.010	0.05	0	**104**	85	115				
Iron	0.157	0.020	0.15	0.001629	**104**	85	115				
Lead	0.0501	0.010	0.05	0.0000071	**100**	85	115				
Manganese	0.0505	0.010	0.05	0	**101**	85	115				
Molybdenum	0.0474	0.0050	0.05	0.0000583	**95**	85	115				
Nickel	0.0514	0.010	0.05	0	**103**	85	115				
Selenium	0.0532	0.0050	0.05	0	**106**	85	115				
Silver	0.0202	0.0050	0.02	0	**101**	85	115				
Uranium	0.0492	0.0010	0.05	0.0000065	**98**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 81** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/23/16 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0487	0.10	0.05	0	97	85	115				
Zinc	0.0550	0.010	0.05	0.0004272	109	85	115				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICPMS204-B_160323A: 169** SampType: **Sample Matrix Spike** Lab ID: **H16030355-003BMS** Method: **E200.8**

Analysis Date: **03/23/16 23:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0464	0.0010	0.05	0.0002645	92	70	130				
Arsenic	0.0536	0.0010	0.05	0.002882	101	70	130				
Barium	0.0869	0.050	0.05	0.03755	99	70	130				
Beryllium	0.0490	0.0010	0.05	0	98	70	130				
Cadmium	0.0500	0.0010	0.05	0.0001269	100	70	130				
Chromium	0.0494	0.0050	0.05	0	99	70	130				
Cobalt	0.0493	0.0050	0.05	0.00023	98	70	130				
Copper	0.0563	0.0050	0.05	0.007038	99	70	130				
Iron	0.289	0.020	0.15	0.139	100	70	130				
Lead	0.0487	0.0010	0.05	0.0002633	97	70	130				
Manganese	0.208	0.0010	0.05	0.159	97	70	130				
Molybdenum	0.0512	0.0010	0.05	0.004608	93	70	130				
Nickel	0.0490	0.0050	0.05	0.0008727	96	70	130				
Selenium	0.0532	0.0010	0.05	0	106	70	130				
Silver	0.0181	0.0010	0.02	0	90	70	130				
Uranium	0.0541	0.00030	0.05	0.005009	98	70	130				
Vanadium	0.0490	0.010	0.05	0	98	70	130				
Zinc	0.105	0.010	0.05	0.05374	102	70	130				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 170** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-003BMSD** Method: **E200.8**

Analysis Date: **03/23/16 23:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0433	0.0010	0.05	0.0002645	86	70	130	0.04645	6.9	20	
Arsenic	0.0503	0.0010	0.05	0.002882	95	70	130	0.05359	6.3	20	
Barium	0.0806	0.050	0.05	0.03755	86	70	130	0.08687	7.5	20	
Beryllium	0.0450	0.0010	0.05	0	90	70	130	0.04905	8.5	20	
Cadmium	0.0460	0.0010	0.05	0.0001269	92	70	130	0.05003	8.4	20	
Chromium	0.0464	0.0050	0.05	0	93	70	130	0.04944	6.5	20	
Cobalt	0.0461	0.0050	0.05	0.00023	92	70	130	0.04931	6.7	20	
Copper	0.0532	0.0050	0.05	0.007038	92	70	130	0.05633	5.7	20	
Iron	0.274	0.020	0.15	0.139	90	70	130	0.289	5.5	20	
Lead	0.0455	0.0010	0.05	0.0002633	90	70	130	0.04866	6.8	20	
Manganese	0.197	0.0010	0.05	0.159	75	70	130	0.2077	5.5	20	
Molybdenum	0.0480	0.0010	0.05	0.004608	87	70	130	0.05116	6.3	20	
Nickel	0.0466	0.0050	0.05	0.0008727	91	70	130	0.04898	5.1	20	
Selenium	0.0486	0.0010	0.05	0	97	70	130	0.05323	9.1	20	
Silver	0.0162	0.0010	0.02	0	81	70	130	0.01807	11	20	
Uranium	0.0512	0.00030	0.05	0.005009	92	70	130	0.05414	5.6	20	
Vanadium	0.0459	0.010	0.05	0	92	70	130	0.04904	6.5	20	
Zinc	0.101	0.010	0.05	0.05374	96	70	130	0.1047	3.1	20	

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICPMS204-B_160323A: 202** SampType: **Sample Matrix Spike** Lab ID: **H16030355-013BMS** Method: **E200.8**

Analysis Date: **03/24/16 01:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0461	0.0010	0.05	0.0002961	92	70	130				
Arsenic	0.0554	0.0010	0.05	0.004636	102	70	130				
Barium	0.0840	0.050	0.05	0.03369	101	70	130				
Beryllium	0.0501	0.0010	0.05	0	100	70	130				
Cadmium	0.0494	0.0010	0.05	0.0001392	99	70	130				
Chromium	0.0488	0.0050	0.05	0	98	70	130				
Cobalt	0.0493	0.0050	0.05	0.0005339	97	70	130				
Copper	0.0599	0.0050	0.05	0.01023	99	70	130				
Iron	0.216	0.020	0.15	0.06743	99	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 202** SampType: **Sample Matrix Spike** Lab ID: **H16030355-013BMS** Method: **E200.8**

Analysis Date: **03/24/16 01:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0484	0.0010	0.05	0.0002237	96	70	130				
Manganese	0.272	0.0010	0.05	0.2264		70	130				A
Molybdenum	0.0504	0.0010	0.05	0.003593	94	70	130				
Nickel	0.0489	0.0050	0.05	0.0008107	96	70	130				
Selenium	0.0525	0.0010	0.05	0	105	70	130				
Silver	0.0171	0.0010	0.02	0	86	70	130				
Uranium	0.0530	0.00030	0.05	0.003963	98	70	130				
Vanadium	0.0488	0.010	0.05	0	98	70	130				
Zinc	0.118	0.010	0.05	0.0663	104	70	130				

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Run ID :Run Order: **ICPMS204-B_160323A: 203** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-013BMSD** Method: **E200.8**

Analysis Date: **03/24/16 01:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0447	0.0010	0.05	0.0002961	89	70	130	0.04609	3.1	20	
Arsenic	0.0539	0.0010	0.05	0.004636	99	70	130	0.05545	2.8	20	
Barium	0.0804	0.050	0.05	0.03369	93	70	130	0.08396	4.3	20	
Beryllium	0.0479	0.0010	0.05	0	96	70	130	0.05008	4.4	20	
Cadmium	0.0480	0.0010	0.05	0.0001392	96	70	130	0.04941	2.8	20	
Chromium	0.0473	0.0050	0.05	0	95	70	130	0.04881	3.2	20	
Cobalt	0.0476	0.0050	0.05	0.0005339	94	70	130	0.04926	3.5	20	
Copper	0.0575	0.0050	0.05	0.01023	95	70	130	0.05989	4.0	20	
Iron	0.211	0.020	0.15	0.06743	96	70	130	0.2164	2.7	20	
Lead	0.0471	0.0010	0.05	0.0002237	94	70	130	0.04841	2.7	20	
Manganese	0.266	0.0010	0.05	0.2264		70	130	0.2721	2.1	20	A
Molybdenum	0.0491	0.0010	0.05	0.003593	91	70	130	0.05044	2.8	20	
Nickel	0.0471	0.0050	0.05	0.0008107	93	70	130	0.04893	3.9	20	
Selenium	0.0508	0.0010	0.05	0	102	70	130	0.05246	3.2	20	
Silver	0.0171	0.0010	0.02	0	86	70	130	0.01713	0.1	20	
Uranium	0.0522	0.00030	0.05	0.003963	96	70	130	0.05305	1.6	20	
Vanadium	0.0471	0.010	0.05	0	94	70	130	0.04885	3.7	20	
Zinc	0.113	0.010	0.05	0.0663	93	70	130	0.1184	4.8	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113908

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160323A: 203** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030355-013BMSD** Method: **E200.8**

Analysis Date: **03/24/16 01:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-001B, H16030355-002B, H16030355-003B, H16030355-004B, H16030355-005B, H16030355-006B, H16030355-007B, H16030355-008B, H16030355-009B, H16030355-010B, H16030355-011B, H16030355-012B, H16030355-013B, H16030355-014B, H16030355-015B, H16030355-016B, H16030355-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113918

Date: *13-Apr-16*

Run ID :Run Order: **FIA202-HE_160323A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **03/23/16 14:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.237	0.010	0.25	0	95	90	110				

Associated samples: **H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D**

Run ID :Run Order: **FIA202-HE_160323A: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **03/23/16 14:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0978	0.010	0.1	0	98	90	110				

Associated samples: **H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D**

Run ID :Run Order: **FIA202-HE_160323A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **03/23/16 14:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.000860	0.010		0		0	0				

Associated samples: **H16030355-002D, H16030355-003D, H16030355-004D, H16030355-005D, H16030355-006D, H16030355-007D, H16030355-008D, H16030355-009D, H16030355-010D, H16030355-011D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113926

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/23/16 08:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.10	0.10	4	0	103	95	105				
Boron	0.790	0.10	0.8	0	99	95	105				
Calcium	40.6	1.0	40	0	101	95	105				
Magnesium	40.1	1.0	40	0	100	95	105				
Potassium	40.3	1.0	40	0	101	95	105				
Sodium	40.3	1.0	40	0	101	95	105				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICP2-HE_160323A: 13** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **03/23/16 09:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.58	0.10	2.5	0	103	95	105				
Boron	2.47	0.10	2.5	0	99	95	105				
Calcium	25.7	1.0	25	0	103	95	105				
Magnesium	25.1	1.0	25	0	101	95	105				
Potassium	25.0	1.0	25	0	100	95	105				
Sodium	25.0	1.0	25	0	100	95	105				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICP2-HE_160323A: 22** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **03/23/16 09:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	530	0.10	500	0	106	80	120				
Boron	-0.00442	0.10		0		0	0				
Calcium	490	1.0	500	0	98	80	120				
Magnesium	508	1.0	500	0	102	80	120				
Potassium	0.0341	1.0		0		0	0				
Sodium	0.0223	1.0		0		0	0				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113926

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 23** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **03/23/16 09:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	533	0.10	500	0	107	80	120				
Boron	0.987	0.10	1	0	99	80	120				
Calcium	501	1.0	500	0	100	80	120				
Magnesium	513	1.0	500	0	103	80	120				
Potassium	20.3	1.0	20	0	101	80	120				
Sodium	20.0	1.0	20	0	100	80	120				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICP2-HE_160323A: 80** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/23/16 13:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	101	90	110				
Boron	2.46	0.10	2.5	0	98	90	110				
Calcium	25.0	1.0	25	0	100	90	110				
Magnesium	24.7	1.0	25	0	99	90	110				
Potassium	24.8	1.0	25	0	99	90	110				
Sodium	24.7	1.0	25	0	99	90	110				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Run ID :Run Order: **ICP2-HE_160323A: 92** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/23/16 13:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.10	2.5	0	102	90	110				
Boron	2.49	0.10	2.5	0	100	90	110				
Calcium	25.5	1.0	25	0	102	90	110				
Magnesium	25.1	1.0	25	0	100	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	24.5	1.0	25	0	98	90	110				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113926

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160323A: 104** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/23/16 14:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.58	0.10	2.5	0	**103**	90	110				
Boron	2.47	0.10	2.5	0	**99**	90	110				
Calcium	25.3	1.0	25	0	**101**	90	110				
Magnesium	25.2	1.0	25	0	**101**	90	110				
Potassium	24.4	1.0	25	0	**98**	90	110				
Sodium	24.3	1.0	25	0	**97**	90	110				

Associated samples: **H16030355-001C, H16030355-002C, H16030355-003C, H16030355-004C, H16030355-005C, H16030355-006C, H16030355-007C, H16030355-008C, H16030355-009C, H16030355-010C, H16030355-011C, H16030355-012C, H16030355-013C, H16030355-014C, H16030355-015C, H16030355-016C, H16030355-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113987

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160324B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **03/24/16 16:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0290	0.0050	0.03	0	**97**	90	110				
Zinc	0.0598	0.010	0.06	0	**100**	90	110				

Associated samples: **H16030355-003C, H16030355-004B, H16030355-012B, H16030355-013C**

Run ID :Run Order: **ICPMS204-B_160324B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/24/16 16:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.000197	0.0050		0							
Zinc	0.000599	0.010		0							

Associated samples: **H16030355-003C, H16030355-004B, H16030355-012B, H16030355-013C**

Run ID :Run Order: **ICPMS204-B_160324B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/24/16 16:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0210	0.0050	0.02	0	**105**	70	130				
Zinc	0.0108	0.010	0.01	0	**108**	70	130				

Associated samples: **H16030355-003C, H16030355-004B, H16030355-012B, H16030355-013C**

Run ID :Run Order: **ICPMS204-B_160324B: 20** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **03/24/16 20:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.001	0.0002									

Associated samples: **H16030355-004B, H16030355-012B**

Run ID :Run Order: **ICPMS204-B_160324B: 21** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/24/16 20:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0539	0.010	0.05	0.001031	**106**	85	115				

Associated samples: **H16030355-004B, H16030355-012B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R113987

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160324B: 63** SampType: **Sample Matrix Spike** Lab ID: **H16030367-006CMS** Method: **E200.8**

Analysis Date: **03/24/16 22:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.123	0.010	0.1	0.0334	89	70	130				

Associated samples: **H16030355-004B, H16030355-012B**

Run ID :Run Order: **ICPMS204-B_160324B: 64** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030367-006CMSD** Method: **E200.8**

Analysis Date: **03/24/16 22:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.119	0.010	0.1	0.0334	85	70	130	0.1228	3.5	20	

Associated samples: **H16030355-004B, H16030355-012B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114008

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160325B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**
Analysis Date: **03/25/16 13:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.309	0.10	0.3	0	103	90	110				
Iron	0.315	0.020	0.3	0	105	90	110				

Associated samples: **H16030355-005B, H16030355-005C, H16030355-006B, H16030355-016B**

Run ID :Run Order: **ICPMS204-B_160325B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **03/25/16 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	43.5	0.10	40	0	109	70	130				
Iron	104	0.020	100	0	104	70	130				

Associated samples: **H16030355-005B, H16030355-005C, H16030355-006B, H16030355-016B**

Run ID :Run Order: **ICPMS204-B_160325B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **03/25/16 13:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.8	0.10	40	0	112	70	130				
Iron	107	0.020	100	0	107	70	130				

Associated samples: **H16030355-005B, H16030355-005C, H16030355-006B, H16030355-016B**

Run ID :Run Order: **ICPMS204-B_160325B: 38** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**
Analysis Date: **03/25/16 16:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.288	0.10	0.3	0	96	90	110				
Iron	0.289	0.020	0.3	0	96	90	110				

Associated samples: **H16030355-005B, H16030355-005C, H16030355-006B, H16030355-016B**

Run ID :Run Order: **ICPMS204-B_160325B: 39** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **03/25/16 16:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.8	0.10	40	0	104	70	130				
Iron	102	0.020	100	0	102	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114008

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160325B: 39** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **03/25/16 16:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-005B, H16030355-005C, H16030355-006B, H16030355-016B**

Run ID :Run Order: **ICPMS204-B_160325B: 40** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **03/25/16 16:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.7	0.10	40	0	107	70	130				
Iron	103	0.020	100	0	103	70	130				

Associated samples: **H16030355-005B, H16030355-005C, H16030355-006B, H16030355-016B**

Run ID :Run Order: **ICPMS204-B_160325B: 45** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**
Analysis Date: **03/25/16 17:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0005									

Associated samples: **H16030355-005B, H16030355-006B, H16030355-016B**

Run ID :Run Order: **ICPMS204-B_160325B: 46** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **03/25/16 17:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0528	0.10	0.05	0	106	85	115				

Associated samples: **H16030355-005B, H16030355-006B, H16030355-016B**

Run ID :Run Order: **ICPMS204-B_160325B: 51** SampType: **Sample Matrix Spike** Lab ID: **H16030301-030AMS** Method: **E200.8**
Analysis Date: **03/25/16 17:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0522	0.030	0.05	0	104	70	130				

Associated samples: **H16030355-005B, H16030355-006B, H16030355-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114008

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160325B: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16030301-030AMSD** Method: **E200.8**

Analysis Date: **03/25/16 17:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0492	0.030	0.05	0	98	70	130	0.05224	5.9	20	

Associated samples: **H16030355-005B, H16030355-006B, H16030355-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114254

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160405B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **04/05/16 11:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0575	0.0010	0.06	0	**96**	90	110				
Arsenic	0.0616	0.0010	0.06	0	**103**	90	110				
Barium	0.0590	0.0010	0.06	0	**98**	90	110				
Beryllium	0.0296	0.0010	0.03	0	**99**	90	110				
Boron	0.0618	0.0011	0.06	0	**103**	90	110				
Cadmium	0.0309	0.0010	0.03	0	**103**	90	110				
Chromium	0.0604	0.0010	0.06	0	**101**	90	110				
Cobalt	0.0606	0.0010	0.06	0	**101**	90	110				
Lead	0.0589	0.0010	0.06	0	**98**	90	110				
Molybdenum	0.0574	0.0010	0.06	0	**96**	90	110				
Selenium	0.0618	0.0010	0.06	0	**103**	90	110				
Silver	0.0302	0.0010	0.03	0	**101**	90	110				
Uranium	0.0561	0.00030	0.06	0	**94**	90	110				
Vanadium	0.0591	0.0010	0.06	0	**98**	90	110				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114271

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/05/16 08:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.04	0.10	4	0	101	90	110				
Copper	0.796	0.010	0.8	0	100	90	110				
Iron	4.08	0.030	4	0	102	90	110				
Manganese	4.04	0.010	4	0	101	90	110				
Nickel	0.799	0.050	0.8	0	100	90	110				
Vanadium	0.815	0.10	0.8	0	102	90	110				
Zinc	0.796	0.010	0.8	0	99	90	110				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A**

Run ID :Run Order: **ICP2-HE_160405B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/05/16 09:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	521	0.10	500	0	104	80	120				
Copper	-0.00226	0.010		0		0	0				
Iron	192	0.030	200	0	96	80	120				
Manganese	-0.00211	0.010		0		0	0				
Nickel	0.00313	0.050		0		0	0				
Vanadium	-0.000580	0.10		0		0	0				
Zinc	0.00295	0.010		0		0	0				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A**

Run ID :Run Order: **ICP2-HE_160405B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/05/16 09:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528	0.10	500	0	106	80	120				
Copper	0.505	0.010	0.5	0	101	80	120				
Iron	195	0.030	200	0	98	80	120				
Manganese	0.491	0.010	0.5	0	98	80	120				
Nickel	0.947	0.050	1	0	95	80	120				
Vanadium	0.501	0.10	0.5	0	100	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114271

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160405B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/05/16 09:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.989	0.010	1	0	**99**	80	120				

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114276

Date: *13-Apr-16*

Run ID :Run Order: **SOIL DRYING OVEN - BB_160405** SampType: **Sample Duplicate** Lab ID: **H16030355-018ADUP** Method: **D2974**

Analysis Date: **04/06/16 09:19** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	69.7	0.20		0				68.36	**2.0**	20	

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **SOIL DRYING OVEN - BB_160405** SampType: **Sample Duplicate** Lab ID: **H16030355-028ADUP** Method: **D2974**

Analysis Date: **04/06/16 09:19** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	41.4	0.20		0				37.62	**9.5**	20	

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **SOIL DRYING OVEN - BB_160405** SampType: **Sample Duplicate** Lab ID: **H16030355-038ADUP** Method: **D2974**

Analysis Date: **04/06/16 09:19** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	18.2	0.20		0				17.3	**5.1**	20	

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **SOIL DRYING OVEN - BB_160405** SampType: **Sample Duplicate** Lab ID: **H16030355-048ADUP** Method: **D2974**

Analysis Date: **04/06/16 09:19** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	59.5	0.20		0				60.62	**1.9**	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114276

Date: *13-Apr-16*

Run ID :Run Order: **SOIL DRYING OVEN - BB_160405** SampType: **Sample Duplicate** Lab ID: **H16030355-048ADUP** Method: **D2974**

Analysis Date: **04/06/16 09:19** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **SOIL DRYING OVEN - BB_160405** SampType: **Sample Duplicate** Lab ID: **H16030355-060ADUP** Method: **D2974**

Analysis Date: **04/06/16 09:19** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	74.8	0.20		0				75.44	**0.8**	20	

Associated samples: **H16030355-018A, H16030355-019A, H16030355-020A, H16030355-021A, H16030355-022A, H16030355-023A, H16030355-024A, H16030355-025A, H16030355-026A, H16030355-027A, H16030355-028A, H16030355-029A, H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114324

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160407B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/07/16 09:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.08	0.10	4	0	102	90	110				
Barium	0.803	0.10	0.8	0	100	90	110				
Iron	4.13	0.030	4	0	103	90	110				
Manganese	4.04	0.010	4	0	101	90	110				
Vanadium	0.825	0.10	0.8	0	103	90	110				
Zinc	0.795	0.010	0.8	0	99	90	110				

Associated samples: **H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **ICP2-HE_160407B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/07/16 09:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	530	0.10	500	0	106	80	120				
Barium	3.00E-05	0.10		0		0	0				
Iron	196	0.030	200	0	98	80	120				
Manganese	0.000840	0.010		0		0	0				
Vanadium	0.00580	0.10		0		0	0				
Zinc	0.00253	0.010		0		0	0				

Associated samples: **H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Run ID :Run Order: **ICP2-HE_160407B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/07/16 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	535	0.10	500	0	107	80	120				
Barium	0.500	0.10	0.5	0	100	80	120				
Iron	197	0.030	200	0	99	80	120				
Manganese	0.496	0.010	0.5	0	99	80	120				
Vanadium	0.501	0.10	0.5	0	100	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114324

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160407B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/07/16 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.973	0.010	1	0	97	80	120				

Associated samples: **H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-055A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114330

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160407A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **04/07/16 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0568	0.0010	0.06	0	**95**	90	110				
Arsenic	0.0594	0.0010	0.06	0	**99**	90	110				
Barium	0.0592	0.0010	0.06	0	**99**	90	110				
Beryllium	0.0301	0.0010	0.03	0	**100**	90	110				
Boron	0.0592	0.0011	0.06	0	**99**	90	110				
Cadmium	0.0295	0.0010	0.03	0	**98**	90	110				
Chromium	0.0589	0.0010	0.06	0	**98**	90	110				
Cobalt	0.0601	0.0010	0.06	0	**100**	90	110				
Copper	0.0616	0.0010	0.06	0	**103**	90	110				
Lead	0.0584	0.0010	0.06	0	**97**	90	110				
Molybdenum	0.0576	0.0010	0.06	0	**96**	90	110				
Nickel	0.0605	0.0010	0.06	0	**101**	90	110				
Selenium	0.0609	0.0010	0.06	0	**101**	90	110				
Silver	0.0295	0.0010	0.03	0	**98**	90	110				
Uranium	0.0572	0.00030	0.06	0	**95**	90	110				
Vanadium	0.0583	0.0010	0.06	0	**97**	90	110				

Associated samples: **H16030355-030A, H16030355-031A, H16030355-032A, H16030355-033A, H16030355-034A, H16030355-035A, H16030355-036A, H16030355-037A, H16030355-038A, H16030355-039A, H16030355-040A, H16030355-041A, H16030355-042A, H16030355-043A, H16030355-044A, H16030355-045A, H16030355-046A, H16030355-047A, H16030355-048A, H16030355-049A, H16030355-050A, H16030355-051A, H16030355-052A, H16030355-053A, H16030355-054A, H16030355-056A, H16030355-060A, H16030355-061A, H16030355-062A, H16030355-063A, H16030355-064A, H16030355-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114363

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160408A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **04/08/16 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0603	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0627	0.0010	0.06	0	**104**	90	110				
Beryllium	0.0312	0.0010	0.03	0	**104**	90	110				
Boron	0.0620	0.0011	0.06	0	**103**	90	110				
Cadmium	0.0319	0.0010	0.03	0	**106**	90	110				
Chromium	0.0618	0.0010	0.06	0	**103**	90	110				
Cobalt	0.0627	0.0010	0.06	0	**105**	90	110				
Copper	0.0636	0.0010	0.06	0	**106**	90	110				
Lead	0.0615	0.0010	0.06	0	**103**	90	110				
Molybdenum	0.0604	0.0010	0.06	0	**101**	90	110				
Nickel	0.0631	0.0010	0.06	0	**105**	90	110				
Selenium	0.0624	0.0010	0.06	0	**104**	90	110				
Silver	0.0314	0.0010	0.03	0	**105**	90	110				
Uranium	0.0607	0.00030	0.06	0	**101**	90	110				

Associated samples: **H16030355-055A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114382

Date: *13-Apr-16*

Run ID :Run Order: **ICP2-HE_160408A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/08/16 09:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.01	0.10	4	0	100	90	110				
Iron	3.97	0.030	4	0	99	90	110				
Manganese	3.90	0.010	4	0	98	90	110				
Zinc	0.788	0.010	0.8	0	98	90	110				

Associated samples: **H16030355-046A**

Run ID :Run Order: **ICP2-HE_160408A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/08/16 10:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	518	0.10	500	0	104	80	120				
Iron	187	0.030	200	0	93	80	120				
Manganese	-0.00266	0.010		0		0	0				
Zinc	0.00201	0.010		0		0	0				

Associated samples: **H16030355-046A**

Run ID :Run Order: **ICP2-HE_160408A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/08/16 10:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	521	0.10	500	0	104	80	120				
Iron	187	0.030	200	0	93	80	120				
Manganese	0.469	0.010	0.5	0	94	80	120				
Zinc	0.961	0.010	1	0	96	80	120				

Associated samples: **H16030355-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R114408

Date: *13-Apr-16*

Run ID :Run Order: **ICPMS204-B_160411B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **04/11/16 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0619	0.0010	0.06	0	**103**	90	110				

Associated samples: **H16030355-063A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160318A

Date: *13-Apr-16*

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 1** SampType: **Method Blank** Lab ID: **MB-1_160318A** Method: **A2540 D**

Analysis Date: **03/18/16 13:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_160318A** Method: **A2540 D**

Analysis Date: **03/18/16 13:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	90.0	10	100	0	90	80	120				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 4** SampType: **Sample Duplicate** Lab ID: **H16030307-002BDUP** Method: **A2540 D**

Analysis Date: **03/18/16 13:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	3.00	10		0				1		5	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 1** SampType: **Sample Duplicate** Lab ID: **H16030350-001BDUP** Method: **A2540 D**

Analysis Date: **03/18/16 13:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	82.0	20		0				88	7.1	5	R

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 2** SampType: **Method Blank** Lab ID: **MB-25_160318A** Method: **A2540 D**

Analysis Date: **03/18/16 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16030355
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160318A

Date: *13-Apr-16*

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 2** SampType: **Method Blank** Lab ID: **MB-25_160318A** Method: **A2540 D**

Analysis Date: **03/18/16 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-26_160318A** Method: **A2540 D**

Analysis Date: **03/18/16 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	88.0	10	100	0	**88**	80	120				

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Run ID :Run Order: **ACCU-124 (14410200)_160318B: 2** SampType: **Sample Duplicate** Lab ID: **H16030355-010ADUP** Method: **A2540 D**

Analysis Date: **03/18/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	11.6	10		0				11.6	**0.0**	5	

Associated samples: **H16030355-001A, H16030355-002A, H16030355-003A, H16030355-004A, H16030355-005A, H16030355-006A, H16030355-007A, H16030355-008A, H16030355-009A, H16030355-010A, H16030355-011A, H16030355-012A, H16030355-013A, H16030355-014A, H16030355-015A, H16030355-016A, H16030355-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund H16030355

Login completed by: Wanda Johnson
Date Received: 3/18/2016
Reviewed by: BL2000\rwilliams
Received by: bjs
Reviewed Date: 3/21/2016
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☐	No ☑	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	Not Applicable ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Cooler 1 was received at 0.2°C, Cooler 2 at -0.2°C, Cooler 3 at 0.0C, Cooler 4 at 0.2C, Cooler 5 at -0.8C all coolers had Ice and temperature blanks. Box 1 was received at 0.2 and box 2 was received 0.3 with no ice. One sample vial for Field Dup. #1 SS-16B was received frozen and broken. wj 3/18/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Report Mail Address (Required): P.O. Box 200901, Helena, MT 59620-0901

☐ No Hard Copy Email:

Invoice Address (Required): Same as above

☐ No Hard Copy Email:

Special Report/Formats:
☐ DW
☐ POTW/WWTP
☐ State:
☐ Other:
☐ EDD/EDT (Electronic Data) Format:
☐ LEVEL IV
☐ NELAC

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Contact Name: Ben Quinones

Phone/Fax:

Cell: email) bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

Invoice Contact & Phone: Same as above

Purchase Order:

Quote/Bottle Order: 1089

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Shipped by: Hand delivery

Cooler ID(s):

Receipt Temp: See comm. °C

On Ice: Y N

Custody Seal: On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

Comments: Diss. metals and DOC field filtered. Lab to sieve sediment samples into 3 size fractions. Report results as dry wt. Concs.

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT) — RUSH

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR Metals (See list)	DISS Metals (See list)	TPN	NH3N, NO3NO2, TP	TSS, VSS	Hardness (TR Ca, Mg)	Tot Alk, HCO3, SO4, Cl, F, Na	DOC	Total Metals Sediment (See list, dry wt. Concs)	SEE ATTACHED	RUSH	Comments
1	SS-15A	3-16-2016	8W,1S	1430	↓	↓	↓	↓	↓	↓	↓	↓				
2	Field Blank #1, SS-15A	3-16-2016	8W	1400									↓			C1 = 0.2
3	SS-15B	3-16-2016	8W,1S	1300	↓	↓	↓	↓	↓	↓	↓	↓				C2 = -0.2
4	Sediment duplicate #1, SS-15B	3-16-2016	1S	1300									↓			C3 = 0.0
5	SS-16B	3-16-2016	8W,1S	1115	↓	↓	↓	↓	↓	↓	↓	↓				C4 = 0.2
6	Field duplicate #1, SS-16B	3-16-2016	8W	1115									↓			C5 = -0.8
7	SS-17D	3-16-2016	8W,1S	1015	↓	↓	↓	↓	↓	↓	↓	↓				b1 = 0.2
8	SS-19	3-16-2016	8W,1S	0900									↓			b2 = 0.3
9																
10																

LABORATORY USE ONLY: #1603035

Custody Record MUST be Signed

Relinquished by (print): Gary L. Ingman Date/Time: 3/18/2016 0930 Signature: Gary L. Ingman

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: B. Seber Date/Time: 3/18/16 9:30 Signature: Brandy Seber

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, ...

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Report Mail Address (Required): P.O. Box 200901-0901, Helena, MT 59620-0901

☐ No Hard Copy Email:

Contact Name: Ben Quinones

Phone/Fax:

Cell: email bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

Invoice Contact & Phone: Same as above

Purchase Order:

Quote/Bottle Order: 1088

Invoice Address (Required): Same as above

☐ No Hard Copy Email:

Special Report/Formats:
☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

R U S H

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Diss. metals and DOC were field filtered. Lab to sieve sediment samples into 3 size fractions. Report sediment results as dry weight concs.

Shipped by: hand delivery

Cooler ID(s): Y

Receipt Temp: See comm. °C

On Ice: (Y) N

Custody Seal: On Bottle Y (N); On Cooler Y (N)

Intact: Y N

Signature Match: Y N

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR Metals (See list)	Diss. Metals (See list)	TPN	NH3-N, NO2+NO3, TP	TSS, VSS	Hardness (TR Ca & Mg)	Total Alk, HCO3, SO4, Cl, K, Na	DOC	Total metals, Sediment (See list, dry wt. concs)	SEE ATTACHED	LABORATORY USE ONLY
1 SS-06G	3-17-2016	1430	SW,1S											C1 = 0.2
2 SS-07	3-17-2016	1400	SW,1S											C2 = -0.2
3 SS-08	3-17-2016	1300	SW,1S											C3 = 0.0
4 Field Blank #2, SS-08	3-17-2016	1230	SW											C4 = 0.2
5 SS-10A	3-17-2016	1115	SW,1S											C5 = -0.8
6 SS-10B	3-17-2016	1045	SW,1S											D1 = 0.2
7 SS-11C	3-17-2016	0945	SW,1S											D2 = 0.3
8 SS-11D	3-17-2016	0900	SW,1S											
9 SS-13	3-16-2016	1645	SW,1S											
10 SS-14	3-16-2016	1600	SW,1S											

L16030355

Custody Record MUST be Signed

Relinquished by (print): Gary L. Ingman Date/Time: 3/18/2016 0930 Signature: Gary L Ingman

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: D. Seher Date/Time: 3/18/16 9:30 Signature: Brandy Schu

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

APPENDIX B2

ANALYTICAL LABORATORY RESULTS
2ND QUARTER MONITORING

ANALYTICAL SUMMARY REPORT

May 26, 2016

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H16050318 Quote ID: H1088 - Silver Bow Monitoring

Project Name: SSTOU Groundwater/Vadose Q2

Energy Laboratories Inc Helena MT received the following 16 samples for MT DEQ-Federal Superfund on 5/17/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16050318-001	MW-2A	05/17/16 10:45	05/17/16	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16050318-002	MW-2B	05/17/16 9:35	05/17/16	Aqueous	Same As Above
H16050318-003	MW-2C	05/17/16 10:29	05/17/16	Aqueous	Same As Above
H16050318-004	MW-2C Dup	05/17/16 10:31	05/17/16	Aqueous	Same As Above
H16050318-005	MW-2D	05/17/16 11:19	05/17/16	Aqueous	Same As Above
H16050318-006	IGW-1056	05/17/16 12:10	05/17/16	Aqueous	Same As Above
H16050318-007	LYP-07	05/17/16 14:05	05/17/16	Aqueous	Same As Above
H16050318-008	MW-2A Field Blank	05/17/16 10:40	05/17/16	Aqueous	Same As Above
H16050318-009	LYS-01	05/17/16 14:00	05/17/16	Aqueous	Same As Above
H16050318-010	LYS-02	05/17/16 12:54	05/17/16	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16050318-011	LYS-03	05/17/16 13:22	05/17/16	Aqueous	Same As Above
H16050318-012	LYS-04	05/17/16 12:15	05/17/16	Aqueous	Same As Above
H16050318-013	LYS-05	05/17/16 12:20	05/17/16	Aqueous	Same As Above
H16050318-014	LYS-06	05/17/16 13:58	05/17/16	Aqueous	Same As Above
H16050318-015	LYS-07	05/17/16 13:08	05/17/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA

ANALYTICAL SUMMARY REPORT

H16050318-016	LYS-08	05/17/16 13:47	05/17/16	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-001
Client Sample ID: MW-2A

Report Date: 05/26/16
Collection Date: 05/17/16 10:45
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	05/19/16 09:40 / SRW
Bicarbonate as HCO3	160	mg/L		4		A2320 B	05/19/16 09:40 / SRW
Chloride	4	mg/L		1		E300.0	05/18/16 14:51 / SRW
Sulfate	222	mg/L		1		E300.0	05/18/16 14:51 / SRW
Hardness as CaCO3	287	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:02 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:02 / dck
Arsenic	0.010	mg/L		0.001		E200.8	05/20/16 19:02 / dck
Barium	0.014	mg/L		0.003		E200.8	05/20/16 19:02 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:02 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:02 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:02 / dck
Calcium	91	mg/L		1		E200.7	05/23/16 16:15 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:02 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:02 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:02 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:02 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:02 / dck
Magnesium	14	mg/L		1		E200.8	05/20/16 19:02 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:02 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:29 / rgk
Molybdenum	0.008	mg/L		0.005		E200.8	05/20/16 19:02 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:02 / dck
Potassium	4	mg/L		1		E200.8	05/20/16 19:02 / dck
Selenium	0.011	mg/L		0.001		E200.8	05/20/16 19:02 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:02 / dck
Sodium	27	mg/L		1		E200.8	05/20/16 19:02 / dck
Uranium	0.0470	mg/L		0.0002		E200.8	05/20/16 19:02 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:02 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:02 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-002
Client Sample ID: MW-2B

Report Date: 05/26/16
Collection Date: 05/17/16 09:35
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	80	mg/L		4		A2320 B	05/19/16 09:52 / SRW
Bicarbonate as HCO3	97	mg/L		4		A2320 B	05/19/16 09:52 / SRW
Chloride	24	mg/L		1		E300.0	05/18/16 15:02 / SRW
Sulfate	147	mg/L		1		E300.0	05/18/16 15:02 / SRW
Hardness as CaCO3	210	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:15 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:15 / dck
Arsenic	0.009	mg/L		0.001		E200.8	05/20/16 19:15 / dck
Barium	0.030	mg/L		0.003		E200.8	05/20/16 19:15 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:15 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:15 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:15 / dck
Calcium	59	mg/L		1		E200.7	05/23/16 16:18 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:15 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:15 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:15 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:15 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:15 / dck
Magnesium	15	mg/L		1		E200.8	05/20/16 19:15 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:15 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:32 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:15 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:15 / dck
Potassium	4	mg/L		1		E200.8	05/20/16 19:15 / dck
Selenium	0.002	mg/L		0.001		E200.8	05/20/16 19:15 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:15 / dck
Sodium	24	mg/L		1		E200.8	05/20/16 19:15 / dck
Uranium	0.0043	mg/L		0.0002		E200.8	05/20/16 19:15 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:15 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:15 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-003
Client Sample ID: MW-2C

Report Date: 05/26/16
Collection Date: 05/17/16 10:29
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	05/19/16 09:59 / SRW
Bicarbonate as HCO3	130	mg/L		4		A2320 B	05/19/16 09:59 / SRW
Chloride	24	mg/L		1		E300.0	05/18/16 15:13 / SRW
Sulfate	182	mg/L		1		E300.0	05/18/16 15:13 / SRW
Hardness as CaCO3	249	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:18 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:18 / dck
Arsenic	0.006	mg/L		0.001		E200.8	05/20/16 19:18 / dck
Barium	0.021	mg/L		0.003		E200.8	05/20/16 19:18 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:18 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:18 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:18 / dck
Calcium	72	mg/L		1		E200.7	05/23/16 16:22 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:18 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:18 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:18 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:18 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:18 / dck
Magnesium	17	mg/L		1		E200.8	05/20/16 19:18 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:18 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:34 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:18 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:18 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 19:18 / dck
Selenium	0.003	mg/L		0.001		E200.8	05/20/16 19:18 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:18 / dck
Sodium	32	mg/L		1		E200.8	05/20/16 19:18 / dck
Uranium	0.0088	mg/L		0.0002		E200.8	05/20/16 19:18 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:18 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:18 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-004
Client Sample ID: MW-2C Dup

Report Date: 05/26/16
Collection Date: 05/17/16 10:31
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	05/19/16 10:06 / SRW
Bicarbonate as HCO3	130	mg/L		4		A2320 B	05/19/16 10:06 / SRW
Chloride	24	mg/L		1		E300.0	05/18/16 15:24 / SRW
Sulfate	182	mg/L		1		E300.0	05/18/16 15:24 / SRW
Hardness as CaCO3	250	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:21 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:21 / dck
Arsenic	0.006	mg/L		0.001		E200.8	05/20/16 19:21 / dck
Barium	0.020	mg/L		0.003		E200.8	05/20/16 19:21 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:21 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:21 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:21 / dck
Calcium	72	mg/L		1		E200.7	05/23/16 16:26 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:21 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:21 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:21 / dck
Iron	0.33	mg/L		0.02		E200.8	05/20/16 19:21 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:21 / dck
Magnesium	17	mg/L		1		E200.8	05/20/16 19:21 / dck
Manganese	0.001	mg/L		0.001		E200.8	05/20/16 19:21 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:37 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:21 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:21 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 19:21 / dck
Selenium	0.003	mg/L		0.001		E200.8	05/20/16 19:21 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:21 / dck
Sodium	32	mg/L		1		E200.8	05/20/16 19:21 / dck
Uranium	0.0089	mg/L		0.0002		E200.8	05/20/16 19:21 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:21 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:21 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-005
Client Sample ID: MW-2D

Report Date: 05/26/16
Collection Date: 05/17/16 11:19
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	05/19/16 10:13 / SRW
Bicarbonate as HCO3	180	mg/L		4		A2320 B	05/19/16 10:13 / SRW
Chloride	26	mg/L		1		E300.0	05/18/16 15:36 / SRW
Sulfate	199	mg/L		1		E300.0	05/18/16 15:36 / SRW
Hardness as CaCO3	315	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:24 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:24 / dck
Arsenic	0.007	mg/L		0.001		E200.8	05/20/16 19:24 / dck
Barium	0.044	mg/L		0.003		E200.8	05/20/16 19:24 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:24 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:24 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:24 / dck
Calcium	93	mg/L		1		E200.7	05/23/16 16:30 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:24 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:24 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:24 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:24 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:24 / dck
Magnesium	20	mg/L		1		E200.8	05/20/16 19:24 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:24 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:39 / rgk
Molybdenum	0.005	mg/L		0.005		E200.8	05/20/16 19:24 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:24 / dck
Potassium	4	mg/L		1		E200.8	05/20/16 19:24 / dck
Selenium	0.004	mg/L		0.001		E200.8	05/20/16 19:24 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:24 / dck
Sodium	28	mg/L		1		E200.8	05/20/16 19:24 / dck
Uranium	0.0526	mg/L		0.0002		E200.8	05/20/16 19:24 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:24 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:24 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-006
Client Sample ID: IGW-1056

Report Date: 05/26/16
Collection Date: 05/17/16 12:10
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	05/19/16 10:20 / SRW
Bicarbonate as HCO3	140	mg/L		4		A2320 B	05/19/16 10:20 / SRW
Chloride	19	mg/L		1		E300.0	05/18/16 15:47 / SRW
Sulfate	185	mg/L		1		E300.0	05/18/16 15:47 / SRW
Hardness as CaCO3	260	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:37 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:37 / dck
Arsenic	0.007	mg/L		0.001		E200.8	05/20/16 19:37 / dck
Barium	0.030	mg/L		0.003		E200.8	05/20/16 19:37 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:37 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:37 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:37 / dck
Calcium	77	mg/L		1		E200.7	05/23/16 16:33 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:37 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:37 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:37 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:37 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:37 / dck
Magnesium	16	mg/L		1		E200.8	05/20/16 19:37 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:37 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:42 / rgk
Molybdenum	0.006	mg/L		0.005		E200.8	05/20/16 19:37 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:37 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 19:37 / dck
Selenium	0.004	mg/L		0.001		E200.8	05/20/16 19:37 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:37 / dck
Sodium	27	mg/L		1		E200.8	05/20/16 19:37 / dck
Uranium	0.0368	mg/L		0.0002		E200.8	05/20/16 19:37 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:37 / dck
Zinc	0.013	mg/L		0.008		E200.8	05/20/16 19:37 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-007
Client Sample ID: LYP-07

Report Date: 05/26/16
Collection Date: 05/17/16 14:05
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	180	mg/L		4		A2320 B	05/19/16 10:26 / SRW
Bicarbonate as HCO3	220	mg/L		4		A2320 B	05/19/16 10:26 / SRW
Chloride	22	mg/L		1		E300.0	05/18/16 15:58 / SRW
Sulfate	155	mg/L		1		E300.0	05/18/16 15:58 / SRW
Hardness as CaCO3	280	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:40 / dck
Antimony	0.0033	mg/L		0.0005		E200.8	05/20/16 19:40 / dck
Arsenic	0.003	mg/L		0.001		E200.8	05/20/16 19:40 / dck
Barium	0.066	mg/L		0.003		E200.8	05/20/16 19:40 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:40 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:40 / dck
Cadmium	0.00003	mg/L		0.00003		E200.8	05/20/16 19:40 / dck
Calcium	85	mg/L		1		E200.7	05/23/16 16:37 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:40 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:40 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:40 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:40 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:40 / dck
Magnesium	17	mg/L		1		E200.8	05/20/16 19:40 / dck
Manganese	0.168	mg/L		0.001		E200.8	05/20/16 19:40 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:44 / rgk
Molybdenum	0.011	mg/L		0.005		E200.8	05/20/16 19:40 / dck
Nickel	0.005	mg/L		0.002		E200.8	05/20/16 19:40 / dck
Potassium	6	mg/L		1		E200.8	05/20/16 19:40 / dck
Selenium	0.003	mg/L		0.001		E200.8	05/20/16 19:40 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:40 / dck
Sodium	33	mg/L		1		E200.8	05/20/16 19:40 / dck
Uranium	0.0721	mg/L		0.0002		E200.8	05/20/16 19:40 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:40 / dck
Zinc	0.043	mg/L		0.008		E200.8	05/20/16 19:40 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-008
Client Sample ID: MW-2A Field Blank

Report Date: 05/26/16
Collection Date: 05/17/16 10:40
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/19/16 10:33 / SRW
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/19/16 10:33 / SRW
Chloride	ND	mg/L		1		E300.0	05/18/16 16:09 / SRW
Sulfate	ND	mg/L		1		E300.0	05/18/16 16:09 / SRW
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:43 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:43 / dck
Arsenic	ND	mg/L		0.001		E200.8	05/20/16 19:43 / dck
Barium	ND	mg/L		0.003		E200.8	05/20/16 19:43 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:43 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:43 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:43 / dck
Calcium	ND	mg/L		1		E200.8	05/20/16 19:43 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:43 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:43 / dck
Copper	ND	mg/L		0.001		E200.8	05/20/16 19:43 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 19:43 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:43 / dck
Magnesium	ND	mg/L		1		E200.8	05/20/16 19:43 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 19:43 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:46 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:43 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:43 / dck
Potassium	ND	mg/L		1		E200.8	05/20/16 19:43 / dck
Selenium	ND	mg/L		0.001		E200.8	05/20/16 19:43 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:43 / dck
Sodium	ND	mg/L		1		E200.8	05/20/16 19:43 / dck
Uranium	ND	mg/L		0.0002		E200.8	05/20/16 19:43 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:43 / dck
Zinc	ND	mg/L		0.008		E200.8	05/20/16 19:43 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-009
Client Sample ID: LYS-01

Report Date: 05/26/16
Collection Date: 05/17/16 14:00
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	05/19/16 10:38 / SRW
Bicarbonate as HCO3	170	mg/L		4		A2320 B	05/19/16 10:38 / SRW
Chloride	21	mg/L		1		E300.0	05/18/16 18:34 / SRW
Sulfate	194	mg/L		1		E300.0	05/18/16 18:34 / SRW
Hardness as CaCO3	279	mg/L		1		A2340 B	05/24/16 08:36 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 19:47 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 19:47 / dck
Arsenic	0.003	mg/L		0.001		E200.8	05/20/16 19:47 / dck
Barium	0.031	mg/L		0.003		E200.8	05/20/16 19:47 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 19:47 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 19:47 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 19:47 / dck
Calcium	82	mg/L		1		E200.7	05/23/16 17:18 / sld
Chromium	ND	mg/L		0.01		E200.8	05/20/16 19:47 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 19:47 / dck
Copper	0.006	mg/L		0.001		E200.8	05/20/16 19:47 / dck
Iron	0.67	mg/L		0.02		E200.8	05/20/16 19:47 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 19:47 / dck
Magnesium	18	mg/L		1		E200.8	05/20/16 19:47 / dck
Manganese	0.008	mg/L		0.001		E200.8	05/20/16 19:47 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:49 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 19:47 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 19:47 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 19:47 / dck
Selenium	0.005	mg/L		0.001		E200.8	05/20/16 19:47 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 19:47 / dck
Sodium	29	mg/L		1		E200.8	05/20/16 19:47 / dck
Uranium	0.0527	mg/L		0.0002		E200.8	05/20/16 19:47 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 19:47 / dck
Zinc	0.023	mg/L		0.008		E200.8	05/20/16 19:47 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-010
Client Sample ID: LYS-02

Report Date: 05/26/16
Collection Date: 05/17/16 12:54
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	600	mg/L		4		A2320 B	05/19/16 10:46 / SRW
Bicarbonate as HCO3	730	mg/L		4		A2320 B	05/19/16 10:46 / SRW
Chloride	48	mg/L		1		E300.0	05/18/16 17:16 / SRW
Sulfate	6560	mg/L	D	2		E300.0	05/24/16 12:35 / SRW
Hardness as CaCO3	1730	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 06:55 / dck
Antimony	0.0007	mg/L		0.0005		E200.8	05/20/16 06:55 / dck
Arsenic	0.027	mg/L		0.001		E200.8	05/20/16 06:55 / dck
Barium	0.011	mg/L		0.003		E200.8	05/20/16 06:55 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 06:55 / dck
Boron	0.4	mg/L		0.1		E200.8	05/20/16 06:55 / dck
Cadmium	0.00010	mg/L		0.00003		E200.8	05/20/16 06:55 / dck
Calcium	341	mg/L		1		E200.8	05/20/16 17:58 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 06:55 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 06:55 / dck
Copper	0.010	mg/L		0.001		E200.8	05/20/16 06:55 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 06:55 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 06:55 / dck
Magnesium	214	mg/L		1		E200.8	05/20/16 17:58 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 18:27 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 18:59 / rgk
Molybdenum	0.048	mg/L		0.005		E200.8	05/20/16 06:55 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 06:55 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 06:55 / dck
Selenium	0.025	mg/L		0.001		E200.8	05/20/16 06:55 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 06:55 / dck
Sodium	2330	mg/L		1		E200.8	05/20/16 17:58 / dck
Uranium	1.13	mg/L		0.0002		E200.8	05/20/16 06:55 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 06:55 / dck
Zinc	0.009	mg/L		0.008		E200.8	05/20/16 18:27 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-011
Client Sample ID: LYS-03

Report Date: 05/26/16
Collection Date: 05/17/16 13:22
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	05/19/16 10:53 / SRW
Bicarbonate as HCO3	190	mg/L		4		A2320 B	05/19/16 10:53 / SRW
Chloride	ND	mg/L		1		E300.0	05/18/16 17:27 / SRW
Sulfate	90	mg/L		1		E300.0	05/18/16 17:27 / SRW
Hardness as CaCO3	140	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 06:58 / dck
Antimony	0.0005	mg/L		0.0005		E200.8	05/20/16 06:58 / dck
Arsenic	0.084	mg/L		0.001		E200.8	05/20/16 06:58 / dck
Barium	0.028	mg/L		0.003		E200.8	05/20/16 06:58 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 06:58 / dck
Boron	0.1	mg/L		0.1		E200.8	05/20/16 06:58 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 06:58 / dck
Calcium	42	mg/L		1		E200.8	05/20/16 06:58 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 06:58 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 06:58 / dck
Copper	0.002	mg/L		0.001		E200.8	05/20/16 06:58 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 06:58 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 06:58 / dck
Magnesium	8	mg/L		1		E200.8	05/20/16 06:58 / dck
Manganese	0.002	mg/L		0.001		E200.8	05/20/16 18:30 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:01 / rgk
Molybdenum	0.017	mg/L		0.005		E200.8	05/20/16 06:58 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 06:58 / dck
Potassium	3	mg/L		1		E200.8	05/20/16 06:58 / dck
Selenium	ND	mg/L		0.001		E200.8	05/20/16 06:58 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 06:58 / dck
Sodium	47	mg/L		1		E200.8	05/20/16 06:58 / dck
Uranium	0.0031	mg/L		0.0002		E200.8	05/20/16 06:58 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 06:58 / dck
Zinc	0.009	mg/L		0.008		E200.8	05/20/16 18:30 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-012
Client Sample ID: LYS-04

Report Date: 05/26/16
Collection Date: 05/17/16 12:15
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	250	mg/L		4		A2320 B	05/19/16 10:59 / SRW
Bicarbonate as HCO3	310	mg/L		4		A2320 B	05/19/16 10:59 / SRW
Chloride	4	mg/L		1		E300.0	05/18/16 17:38 / SRW
Sulfate	496	mg/L		1		E300.0	05/18/16 17:38 / SRW
Hardness as CaCO3	456	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:01 / dck
Antimony	0.0014	mg/L		0.0005		E200.8	05/20/16 07:01 / dck
Arsenic	0.069	mg/L		0.001		E200.8	05/20/16 07:01 / dck
Barium	0.066	mg/L		0.003		E200.8	05/20/16 07:01 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:01 / dck
Boron	ND	mg/L		0.1		E200.8	05/20/16 07:01 / dck
Cadmium	0.00005	mg/L		0.00003		E200.8	05/20/16 07:01 / dck
Calcium	116	mg/L		1		E200.8	05/20/16 18:01 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:01 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:01 / dck
Copper	0.007	mg/L		0.001		E200.8	05/20/16 07:01 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:01 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:01 / dck
Magnesium	40	mg/L		1		E200.8	05/20/16 07:01 / dck
Manganese	0.002	mg/L		0.001		E200.8	05/20/16 07:01 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:04 / rgk
Molybdenum	ND	mg/L		0.005		E200.8	05/20/16 07:01 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:01 / dck
Potassium	13	mg/L		1		E200.8	05/20/16 07:01 / dck
Selenium	0.003	mg/L		0.001		E200.8	05/20/16 07:01 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:01 / dck
Sodium	164	mg/L		1		E200.8	05/20/16 18:01 / dck
Uranium	0.0278	mg/L		0.0002		E200.8	05/20/16 07:01 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:01 / dck
Zinc	0.044	mg/L		0.008		E200.8	05/20/16 18:33 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-013
Client Sample ID: LYS-05

Report Date: 05/26/16
Collection Date: 05/17/16 12:20
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	260	mg/L		4		A2320 B	05/19/16 11:05 / SRW
Bicarbonate as HCO3	320	mg/L		4		A2320 B	05/19/16 11:05 / SRW
Chloride	5	mg/L		1		E300.0	05/18/16 17:49 / SRW
Sulfate	4050	mg/L		1		E300.0	05/18/16 17:49 / SRW
Hardness as CaCO3	1870	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:04 / dck
Antimony	0.0012	mg/L		0.0005		E200.8	05/20/16 07:04 / dck
Arsenic	0.017	mg/L		0.001		E200.8	05/20/16 07:04 / dck
Barium	0.014	mg/L		0.003		E200.8	05/20/16 07:04 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:04 / dck
Boron	1.9	mg/L		0.1		E200.8	05/20/16 07:04 / dck
Cadmium	0.00018	mg/L		0.00003		E200.8	05/20/16 07:04 / dck
Calcium	508	mg/L		1		E200.8	05/20/16 18:04 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:04 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:04 / dck
Copper	0.010	mg/L		0.001		E200.8	05/20/16 07:04 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:04 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:04 / dck
Magnesium	147	mg/L		1		E200.8	05/20/16 18:04 / dck
Manganese	ND	mg/L		0.001		E200.8	05/20/16 07:04 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:06 / rgk
Molybdenum	0.025	mg/L		0.005		E200.8	05/20/16 07:04 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:04 / dck
Potassium	22	mg/L		1		E200.8	05/20/16 07:04 / dck
Selenium	0.009	mg/L		0.001		E200.8	05/20/16 07:04 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:04 / dck
Sodium	1140	mg/L		1		E200.8	05/20/16 18:04 / dck
Uranium	1.86	mg/L		0.0002		E200.8	05/20/16 07:04 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:04 / dck
Zinc	0.017	mg/L		0.008		E200.8	05/20/16 18:36 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-014
Client Sample ID: LYS-06

Report Date: 05/26/16
Collection Date: 05/17/16 13:58
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	53	mg/L		4		A2320 B	05/19/16 11:11 / SRW
Bicarbonate as HCO3	64	mg/L		4		A2320 B	05/19/16 11:11 / SRW
Chloride	7	mg/L		1		E300.0	05/18/16 18:00 / SRW
Sulfate	1000	mg/L		1		E300.0	05/18/16 18:00 / SRW
Hardness as CaCO3	529	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:08 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 07:08 / dck
Arsenic	0.002	mg/L		0.001		E200.8	05/20/16 07:08 / dck
Barium	0.009	mg/L		0.003		E200.8	05/20/16 07:08 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:08 / dck
Boron	0.2	mg/L		0.1		E200.8	05/20/16 07:08 / dck
Cadmium	ND	mg/L		0.00003		E200.8	05/20/16 07:08 / dck
Calcium	168	mg/L		1		E200.8	05/20/16 18:08 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:08 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:08 / dck
Copper	0.006	mg/L		0.001		E200.8	05/20/16 07:08 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:08 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:08 / dck
Magnesium	27	mg/L		1		E200.8	05/20/16 07:08 / dck
Manganese	0.002	mg/L		0.001		E200.8	05/20/16 07:08 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:09 / rgk
Molybdenum	0.011	mg/L		0.005		E200.8	05/20/16 07:08 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:08 / dck
Potassium	ND	mg/L		1		E200.8	05/20/16 07:08 / dck
Selenium	ND	mg/L		0.001		E200.8	05/20/16 07:08 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:08 / dck
Sodium	218	mg/L		1		E200.8	05/20/16 18:08 / dck
Uranium	0.0020	mg/L		0.0002		E200.8	05/20/16 07:08 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:08 / dck
Zinc	0.018	mg/L		0.008		E200.8	05/20/16 18:40 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-015
Client Sample ID: LYS-07

Report Date: 05/26/16
Collection Date: 05/17/16 13:08
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Chloride	49	mg/L		1		E300.0	05/18/16 18:11 / SRW
Sulfate	2330	mg/L		1		E300.0	05/18/16 18:11 / SRW
Hardness as CaCO3	953	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:21 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 07:21 / dck
Arsenic	0.006	mg/L		0.001		E200.8	05/20/16 07:21 / dck
Barium	0.007	mg/L		0.003		E200.8	05/20/16 07:21 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:21 / dck
Boron	0.2	mg/L		0.1		E200.8	05/20/16 07:21 / dck
Cadmium	0.00009	mg/L		0.00003		E200.8	05/20/16 07:21 / dck
Calcium	269	mg/L		1		E200.8	05/20/16 18:11 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:21 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:21 / dck
Copper	0.005	mg/L		0.001		E200.8	05/20/16 18:43 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:21 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:21 / dck
Magnesium	69	mg/L		1		E200.8	05/20/16 07:21 / dck
Manganese	0.002	mg/L		0.001		E200.8	05/20/16 18:43 / dck
Mercury	ND	mg/L	D	0.00001		E245.1	05/24/16 19:16 / rgk
Molybdenum	0.102	mg/L		0.005		E200.8	05/20/16 07:21 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:21 / dck
Potassium	10	mg/L		1		E200.8	05/20/16 07:21 / dck
Selenium	0.002	mg/L		0.001		E200.8	05/20/16 07:21 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:21 / dck
Sodium	677	mg/L		1		E200.8	05/20/16 18:11 / dck
Uranium	0.242	mg/L		0.0002		E200.8	05/20/16 07:21 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:21 / dck
Zinc	0.077	mg/L		0.008		E200.8	05/20/16 18:43 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose Q2
Lab ID: H16050318-016
Client Sample ID: LYS-08

Report Date: 05/26/16
Collection Date: 05/17/16 13:47
DateReceived: 05/17/16
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Alkalinity, Total as CaCO3	320	mg/L		4		A2320 B	05/19/16 11:17 / SRW
Bicarbonate as HCO3	390	mg/L		4		A2320 B	05/19/16 11:17 / SRW
Chloride	55	mg/L		1		E300.0	05/18/16 18:23 / SRW
Sulfate	1120	mg/L		1		E300.0	05/18/16 18:23 / SRW
Hardness as CaCO3	1160	mg/L		1		A2340 B	05/23/16 10:51 / sld
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	05/20/16 07:11 / dck
Antimony	ND	mg/L		0.0005		E200.8	05/20/16 07:11 / dck
Arsenic	0.005	mg/L		0.001		E200.8	05/20/16 07:11 / dck
Barium	0.022	mg/L		0.003		E200.8	05/20/16 07:11 / dck
Beryllium	ND	mg/L		0.0008		E200.8	05/20/16 07:11 / dck
Boron	0.1	mg/L		0.1		E200.8	05/20/16 07:11 / dck
Cadmium	0.00004	mg/L		0.00003		E200.8	05/20/16 07:11 / dck
Calcium	247	mg/L		1		E200.8	05/20/16 18:14 / dck
Chromium	ND	mg/L		0.01		E200.8	05/20/16 07:11 / dck
Cobalt	ND	mg/L		0.01		E200.8	05/20/16 07:11 / dck
Copper	0.001	mg/L		0.001		E200.8	05/20/16 07:11 / dck
Iron	ND	mg/L		0.02		E200.8	05/20/16 07:11 / dck
Lead	ND	mg/L		0.0003		E200.8	05/20/16 07:11 / dck
Magnesium	131	mg/L		1		E200.8	05/20/16 18:14 / dck
Manganese	0.006	mg/L		0.001		E200.8	05/20/16 18:46 / dck
Mercury	ND	mg/L		5E-06		E245.1	05/24/16 19:11 / rgk
Molybdenum	0.007	mg/L		0.005		E200.8	05/20/16 07:11 / dck
Nickel	ND	mg/L		0.002		E200.8	05/20/16 07:11 / dck
Potassium	6	mg/L		1		E200.8	05/20/16 07:11 / dck
Selenium	0.013	mg/L		0.001		E200.8	05/20/16 07:11 / dck
Silver	ND	mg/L		0.0002		E200.8	05/20/16 07:11 / dck
Sodium	140	mg/L		1		E200.8	05/20/16 18:14 / dck
Uranium	0.130	mg/L		0.0002		E200.8	05/20/16 07:11 / dck
Vanadium	ND	mg/L		0.1		E200.8	05/20/16 07:11 / dck
Zinc	0.010	mg/L		0.008		E200.8	05/20/16 18:46 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R115384
Lab ID: MB		Method Blank				Run: PHSC_101-H_160519A				05/19/16 09:23
Alkalinity, Total as CaCO3		2	mg/L	0.2						
Lab ID: LCS		Laboratory Control Sample				Run: PHSC_101-H_160519A				05/19/16 09:29
Alkalinity, Total as CaCO3		590	mg/L	4.0	98	90	110			
Lab ID: H16050318-001ADUP	2	Sample Duplicate				Run: PHSC_101-H_160519A				05/19/16 09:46
Alkalinity, Total as CaCO3		130	mg/L	4.0				0.4	10	
Bicarbonate as HCO3		160	mg/L	4.0				0.4	10	
Lab ID: H16050331-005ADUP	2	Sample Duplicate				Run: PHSC_101-H_160519A				05/19/16 11:57
Alkalinity, Total as CaCO3		180	mg/L	4.0				0.0	10	
Bicarbonate as HCO3		220	mg/L	4.0				0.0	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.7**									Analytical Run: ICP2-HE_160523A	
Lab ID:	**ICV**		Initial Calibration Verification Standard							05/23/16 08:41	
Calcium			39.4	mg/L	1.0	98	95	105			
Lab ID:	**CCV-1**		Continuing Calibration Verification Standard							05/23/16 08:45	
Calcium			24.7	mg/L	1.0	99	95	105			
Lab ID:	**ICSA**		Interference Check Sample A							05/23/16 09:19	
Calcium			447	mg/L	1.0	89	80	120			
Lab ID:	**ICSAB**		Interference Check Sample AB							05/23/16 09:23	
Calcium			451	mg/L	1.0	90	80	120			
Lab ID:	**CCV**		Continuing Calibration Verification Standard							05/23/16 15:56	
Calcium			24.8	mg/L	1.0	99	90	110			
Lab ID:	**CCV**		Continuing Calibration Verification Standard							05/23/16 17:07	
Calcium			24.6	mg/L	1.0	99	90	110			
Method:	**E200.7**										Batch: R115453
Lab ID:	**MB**		Method Blank				Run: ICP2-HE_160523A			05/23/16 09:46	
Calcium			0.05	mg/L	0.02						
Lab ID:	**LFB**		Laboratory Fortified Blank				Run: ICP2-HE_160523A			05/23/16 09:50	
Calcium			48.4	mg/L	1.0	97	85	115			
Lab ID:	**H16050370-002BMS2**		Sample Matrix Spike				Run: ICP2-HE_160523A			05/23/16 15:45	
Calcium			85.3	mg/L	1.0	97	70	130			
Lab ID:	**H16050370-002BMSD**		Sample Matrix Spike Duplicate				Run: ICP2-HE_160523A			05/23/16 15:49	
Calcium			86.2	mg/L	1.0	99	70	130	1.1	20	
Lab ID:	**H16050318-009BMS2**		Sample Matrix Spike				Run: ICP2-HE_160523A			05/23/16 17:26	
Calcium			129	mg/L	1.0	93	70	130			
Lab ID:	**H16050318-009BMSD**		Sample Matrix Spike Duplicate				Run: ICP2-HE_160523A			05/23/16 17:29	
Calcium			129	mg/L	1.0	94	70	130	0.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICV STD	24	Initial Calibration Verification Standard								05/19/16 12:02
Aluminum		0.291	mg/L	0.10	97	90	110			
Antimony		0.0565	mg/L	0.050	94	90	110			
Arsenic		0.0593	mg/L	0.0050	99	90	110			
Barium		0.0570	mg/L	0.10	95	90	110			
Beryllium		0.0300	mg/L	0.0010	100	90	110			
Boron		0.0594	mg/L	0.10	99	90	110			
Cadmium		0.0291	mg/L	0.0010	97	90	110			
Calcium		3.09	mg/L	0.50	103	90	110			
Chromium		0.0589	mg/L	0.010	98	90	110			
Cobalt		0.0590	mg/L	0.010	98	90	110			
Copper		0.0597	mg/L	0.010	99	90	110			
Iron		0.303	mg/L	0.020	101	90	110			
Lead		0.0578	mg/L	0.010	96	90	110			
Magnesium		3.04	mg/L	0.50	101	90	110			
Manganese		0.295	mg/L	0.010	98	90	110			
Molybdenum		0.0564	mg/L	0.0050	94	90	110			
Nickel		0.0598	mg/L	0.010	100	90	110			
Potassium		2.99	mg/L	0.50	100	90	110			
Selenium		0.0591	mg/L	0.0050	99	90	110			
Silver		0.0287	mg/L	0.0050	96	90	110			
Sodium		2.98	mg/L	0.50	99	90	110			
Uranium		0.0560	mg/L	0.0010	93	90	110			
Vanadium		0.0578	mg/L	0.10	96	90	110			
Zinc		0.0601	mg/L	0.010	100	90	110			
Lab ID: ICSA	24	Interference Check Sample A								05/19/16 12:05
Aluminum		37.8	mg/L	0.10	94	70	130			
Antimony		0.000193	mg/L	0.050						
Arsenic		-6.20E-05	mg/L	0.0050						
Barium		0.000595	mg/L	0.10						
Beryllium		2.10E-05	mg/L	0.0010						
Boron		0.00139	mg/L	0.10						
Cadmium		0.00115	mg/L	0.0010						
Calcium		112	mg/L	0.50	93	70	130			
Chromium		0.00121	mg/L	0.010						
Cobalt		4.60E-05	mg/L	0.010						
Copper		0.000357	mg/L	0.010						
Iron		93.9	mg/L	0.020	94	70	130			
Lead		0.000234	mg/L	0.010						
Magnesium		39.2	mg/L	0.50	98	70	130			
Manganese		0.000264	mg/L	0.010						
Molybdenum		0.802	mg/L	0.0050	100	70	130			
Nickel		0.000249	mg/L	0.010						
Potassium		39.1	mg/L	0.50	98	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICSA	24	Interference Check Sample A							05/19/16 12:05	
Selenium		0.000468	mg/L	0.0050						
Silver		0.000151	mg/L	0.0050						
Sodium		97.0	mg/L	0.50	97	70	130			
Uranium		0.000103	mg/L	0.0010						
Vanadium		-0.00103	mg/L	0.10						
Zinc		0.000613	mg/L	0.010						
Lab ID: ICSAB	24	Interference Check Sample AB							05/19/16 12:08	
Aluminum		36.6	mg/L	0.10	91	70	130			
Antimony		0.000100	mg/L	0.050		0	0			
Arsenic		0.00938	mg/L	0.0050	94	70	130			
Barium		0.000167	mg/L	0.10		0	0			
Beryllium		ND	mg/L	0.0010		0	0			
Boron		0.000913	mg/L	0.10		0	0			
Cadmium		0.0101	mg/L	0.0010	101	70	130			
Calcium		108	mg/L	0.50	90	70	130			
Chromium		0.0198	mg/L	0.010	99	70	130			
Cobalt		0.0189	mg/L	0.010	94	70	130			
Copper		0.0186	mg/L	0.010	93	70	130			
Iron		91.4	mg/L	0.020	91	70	130			
Lead		0.000211	mg/L	0.010		0	0			
Magnesium		38.0	mg/L	0.50	95	70	130			
Manganese		0.0191	mg/L	0.010	96	70	130			
Molybdenum		0.777	mg/L	0.0050	97	70	130			
Nickel		0.0188	mg/L	0.010	94	70	130			
Potassium		37.8	mg/L	0.50	95	70	130			
Selenium		0.00962	mg/L	0.0050	96	70	130			
Silver		0.0178	mg/L	0.0050	89	70	130			
Sodium		93.9	mg/L	0.50	94	70	130			
Uranium		1.40E-05	mg/L	0.0010		0	0			
Vanadium		0.0180	mg/L	0.10	90	70	130			
Zinc		0.00938	mg/L	0.010	94	70	130			
Lab ID: ICV STD	24	Initial Calibration Verification Standard							05/19/16 22:07	
Aluminum		0.311	mg/L	0.10	104	90	110			
Antimony		0.0599	mg/L	0.050	100	90	110			
Arsenic		0.0631	mg/L	0.0050	105	90	110			
Barium		0.0617	mg/L	0.10	103	90	110			
Beryllium		0.0309	mg/L	0.0010	103	90	110			
Boron		0.0631	mg/L	0.10	105	90	110			
Cadmium		0.0312	mg/L	0.0010	104	90	110			
Calcium		3.18	mg/L	0.50	106	90	110			
Chromium		0.0615	mg/L	0.010	102	90	110			
Cobalt		0.0624	mg/L	0.010	104	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICV STD	24	Initial Calibration Verification Standard								05/19/16 22:07
Copper		0.0634	mg/L	0.010	106	90	110			
Iron		0.321	mg/L	0.020	107	90	110			
Lead		0.0611	mg/L	0.010	102	90	110			
Magnesium		3.20	mg/L	0.50	107	90	110			
Manganese		0.310	mg/L	0.010	103	90	110			
Molybdenum		0.0600	mg/L	0.0050	100	90	110			
Nickel		0.0632	mg/L	0.010	105	90	110			
Potassium		3.12	mg/L	0.50	104	90	110			
Selenium		0.0625	mg/L	0.0050	104	90	110			
Silver		0.0307	mg/L	0.0050	102	90	110			
Sodium		3.20	mg/L	0.50	107	90	110			
Uranium		0.0593	mg/L	0.0010	99	90	110			
Vanadium		0.0603	mg/L	0.10	100	90	110			
Zinc		0.0643	mg/L	0.010	107	90	110			
Lab ID: ICSA	24	Interference Check Sample A								05/19/16 22:11
Aluminum		39.1	mg/L	0.10	98	70	130			
Antimony		0.000207	mg/L	0.050						
Arsenic		-3.30E-05	mg/L	0.0050						
Barium		0.000121	mg/L	0.10						
Beryllium		4.10E-05	mg/L	0.0010						
Boron		0.00144	mg/L	0.10						
Cadmium		0.000972	mg/L	0.0010						
Calcium		115	mg/L	0.50	96	70	130			
Chromium		0.00123	mg/L	0.010						
Cobalt		4.50E-05	mg/L	0.010						
Copper		0.000420	mg/L	0.010						
Iron		97.0	mg/L	0.020	97	70	130			
Lead		0.000235	mg/L	0.010						
Magnesium		40.2	mg/L	0.50	100	70	130			
Manganese		0.000321	mg/L	0.010						
Molybdenum		0.824	mg/L	0.0050	103	70	130			
Nickel		0.000353	mg/L	0.010						
Potassium		40.0	mg/L	0.50	100	70	130			
Selenium		0.000389	mg/L	0.0050						
Silver		0.000125	mg/L	0.0050						
Sodium		99.7	mg/L	0.50	100	70	130			
Uranium		0.000109	mg/L	0.0010						
Vanadium		-0.00117	mg/L	0.10						
Zinc		0.000787	mg/L	0.010						
Lab ID: ICSAB	24	Interference Check Sample AB								05/19/16 22:14
Aluminum		38.8	mg/L	0.10	97	70	130			
Antimony		8.90E-05	mg/L	0.050		0	0			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICSAB	24	Interference Check Sample AB								05/19/16 22:14
Arsenic		0.0101	mg/L	0.0050	101	70	130			
Barium		0.000159	mg/L	0.10		0	0			
Beryllium		1.90E-05	mg/L	0.0010		0	0			
Boron		0.000731	mg/L	0.10		0	0			
Cadmium		0.0107	mg/L	0.0010	107	70	130			
Calcium		115	mg/L	0.50	96	70	130			
Chromium		0.0208	mg/L	0.010	104	70	130			
Cobalt		0.0197	mg/L	0.010	99	70	130			
Copper		0.0199	mg/L	0.010	99	70	130			
Iron		96.3	mg/L	0.020	96	70	130			
Lead		0.000206	mg/L	0.010		0	0			
Magnesium		40.0	mg/L	0.50	100	70	130			
Manganese		0.0201	mg/L	0.010	100	70	130			
Molybdenum		0.828	mg/L	0.0050	104	70	130			
Nickel		0.0199	mg/L	0.010	100	70	130			
Potassium		40.0	mg/L	0.50	100	70	130			
Selenium		0.00956	mg/L	0.0050	96	70	130			
Silver		0.0188	mg/L	0.0050	94	70	130			
Sodium		99.4	mg/L	0.50	99	70	130			
Uranium		2.00E-05	mg/L	0.0010		0	0			
Vanadium		0.0187	mg/L	0.10	93	70	130			
Zinc		0.0102	mg/L	0.010	102	70	130			
Lab ID: ICSA	24	Interference Check Sample A								05/20/16 11:26
Aluminum		38.4	mg/L	0.10	96	70	130			
Antimony		1.80E-05	mg/L	0.050						
Arsenic		-3.50E-05	mg/L	0.0050						
Barium		9.90E-05	mg/L	0.10						
Beryllium		-1.00E-05	mg/L	0.0010						
Boron		0.000711	mg/L	0.10						
Cadmium		0.00104	mg/L	0.0010						
Calcium		113	mg/L	0.50	94	70	130			
Chromium		0.00125	mg/L	0.010						
Cobalt		3.70E-05	mg/L	0.010						
Copper		0.000375	mg/L	0.010						
Iron		95.4	mg/L	0.020	95	70	130			
Lead		0.000210	mg/L	0.010						
Magnesium		40.1	mg/L	0.50	100	70	130			
Manganese		0.000274	mg/L	0.010						
Molybdenum		0.843	mg/L	0.0050	105	70	130			
Nickel		0.000276	mg/L	0.010						
Potassium		39.8	mg/L	0.50	99	70	130			
Selenium		0.000612	mg/L	0.0050						
Silver		5.00E-06	mg/L	0.0050						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_160519B		
Lab ID: ICSA	24	Interference Check Sample A								05/20/16 11:26
Sodium		101	mg/L	0.50	101	70	130			
Uranium		7.00E-06	mg/L	0.0010						
Vanadium		-0.00124	mg/L	0.10						
Zinc		0.000625	mg/L	0.010						
Lab ID: ICSAB	24	Interference Check Sample AB								05/20/16 11:29
Aluminum		39.1	mg/L	0.10	98	70	130			
Antimony		5.00E-05	mg/L	0.050		0	0			
Arsenic		0.0102	mg/L	0.0050	102	70	130			
Barium		0.000196	mg/L	0.10		0	0			
Beryllium		-1.00E-05	mg/L	0.0010		0	0			
Boron		0.000400	mg/L	0.10		0	0			
Cadmium		0.0108	mg/L	0.0010	108	70	130			
Calcium		116	mg/L	0.50	96	70	130			
Chromium		0.0210	mg/L	0.010	105	70	130			
Cobalt		0.0202	mg/L	0.010	101	70	130			
Copper		0.0203	mg/L	0.010	101	70	130			
Iron		95.6	mg/L	0.020	96	70	130			
Lead		0.000216	mg/L	0.010		0	0			
Magnesium		40.4	mg/L	0.50	101	70	130			
Manganese		0.0200	mg/L	0.010	100	70	130			
Molybdenum		0.848	mg/L	0.0050	106	70	130			
Nickel		0.0199	mg/L	0.010	100	70	130			
Potassium		40.5	mg/L	0.50	101	70	130			
Selenium		0.00967	mg/L	0.0050	97	70	130			
Silver		0.0194	mg/L	0.0050	97	70	130			
Sodium		101	mg/L	0.50	101	70	130			
Uranium		5.00E-06	mg/L	0.0010		0	0			
Vanadium		0.0190	mg/L	0.10	95	70	130			
Zinc		0.00988	mg/L	0.010	99	70	130			
Method: E200.8										Batch: R115420
Lab ID: LRB	24	Method Blank				Run: ICPMS204-B_160519B				05/19/16 14:03
Aluminum		ND	mg/L	0.0005						
Antimony		ND	mg/L	3E-05						
Arsenic		0.0001	mg/L	6E-05						
Barium		ND	mg/L	0.0001						
Beryllium		ND	mg/L	5E-05						
Boron		ND	mg/L	0.001						
Cadmium		ND	mg/L	1E-05						
Calcium		ND	mg/L	0.006						
Chromium		7E-05	mg/L	3E-05						
Cobalt		ND	mg/L	2E-05						
Copper		0.0001	mg/L	6E-05						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R115420
Lab ID: LRB	24	Method Blank				Run: ICPMS204-B_160519B				05/19/16 14:03
Iron		0.002	mg/L	0.0002						
Lead		2E-05	mg/L	5E-06						
Magnesium		ND	mg/L	0.0009						
Manganese		ND	mg/L	6E-05						
Molybdenum		ND	mg/L	2E-05						
Nickel		ND	mg/L	4E-05						
Potassium		ND	mg/L	0.01						
Selenium		ND	mg/L	0.0003						
Silver		6E-05	mg/L	9E-06						
Sodium		ND	mg/L	0.002						
Uranium		ND	mg/L	6E-06						
Vanadium		0.0009	mg/L	0.0001						
Zinc		0.0003	mg/L	0.0002						
Lab ID: LFB	24	Laboratory Fortified Blank				Run: ICPMS204-B_160519B				05/19/16 14:06
Aluminum		0.0484	mg/L	0.10	97	85	115			
Antimony		0.0473	mg/L	0.050	95	85	115			
Arsenic		0.0490	mg/L	0.0050	98	85	115			
Barium		0.0472	mg/L	0.10	94	85	115			
Beryllium		0.0495	mg/L	0.0010	99	85	115			
Boron		0.0477	mg/L	0.10	95	85	115			
Cadmium		0.0491	mg/L	0.0010	98	85	115			
Calcium		1.07	mg/L	0.50	107	85	115			
Chromium		0.0500	mg/L	0.010	100	85	115			
Cobalt		0.0500	mg/L	0.010	100	85	115			
Copper		0.0501	mg/L	0.010	100	85	115			
Iron		0.155	mg/L	0.020	102	85	115			
Lead		0.0486	mg/L	0.010	97	85	115			
Magnesium		1.02	mg/L	0.50	102	85	115			
Manganese		0.0496	mg/L	0.010	99	85	115			
Molybdenum		0.0484	mg/L	0.0050	97	85	115			
Nickel		0.0512	mg/L	0.010	102	85	115			
Potassium		0.999	mg/L	0.50	100	85	115			
Selenium		0.0474	mg/L	0.0050	95	85	115			
Silver		0.0199	mg/L	0.0050	99	85	115			
Sodium		0.992	mg/L	0.50	99	85	115			
Uranium		0.0498	mg/L	0.0010	100	85	115			
Vanadium		0.0497	mg/L	0.10	98	85	115			
Zinc		0.0505	mg/L	0.010	100	85	115			
Lab ID: H16050279-006AMS	24	Sample Matrix Spike				Run: ICPMS204-B_160519B				05/20/16 05:40
Aluminum		0.0724	mg/L	0.030	99	70	130			
Antimony		0.0487	mg/L	0.0010	97	70	130			
Arsenic		0.0711	mg/L	0.0010	100	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R115420	
Lab ID: H16050279-006AMS	24	Sample Matrix Spike				Run: ICPMS204-B_160519B			05/20/16 05:40	
Barium		0.0592	mg/L	0.050	99	70	130			
Beryllium		0.0507	mg/L	0.0010	101	70	130			
Boron		0.0625	mg/L	0.050	99	70	130			
Cadmium		0.0494	mg/L	0.0010	98	70	130			
Calcium		51.4	mg/L	1.0		70	130			A
Chromium		0.0493	mg/L	0.0050	98	70	130			
Cobalt		0.0494	mg/L	0.0050	98	70	130			
Copper		0.0512	mg/L	0.0050	100	70	130			
Iron		0.177	mg/L	0.020	103	70	130			
Lead		0.0487	mg/L	0.0010	97	70	130			
Magnesium		14.7	mg/L	1.0		70	130			A
Manganese		0.0859	mg/L	0.0010	99	70	130			
Molybdenum		0.0561	mg/L	0.0010	100	70	130			
Nickel		0.0505	mg/L	0.0050	99	70	130			
Potassium		5.70	mg/L	1.0		70	130			A
Selenium		0.0480	mg/L	0.0010	96	70	130			
Silver		0.0187	mg/L	0.0010	94	70	130			
Sodium		12.1	mg/L	1.0		70	130			A
Uranium		0.0682	mg/L	0.00030	97	70	130			
Vanadium		0.0482	mg/L	0.010	96	70	130			
Zinc		0.0982	mg/L	0.010	101	70	130			
Lab ID: H16050279-006AMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 05:44	
Aluminum		0.0715	mg/L	0.030	98	70	130	1.2	20	
Antimony		0.0485	mg/L	0.0010	97	70	130	0.3	20	
Arsenic		0.0702	mg/L	0.0010	98	70	130	1.2	20	
Barium		0.0586	mg/L	0.050	98	70	130	1.0	20	
Beryllium		0.0487	mg/L	0.0010	97	70	130	4.0	20	
Boron		0.0603	mg/L	0.050	94	70	130	3.6	20	
Cadmium		0.0492	mg/L	0.0010	98	70	130	0.4	20	
Calcium		50.6	mg/L	1.0		70	130	1.4	20	A
Chromium		0.0490	mg/L	0.0050	98	70	130	0.6	20	
Cobalt		0.0491	mg/L	0.0050	97	70	130	0.7	20	
Copper		0.0502	mg/L	0.0050	98	70	130	1.9	20	
Iron		0.173	mg/L	0.020	100	70	130	2.5	20	
Lead		0.0478	mg/L	0.0010	96	70	130	1.9	20	
Magnesium		14.6	mg/L	1.0		70	130	0.9	20	A
Manganese		0.0842	mg/L	0.0010	96	70	130	2.0	20	
Molybdenum		0.0556	mg/L	0.0010	99	70	130	0.8	20	
Nickel		0.0495	mg/L	0.0050	97	70	130	1.9	20	
Potassium		5.56	mg/L	1.0		70	130	2.5	20	A
Selenium		0.0473	mg/L	0.0010	95	70	130	1.5	20	
Silver		0.0189	mg/L	0.0010	95	70	130	1.0	20	
Sodium		11.8	mg/L	1.0		70	130	2.3	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R115420	
Lab ID: H16050279-006AMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 05:44	
Uranium		0.0675	mg/L	0.00030	95	70	130	1.1	20	
Vanadium		0.0470	mg/L	0.010	94	70	130	2.4	20	
Zinc		0.0949	mg/L	0.010	94	70	130	3.4	20	
Lab ID: H16050318-001BMS	24	Sample Matrix Spike				Run: ICPMS204-B_160519B			05/20/16 19:05	
Aluminum		0.0510	mg/L	0.030	99	70	130			
Antimony		0.0492	mg/L	0.0010	98	70	130			
Arsenic		0.0628	mg/L	0.0010	105	70	130			
Barium		0.0631	mg/L	0.050	98	70	130			
Beryllium		0.0494	mg/L	0.0010	99	70	130			
Boron		0.0822	mg/L	0.050	96	70	130			
Cadmium		0.0499	mg/L	0.0010	100	70	130			
Calcium		87.1	mg/L	1.0		70	130			A
Chromium		0.0493	mg/L	0.0050	99	70	130			
Cobalt		0.0493	mg/L	0.0050	99	70	130			
Copper		0.0495	mg/L	0.0050	99	70	130			
Iron		0.158	mg/L	0.020	99	70	130			
Lead		0.0498	mg/L	0.0010	100	70	130			
Magnesium		15.2	mg/L	1.0		70	130			A
Manganese		0.0493	mg/L	0.0010	98	70	130			
Molybdenum		0.0587	mg/L	0.0010	101	70	130			
Nickel		0.0492	mg/L	0.0050	98	70	130			
Potassium		4.90	mg/L	1.0	99	70	130			
Selenium		0.0615	mg/L	0.0010	101	70	130			
Silver		0.0191	mg/L	0.0010	95	70	130			
Sodium		27.8	mg/L	1.0		70	130			A
Uranium		0.0975	mg/L	0.00030	101	70	130			
Vanadium		0.0509	mg/L	0.010	99	70	130			
Zinc		0.0506	mg/L	0.010	97	70	130			
Lab ID: H16050318-001BMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 19:08	
Aluminum		0.0506	mg/L	0.030	98	70	130	0.8	20	
Antimony		0.0501	mg/L	0.0010	100	70	130	1.8	20	
Arsenic		0.0638	mg/L	0.0010	107	70	130	1.5	20	
Barium		0.0647	mg/L	0.050	101	70	130	2.5	20	
Beryllium		0.0483	mg/L	0.0010	97	70	130	2.4	20	
Boron		0.0831	mg/L	0.050	98	70	130	1.0	20	
Cadmium		0.0502	mg/L	0.0010	100	70	130	0.7	20	
Calcium		88.5	mg/L	1.0		70	130	1.6	20	A
Chromium		0.0498	mg/L	0.0050	100	70	130	1.0	20	
Cobalt		0.0497	mg/L	0.0050	99	70	130	0.8	20	
Copper		0.0500	mg/L	0.0050	100	70	130	1.0	20	
Iron		0.169	mg/L	0.020	107	70	130	6.6	20	
Lead		0.0503	mg/L	0.0010	101	70	130	0.9	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R115420	
Lab ID: H16050318-001BMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 19:08	
Magnesium		15.4	mg/L	1.0		70	130	0.9	20	A
Manganese		0.0499	mg/L	0.0010	100	70	130	1.2	20	
Molybdenum		0.0598	mg/L	0.0010	103	70	130	1.8	20	
Nickel		0.0499	mg/L	0.0050	99	70	130	1.5	20	
Potassium		4.99	mg/L	1.0	109	70	130	2.0	20	
Selenium		0.0611	mg/L	0.0010	101	70	130	0.6	20	
Silver		0.0200	mg/L	0.0010	100	70	130	4.8	20	
Sodium		28.3	mg/L	1.0		70	130	1.9	20	A
Uranium		0.0993	mg/L	0.00030	105	70	130	1.9	20	
Vanadium		0.0515	mg/L	0.010	100	70	130	1.3	20	
Zinc		0.0505	mg/L	0.010	97	70	130	0.1	20	
Lab ID: H16050318-009BMS	24	Sample Matrix Spike				Run: ICPMS204-B_160519B			05/20/16 19:50	
Aluminum		0.0552	mg/L	0.030	100	70	130			
Antimony		0.0487	mg/L	0.0010	97	70	130			
Arsenic		0.0557	mg/L	0.0010	106	70	130			
Barium		0.0816	mg/L	0.050	101	70	130			
Beryllium		0.0488	mg/L	0.0010	98	70	130			
Boron		0.0996	mg/L	0.050	104	70	130			
Cadmium		0.0496	mg/L	0.0010	99	70	130			
Calcium		83.7	mg/L	1.0		70	130			A
Chromium		0.0538	mg/L	0.0050	99	70	130			
Cobalt		0.0487	mg/L	0.0050	97	70	130			
Copper		0.0552	mg/L	0.0050	99	70	130			
Iron		0.824	mg/L	0.020		70	130			A
Lead		0.0501	mg/L	0.0010	100	70	130			
Magnesium		18.9	mg/L	1.0		70	130			A
Manganese		0.0572	mg/L	0.0010	98	70	130			
Molybdenum		0.0538	mg/L	0.0010	102	70	130			
Nickel		0.0496	mg/L	0.0050	98	70	130			
Potassium		3.82	mg/L	1.0	117	70	130			
Selenium		0.0558	mg/L	0.0010	101	70	130			
Silver		0.0192	mg/L	0.0010	96	70	130			
Sodium		30.8	mg/L	1.0		70	130			A
Uranium		0.104	mg/L	0.00030	102	70	130			
Vanadium		0.0499	mg/L	0.010	99	70	130			
Zinc		0.0703	mg/L	0.010	95	70	130			
Lab ID: H16050318-009BMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 19:53	
Aluminum		0.0570	mg/L	0.030	103	70	130	3.2	20	
Antimony		0.0505	mg/L	0.0010	101	70	130	3.7	20	
Arsenic		0.0564	mg/L	0.0010	107	70	130	1.3	20	
Barium		0.0851	mg/L	0.050	108	70	130	4.1	20	
Beryllium		0.0504	mg/L	0.0010	101	70	130	3.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R115420	
Lab ID: H16050318-009BMSD	24	Sample Matrix Spike Duplicate				Run: ICPMS204-B_160519B			05/20/16 19:53	
Boron		0.103	mg/L	0.050	111	70	130	3.6	20	
Cadmium		0.0504	mg/L	0.0010	101	70	130	1.7	20	
Calcium		86.6	mg/L	1.0		70	130	3.3	20	A
Chromium		0.0553	mg/L	0.0050	102	70	130	2.7	20	
Cobalt		0.0503	mg/L	0.0050	100	70	130	3.2	20	
Copper		0.0567	mg/L	0.0050	102	70	130	2.8	20	
Iron		0.850	mg/L	0.020		70	130	3.1	20	A
Lead		0.0506	mg/L	0.0010	101	70	130	0.9	20	
Magnesium		19.4	mg/L	1.0		70	130	2.6	20	A
Manganese		0.0585	mg/L	0.0010	101	70	130	2.2	20	
Molybdenum		0.0550	mg/L	0.0010	104	70	130	2.3	20	
Nickel		0.0501	mg/L	0.0050	99	70	130	1.0	20	
Potassium		3.98	mg/L	1.0	132	70	130	4.0	20	S
Selenium		0.0576	mg/L	0.0010	105	70	130	3.1	20	
Silver		0.0201	mg/L	0.0010	100	70	130	4.4	20	
Sodium		31.6	mg/L	1.0		70	130	2.5	20	A
Uranium		0.106	mg/L	0.00030	106	70	130	1.8	20	
Vanadium		0.0512	mg/L	0.010	101	70	130	2.5	20	
Zinc		0.0713	mg/L	0.010	97	70	130	1.4	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E245.1**								Analytical Run: HGCV202-H_160524A		
Lab ID:	**ICV**		Initial Calibration Verification Standard							05/24/16 15:00	
Mercury			0.000188	mg/L	0.00010	94	90	110			
Lab ID:	**CCV**		Continuing Calibration Verification Standard							05/24/16 18:10	
Mercury			0.000207	mg/L	0.00010	103	90	110			
Lab ID:	**CCV**		Continuing Calibration Verification Standard							05/24/16 18:51	
Mercury			0.000205	mg/L	0.00010	102	90	110			
Method:	**E245.1**										Batch: 33007
Lab ID:	**MB-33007**		Method Blank				Run: HGCV202-H_160524A			05/24/16 18:14	
Mercury			ND	mg/L	1E-06						
Lab ID:	**LCS-33007**		Laboratory Control Sample				Run: HGCV202-H_160524A			05/24/16 18:17	
Mercury			0.000139	mg/L	0.00010	93	90	110			
Lab ID:	**H16050361-005BMS**		Sample Matrix Spike				Run: HGCV202-H_160524A			05/24/16 18:22	
Mercury			0.000140	mg/L	0.00010	93	70	130			
Lab ID:	**H16050361-005BMSD**		Sample Matrix Spike Duplicate				Run: HGCV202-H_160524A			05/24/16 18:24	
Mercury			0.000140	mg/L	0.00010	93	70	130	0.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC102-H_160518B	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							05/18/16 09:34	
Chloride			100	mg/L	1.0	100	90	110			
Sulfate			394	mg/L	1.0	99	90	110			
Lab ID:	**CCV051816-2**	2	Continuing Calibration Verification Standard							05/18/16 13:55	
Chloride			101	mg/L	1.0	101	90	110			
Sulfate			402	mg/L	1.0	100	90	110			
Lab ID:	**CCV051816-2**	2	Continuing Calibration Verification Standard							05/18/16 16:42	
Chloride			102	mg/L	1.0	102	90	110			
Sulfate			402	mg/L	1.0	100	90	110			
Method:	**E300.0**									Batch: R115395	
Lab ID:	**ICB**	2	Method Blank				Run: IC102-H_160518B			05/18/16 09:23	
Chloride			0.02	mg/L	0.006						
Sulfate			ND	mg/L	0.05						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC102-H_160518B			05/18/16 09:45	
Chloride			47.2	mg/L	1.0	94	90	110			
Sulfate			207	mg/L	1.0	104	90	110			
Lab ID:	**H16050318-008AMS**	2	Sample Matrix Spike				Run: IC102-H_160518B			05/18/16 16:20	
Chloride			48.8	mg/L	1.0	98	90	110			
Sulfate			213	mg/L	1.0	107	90	110			
Lab ID:	**H16050318-008AMSD**	2	Sample Matrix Spike Duplicate				Run: IC102-H_160518B			05/18/16 16:31	
Chloride			49.1	mg/L	1.0	98	90	110	0.5	20	
Sulfate			214	mg/L	1.0	107	90	110	0.3	20	
Lab ID:	**H16050318-009AMS**	2	Sample Matrix Spike				Run: IC102-H_160518B			05/18/16 18:45	
Chloride			74.2	mg/L	1.0	106	90	110			
Sulfate			398	mg/L	1.0	102	90	110			
Lab ID:	**H16050318-009AMSD**	2	Sample Matrix Spike Duplicate				Run: IC102-H_160518B			05/18/16 18:56	
Chloride			74.3	mg/L	1.0	107	90	110	0.2	20	
Sulfate			400	mg/L	1.0	103	90	110	0.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 05/26/16

Project: SSTOU Groundwater/Vadose Q2 **Work Order:** H16050318

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC102-H_160524A	
Lab ID:	**ICV**		Initial Calibration Verification Standard							05/24/16 11:39	
Sulfate			404	mg/L	1.0	101	90	110			
Lab ID:	**CCV052416-1**		Continuing Calibration Verification Standard							05/24/16 12:01	
Sulfate			402	mg/L	1.0	101	90	110			
Method:	**E300.0**									Batch: R115509	
Lab ID:	**ICB**		Method Blank				Run: IC102-H_160524A			05/24/16 11:28	
Sulfate			ND	mg/L	0.05						
Lab ID:	**LFB**		Laboratory Fortified Blank				Run: IC102-H_160524A			05/24/16 11:50	
Sulfate			204	mg/L	1.0	102	90	110			
Lab ID:	**H16050382-030BMS**		Sample Matrix Spike				Run: IC102-H_160524A			05/24/16 14:48	
Sulfate			206	mg/L	1.0	103	90	110			
Lab ID:	**H16050382-030BMSD**		Sample Matrix Spike Duplicate				Run: IC102-H_160524A			05/24/16 14:59	
Sulfate			207	mg/L	1.0	104	90	110	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Work Order Receipt Checklist

MT DEQ-Federal Superfund H16050318

Login completed by: Tracy L. Lorash
Date Received: 5/17/2016
Reviewed by: BL2000\rwilliams
Received by: TLL
Reviewed Date: 5/24/2016
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☐	No ☑	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	1.4°C On Ice - From Field		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	Not Applicable ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Limited Sample volume for samples LYS-01 through 08. Priority analysis is Dissolved Metals, Hardness, Sulfate/Chloride, Alkalinity.
Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. tl 5/23/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Report Mail Address (Required): PO BOX 200901 HELENA, MT 59620

☐ No Hard Copy Email:

Invoice Address (Required): SAME

☐ No Hard Copy Email:

Project Name, PWS, Permit, Etc.: SSTOU GROUNDWATER / NADOSE Q2

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Contact Name: BEN QUINONES

Phone/Fax: 406 461-7128

~~Cell:~~

BEQUINONES@mt.gov

Sampler: (Please Print) BRENT MERRITT, JOE NAUGHTON

Invoice Contact & Phone: SAME

Purchase Order:

Quote/Bottle Order: 20644

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	~~Cond~~ Alk, Anions	Diss As, Cd, Cr, Pb	" Hg, Zn, Al, Sb	" Ba, Be, B, Co	" Cu, Fe, Mn, Mo	" Ni, Se, Ti, Va	Hardness, HCO3, Cations			SEE ATTACHED	Standard Turnaround (TAT)	RUSH
1 MW-2A	9/17/16	1045	IW	X	X	X	X	X	X	X				X	
2 MW-2B		0935	IW	X	X	X	X	X	X	X				X	
3 MW-2C		1029	IW	X	X	X	X	X	X	X				X	
4 MW-2C DUP		1031	IW	X	X	X	X	X	X	X				X	
5 MW-2D		1119	IW	X	X	X	X	X	X	X				X	
6 IGW-1056		1210	IW	X	X	X	X	X	X	X				X	
7 LYP-07		1405	IW	X	X	X	X	X	X	X				X	
8 MW-2A FIELD BLANK	9/17/16	1040	IW	X	X	X	X	X	X	X				X	
9															
10															

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Metals samples NOT filtered NOT Preserved

Shipped by: HAND

Cooler ID(s): Y

Receipt Temp 1.4 °C

On Ice: (Y) N

Custody Seal On Bottle Y (N) On Cooler Y (N)

Intact Y N

Signature Match Y N

LABORATORY USE ONLY H16050318

Custody Record MUST be Signed

Relinquished by (print): BRENT E MERRITT Date/Time: 5/17/16 1800 Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Tracy Crook Date/Time: 5/17/16 17:17 Signature:

Sample Disposal: Return to Client: Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contracted data will be clearly [illegible]

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page _____ of _____

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: SSTOU - GW/Vadose, Q2

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required): PO Box 200901, Helena, MT 59620

Contact Name: Ben Quinones

Phone/Fax: 406-461-7128

Cell:

Sampler: (Please Print) Joe Naughton 406-214-4478

☐ No Hard Copy Email:

Invoice Contact & Phone: bequinones@mt.gov

Purchase Order:

Quote/Bottle Order:

Invoice Address (Required): Same

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data) Format:
☐ POTW/WWTP ☐ LEVEL IV
☐ State: ☐ NELAC
☐ Other:

Number of Containers
Sample Type: AW S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Please filter @ 0.45 µm in lab. Please process for metals 1st and common ions 2nd if there is sufficient volume.

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Dissolved As, Cd, Cu, Hg	Diss. Pb, Zn (all additional metals)	Hardness	Anions & Cations	Alkalinity & Bicarb							
1	LYS-01	5/17/16	1400	lw	✓	✓	✓	✓	✓							
2	LYS-02	↓	1254	lw	✓	✓	✓	✓	✓							
3	LYS-03	↓	1322	lw	✓	✓	✓	✓	✓							
4	LYS-04	↓	1215	↓	✓	✓	✓	✓	✓							
5	LYS-05	↓	1220	↓	✓	✓	✓	✓	✓							
6	LYS-06	↓	1358	↓	✓	✓	✓	✓	✓							
7	LYS-07	↓	1305	↓	✓	✓	✓	✓	✓							
8	LYS-08	↓	1347	↓	✓	✓	✓	✓	✓							
9																
10																

LABORATORY USE ONLY

Shipped by: ~~Hand delivered~~ Hand

Cooler ID(s): Y

Receipt Temp 1.4 °C

On Ice: Y N

Custody Seal On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

H16050318

Custody Record MUST be Signed

Relinquished by (print): Joe Naughton Date/Time: 5/17/16 ~~1800~~ 1717 Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Tracy Lorch Date/Time: 5/17/16 17:17 Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

ANALYTICAL SUMMARY REPORT

June 27, 2016

Natural Resource Damage Program
1301 E Lockey
Helena, MT 59620-1425

Work Order: H16060098 Quote ID: H1088

Project Name: Silver Bow Monitoring

Energy Laboratories Inc Helena MT received the following 14 samples for Natural Resource Damage Program on 6/6/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16060098-001	SS-01	06/03/16 16:30	06/06/16	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended Solids, Suspended Volatile
H16060098-002	SS-05A	06/03/16 15:30	06/06/16	Aqueous	Same As Above
H16060098-003	SS-15G	06/02/16 12:30	06/06/16	Aqueous	Same As Above
H16060098-004	Slag-01	06/03/16 15:45	06/06/16	Sediment	Metals by ICP/ICPMS, Total Percent Moisture Digestion, Total Metals Sieve Analysis, Wet Soil Preparation
H16060098-005	SS-04	06/03/16 16:11	06/06/16	Sediment	Metals by ICP/ICPMS, Total Percent Moisture Digestion, Total Metals Sieve Analysis, Wet
H16060098-006	SS-01 Sediment Sieve <0.065mm	06/03/16 16:30	06/06/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16060098-007	SS-01 Sediment Sieve 0.065-1mm	06/03/16 16:30	06/06/16	Sediment	Same As Above
H16060098-008	SS-01 Sediment Sieve 1-2mm	06/03/16 16:30	06/06/16	Sediment	Same As Above
H16060098-009	SS-05A Sediment Sieve <0.065mm	06/03/16 15:30	06/06/16	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H16060098-010	SS-05A Sediment Sieve 0.065-1mm	06/03/16 15:30	06/06/16	Sediment	Same As Above
H16060098-011	SS-05A Sediment Sieve 1-2mm	06/03/16 15:30	06/06/16	Sediment	Same As Above
H16060098-012	SS-15G Sediment Sieve <0.065mm	06/02/16 12:30	06/06/16	Sediment	Same As Above
H16060098-013	SS-15G Sediment Sieve 0.065-1mm	06/02/16 12:30	06/06/16	Sediment	Same As Above
H16060098-014	SS-15G Sediment Sieve 1-2mm	06/02/16 12:30	06/06/16	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: Natural Resource Damage Program
Project: Silver Bow Monitoring
Work Order: H16060098

Report Date: 06/27/16

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16060098-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 16:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	06/06/16 15:20 / MA		L24 (14410200)_160606A	41	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	2	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	73	mg/L		4		A2320 B	06/07/16 09:31 / SR		PHSC_101-H_160607A	13	R115797
Bicarbonate as HCO3	89	mg/L		4		A2320 B	06/07/16 09:31 / SR		PHSC_101-H_160607A	13	R115797
Chloride	7	mg/L		1		E300.0	06/07/16 13:46 / SR		IC102-H_160607A	23	R115832
Sulfate	21	mg/L		1		E300.0	06/07/16 13:46 / SR		IC102-H_160607A	23	R115832
Hardness as CaCO3	84	mg/L		1		A2340 B	06/07/16 16:22 / abc		CALC_160612A	47	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.3	mg/L		0.5		A5310 C	06/10/16 07:42 / eli-c		SUB-C212501	6	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:11 / cm		FIA203-HE_160607D	12	R115823
Nitrogen, Nitrate+Nitrite as N	0.31	mg/L		0.02		E353.2	06/06/16 15:04 / cm		FIA203-HE_160606C	19	R115786
Nitrogen, Total	0.64	mg/L		0.05		A4500 N-C	06/07/16 11:07 / cm	06/07/16 10:05	FIA203-HE_160607B	13	33179
Phosphorus, Total as P	0.109	mg/L		0.003		E365.1	06/07/16 13:35 / cm	06/07/16 12:22	FIA202-HE_160607C	38	33181
METALS, DISSOLVED											
Aluminum	0.009	mg/L		0.009		E200.8	06/09/16 19:01 / dck		ICPMS204-B_160609B	120	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Arsenic	0.005	mg/L		0.001		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Barium	0.032	mg/L		0.003		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Beryllium	ND	mg/L		0.0008		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Boron	ND	mg/L		0.1		E200.7	06/07/16 16:22 / sld		ICP2-HE_160607B	27	R115830
Cadmium	ND	mg/L		0.00003		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Calcium	24	mg/L		1		E200.7	06/07/16 16:22 / sld		ICP2-HE_160607B	27	R115830
Chromium	ND	mg/L		0.01		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Cobalt	ND	mg/L		0.01		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Copper	0.003	mg/L		0.001		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Iron	0.34	mg/L		0.02		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16060098-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 16:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Magnesium	6	mg/L		1		E200.7	06/07/16 16:22 / sld		ICP2-HE_160607B	27	R115830
Manganese	0.025	mg/L		0.001		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 13:12 / rgk	06/07/16 08:18	HGCV202-H_160608A	38	33174
Molybdenum	ND	mg/L		0.005		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Nickel	ND	mg/L		0.002		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Potassium	2	mg/L		1		E200.7	06/07/16 16:22 / sld		ICP2-HE_160607B	27	R115830
Selenium	ND	mg/L		0.001		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Silver	ND	mg/L		0.0002		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Sodium	8	mg/L		1		E200.7	06/07/16 16:22 / sld		ICP2-HE_160607B	27	R115830
Uranium	0.0021	mg/L		0.0002		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Vanadium	ND	mg/L		0.1		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
Zinc	0.008	mg/L		0.008		E200.8	06/08/16 14:54 / dck		ICPMS204-B_160607A	391	R115831
METALS, TOTAL RECOVERABLE											
Aluminum	0.181	mg/L		0.009		E200.8	06/09/16 19:04 / dck	06/06/16 16:15	ICPMS204-B_160609B	121	33172
Antimony	ND	mg/L		0.0005		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Arsenic	0.007	mg/L		0.001		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Barium	0.033	mg/L		0.003		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Beryllium	ND	mg/L		0.0008		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Boron	ND	mg/L		0.1		E200.7	06/08/16 16:06 / sld	06/06/16 16:15	ICP2-HE_160608B	65	33172
Cadmium	ND	mg/L		0.00003		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Calcium	25	mg/L		1		E200.7	06/08/16 16:06 / sld	06/06/16 16:15	ICP2-HE_160608B	65	33172
Chromium	ND	mg/L		0.01		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Cobalt	ND	mg/L		0.01		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Copper	0.005	mg/L		0.001		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Iron	0.93	mg/L		0.02		E200.7	06/08/16 16:06 / sld	06/06/16 16:15	ICP2-HE_160608B	65	33172
Lead	0.0008	mg/L		0.0003		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Magnesium	6	mg/L		1		E200.7	06/08/16 16:06 / sld	06/06/16 16:15	ICP2-HE_160608B	65	33172
Manganese	0.051	mg/L		0.001		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Mercury	7.0E-06	mg/L		5E-06		E245.1	06/08/16 13:14 / rgk	06/07/16 08:18	HGCV202-H_160608A	39	33174
Molybdenum	ND	mg/L		0.005		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16060098-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 16:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Potassium	2	mg/L		1		E200.7	06/08/16 16:06 / sld	06/06/16 16:15	ICP2-HE_160608B	65	33172
Selenium	ND	mg/L		0.001		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Silver	0.0003	mg/L		0.0002		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Sodium	8	mg/L		1		E200.7	06/08/16 16:06 / sld	06/06/16 16:15	ICP2-HE_160608B	65	33172
Uranium	0.0024	mg/L		0.0002		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Vanadium	ND	mg/L		0.1		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172
Zinc	ND	mg/L		0.008		E200.8	06/08/16 14:57 / dck	06/06/16 16:15	ICPMS204-B_160607A	392	33172

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16060098-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	9	mg/L		1		A2540 D	06/06/16 15:20 / MA		L24 (14410200)_160606A	42	TSS160606A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	3	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	83	mg/L		4		A2320 B	06/07/16 09:36 / SR		PHSC_101-H_160607A	15	R115797
Bicarbonate as HCO3	100	mg/L		4		A2320 B	06/07/16 09:36 / SR		PHSC_101-H_160607A	15	R115797
Chloride	10	mg/L		1		E300.0	06/07/16 13:57 / SR		IC102-H_160607A	24	R115832
Sulfate	23	mg/L		1		E300.0	06/07/16 13:57 / SR		IC102-H_160607A	24	R115832
Hardness as CaCO3	98	mg/L		1		A2340 B	06/07/16 16:37 / abc		CALC_160612A	58	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.7	mg/L		0.5		A5310 C	06/10/16 08:01 / eli-c		SUB-C212501	7	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:15 / cm		FIA203-HE_160607D	15	R115823
Nitrogen, Nitrate+Nitrite as N	0.45	mg/L		0.02		E353.2	06/06/16 15:05 / cm		FIA203-HE_160606C	20	R115786
Nitrogen, Total	0.78	mg/L		0.05		A4500 N-C	06/07/16 11:10 / cm	06/07/16 10:05	FIA203-HE_160607B	16	33179
Phosphorus, Total as P	0.108	mg/L		0.003		E365.1	06/07/16 13:36 / cm	06/07/16 12:22	FIA202-HE_160607C	39	33181
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 19:07 / dck		ICPMS204-B_160609B	122	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Arsenic	0.005	mg/L		0.001		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Barium	0.036	mg/L		0.003		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Beryllium	ND	mg/L		0.0008		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Boron	ND	mg/L		0.1		E200.7	06/07/16 16:37 / sld		ICP2-HE_160607B	31	R115830
Cadmium	ND	mg/L		0.00003		E200.8	06/09/16 19:07 / dck		ICPMS204-B_160609B	122	R115896
Calcium	28	mg/L		1		E200.7	06/07/16 16:37 / sld		ICP2-HE_160607B	31	R115830
Chromium	ND	mg/L		0.01		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Cobalt	ND	mg/L		0.01		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Copper	0.003	mg/L		0.001		E200.8	06/09/16 19:07 / dck		ICPMS204-B_160609B	122	R115896
Iron	0.26	mg/L		0.02		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16060098-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Magnesium	7	mg/L		1		E200.7	06/07/16 16:37 / sld		ICP2-HE_160607B	31	R115830
Manganese	0.047	mg/L		0.001		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 13:17 / rgk	06/07/16 08:18	HGCV202-H_160608A	40	33174
Molybdenum	ND	mg/L		0.005		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Nickel	ND	mg/L		0.002		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Potassium	3	mg/L		1		E200.7	06/07/16 16:37 / sld		ICP2-HE_160607B	31	R115830
Selenium	ND	mg/L		0.001		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Silver	ND	mg/L		0.0002		E200.8	06/09/16 19:07 / dck		ICPMS204-B_160609B	122	R115896
Sodium	11	mg/L		1		E200.7	06/07/16 16:37 / sld		ICP2-HE_160607B	31	R115830
Uranium	0.0028	mg/L		0.0002		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Vanadium	ND	mg/L		0.1		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
Zinc	ND	mg/L		0.008		E200.8	06/08/16 15:44 / dck		ICPMS204-B_160607A	397	R115831
METALS, TOTAL RECOVERABLE											
Aluminum	0.179	mg/L		0.009		E200.8	06/09/16 19:20 / dck	06/06/16 16:15	ICPMS204-B_160609B	126	33172
Antimony	ND	mg/L		0.0005		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Arsenic	0.006	mg/L		0.001		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Barium	0.038	mg/L		0.003		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Beryllium	ND	mg/L		0.0008		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Boron	ND	mg/L		0.1		E200.7	06/08/16 16:10 / sld	06/06/16 16:15	ICP2-HE_160608B	66	33172
Cadmium	0.00007	mg/L		0.00003		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Calcium	28	mg/L		1		E200.7	06/08/16 16:10 / sld	06/06/16 16:15	ICP2-HE_160608B	66	33172
Chromium	ND	mg/L		0.01		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Cobalt	ND	mg/L		0.01		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Copper	0.007	mg/L		0.001		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Iron	0.82	mg/L		0.02		E200.7	06/08/16 16:10 / sld	06/06/16 16:15	ICP2-HE_160608B	66	33172
Lead	0.0016	mg/L		0.0003		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Magnesium	7	mg/L		1		E200.7	06/08/16 16:10 / sld	06/06/16 16:15	ICP2-HE_160608B	66	33172
Manganese	0.063	mg/L		0.001		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Mercury	9.9E-06	mg/L		5E-06		E245.1	06/08/16 13:20 / rgk	06/07/16 08:18	HGCV202-H_160608A	41	33174
Molybdenum	0.005	mg/L		0.005		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16060098-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Potassium	3	mg/L		1		E200.7	06/08/16 16:10 / sld	06/06/16 16:15	ICP2-HE_160608B	66	33172
Selenium	ND	mg/L		0.001		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Silver	ND	mg/L		0.0002		E200.8	06/09/16 19:20 / dck	06/06/16 16:15	ICPMS204-B_160609B	126	33172
Sodium	10	mg/L		1		E200.7	06/08/16 16:10 / sld	06/06/16 16:15	ICP2-HE_160608B	66	33172
Uranium	0.0030	mg/L		0.0002		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Vanadium	ND	mg/L		0.1		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172
Zinc	0.015	mg/L		0.008		E200.8	06/08/16 15:48 / dck	06/06/16 16:15	ICPMS204-B_160607A	398	33172

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16060098-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	06/06/16 15:20 / MA		L24 (14410200)_160606A	43	TSS160606A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	4	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	73	mg/L		4		A2320 B	06/07/16 09:41 / SR		PHSC_101-H_160607A	17	R115797
Bicarbonate as HCO3	88	mg/L		4		A2320 B	06/07/16 09:41 / SR		PHSC_101-H_160607A	17	R115797
Chloride	ND	mg/L		1		E300.0	06/07/16 14:08 / SR		IC102-H_160607A	25	R115832
Sulfate	25	mg/L		1		E300.0	06/07/16 14:08 / SR		IC102-H_160607A	25	R115832
Hardness as CaCO3	91	mg/L		1		A2340 B	06/07/16 16:40 / abc		CALC_160612A	69	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.6	mg/L		0.5		A5310 C	06/10/16 08:22 / eli-c		SUB-C212501	8	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:16 / cm		FIA203-HE_160607D	16	R115823
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	06/06/16 15:06 / cm		FIA203-HE_160606C	21	R115786
Nitrogen, Total	0.20	mg/L		0.05		A4500 N-C	06/07/16 11:11 / cm	06/07/16 10:05	FIA203-HE_160607B	17	33179
Phosphorus, Total as P	0.023	mg/L		0.003		E365.1	06/10/16 11:53 / cm	06/10/16 08:25	FIA202-HE_160610A	14	33228
METALS, DISSOLVED											
Aluminum	0.022	mg/L		0.009		E200.8	06/09/16 19:23 / dck		ICPMS204-B_160609B	127	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Arsenic	0.003	mg/L		0.001		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Barium	0.018	mg/L		0.003		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Beryllium	ND	mg/L		0.0008		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Boron	ND	mg/L		0.1		E200.7	06/07/16 16:40 / sld		ICP2-HE_160607B	32	R115830
Cadmium	ND	mg/L		0.00003		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Calcium	29	mg/L		1		E200.7	06/07/16 16:40 / sld		ICP2-HE_160607B	32	R115830
Chromium	ND	mg/L		0.01		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Cobalt	ND	mg/L		0.01		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Copper	0.001	mg/L		0.001		E200.8	06/09/16 19:23 / dck		ICPMS204-B_160609B	127	R115896
Iron	0.02	mg/L		0.02		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16060098-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Magnesium	4	mg/L		1		E200.7	06/07/16 16:40 / sld		ICP2-HE_160607B	32	R115830
Manganese	0.002	mg/L		0.001		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 13:22 / rgk	06/07/16 08:18	HGCV202-H_160608A	42	33174
Molybdenum	ND	mg/L		0.005		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Nickel	ND	mg/L		0.002		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Potassium	1	mg/L		1		E200.7	06/07/16 16:40 / sld		ICP2-HE_160607B	32	R115830
Selenium	ND	mg/L		0.001		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Silver	ND	mg/L		0.0002		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Sodium	3	mg/L		1		E200.7	06/07/16 16:40 / sld		ICP2-HE_160607B	32	R115830
Uranium	0.0004	mg/L		0.0002		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Vanadium	ND	mg/L		0.1		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
Zinc	ND	mg/L		0.008		E200.8	06/08/16 15:51 / dck		ICPMS204-B_160607A	399	R115831
METALS, TOTAL RECOVERABLE											
Aluminum	0.338	mg/L		0.009		E200.8	06/09/16 19:26 / dck	06/06/16 16:15	ICPMS204-B_160609B	128	33172
Antimony	ND	mg/L		0.0005		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Arsenic	0.003	mg/L		0.001		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Barium	0.020	mg/L		0.003		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Beryllium	ND	mg/L		0.0008		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Boron	ND	mg/L		0.1		E200.7	06/08/16 16:14 / sld	06/06/16 16:15	ICP2-HE_160608B	67	33172
Cadmium	ND	mg/L		0.00003		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Calcium	29	mg/L		1		E200.7	06/08/16 16:14 / sld	06/06/16 16:15	ICP2-HE_160608B	67	33172
Chromium	ND	mg/L		0.01		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Cobalt	ND	mg/L		0.01		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Copper	0.002	mg/L		0.001		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Iron	0.22	mg/L		0.02		E200.7	06/08/16 16:14 / sld	06/06/16 16:15	ICP2-HE_160608B	67	33172
Lead	ND	mg/L		0.0003		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Magnesium	5	mg/L		1		E200.7	06/08/16 16:14 / sld	06/06/16 16:15	ICP2-HE_160608B	67	33172
Manganese	0.009	mg/L		0.001		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 13:35 / rgk	06/07/16 08:22	HGCV202-H_160608A	47	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16060098-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Potassium	1	mg/L		1		E200.7	06/08/16 16:14 / sld	06/06/16 16:15	ICP2-HE_160608B	67	33172
Selenium	ND	mg/L		0.001		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Silver	ND	mg/L		0.0002		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Sodium	3	mg/L		1		E200.7	06/08/16 16:14 / sld	06/06/16 16:15	ICP2-HE_160608B	67	33172
Uranium	0.0004	mg/L		0.0002		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Vanadium	ND	mg/L		0.1		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172
Zinc	ND	mg/L		0.008		E200.8	06/08/16 15:54 / dck	06/06/16 16:15	ICPMS204-B_160607A	400	33172

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Slag-01
Lab ID: H16060098-004
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:45
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	66.1	wt%		0.2		D2974	06/22/16 12:48 / cbt		DRYING OVEN 2_160621C	1	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	2.8	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	1	R116215
3050 EXTRACTABLE METALS											
Arsenic	200	mg/kg-dry		10		SW6010B	06/23/16 11:50 / sld	06/21/16 08:15	ICP2-HE_160623A	38	33352
Cadmium	14.9	mg/kg-dry		0.4		SW6010B	06/23/16 11:50 / sld	06/21/16 08:15	ICP2-HE_160623A	38	33352
Copper	1410	mg/kg-dry		5		SW6010B	06/23/16 11:50 / sld	06/21/16 08:15	ICP2-HE_160623A	38	33352
Lead	679	mg/kg-dry	D	20		SW6010B	06/23/16 11:50 / sld	06/21/16 08:15	ICP2-HE_160623A	38	33352
Zinc	2230	mg/kg-dry		5		SW6010B	06/23/16 11:50 / sld	06/21/16 08:15	ICP2-HE_160623A	38	33352

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-04
Lab ID: H16060098-005
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 16:11
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	55.1	wt%		0.2		D2974	06/22/16 12:48 / cbt		DRYING OVEN 2_160621C	: 2	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	7.7	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 2	R116215
3050 EXTRACTABLE METALS											
Arsenic	104	mg/kg-dry		8		SW6010B	06/23/16 12:15 / sld	06/21/16 08:15	ICP2-HE_160623A	: 45	33352
Cadmium	5.6	mg/kg-dry		0.2		SW6020	06/23/16 14:25 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 55	33352
Copper	762	mg/kg-dry		5		SW6010B	06/23/16 12:15 / sld	06/21/16 08:15	ICP2-HE_160623A	: 45	33352
Lead	300	mg/kg-dry	D	10		SW6010B	06/23/16 12:15 / sld	06/21/16 08:15	ICP2-HE_160623A	: 45	33352
Zinc	1510	mg/kg-dry		5		SW6010B	06/23/16 12:15 / sld	06/21/16 08:15	ICP2-HE_160623A	: 45	33352

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve <0.065mm
Lab ID: H16060098-006
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 16:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	47.5	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	3	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	1.4	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	3	R116215
3050 EXTRACTABLE METALS											
Aluminum	22800	mg/kg-dry		7		SW6010B	06/23/16 12:19 / sld	06/21/16 08:15	ICP2-HE_160623A	46	33352
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Arsenic	42	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Barium	301	mg/kg-dry		5		SW6010B	06/23/16 12:19 / sld	06/21/16 08:15	ICP2-HE_160623A	46	33352
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Boron	12	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Cadmium	2.5	mg/kg-dry		0.2		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Chromium	126	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Cobalt	14	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Copper	326	mg/kg-dry		5		SW6010B	06/23/16 12:19 / sld	06/21/16 08:15	ICP2-HE_160623A	46	33352
Iron	35500	mg/kg-dry	D	10		SW6010B	06/23/16 12:19 / sld	06/21/16 08:15	ICP2-HE_160623A	46	33352
Lead	161	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Manganese	2350	mg/kg-dry		5		SW6010B	06/23/16 12:19 / sld	06/21/16 08:15	ICP2-HE_160623A	46	33352
Molybdenum	17	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Nickel	61	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Uranium	8	mg/kg-dry		5		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Vanadium	140	mg/kg-dry		1		SW6020	06/23/16 14:28 / dck	06/21/16 08:15	ICPMS204-B_160623B	56	33352
Zinc	404	mg/kg-dry		5		SW6010B	06/23/16 12:19 / sld	06/21/16 08:15	ICP2-HE_160623A	46	33352
METALS, TOTAL											
Mercury	0.21	mg/kg-dry		0.10		SW7471B	06/22/16 12:12 / rgk	06/20/16 09:02	HGCV201-H_160622B	14	33333

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve 0.065-1mm
Lab ID: H16060098-007
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 16:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	22.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 4	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	25.6	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 4	R116215
3050 EXTRACTABLE METALS											
Aluminum	3690	mg/kg-dry		5		SW6010B	06/23/16 12:22 / sld	06/21/16 08:15	ICP2-HE_160623A	: 47	33352
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Arsenic	7	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Barium	52	mg/kg-dry		5		SW6010B	06/23/16 12:22 / sld	06/21/16 08:15	ICP2-HE_160623A	: 47	33352
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Cadmium	ND	mg/kg-dry		0.2		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Chromium	25	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Cobalt	ND	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Copper	36	mg/kg-dry		5		SW6010B	06/23/16 12:22 / sld	06/21/16 08:15	ICP2-HE_160623A	: 47	33352
Iron	28100	mg/kg-dry	D	8		SW6010B	06/23/16 12:22 / sld	06/21/16 08:15	ICP2-HE_160623A	: 47	33352
Lead	13	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Manganese	233	mg/kg-dry		5		SW6010B	06/23/16 12:22 / sld	06/21/16 08:15	ICP2-HE_160623A	: 47	33352
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Nickel	5	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Uranium	7	mg/kg-dry		5		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Vanadium	98	mg/kg-dry		1		SW6020	06/23/16 14:41 / dck	06/21/16 08:15	ICPMS204-B_160623B	: 60	33352
Zinc	151	mg/kg-dry		5		SW6010B	06/23/16 12:22 / sld	06/21/16 08:15	ICP2-HE_160623A	: 47	33352
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/22/16 12:24 / rgk	06/20/16 09:02	HGCV201-H_160622B	: 19	33333

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve 1-2mm
Lab ID: H16060098-008
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 16:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	13.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	5	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	30.4	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	5	R116215
3050 EXTRACTABLE METALS											
Aluminum	2610	mg/kg-dry		5		SW6010B	06/23/16 12:41 / sld	06/21/16 08:16	ICP2-HE_160623A	52	33352
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Arsenic	6	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Barium	24	mg/kg-dry		5		SW6010B	06/23/16 12:41 / sld	06/21/16 08:16	ICP2-HE_160623A	52	33352
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Cadmium	ND	mg/kg-dry		0.2		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Chromium	6	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Cobalt	ND	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Copper	73	mg/kg-dry		5		SW6010B	06/23/16 12:41 / sld	06/21/16 08:16	ICP2-HE_160623A	52	33352
Iron	5130	mg/kg-dry	D	8		SW6010B	06/23/16 12:41 / sld	06/21/16 08:16	ICP2-HE_160623A	52	33352
Lead	6	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Manganese	189	mg/kg-dry		5		SW6010B	06/23/16 12:41 / sld	06/21/16 08:16	ICP2-HE_160623A	52	33352
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Vanadium	13	mg/kg-dry	D	2		SW6020	06/23/16 14:59 / dck	06/21/16 08:16	ICPMS204-B_160623B	66	33352
Zinc	32	mg/kg-dry		5		SW6010B	06/23/16 12:41 / sld	06/21/16 08:16	ICP2-HE_160623A	52	33352
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/22/16 12:26 / rgk	06/20/16 09:02	HGCV201-H_160622B	20	33333

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve <0.065mm
Lab ID: H16060098-009
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	60.1	wt%		0.2		D2974	06/22/16 12:48 / cbt		DRYING OVEN 2_160621C	: 6	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	5.6	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 6	R116215
3050 EXTRACTABLE METALS											
Aluminum	22400	mg/kg-dry		10		SW6010B	06/23/16 13:06 / sld	06/21/16 08:16	ICP2-HE_160623A	: 59	33352
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Arsenic	350	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Barium	853	mg/kg-dry		5		SW6010B	06/23/16 13:06 / sld	06/21/16 08:16	ICP2-HE_160623A	: 59	33352
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Boron	15	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Cadmium	15.5	mg/kg-dry		0.2		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Chromium	68	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Cobalt	15	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Copper	2730	mg/kg-dry		5		SW6010B	06/23/16 13:06 / sld	06/21/16 08:16	ICP2-HE_160623A	: 59	33352
Iron	44500	mg/kg-dry	D	20		SW6010B	06/23/16 13:06 / sld	06/21/16 08:16	ICP2-HE_160623A	: 59	33352
Lead	741	mg/kg-dry	D	20		SW6010B	06/23/16 13:06 / sld	06/21/16 08:16	ICP2-HE_160623A	: 59	33352
Manganese	1910	mg/kg-dry		5		SW6010B	06/23/16 13:06 / sld	06/21/16 08:16	ICP2-HE_160623A	: 59	33352
Molybdenum	20	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Nickel	30	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Silver	9	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Uranium	12	mg/kg-dry		5		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Vanadium	105	mg/kg-dry		1		SW6020	06/23/16 15:26 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 75	33352
Zinc	3030	mg/kg-dry		5		SW6010B	06/23/16 13:06 / sld	06/21/16 08:16	ICP2-HE_160623A	: 59	33352
METALS, TOTAL											
Mercury	1.1	mg/kg-dry		0.10		SW7471B	06/22/16 12:40 / rgk	06/20/16 09:02	HGCV201-H_160622B	: 27	33333

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve 0.065-1mm
Lab ID: H16060098-010
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.1	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 7	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	45.5	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 7	R116215
3050 EXTRACTABLE METALS											
Aluminum	4960	mg/kg-dry		5		SW6010B	06/23/16 13:10 / sld	06/21/16 08:16	ICP2-HE_160623A	: 60	33352
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Arsenic	117	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Barium	107	mg/kg-dry		5		SW6010B	06/23/16 13:10 / sld	06/21/16 08:16	ICP2-HE_160623A	: 60	33352
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Cadmium	3.4	mg/kg-dry		0.2		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Chromium	50	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Cobalt	21	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Copper	1020	mg/kg-dry		5		SW6010B	06/23/16 13:10 / sld	06/21/16 08:16	ICP2-HE_160623A	: 60	33352
Iron	110000	mg/kg-dry	D	40		SW6010B	06/24/16 11:05 / sld	06/21/16 08:16	ICP2-HE_160624A	: 27	33352
Lead	183	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Manganese	1530	mg/kg-dry		5		SW6010B	06/23/16 13:10 / sld	06/21/16 08:16	ICP2-HE_160623A	: 60	33352
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Nickel	18	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Vanadium	166	mg/kg-dry		1		SW6020	06/23/16 15:29 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 76	33352
Zinc	1400	mg/kg-dry		5		SW6010B	06/23/16 13:10 / sld	06/21/16 08:16	ICP2-HE_160623A	: 60	33352
METALS, TOTAL											
Mercury	0.16	mg/kg-dry		0.10		SW7471B	06/22/16 12:30 / rgk	06/20/16 09:02	HGCV201-H_160622B	: 22	33333

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve 1-2mm
Lab ID: H16060098-011
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	18.9	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 9	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	15.6	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 8	R116215
3050 EXTRACTABLE METALS											
Aluminum	3450	mg/kg-dry		5		SW6010B	06/23/16 13:14 / sld	06/21/16 08:16	ICP2-HE_160623A	: 61	33352
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Arsenic	77	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Barium	112	mg/kg-dry		5		SW6010B	06/23/16 13:14 / sld	06/21/16 08:16	ICP2-HE_160623A	: 61	33352
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Cadmium	1.6	mg/kg-dry		0.2		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Chromium	5	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Cobalt	ND	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Copper	269	mg/kg-dry		5		SW6010B	06/23/16 13:14 / sld	06/21/16 08:16	ICP2-HE_160623A	: 61	33352
Iron	12400	mg/kg-dry	D	8		SW6010B	06/23/16 13:14 / sld	06/21/16 08:16	ICP2-HE_160623A	: 61	33352
Lead	89	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Manganese	1950	mg/kg-dry		5		SW6010B	06/23/16 13:14 / sld	06/21/16 08:16	ICP2-HE_160623A	: 61	33352
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Vanadium	16	mg/kg-dry	D	2		SW6020	06/23/16 15:32 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 77	33352
Zinc	546	mg/kg-dry		5		SW6010B	06/23/16 13:14 / sld	06/21/16 08:16	ICP2-HE_160623A	: 61	33352
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/22/16 12:32 / rgk	06/20/16 09:02	HGCV201-H_160622B	: 23	33333

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G Sediment Sieve <0.065mm
Lab ID: H16060098-012
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	67.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 10	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	5.9	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 60	R116215
3050 EXTRACTABLE METALS											
Aluminum	37100	mg/kg-dry		10		SW6010B	06/23/16 13:17 / sld	06/21/16 08:16	ICP2-HE_160623A	: 62	33352
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Arsenic	61	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Barium	283	mg/kg-dry		5		SW6010B	06/23/16 13:17 / sld	06/21/16 08:16	ICP2-HE_160623A	: 62	33352
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Boron	11	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Cadmium	1.8	mg/kg-dry		0.3		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Chromium	119	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Cobalt	13	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Copper	126	mg/kg-dry		5		SW6010B	06/23/16 13:17 / sld	06/21/16 08:16	ICP2-HE_160623A	: 62	33352
Iron	29700	mg/kg-dry	D	20		SW6010B	06/23/16 13:17 / sld	06/21/16 08:16	ICP2-HE_160623A	: 62	33352
Lead	96	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Manganese	676	mg/kg-dry		5		SW6010B	06/23/16 13:17 / sld	06/21/16 08:16	ICP2-HE_160623A	: 62	33352
Molybdenum	6	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Nickel	72	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Vanadium	75	mg/kg-dry		1		SW6020	06/23/16 15:35 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 78	33352
Zinc	150	mg/kg-dry		5		SW6010B	06/23/16 13:17 / sld	06/21/16 08:16	ICP2-HE_160623A	: 62	33352
METALS, TOTAL											
Mercury	0.24	mg/kg-dry		0.10		SW7471B	06/22/16 12:34 / rgk	06/20/16 09:02	HGCV201-H_160622B	: 24	33333

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G Sediment Sieve 0.065-1mm
Lab ID: H16060098-013
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.0	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 11	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	50.0	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 61	R116215
3050 EXTRACTABLE METALS											
Aluminum	9150	mg/kg-dry		5		SW6010B	06/23/16 13:21 / sld	06/21/16 08:16	ICP2-HE_160623A	: 63	33352
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Arsenic	32	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Barium	133	mg/kg-dry		5		SW6010B	06/23/16 13:21 / sld	06/21/16 08:16	ICP2-HE_160623A	: 63	33352
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Cadmium	ND	mg/kg-dry		0.2		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Chromium	24	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Cobalt	7	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Copper	20	mg/kg-dry		5		SW6010B	06/23/16 13:21 / sld	06/21/16 08:16	ICP2-HE_160623A	: 63	33352
Iron	24300	mg/kg-dry	D	9		SW6010B	06/23/16 13:21 / sld	06/21/16 08:16	ICP2-HE_160623A	: 63	33352
Lead	7	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Manganese	169	mg/kg-dry		5		SW6010B	06/23/16 13:21 / sld	06/21/16 08:16	ICP2-HE_160623A	: 63	33352
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Nickel	10	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Vanadium	87	mg/kg-dry		1		SW6020	06/23/16 15:38 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 79	33352
Zinc	39	mg/kg-dry		5		SW6010B	06/23/16 13:21 / sld	06/21/16 08:16	ICP2-HE_160623A	: 63	33352
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/22/16 12:42 / rgk	06/20/16 09:02	HGCV201-H_160622B	: 28	33333

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G Sediment Sieve 1-2mm
Lab ID: H16060098-014
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:30
DateReceived: 06/06/16
Report Date: 06/27/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	17.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 12	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	11.7	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 62	R116215
3050 EXTRACTABLE METALS											
Aluminum	8120	mg/kg-dry		5		SW6010B	06/23/16 13:25 / sld	06/21/16 08:16	ICP2-HE_160623A	: 64	33352
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Arsenic	24	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Barium	93	mg/kg-dry		5		SW6010B	06/23/16 13:25 / sld	06/21/16 08:16	ICP2-HE_160623A	: 64	33352
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Cadmium	ND	mg/kg-dry		0.2		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Chromium	14	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Cobalt	ND	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Copper	22	mg/kg-dry		5		SW6010B	06/23/16 13:25 / sld	06/21/16 08:16	ICP2-HE_160623A	: 64	33352
Iron	13600	mg/kg-dry	D	8		SW6010B	06/23/16 13:25 / sld	06/21/16 08:16	ICP2-HE_160623A	: 64	33352
Lead	7	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Manganese	120	mg/kg-dry		5		SW6010B	06/23/16 13:25 / sld	06/21/16 08:16	ICP2-HE_160623A	: 64	33352
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Nickel	10	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Vanadium	26	mg/kg-dry		1		SW6020	06/23/16 15:41 / dck	06/21/16 08:16	ICPMS204-B_160623B	: 80	33352
Zinc	60	mg/kg-dry		5		SW6010B	06/23/16 13:25 / sld	06/21/16 08:16	ICP2-HE_160623A	: 64	33352
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/22/16 12:44 / rgk	06/20/16 09:02	HGCV201-H_160622B	: 29	33333

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160607A-SLDS-VSS-W

Date: *27-Jun-16*

Run ID :Run Order: **MISC WC_160607A: 1** SampType: **Method Blank** Lab ID: **MBLK1_160607A** Method: **A2540 E**

Analysis Date: **06/07/16 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	ND	1									

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **MISC WC_160607A: 12** SampType: **Sample Duplicate** Lab ID: **H16060099-007ADUP** Method: **A2540 E**

Analysis Date: **06/07/16 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	3	10		0				2.6		30	

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **MISC WC_160607A: 22** SampType: **Sample Duplicate** Lab ID: **H16060099-016ADUP** Method: **A2540 E**

Analysis Date: **06/07/16 10:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	4	10		0				4.4		30	

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160608WA-HGCV202

Date: *27-Jun-16*

Run ID :Run Order: **HGCV202-H_160608A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **06/08/16 11:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000195	0.00010	0.0002	0	97	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **HGCV202-H_160608A: 29** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/08/16 12:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0	98	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **HGCV202-H_160608A: 43** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/08/16 13:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000199	0.00010	0.0002	0	99	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160622sa-201

Date: *27-Jun-16*

Run ID :Run Order: **HGCV201-H_160622B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/22/16 11:49** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	104	90	110				

Associated samples: **H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **HGCV201-H_160622B: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/22/16 11:51** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Associated samples: **H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **HGCV201-H_160622B: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/22/16 12:37** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	105	90	110				

Associated samples: **H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33172

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160608B: 28** SampType: **Method Blank** Lab ID: **MB-33172** Method: **E200.7**

Analysis Date: **06/08/16 13:47** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.003									
Calcium	0.08	0.04									
Iron	0.004	0.003									
Magnesium	ND	0.01									
Potassium	0.04	0.04									
Sodium	ND	0.02									

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICP2-HE_160608B: 29** SampType: **Laboratory Control Sample** Lab ID: **LCS-33172** Method: **E200.7**

Analysis Date: **06/08/16 13:51** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.508	0.050	0.5	0	**102**	85	115				
Calcium	26.7	1.0	25	0.08155	**106**	85	115				
Iron	2.59	0.020	2.5	0.00446	**103**	85	115				
Magnesium	26.2	1.0	25	0	**105**	85	115				
Potassium	25.7	1.0	25	0.04193	**103**	85	115				
Sodium	25.5	1.0	25	0	**102**	85	115				

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICP2-HE_160608B: 56** SampType: **Serial Dilution** Lab ID: **H16060091-011BDIL** Method: **E200.7**

Analysis Date: **06/08/16 15:33** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0258	0.050		0		0	0	0.02655		10	N
Calcium	50.9	1.0		0		0	0	50.73	**0.3**	10	
Iron	1.27	0.020		0		0	0	1.277	**0.4**	10	
Magnesium	24.1	1.0		0		0	0	24.04	**0.3**	10	
Potassium	1.99	1.0		0		0	0	1.902	**4.7**	10	
Sodium	26.0	1.0		0		0	0	25.83	**0.6**	10	

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33172

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160608B: 57** SampType: **Sample Matrix Spike** Lab ID: **H16060091-011BMS3** Method: **E200.7**

Analysis Date: **06/08/16 15:37** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.538	0.050	0.5	0.02655	102	70	130				
Calcium	76.0	1.0	25	50.73	101	70	130				
Iron	3.94	0.020	2.5	1.277	107	70	130				
Magnesium	49.8	1.0	25	24.04	103	70	130				
Potassium	27.9	1.0	25	1.902	104	70	130				
Sodium	52.5	1.0	25	25.83	107	70	130				

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICP2-HE_160608B: 58** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060091-011BMSD3** Method: **E200.7**

Analysis Date: **06/08/16 15:40** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.504	0.050	0.5	0.02655	96	70	130	0.5377	6.4	20	
Calcium	76.5	1.0	25	50.73	103	70	130	75.97	0.6	20	
Iron	4.13	0.020	2.5	1.277	114	70	130	3.942	4.6	20	
Magnesium	49.9	1.0	25	24.04	103	70	130	49.83	0.1	20	
Potassium	28.1	1.0	25	1.902	105	70	130	27.93	0.5	20	
Sodium	52.7	1.0	25	25.83	107	70	130	52.49	0.3	20	

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33172

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 302** SampType: **Method Blank** Lab ID: **MB-33172** Method: **E200.8**

Analysis Date: **06/08/16 09:16** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	ND	7E-05									
Barium	0.0002	5E-05									
Beryllium	ND	7E-05									
Boron	0.005	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	2E-05	2E-05									
Magnesium	ND	0.002									
Manganese	0.0005	0.0002									
Molybdenum	ND	3E-05									
Nickel	5E-05	3E-05									
Potassium	0.03	0.01									
Selenium	ND	0.0003									
Silver	3E-05	1E-05									
Sodium	0.1	0.005									
Uranium	ND	1E-05									
Vanadium	ND	0.00010									
Zinc	0.002	0.0003									

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160607A: 303** SampType: **Laboratory Control Sample** Lab ID: **LCS-33172** Method: **E200.8**

Analysis Date: **06/08/16 09:19** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.030	2.5	0	**101**	85	115				
Antimony	0.495	0.0010	0.5	0	**99**	85	115				
Arsenic	0.504	0.0010	0.5	0	**101**	85	115				
Barium	0.502	0.050	0.5	0.0002269	**100**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33172

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 303** SampType: **Laboratory Control Sample** Lab ID: **LCS-33172** Method: **E200.8**

Analysis Date: **06/08/16 09:19** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.232	0.0010	0.25	0	93	85	115				
Boron	0.501	0.050	0.5	0.005062	99	85	115				
Cadmium	0.249	0.0010	0.25	0	99	85	115				
Calcium	25.2	1.0	25	0	101	85	115				
Chromium	0.498	0.0050	0.5	0	100	85	115				
Cobalt	0.498	0.0050	0.5	0	100	85	115				
Copper	0.500	0.0050	0.5	0	100	85	115				
Iron	2.44	0.020	2.5	0	98	85	115				
Lead	0.489	0.0010	0.5	0.0000189	98	85	115				
Magnesium	24.2	1.0	25	0	97	85	115				
Manganese	2.44	0.0010	2.5	0.0004508	98	85	115				
Molybdenum	0.494	0.0010	0.5	0	99	85	115				
Nickel	0.496	0.0050	0.5	0.0000493	99	85	115				
Potassium	24.7	1.0	25	0.02914	99	85	115				
Selenium	0.491	0.0010	0.5	0	98	85	115				
Silver	0.239	0.0010	0.25	0.0000283	95	85	115				
Sodium	24.1	1.0	25	0.1218	96	85	115				
Uranium	0.473	0.00030	0.5	0	95	85	115				
Vanadium	0.497	0.010	0.5	0	99	85	115				
Zinc	0.489	0.010	0.5	0.001827	97	85	115				

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160607A: 359** SampType: **Sample Matrix Spike** Lab ID: **H16060091-011BMS3** Method: **E200.8**

Analysis Date: **06/08/16 12:54** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.27	0.030	2.5	1.107	126	70	130				
Antimony	0.499	0.0010	0.5	0.0001064	100	70	130				
Arsenic	0.509	0.0010	0.5	0.0009416	102	70	130				
Barium	0.606	0.050	0.5	0.08552	104	70	130				
Beryllium	0.227	0.0010	0.25	0.0000815	91	70	130				
Boron	0.517	0.050	0.5	0.02478	98	70	130				
Cadmium	0.247	0.0010	0.25	0.0000313	99	70	130				
Calcium	72.4	1.0	25	48.99	94	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33172

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 359** SampType: **Sample Matrix Spike** Lab ID: **H16060091-011BMS3** Method: **E200.8**

Analysis Date: **06/08/16 12:54** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.509	0.0050	0.5	0.001547	102	70	130				
Cobalt	0.500	0.0050	0.5	0.000616	100	70	130				
Copper	0.495	0.0050	0.5	0.001987	99	70	130				
Iron	3.87	0.020	2.5	1.274	104	70	130				
Lead	0.504	0.0010	0.5	0.001176	101	70	130				
Magnesium	46.1	1.0	25	22.82	93	70	130				
Manganese	2.51	0.0010	2.5	0.03423	99	70	130				
Molybdenum	0.503	0.0010	0.5	0.0033	100	70	130				
Nickel	0.492	0.0050	0.5	0.001633	98	70	130				
Potassium	27.6	1.0	25	2.055	102	70	130				
Selenium	0.491	0.0010	0.5	0.001167	98	70	130				
Silver	0.228	0.0010	0.25	0.0000536	91	70	130				
Sodium	48.8	1.0	25	25.39	93	70	130				
Uranium	0.494	0.00030	0.5	0.00162	98	70	130				
Vanadium	0.520	0.010	0.5	0.002315	103	70	130				
Zinc	0.478	0.010	0.5	0.005217	94	70	130				

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160607A: 360** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060091-011BMSD3** Method: **E200.8**

Analysis Date: **06/08/16 12:57** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.52	0.030	2.5	1.107	137	70	130	4.269	5.7	20	S
Antimony	0.495	0.0010	0.5	0.0001064	99	70	130	0.4992	0.9	20	
Arsenic	0.507	0.0010	0.5	0.0009416	101	70	130	0.5091	0.4	20	
Barium	0.599	0.050	0.5	0.08552	103	70	130	0.6061	1.1	20	
Beryllium	0.226	0.0010	0.25	0.0000815	91	70	130	0.2268	0.2	20	
Boron	0.516	0.050	0.5	0.02478	98	70	130	0.5172	0.3	20	
Cadmium	0.246	0.0010	0.25	0.0000313	99	70	130	0.2472	0.4	20	
Calcium	72.3	1.0	25	48.99	93	70	130	72.42	0.1	20	
Chromium	0.513	0.0050	0.5	0.001547	102	70	130	0.5092	0.7	20	
Cobalt	0.492	0.0050	0.5	0.000616	98	70	130	0.4997	1.6	20	
Copper	0.492	0.0050	0.5	0.001987	98	70	130	0.4953	0.6	20	
Iron	3.98	0.020	2.5	1.274	108	70	130	3.866	2.9	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33172

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 360** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060091-011BMSD3** Method: **E200.8**

Analysis Date: **06/08/16 12:57** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.505	0.0010	0.5	0.001176	**101**	70	130	0.5045	**0.1**	20	
Magnesium	46.3	1.0	25	22.82	**94**	70	130	46.1	**0.5**	20	
Manganese	2.51	0.0010	2.5	0.03423	**99**	70	130	2.506	**0.0**	20	
Molybdenum	0.501	0.0010	0.5	0.0033	**99**	70	130	0.5034	**0.5**	20	
Nickel	0.491	0.0050	0.5	0.001633	**98**	70	130	0.4922	**0.3**	20	
Potassium	27.8	1.0	25	2.055	**103**	70	130	27.57	**0.9**	20	
Selenium	0.494	0.0010	0.5	0.001167	**99**	70	130	0.4906	**0.8**	20	
Silver	0.239	0.0010	0.25	0.0000536	**96**	70	130	0.2284	**4.5**	20	
Sodium	48.7	1.0	25	25.39	**93**	70	130	48.75	**0.1**	20	
Uranium	0.499	0.00030	0.5	0.00162	**99**	70	130	0.4941	**1.0**	20	
Vanadium	0.520	0.010	0.5	0.002315	**104**	70	130	0.5198	**0.1**	20	
Zinc	0.475	0.010	0.5	0.005217	**94**	70	130	0.4777	**0.5**	20	

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160609B: 99** SampType: **Method Blank** Lab ID: **MB-33172** Method: **E200.8**

Analysis Date: **06/09/16 17:54** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	ND	7E-05									
Barium	6E-05	5E-05									
Beryllium	ND	7E-05									
Boron	0.001	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	0.0001	5E-05									
Iron	0.006	0.002									
Lead	2E-05	2E-05									
Magnesium	ND	0.002									
Manganese	ND	0.0002									
Molybdenum	8E-05	3E-05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33172

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160609B: 99** SampType: **Method Blank** Lab ID: **MB-33172** Method: **E200.8**

Analysis Date: **06/09/16 17:54** Units: **mg/L** **Prep Info:** Prep Date: **6/6/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	5E-05	3E-05									
Potassium	ND	0.01									
Selenium	ND	0.0003									
Silver	ND	1E-05									
Sodium	0.008	0.005									
Uranium	ND	1E-05									
Vanadium	0.0004	0.00010									
Zinc	0.002	0.0003									

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33174

Date: *27-Jun-16*

Run ID :Run Order: **HGCV202-H_160608A: 11** SampType: **Method Blank** Lab ID: **MB-33090** Method: **E245.1**
Analysis Date: **06/08/16 11:55** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B**

Run ID :Run Order: **HGCV202-H_160608A: 14** SampType: **Laboratory Control Sample** Lab ID: **LCS-33174** Method: **E245.1**
Analysis Date: **06/08/16 12:08** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000162	0.00010	0.00015	0	108	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B**

Run ID :Run Order: **HGCV202-H_160608A: 32** SampType: **Sample Matrix Spike** Lab ID: **H16060056-018AMS** Method: **E245.1**
Analysis Date: **06/08/16 12:56** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.00015	0.00003744	106	70	130				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B**

Run ID :Run Order: **HGCV202-H_160608A: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060056-018AMSD** Method: **E245.1**
Analysis Date: **06/08/16 12:58** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	0.00010	0.00015	0.00003744	115	70	130	0.000197	6.5	20	

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33175

Date: *27-Jun-16*

Run ID :Run Order: **HGCV202-H_160608A: 45** SampType: **Method Blank** Lab ID: **MB-33175** Method: **E245.1**
Analysis Date: **06/08/16 13:30** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16060098-003C**

Run ID :Run Order: **HGCV202-H_160608A: 46** SampType: **Laboratory Control Sample** Lab ID: **LCS-33175** Method: **E245.1**
Analysis Date: **06/08/16 13:33** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000141	0.00010	0.00015	0	**94**	90	110				

Associated samples: **H16060098-003C**

Run ID :Run Order: **HGCV202-H_160608A: 48** SampType: **Sample Matrix Spike** Lab ID: **H16060098-003CMS** Method: **E245.1**
Analysis Date: **06/08/16 13:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000487	**103**	70	130				

Associated samples: **H16060098-003C**

Run ID :Run Order: **HGCV202-H_160608A: 49** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-003CMSD** Method: **E245.1**
Analysis Date: **06/08/16 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000487	**102**	70	130	0.0001601	**1.6**	20	

Associated samples: **H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33179

Date: *27-Jun-16*

Run ID :Run Order: **FIA203-HE_160607B: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-33179** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:04** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	6.46	0.15	6.37	0	**101**	90	110				

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **FIA203-HE_160607B: 12** SampType: **Method Blank** Lab ID: **MB-33179** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:05** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.007									

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **FIA203-HE_160607B: 14** SampType: **Sample Matrix Spike** Lab ID: **H16060098-001Ams** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:08** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.58	0.10	1	0.6412	**94**	90	110				

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **FIA203-HE_160607B: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-001Amsd** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:09** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.57	0.10	1	0.6412	**93**	90	110	1.578	**0.6**	20	

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33181

Date: *27-Jun-16*

Run ID :Run Order: **FIA202-HE_160607C: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-33181** Method: **E365.1**
Analysis Date: **06/07/16 13:09** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.396	0.010	0.4	0.00199	99	90	110				

Associated samples: **H16060098-001D, H16060098-002D**

Run ID :Run Order: **FIA202-HE_160607C: 13** SampType: **Method Blank** Lab ID: **MB-33181** Method: **E365.1**
Analysis Date: **06/07/16 13:10** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.002	0.001									

Associated samples: **H16060098-001D, H16060098-002D**

Run ID :Run Order: **FIA202-HE_160607C: 29** SampType: **Sample Matrix Spike** Lab ID: **H16060056-010Dms** Method: **E365.1**
Analysis Date: **06/07/16 13:26** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.250	0.010	0.2	0.04843	101	90	110				

Associated samples: **H16060098-001D, H16060098-002D**

Run ID :Run Order: **FIA202-HE_160607C: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060056-010Dmsd** Method: **E365.1**
Analysis Date: **06/07/16 13:27** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.251	0.010	0.2	0.04843	101	90	110	0.2502	0.5	20	

Associated samples: **H16060098-001D, H16060098-002D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33228

Date: *27-Jun-16*

Run ID :Run Order: **FIA202-HE_160610A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-33228** Method: **E365.1**
Analysis Date: **06/10/16 11:51** Units: **mg/L** **Prep Info:** Prep Date: **6/10/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.432	0.010	0.4	0	**108**	90	110				

Associated samples: **H16060098-003D**

Run ID :Run Order: **FIA202-HE_160610A: 13** SampType: **Method Blank** Lab ID: **MB-33228** Method: **E365.1**
Analysis Date: **06/10/16 11:52** Units: **mg/L** **Prep Info:** Prep Date: **6/10/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H16060098-003D**

Run ID :Run Order: **FIA202-HE_160610A: 16** SampType: **Sample Matrix Spike** Lab ID: **H16060126-002Ems** Method: **E365.1**
Analysis Date: **06/10/16 11:56** Units: **mg/L** **Prep Info:** Prep Date: **6/10/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.295	0.010	0.2	0.07744	**109**	90	110				

Associated samples: **H16060098-003D**

Run ID :Run Order: **FIA202-HE_160610A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060126-002Emsd** Method: **E365.1**
Analysis Date: **06/10/16 11:57** Units: **mg/L** **Prep Info:** Prep Date: **6/10/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.298	0.010	0.2	0.07744	**110**	90	110	0.2955	**0.9**	20	

Associated samples: **H16060098-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33333

Date: *27-Jun-16*

Run ID :Run Order: **HGCV201-H_160622B: 10** SampType: **Method Blank** Lab ID: **MB-33333** Method: **SW7471B**
Analysis Date: **06/22/16 12:01** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.010									

Associated samples: **H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **HGCV201-H_160622B: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-33333** Method: **SW7471B**
Analysis Date: **06/22/16 12:08** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	6.0	0.50	5	0	119	71	126.4				

Associated samples: **H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **HGCV201-H_160622B: 16** SampType: **Sample Matrix Spike** Lab ID: **H16060098-006AMS** Method: **SW7471B**
Analysis Date: **06/22/16 12:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.67	0.50	0.3769	0.2055	123	80	120				S

Associated samples: **H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **HGCV201-H_160622B: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-006AMSD** Method: **SW7471B**
Analysis Date: **06/22/16 12:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.64	0.50	0.3769	0.2055	115	80	120	0.6688	4.6	20	

Associated samples: **H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **HGCV201-H_160622B: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33333** Method: **SW7471B**
Analysis Date: **06/22/16 12:22** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.23	0.50	0.2	0	116	80	120				

Associated samples: **H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160623A: 35** SampType: **Method Blank** Lab ID: **MB-33352** Method: **SW6010B**
Analysis Date: **06/23/16 11:39** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Arsenic	ND	0.7									
Barium	ND	0.02									
Cadmium	ND	0.02									
Copper	0.2	0.2									
Iron	4	1									
Lead	ND	1									
Manganese	ND	0.05									
Zinc	ND	0.3									

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICP2-HE_160623A: 36** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33352** Method: **SW6010B**
Analysis Date: **06/23/16 11:43** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	252	5.0	249	0	**101**	80	120				
Arsenic	48.9	1.0	49.8	0	**98**	80	120				
Barium	49.9	1.0	49.8	0	**100**	80	120				
Cadmium	23.5	1.0	24.9	0	**94**	80	120				
Copper	49.8	1.0	49.8	0.1877	**100**	80	120				
Iron	260	5.0	249	3.747	**103**	80	120				
Lead	46.4	1.2	49.8	0	**93**	80	120				
Manganese	244	1.0	249	0	**98**	80	120				
Zinc	48.7	1.0	49.8	0	**98**	80	120				

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICP2-HE_160623A: 37** SampType: **Laboratory Control Sample** Lab ID: **LCS-33352** Method: **SW6010B**
Analysis Date: **06/23/16 11:46** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10500	5.0	9830	0	**107**	46.3	130.2				
Arsenic	156	3.4	196	0	**79**	71.4	105.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160623A: 37** SampType: **Laboratory Control Sample** Lab ID: **LCS-33352** Method: **SW6010B**

Analysis Date: **06/23/16 11:46** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	172	1.0	187	0	92	78.6	112.8				
Cadmium	83.6	1.0	99	0	84	73.9	106.1				
Copper	122	1.0	137	0.1877	89	76.6	108.8				
Iron	16700	6.6	16300	3.747	103	51.7	131.9				
Lead	90.3	6.2	105	0	86	74.4	108.6				
Manganese	407	1.0	434	0	94	81.1	116.6				
Zinc	226	1.7	231	0	98	75.3	111.7				

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICP2-HE_160623A: 40** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060098-004APDS** Method: **SW6010B**

Analysis Date: **06/23/16 11:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25100	12	3793	21170		75	125				A
Arsenic	870	10	758.6	200.1	88	75	125				
Barium	1100	1.0	758.6	394.9	94	75	125				
Cadmium	338	1.0	379.3	14.89	85	75	125				
Copper	2120	2.7	758.6	1411	93	75	125				
Iron	44000	20	3793	40510		75	125				A
Lead	1300	19	758.6	679.2	82	75	125				
Manganese	8250	1.0	3793	4853	90	75	125				
Zinc	2890	5.1	758.6	2231	87	75	125				

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICP2-HE_160623A: 41** SampType: **Sample Matrix Spike** Lab ID: **H16060098-004AMS** Method: **SW6010B**

Analysis Date: **06/23/16 12:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	29700	12	735.8	21170		75	125				A
Arsenic	361	10.0	147.2	200.1	109	75	125				
Barium	619	1.0	147.2	394.9	152	75	125				S
Cadmium	84.0	1.0	73.58	14.89	94	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160623A: 41** SampType: **Sample Matrix Spike** Lab ID: **H16060098-004AMS** Method: **SW6010B**

Analysis Date: **06/23/16 12:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1650	2.6	147.2	1411		75	125				A
Iron	47300	20	735.8	40510		75	125				A
Lead	841	18	147.2	679.2		75	125				A
Manganese	5730	1.0	735.8	4853		75	125				A
Zinc	2750	5.0	147.2	2231		75	125				A

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160623A: 42** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-004AMSD** Method: **SW6010B**

Analysis Date: **06/23/16 12:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	29100	12	736.5	21170		75	125	29730	2.0	20	A
Arsenic	357	10.0	147.3	200.1	107	75	125	360.9	1.1	20	
Barium	600	1.0	147.3	394.9	139	75	125	618.8	3.0	20	S
Cadmium	82.8	1.0	73.65	14.89	92	75	125	83.96	1.4	20	
Copper	1660	2.6	147.3	1411		75	125	1649	0.6	20	A
Iron	46100	20	736.5	40510		75	125	47330	2.6	20	A
Lead	837	18	147.3	679.2		75	125	840.7	0.5	20	A
Manganese	5880	1.0	736.5	4853		75	125	5731	2.6	20	A
Zinc	2610	5.0	147.3	2231		75	125	2752	5.4	20	A

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160623A: 49** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060098-007APDS** Method: **SW6010B**

Analysis Date: **06/23/16 12:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5400	5.2	1637	3687	105	75	125				
Arsenic	312	4.4	327.5	6.414	93	75	125				
Barium	364	1.0	327.5	52.44	95	75	125				
Cadmium	149	1.0	163.7	0.5882	91	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160623A: 49** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060098-007APDS** Method: **SW6010B**

Analysis Date: **06/23/16 12:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	344	1.2	327.5	35.69	94	75	125				
Iron	30300	8.7	1637	28110		75	125				A
Lead	309	8.2	327.5	9.095	92	75	125				
Manganese	1750	1.0	1637	233.4	93	75	125				
Zinc	459	2.2	327.5	151.3	94	75	125				

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICP2-HE_160623A: 50** SampType: **Sample Matrix Spike** Lab ID: **H16060098-007AMS** Method: **SW6010B**

Analysis Date: **06/23/16 12:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4950	5.0	317.6	3687		75	125				A
Arsenic	69.8	4.3	63.52	6.414	100	75	125				
Barium	106	1.0	63.52	52.44	85	75	125				
Cadmium	31.3	1.0	31.76	0.5882	97	75	125				
Copper	98.8	1.1	63.52	35.69	99	75	125				
Iron	22400	8.5	317.6	28110		75	125				A
Lead	73.7	7.9	63.52	9.095	102	75	125				
Manganese	539	1.0	317.6	233.4	96	75	125				
Zinc	170	2.1	63.52	151.3	30	75	125				S

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160623A: 51** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-007AMSD** Method: **SW6010B**

Analysis Date: **06/23/16 12:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5230	5.0	318.6	3687		75	125	4951	5.5	20	A
Arsenic	73.3	4.3	63.71	6.414	105	75	125	69.83	4.8	20	
Barium	115	1.0	63.71	52.44	98	75	125	106.1	7.8	20	
Cadmium	31.4	1.0	31.86	0.5882	97	75	125	31.31	0.2	20	
Copper	101	1.1	63.71	35.69	102	75	125	98.85	2.0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160623A: 51** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-007AMSD** Method: **SW6010B**

Analysis Date: **06/23/16 12:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	15300	8.5	318.6	28110		75	125	22420	38	20	AR
Lead	78.5	7.9	63.71	9.095	109	75	125	73.74	6.2	20	
Manganese	528	1.0	318.6	233.4	93	75	125	539.1	2.0	20	
Zinc	153	2.1	63.71	151.3	2	75	125	170.4	11	20	S

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160623A: 54** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060098-008APDS** Method: **SW6010B**

Analysis Date: **06/23/16 12:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4100	5.0	1486	2614	100	75	125				
Arsenic	286	4.0	297.3	4.483	95	75	125				
Barium	311	1.0	297.3	24.3	97	75	125				
Cadmium	137	1.0	148.6	0	92	75	125				
Copper	358	1.1	297.3	73.22	96	75	125				
Iron	6560	7.9	1486	5128	96	75	125				
Lead	277	7.4	297.3	0	93	75	125				
Manganese	1600	1.0	1486	188.7	95	75	125				
Zinc	314	2.0	297.3	31.77	95	75	125				

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICP2-HE_160623A: 57** SampType: **Sample Matrix Spike** Lab ID: **H16060098-008AMS** Method: **SW6010B**

Analysis Date: **06/23/16 12:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3840	5.0	287.8	2614		75	125				A
Arsenic	64.8	3.9	57.55	4.483	105	75	125				
Barium	86.5	1.0	57.55	24.3	108	75	125				
Cadmium	29.0	1.0	28.78	0	101	75	125				
Copper	74.0	1.0	57.55	73.22	1	75	125				S
Iron	6120	7.7	287.8	5128		75	125				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160623A: 57** SampType: **Sample Matrix Spike** Lab ID: **H16060098-008AMS** Method: **SW6010B**

Analysis Date: **06/23/16 12:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	62.8	7.2	57.55	0	109	75	125				
Manganese	492	1.0	287.8	188.7	105	75	125				
Zinc	91.0	1.9	57.55	31.77	103	75	125				

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160623A: 58** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-008AMSD** Method: **SW6010B**

Analysis Date: **06/23/16 13:03** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3590	5.0	287.5	2614		75	125	3835	6.6	20	A
Arsenic	56.5	3.9	57.49	4.483	91	75	125	64.77	14	20	
Barium	84.2	1.0	57.49	24.3	104	75	125	86.52	2.7	20	
Cadmium	26.2	1.0	28.75	0	91	75	125	29.04	10	20	
Copper	65.5	1.0	57.49	73.22	-13	75	125	73.98	12	20	S
Iron	4430	7.7	287.5	5128		75	125	6121	32	20	AR
Lead	58.3	7.2	57.49	0	101	75	125	62.85	7.5	20	
Manganese	433	1.0	287.5	188.7	85	75	125	492.2	13	20	
Zinc	84.2	1.9	57.49	31.77	91	75	125	90.97	7.7	20	

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160624A: 26** SampType: **Method Blank** Lab ID: **MB-33352** Method: **SW6010B**

Analysis Date: **06/24/16 11:01** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Arsenic	ND	0.7									
Barium	ND	0.02									
Cadmium	0.03	0.02									
Copper	ND	0.2									
Iron	4	1									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160624A: 26** SampType: **Method Blank** Lab ID: **MB-33352** Method: **SW6010B**

Analysis Date: **06/24/16 11:01** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1									
Manganese	0.08	0.05									
Zinc	ND	0.3									

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160623B: 45** SampType: **Method Blank** Lab ID: **MB-33352** Method: **SW6020**

Analysis Date: **06/23/16 13:56** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.04									
Arsenic	0.3	0.02									
Beryllium	ND	0.07									
Boron	ND	1									
Cadmium	ND	0.08									
Chromium	ND	0.4									
Cobalt	ND	0.02									
Lead	ND	0.05									
Molybdenum	ND	0.05									
Nickel	ND	0.05									
Selenium	ND	0.08									
Silver	ND	0.03									
Uranium	ND	0.03									
Vanadium	2	0.2									

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICPMS204-B_160623B: 46** SampType: **Laboratory Control Sample** Lab ID: **LCS-33352** Method: **SW6020**

Analysis Date: **06/23/16 13:59** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	68.4	1.0	240	0	**28**	0	92.9				
Arsenic	172	1.0	196	0.3319	**88**	71.4	105.1				
Beryllium	81.7	1.0	83.6	0	**98**	76.2	108				
Boron	118	1.1	129	0	**91**	59.5	106.2				
Cadmium	96.9	1.0	99	0	**98**	73.9	106.1				
Chromium	119	1.0	117	0	**101**	73.5	108.5				
Cobalt	113	1.0	108	0	**104**	74.2	105.6				
Lead	105	1.0	105	0	**100**	74.4	108.6				
Molybdenum	120	1.0	127	0	**94**	66.5	103.1				
Nickel	83.2	1.0	86.2	0	**97**	72.3	105				
Selenium	189	1.0	205	0	**92**	71.2	110.2				
Silver	41.6	1.0	42.1	0	**99**	70.8	111.9				
Uranium	97.6	1.0	99.9	0	**98**	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160623B: 46** SampType: **Laboratory Control Sample** Lab ID: **LCS-33352** Method: **SW6020**
Analysis Date: **06/23/16 13:59** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	123	1.0	114	1.568	107	67	107				

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICPMS204-B_160623B: 47** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33352** Method: **SW6020**
Analysis Date: **06/23/16 14:02** Units: **mg/kg** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.7	1.0	49.8	0	106	80	120				
Arsenic	53.3	1.0	49.8	0.3319	106	80	120				
Beryllium	27.9	1.0	24.9	0	112	80	120				
Boron	57.6	1.1	49.8	0	116	80	120				
Cadmium	26.5	1.0	24.9	0	106	80	120				
Chromium	53.7	1.0	49.8	0	108	80	120				
Cobalt	54.9	1.0	49.8	0	110	80	120				
Lead	52.9	1.0	49.8	0	106	80	120				
Molybdenum	52.9	1.0	49.8	0	106	80	120				
Nickel	53.3	1.0	49.8	0	107	80	120				
Selenium	50.8	1.0	49.8	0	102	80	120				
Silver	26.3	1.0	24.9	0	106	80	120				
Uranium	52.8	1.0	49.8	0	106	80	120				
Vanadium	54.4	1.0	49.8	1.568	106	80	120				

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICPMS204-B_160623B: 51** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060098-004APDS** Method: **SW6020**
Analysis Date: **06/23/16 14:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	711	1.0	736.5	2.78	96	75	125				
Arsenic	913	1.0	736.5	228.2	93	75	125				
Beryllium	331	1.0	368.3	1.188	90	75	125				
Boron	692	3.2	736.5	16.95	92	75	125				
Cadmium	357	1.0	368.3	17.09	92	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160623B: 51** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060098-004APDS** Method: **SW6020**

Analysis Date: **06/23/16 14:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	773	1.2	736.5	86.1	93	75	125				
Cobalt	699	1.0	736.5	16.07	93	75	125				
Lead	1350	1.0	736.5	755.7	81	75	125				
Molybdenum	720	1.0	736.5	20.06	95	75	125				
Nickel	722	1.0	736.5	43.17	92	75	125				
Selenium	653	1.0	736.5	3.611	88	75	125				
Silver	342	1.0	368.3	8.595	91	75	125				
Uranium	706	1.0	736.5	10.07	94	75	125				
Vanadium	809	1.0	736.5	103.7	96	75	125				

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICPMS204-B_160623B: 52** SampType: **Sample Matrix Spike** Lab ID: **H16060098-004AMS** Method: **SW6020**

Analysis Date: **06/23/16 14:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	71.4	1.0	147.2	2.78	47	75	125				S
Arsenic	394	1.0	147.2	228.2	113	75	125				
Beryllium	76.2	1.0	73.58	1.188	102	75	125				
Boron	177	3.2	147.2	16.95	108	75	125				
Cadmium	94.4	1.0	73.58	17.09	105	75	125				
Chromium	261	1.2	147.2	86.1	119	75	125				
Cobalt	180	1.0	147.2	16.07	112	75	125				
Lead	907	1.0	147.2	755.7		75	125				AE
Molybdenum	177	1.0	147.2	20.06	107	75	125				
Nickel	198	1.0	147.2	43.17	105	75	125				
Selenium	151	1.0	147.2	3.611	100	75	125				
Silver	86.2	1.0	73.58	8.595	105	75	125				
Uranium	167	1.0	147.2	10.07	106	75	125				
Vanadium	294	1.0	147.2	103.7	129	75	125				S

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160623B: 53** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-004AMSD** Method: **SW6020**

Analysis Date: **06/23/16 14:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	70.9	1.0	147.3	2.78	46	75	125	71.44	0.7	20	S
Arsenic	393	1.0	147.3	228.2	112	75	125	394	0.3	20	
Beryllium	75.6	1.0	73.65	1.188	101	75	125	76.15	0.7	20	
Boron	173	3.2	147.3	16.95	106	75	125	176.6	2.2	20	
Cadmium	93.0	1.0	73.65	17.09	103	75	125	94.42	1.5	20	
Chromium	254	1.2	147.3	86.1	114	75	125	261.1	2.7	20	
Cobalt	177	1.0	147.3	16.07	109	75	125	180.3	2.0	20	
Lead	910	1.0	147.3	755.7		75	125	907.4	0.2	20	AE
Molybdenum	173	1.0	147.3	20.06	104	75	125	177.3	2.4	20	
Nickel	195	1.0	147.3	43.17	103	75	125	197.7	1.4	20	
Selenium	148	1.0	147.3	3.611	98	75	125	151.4	2.4	20	
Silver	84.5	1.0	73.65	8.595	103	75	125	86.17	2.0	20	
Uranium	162	1.0	147.3	10.07	103	75	125	166.7	2.7	20	
Vanadium	286	1.0	147.3	103.7	124	75	125	293.9	2.7	20	

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICPMS204-B_160623B: 62** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060098-007APDS** Method: **SW6020**

Analysis Date: **06/23/16 14:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	324	1.0	317.9	0.1765	102	75	125				
Arsenic	325	1.0	317.9	6.753	100	75	125				
Beryllium	156	1.0	159	0.1825	98	75	125				
Boron	325	1.4	317.9	3.174	101	75	125				
Cadmium	160	1.0	159	0.1702	101	75	125				
Chromium	341	1.0	317.9	25.34	99	75	125				
Cobalt	316	1.0	317.9	4.139	98	75	125				
Lead	327	1.0	317.9	13.39	99	75	125				
Molybdenum	330	1.0	317.9	2.108	103	75	125				
Nickel	314	1.0	317.9	5.357	97	75	125				
Selenium	296	1.0	317.9	0.4785	93	75	125				
Silver	155	1.0	159	0.6203	97	75	125				
Uranium	329	1.0	317.9	6.819	101	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160623B: 62** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060098-007APDS** Method: **SW6020**

Analysis Date: **06/23/16 14:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	422	1.0	317.9	98.11	**102**	75	125				

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICPMS204-B_160623B: 63** SampType: **Sample Matrix Spike** Lab ID: **H16060098-007AMS** Method: **SW6020**

Analysis Date: **06/23/16 14:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	55.0	1.0	63.52	0.1765	**86**	75	125				
Arsenic	72.6	1.0	63.52	6.753	**104**	75	125				
Beryllium	34.4	1.0	31.76	0.1825	**108**	75	125				
Boron	76.5	1.4	63.52	3.174	**115**	75	125				
Cadmium	34.2	1.0	31.76	0.1702	**107**	75	125				
Chromium	92.0	1.0	63.52	25.34	**105**	75	125				
Cobalt	75.5	1.0	63.52	4.139	**112**	75	125				
Lead	83.5	1.0	63.52	13.39	**110**	75	125				
Molybdenum	69.7	1.0	63.52	2.108	**106**	75	125				
Nickel	72.6	1.0	63.52	5.357	**106**	75	125				
Selenium	64.8	1.0	63.52	0.4785	**101**	75	125				
Silver	34.2	1.0	31.76	0.6203	**106**	75	125				
Uranium	72.8	1.0	63.52	6.819	**104**	75	125				
Vanadium	151	1.0	63.52	98.11	**83**	75	125				

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICPMS204-B_160623B: 64** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-007AMSD** Method: **SW6020**

Analysis Date: **06/23/16 14:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	54.2	1.0	63.71	0.1765	**85**	75	125	55	**1.4**	20	
Arsenic	73.7	1.0	63.71	6.753	**105**	75	125	72.58	**1.5**	20	
Beryllium	34.7	1.0	31.86	0.1825	**108**	75	125	34.4	**0.8**	20	
Boron	73.9	1.4	63.71	3.174	**111**	75	125	76.46	**3.4**	20	
Cadmium	34.5	1.0	31.86	0.1702	**108**	75	125	34.18	**0.9**	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160623B: 64** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-007AMSD** Method: **SW6020**

Analysis Date: **06/23/16 14:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	89.6	1.0	63.71	25.34	101	75	125	92.01	2.7	20	
Cobalt	73.9	1.0	63.71	4.139	110	75	125	75.51	2.1	20	
Lead	84.4	1.0	63.71	13.39	111	75	125	83.55	1.0	20	
Molybdenum	69.7	1.0	63.71	2.108	106	75	125	69.72	0.0	20	
Nickel	72.4	1.0	63.71	5.357	105	75	125	72.58	0.2	20	
Selenium	64.9	1.0	63.71	0.4785	101	75	125	64.82	0.2	20	
Silver	34.3	1.0	31.86	0.6203	106	75	125	34.21	0.3	20	
Uranium	73.7	1.0	63.71	6.819	105	75	125	72.84	1.2	20	
Vanadium	125	1.0	63.71	98.11	43	75	125	151	19	20	S

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICPMS204-B_160623B: 68** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060098-008APDS** Method: **SW6020**

Analysis Date: **06/23/16 15:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	293	1.0	288.6	0.1243	102	75	125				
Arsenic	298	1.0	288.6	6.151	101	75	125				
Beryllium	143	1.0	144.3	0.08682	99	75	125				
Boron	295	1.2	288.6	2.013	102	75	125				
Cadmium	145	1.0	144.3	0	100	75	125				
Chromium	295	1.0	288.6	5.819	100	75	125				
Cobalt	287	1.0	288.6	1.462	99	75	125				
Lead	292	1.0	288.6	5.643	99	75	125				
Molybdenum	303	1.0	288.6	0.5314	105	75	125				
Nickel	284	1.0	288.6	2.005	98	75	125				
Selenium	274	1.0	288.6	0.1749	95	75	125				
Silver	142	1.0	144.3	0.1009	98	75	125				
Uranium	296	1.0	288.6	0.7141	102	75	125				
Vanadium	312	1.0	288.6	13.47	103	75	125				

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160623B: 69** SampType: **Sample Matrix Spike** Lab ID: **H16060098-008AMS** Method: **SW6020**

Analysis Date: **06/23/16 15:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	55.4	1.0	57.55	0.1243	96	75	125				
Arsenic	67.6	1.0	57.55	6.151	107	75	125				
Beryllium	32.5	1.0	28.78	0.08682	113	75	125				
Boron	71.0	1.2	57.55	2.013	120	75	125				
Cadmium	31.4	1.0	28.78	0	109	75	125				
Chromium	69.0	1.0	57.55	5.819	110	75	125				
Cobalt	67.2	1.0	57.55	1.462	114	75	125				
Lead	68.5	1.0	57.55	5.643	109	75	125				
Molybdenum	63.6	1.0	57.55	0.5314	110	75	125				
Nickel	65.1	1.0	57.55	2.005	110	75	125				
Selenium	60.1	1.0	57.55	0.1749	104	75	125				
Silver	31.5	1.0	28.78	0.1009	109	75	125				
Uranium	65.2	1.0	57.55	0.7141	112	75	125				
Vanadium	79.8	1.0	57.55	13.47	115	75	125				

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICPMS204-B_160623B: 70** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-008AMSD** Method: **SW6020**

Analysis Date: **06/23/16 15:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.2	1.0	57.49	0.1243	84	75	125	55.37	14	20	
Arsenic	60.2	1.0	57.49	6.151	94	75	125	67.61	12	20	
Beryllium	28.4	1.0	28.75	0.08682	98	75	125	32.54	14	20	
Boron	62.1	1.2	57.49	2.013	104	75	125	71	13	20	
Cadmium	28.6	1.0	28.75	0	100	75	125	31.42	9.3	20	
Chromium	60.7	1.0	57.49	5.819	95	75	125	69.02	13	20	
Cobalt	56.9	1.0	57.49	1.462	96	75	125	67.15	16	20	
Lead	65.7	1.0	57.49	5.643	104	75	125	68.5	4.2	20	
Molybdenum	55.3	1.0	57.49	0.5314	95	75	125	63.56	14	20	
Nickel	56.9	1.0	57.49	2.005	95	75	125	65.14	14	20	
Selenium	53.4	1.0	57.49	0.1749	93	75	125	60.11	12	20	
Silver	29.8	1.0	28.75	0.1009	103	75	125	31.54	5.7	20	
Uranium	56.3	1.0	57.49	0.7141	97	75	125	65.2	15	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33352

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160623B: 70** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-008AMSD** Method: **SW6020**

Analysis Date: **06/23/16 15:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/21/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	69.3	1.0	57.49	13.47	**97**	75	125	79.8	**14**	20	

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R212501

Date: *27-Jun-16*

Run ID :Run Order: **SUB-C212501: 1** SampType: **Method Blank** Lab ID: **MBLK** Method: **A5310 C**
Analysis Date: **06/09/16 19:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	0.5	0.04									

Associated samples: **H16060098-001E, H16060098-002E, H16060098-003E**

Run ID :Run Order: **SUB-C212501: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-8116** Method: **A5310 C**
Analysis Date: **06/10/16 04:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.32	0.50	5	0.4519	**97**	90	110	0			

Associated samples: **H16060098-001E, H16060098-002E, H16060098-003E**

Run ID :Run Order: **SUB-C212501: 3** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-7923** Method: **A5310 C**
Analysis Date: **06/10/16 04:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.23	0.50	5	0	**105**	90	110	0			

Associated samples: **H16060098-001E, H16060098-002E, H16060098-003E**

Run ID :Run Order: **SUB-C212501: 4** SampType: **Sample Matrix Spike** Lab ID: **H16060099-013E** Method: **A5310 C**
Analysis Date: **06/10/16 05:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	26.4	0.50	20	6.349	**100**	85	115	0			

Associated samples: **H16060098-001E, H16060098-002E, H16060098-003E**

Run ID :Run Order: **SUB-C212501: 5** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-013E** Method: **A5310 C**
Analysis Date: **06/10/16 05:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	26.2	0.50	20	6.349	**99**	85	115	26.38	**0.5**	10	

Associated samples: **H16060098-001E, H16060098-002E, H16060098-003E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115786

Date: *27-Jun-16*

Run ID :Run Order: **FIA203-HE_160606C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **06/06/16 14:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.898	0.010	1	0	90	90	110				

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Run ID :Run Order: **FIA203-HE_160606C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E353.2**
Analysis Date: **06/06/16 14:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.00278	0.010		0		0	0				

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Run ID :Run Order: **FIA203-HE_160606C: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **06/06/16 14:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.948	0.011	1	0	95	90	110				

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Run ID :Run Order: **FIA203-HE_160606C: 13** SampType: **Sample Matrix Spike** Lab ID: **H16060086-001BMS** Method: **E353.2**
Analysis Date: **06/06/16 14:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.940	0.010	1	0.09826	84	90	110				S

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Run ID :Run Order: **FIA203-HE_160606C: 14** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060086-001BMSD** Method: **E353.2**
Analysis Date: **06/06/16 14:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.926	0.010	1	0.09826	83	90	110	0.9405	1.6	20	S

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115786

Date: *27-Jun-16*

Run ID :Run Order: **FIA203-HE_160606C: 27** SampType: **Sample Matrix Spike** Lab ID: **H16050547-047EMS** Method: **E353.2**

Analysis Date: **06/06/16 15:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.11	0.011	1	0.01601	109	90	110				

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Run ID :Run Order: **FIA203-HE_160606C: 28** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16050547-047EMSD** Method: **E353.2**

Analysis Date: **06/06/16 15:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.05	0.011	1	0.01601	104	90	110	1.111	5.3	20	

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115797

Date: *27-Jun-16*

Run ID :Run Order: **PHSC_101-H_160607A: 6** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **06/07/16 08:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **PHSC_101-H_160607A: 8** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **06/07/16 09:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	2.24	**96**	90	110				

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **PHSC_101-H_160607A: 11** SampType: **Sample Duplicate** Lab ID: **H16050547-016BDUP** Method: **A2320 B**

Analysis Date: **06/07/16 09:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	290	4.0		0				282.4	**1.8**	10	
Bicarbonate as HCO3	340	4.0		0				335.1	**1.5**	10	

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **PHSC_101-H_160607A: 51** SampType: **Sample Duplicate** Lab ID: **H16060099-016ADUP** Method: **A2320 B**

Analysis Date: **06/07/16 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	88	4.0		0				87.1	**0.7**	10	
Bicarbonate as HCO3	110	4.0		0				105.7	**0.7**	10	

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115810

Date: *27-Jun-16*

Run ID :Run Order: **FIA203-HE_160607B: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **06/07/16 11:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.491	0.10	0.5	0	**98**	90	110				

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **FIA203-HE_160607B: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **06/07/16 11:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.000780	0.10		0		0	0				

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115823

Date: *27-Jun-16*

Run ID :Run Order: **FIA203-HE_160607D: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **06/07/16 15:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	14.1	0.50	14.2	0	99	90	110				

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Run ID :Run Order: **FIA203-HE_160607D: 8** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **06/07/16 15:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	101	90	110				

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Run ID :Run Order: **FIA203-HE_160607D: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **06/07/16 15:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.508	0.050	0.5	0	102	90	110				

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Run ID :Run Order: **FIA203-HE_160607D: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E350.1**
Analysis Date: **06/07/16 15:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.0698	0.050		0		0	0				

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Run ID :Run Order: **FIA203-HE_160607D: 13** SampType: **Sample Matrix Spike** Lab ID: **H16060098-001DMS** Method: **E350.1**
Analysis Date: **06/07/16 15:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.938	0.055	1	0	94	80	120				

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115823

Date: *27-Jun-16*

Run ID :Run Order: **FIA203-HE_160607D: 14** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-001DMSD** Method: **E350.1**

Analysis Date: **06/07/16 15:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.945	0.055	1	0	**94**	80	120	0.9378	**0.7**	10	

Associated samples: **H16060098-001D, H16060098-002D, H16060098-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115828

Date: *27-Jun-16*

Run ID :Run Order: **FIA202-HE_160607C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **06/07/16 13:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.250	0.010	0.25	0	100	90	110				

Associated samples: **H16060098-001D, H16060098-002D**

Run ID :Run Order: **FIA202-HE_160607C: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **06/07/16 13:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.000200	0.010		0		0	0				

Associated samples: **H16060098-001D, H16060098-002D**

Run ID :Run Order: **FIA202-HE_160607C: 27** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **06/07/16 13:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0957	0.010	0.1	0	96	90	110				

Associated samples: **H16060098-001D, H16060098-002D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115830

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160607B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **06/07/16 13:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.797	0.10	0.8	0	100	95	105				
Calcium	39.8	1.0	40	0	100	95	105				
Magnesium	39.5	1.0	40	0	99	95	105				
Potassium	40.1	1.0	40	0	100	95	105				
Sodium	40.0	1.0	40	0	100	95	105				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICP2-HE_160607B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **06/07/16 13:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.45	0.10	2.5	0	98	95	105				
Calcium	25.1	1.0	25	0	101	95	105				
Magnesium	24.7	1.0	25	0	99	95	105				
Potassium	25.2	1.0	25	0	101	95	105				
Sodium	25.1	1.0	25	0	101	95	105				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICP2-HE_160607B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **06/07/16 14:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00657	0.10		0		0	0				
Calcium	460	1.0	500	0	92	80	120				
Magnesium	485	1.0	500	0	97	80	120				
Potassium	0.0534	1.0		0		0	0				
Sodium	0.0501	1.0		0		0	0				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICP2-HE_160607B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/07/16 14:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.976	0.10	1	0	98	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115830

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160607B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/07/16 14:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	465	1.0	500	0	93	80	120				
Magnesium	496	1.0	500	0	99	80	120				
Potassium	20.6	1.0	20	0	103	80	120				
Sodium	20.6	1.0	20	0	103	80	120				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICP2-HE_160607B: 21** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **06/07/16 14:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.002									
Calcium	0.07	0.02									
Magnesium	0.006	0.003									
Potassium	0.04	0.03									
Sodium	0.03	0.02									

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICP2-HE_160607B: 22** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **06/07/16 14:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.963	0.10	1	0	96	85	115				
Calcium	47.8	1.0	50	0.06925	95	85	115				
Magnesium	46.4	1.0	50	0.00632	93	85	115				
Potassium	50.1	1.0	50	0.04068	100	85	115				
Sodium	50.4	1.0	50	0.03391	101	85	115				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICP2-HE_160607B: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/07/16 16:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.41	0.10	2.5	0	96	90	110				
Calcium	24.2	1.0	25	0	97	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115830

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160607B: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/07/16 16:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	23.1	1.0	25	0	93	90	110				
Potassium	25.7	1.0	25	0	103	90	110				
Sodium	25.8	1.0	25	0	103	90	110				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICP2-HE_160607B: 29** SampType: **Sample Matrix Spike** Lab ID: **H16060098-001BMS2** Method: **E200.7**

Analysis Date: **06/07/16 16:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.00	0.050	1	0.01313	99	70	130				
Calcium	72.3	1.0	50	23.81	97	70	130				
Magnesium	54.1	1.0	50	6.004	96	70	130				
Potassium	53.2	1.0	50	2.442	101	70	130				
Sodium	59.2	1.0	50	8.472	101	70	130				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICP2-HE_160607B: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-001BMSD2** Method: **E200.7**

Analysis Date: **06/07/16 16:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.990	0.050	1	0.01313	98	70	130	1.004	1.5	20	
Calcium	72.2	1.0	50	23.81	97	70	130	72.29	0.1	20	
Magnesium	54.0	1.0	50	6.004	96	70	130	54.13	0.2	20	
Potassium	52.7	1.0	50	2.442	100	70	130	53.19	1.0	20	
Sodium	58.8	1.0	50	8.472	101	70	130	59.19	0.7	20	

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115831

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/07/16 13:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0587	0.050	0.06	0	98	90	110				
Arsenic	0.0606	0.0050	0.06	0	101	90	110				
Barium	0.0611	0.10	0.06	0	102	90	110				
Beryllium	0.0304	0.0010	0.03	0	101	90	110				
Cadmium	0.0302	0.0010	0.03	0	101	90	110				
Chromium	0.0601	0.010	0.06	0	100	90	110				
Cobalt	0.0609	0.010	0.06	0	101	90	110				
Copper	0.0617	0.010	0.06	0	103	90	110				
Iron	0.310	0.020	0.3	0	103	90	110				
Lead	0.0597	0.010	0.06	0	99	90	110				
Manganese	0.304	0.010	0.3	0	102	90	110				
Molybdenum	0.0582	0.0050	0.06	0	97	90	110				
Nickel	0.0609	0.010	0.06	0	102	90	110				
Selenium	0.0616	0.0050	0.06	0	103	90	110				
Silver	0.0303	0.0050	0.03	0	101	90	110				
Uranium	0.0579	0.0010	0.06	0	97	90	110				
Vanadium	0.0595	0.10	0.06	0	99	90	110				
Zinc	0.0601	0.010	0.06	0	100	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160607A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/07/16 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000100	0.050		0							
Arsenic	-0.000349	0.0050		0							
Barium	5.70E-05	0.10		0							
Beryllium	-2.40E-05	0.0010		0							
Cadmium	0.00113	0.0010		0							
Chromium	0.00115	0.010		0							
Cobalt	2.00E-05	0.010		0							
Copper	-2.00E-06	0.010		0							
Iron	98.6	0.020	100	0	99	70	130				
Lead	0.000223	0.010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115831

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/07/16 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.000182	0.010		0							
Molybdenum	0.831	0.0050	0.8	0	104	70	130				
Nickel	0.000254	0.010		0							
Selenium	5.70E-05	0.0050		0							
Silver	-9.10E-05	0.0050		0							
Uranium	0.000115	0.0010		0							
Vanadium	-0.00131	0.10		0							
Zinc	0.000768	0.010		0							

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160607A: 26** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **06/07/16 14:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	3E-05									
Arsenic	ND	6E-05									
Barium	ND	0.0001									
Beryllium	ND	5E-05									
Cadmium	ND	1E-05									
Chromium	0.00010	3E-05									
Cobalt	ND	2E-05									
Copper	0.0001	6E-05									
Iron	0.003	0.0002									
Lead	ND	5E-06									
Manganese	ND	6E-05									
Molybdenum	ND	2E-05									
Nickel	ND	4E-05									
Selenium	ND	0.0003									
Silver	3E-05	9E-06									
Uranium	ND	6E-06									
Vanadium	0.0007	0.0001									
Zinc	0.0006	0.0002									

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115831

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 27** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **06/07/16 14:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0469	0.050	0.05	0	94	85	115				
Arsenic	0.0497	0.0050	0.05	0	99	85	115				
Barium	0.0491	0.10	0.05	0	98	85	115				
Beryllium	0.0508	0.0010	0.05	0	102	85	115				
Cadmium	0.0507	0.0010	0.05	0	101	85	115				
Chromium	0.0497	0.010	0.05	0.0000966	99	85	115				
Cobalt	0.0507	0.010	0.05	0	101	85	115				
Copper	0.0503	0.010	0.05	0.0001176	100	85	115				
Iron	0.149	0.020	0.15	0.002904	97	85	115				
Lead	0.0488	0.010	0.05	0	98	85	115				
Manganese	0.0505	0.010	0.05	0	101	85	115				
Molybdenum	0.0474	0.0050	0.05	0	95	85	115				
Nickel	0.0513	0.010	0.05	0	103	85	115				
Selenium	0.0531	0.0050	0.05	0	106	85	115				
Silver	0.0187	0.0050	0.02	0.0000346	93	85	115				
Uranium	0.0453	0.0010	0.05	0	91	85	115				
Vanadium	0.0470	0.10	0.05	0.0007264	93	85	115				
Zinc	0.0530	0.010	0.05	0.0005544	105	85	115				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICPMS204-B_160607A: 60** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/07/16 16:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0587	0.050	0.06	0	98	90	110				
Arsenic	0.0613	0.0050	0.06	0	102	90	110				
Barium	0.0600	0.10	0.06	0	100	90	110				
Beryllium	0.0302	0.0010	0.03	0	101	90	110				
Cadmium	0.0302	0.0010	0.03	0	101	90	110				
Chromium	0.0612	0.010	0.06	0	102	90	110				
Cobalt	0.0619	0.010	0.06	0	103	90	110				
Copper	0.0627	0.010	0.06	0	105	90	110				
Iron	0.313	0.020	0.3	0	104	90	110				
Lead	0.0595	0.010	0.06	0	99	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115831

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 60** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/07/16 16:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.307	0.010	0.3	0	102	90	110				
Molybdenum	0.0587	0.0050	0.06	0	98	90	110				
Nickel	0.0622	0.010	0.06	0	104	90	110				
Selenium	0.0618	0.0050	0.06	0	103	90	110				
Silver	0.0302	0.0050	0.03	0	101	90	110				
Uranium	0.0589	0.0010	0.06	0	98	90	110				
Vanadium	0.0595	0.10	0.06	0	99	90	110				
Zinc	0.0621	0.010	0.06	0	104	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160607A: 61** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/07/16 16:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000165	0.050		0							
Arsenic	-0.000445	0.0050		0							
Barium	9.10E-05	0.10		0							
Beryllium	3.60E-05	0.0010		0							
Cadmium	0.00108	0.0010		0							
Chromium	0.00115	0.010		0							
Cobalt	5.60E-05	0.010		0							
Copper	0.000309	0.010		0							
Iron	98.6	0.020	100	0	99	70	130				
Lead	0.000222	0.010		0							
Manganese	0.000315	0.010		0							
Molybdenum	0.828	0.0050	0.8	0	104	70	130				
Nickel	0.000260	0.010		0							
Selenium	0.000103	0.0050		0							
Silver	0.000118	0.0050		0							
Uranium	0.000112	0.0010		0							
Vanadium	-0.00232	0.10		0							
Zinc	0.000743	0.010		0							

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115831

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 152** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/07/16 21:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0588	0.050	0.06	0	98	90	110				
Arsenic	0.0611	0.0050	0.06	0	102	90	110				
Barium	0.0605	0.10	0.06	0	101	90	110				
Beryllium	0.0301	0.0010	0.03	0	100	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				
Chromium	0.0606	0.010	0.06	0	101	90	110				
Cobalt	0.0607	0.010	0.06	0	101	90	110				
Copper	0.0622	0.010	0.06	0	104	90	110				
Iron	0.315	0.020	0.3	0	105	90	110				
Lead	0.0592	0.010	0.06	0	99	90	110				
Manganese	0.304	0.010	0.3	0	102	90	110				
Molybdenum	0.0584	0.0050	0.06	0	97	90	110				
Nickel	0.0617	0.010	0.06	0	103	90	110				
Selenium	0.0605	0.0050	0.06	0	101	90	110				
Silver	0.0300	0.0050	0.03	0	100	90	110				
Uranium	0.0577	0.0010	0.06	0	96	90	110				
Vanadium	0.0588	0.10	0.06	0	98	90	110				
Zinc	0.0617	0.010	0.06	0	103	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160607A: 153** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/07/16 21:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000153	0.050		0							
Arsenic	-0.000392	0.0050		0							
Barium	0.000104	0.10		0							
Beryllium	3.20E-05	0.0010		0							
Cadmium	0.00106	0.0010		0							
Chromium	0.00113	0.010		0							
Cobalt	4.90E-05	0.010		0							
Copper	0.000215	0.010		0							
Iron	99.3	0.020	100	0	99	70	130				
Lead	0.000224	0.010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115831

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 153** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/07/16 21:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.000318	0.010		0							
Molybdenum	0.841	0.0050	0.8	0	**105**	70	130				
Nickel	0.000307	0.010		0							
Selenium	0.000392	0.0050		0							
Silver	0.000150	0.0050		0							
Uranium	0.000107	0.0010		0							
Vanadium	-0.00200	0.10		0							
Zinc	0.000692	0.010		0							

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160607A: 325** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/08/16 10:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000725	0.050		0							
Arsenic	-0.000402	0.0050		0							
Barium	8.30E-05	0.10		0							
Beryllium	3.30E-05	0.0010		0							
Cadmium	0.00112	0.0010		0							
Chromium	0.00104	0.010		0							
Cobalt	4.30E-05	0.010		0							
Copper	-5.00E-05	0.010		0							
Iron	95.5	0.020	100	0	**96**	70	130				
Lead	0.000214	0.010		0							
Manganese	0.000304	0.010		0							
Molybdenum	0.792	0.0050	0.8	0	**99**	70	130				
Nickel	0.000301	0.010		0							
Selenium	0.000423	0.0050		0							
Silver	0.000982	0.0050		0							
Uranium	0.000168	0.0010		0							
Vanadium	-0.00235	0.10		0							
Zinc	0.000641	0.010		0							

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115831

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 388** SampType: **Sample Matrix Spike** Lab ID: **H16060091-015CMS** Method: **E200.8**

Analysis Date: **06/08/16 14:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0471	0.0010	0.05	0.0002865	94	70	130				
Arsenic	0.0521	0.0010	0.05	0.0005744	103	70	130				
Barium	0.0944	0.050	0.05	0.04401	101	70	130				
Beryllium	0.0459	0.0010	0.05	0	92	70	130				
Cadmium	0.0484	0.0010	0.05	0.0000324	97	70	130				
Chromium	0.0488	0.0050	0.05	0	98	70	130				
Cobalt	0.0490	0.0050	0.05	0.000436	97	70	130				
Copper	0.0484	0.0050	0.05	0.0005424	96	70	130				
Iron	0.158	0.020	0.15	0.01202	97	70	130				
Lead	0.0493	0.0010	0.05	0.0000055	99	70	130				
Manganese	0.0699	0.0010	0.05	0.01983	100	70	130				
Molybdenum	0.0638	0.0010	0.05	0.01612	95	70	130				
Nickel	0.0513	0.0050	0.05	0.003486	96	70	130				
Selenium	0.0574	0.0010	0.05	0.002225	110	70	130				
Silver	0.0172	0.0010	0.02	0	86	70	130				
Uranium	0.0549	0.00030	0.05	0.005121	100	70	130				
Vanadium	0.0490	0.010	0.05	0	98	70	130				
Zinc	0.0480	0.010	0.05	0.001588	93	70	130				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICPMS204-B_160607A: 389** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060091-015CMSD** Method: **E200.8**

Analysis Date: **06/08/16 14:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0471	0.0010	0.05	0.0002865	94	70	130	0.04714	0.1	20	
Arsenic	0.0520	0.0010	0.05	0.0005744	103	70	130	0.05208	0.2	20	
Barium	0.0940	0.050	0.05	0.04401	100	70	130	0.09442	0.4	20	
Beryllium	0.0447	0.0010	0.05	0	89	70	130	0.04589	2.5	20	
Cadmium	0.0477	0.0010	0.05	0.0000324	95	70	130	0.04837	1.4	20	
Chromium	0.0485	0.0050	0.05	0	97	70	130	0.0488	0.6	20	
Cobalt	0.0487	0.0050	0.05	0.000436	97	70	130	0.04896	0.5	20	
Copper	0.0482	0.0050	0.05	0.0005424	95	70	130	0.04843	0.4	20	
Iron	0.159	0.020	0.15	0.01202	98	70	130	0.1575	0.8	20	
Lead	0.0489	0.0010	0.05	0.0000055	98	70	130	0.04928	0.8	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115831

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 389** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060091-015CMSD** Method: **E200.8**

Analysis Date: **06/08/16 14:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0690	0.0010	0.05	0.01983	98	70	130	0.0699	1.3	20	
Molybdenum	0.0645	0.0010	0.05	0.01612	97	70	130	0.06382	1.1	20	
Nickel	0.0508	0.0050	0.05	0.003486	95	70	130	0.05131	1.0	20	
Selenium	0.0569	0.0010	0.05	0.002225	109	70	130	0.05742	0.9	20	
Silver	0.0181	0.0010	0.02	0	90	70	130	0.01715	5.3	20	
Uranium	0.0548	0.00030	0.05	0.005121	99	70	130	0.05494	0.2	20	
Vanadium	0.0486	0.010	0.05	0	97	70	130	0.04899	0.9	20	
Zinc	0.0480	0.010	0.05	0.001588	93	70	130	0.04799	0.1	20	

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICPMS204-B_160607A: 503** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/08/16 21:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0576	0.050	0.06	0	96	90	110				
Arsenic	0.0598	0.0050	0.06	0	100	90	110				
Barium	0.0594	0.10	0.06	0	99	90	110				
Beryllium	0.0297	0.0010	0.03	0	99	90	110				
Cadmium	0.0301	0.0010	0.03	0	100	90	110				
Chromium	0.0594	0.010	0.06	0	99	90	110				
Cobalt	0.0597	0.010	0.06	0	99	90	110				
Copper	0.0607	0.010	0.06	0	101	90	110				
Iron	0.302	0.020	0.3	0	101	90	110				
Lead	0.0577	0.010	0.06	0	96	90	110				
Manganese	0.298	0.010	0.3	0	99	90	110				
Molybdenum	0.0571	0.0050	0.06	0	95	90	110				
Nickel	0.0607	0.010	0.06	0	101	90	110				
Selenium	0.0588	0.0050	0.06	0	98	90	110				
Silver	0.0297	0.0050	0.03	0	99	90	110				
Uranium	0.0559	0.0010	0.06	0	93	90	110				
Vanadium	0.0582	0.10	0.06	0	97	90	110				
Zinc	0.0618	0.010	0.06	0	103	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115831

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160607A: 504** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/08/16 21:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000156	0.050		0							
Arsenic	-0.000162	0.0050		0							
Barium	0.000159	0.10		0							
Beryllium	1.50E-05	0.0010		0							
Cadmium	0.00110	0.0010		0							
Chromium	0.00128	0.010		0							
Cobalt	3.20E-05	0.010		0							
Copper	0.000343	0.010		0							
Iron	100	0.020	100	0	**100**	70	130				
Lead	0.000217	0.010		0							
Manganese	9.90E-05	0.010		0							
Molybdenum	0.851	0.0050	0.8	0	**106**	70	130				
Nickel	0.000303	0.010		0							
Selenium	0.000569	0.0050		0							
Silver	0.000120	0.0050		0							
Uranium	0.000122	0.0010		0							
Vanadium	-0.00185	0.10		0							
Zinc	0.000773	0.010		0							

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115832

Date: *27-Jun-16*

Run ID :Run Order: **IC102-H_160607A: 12** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **06/07/16 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.02	0.006									
Sulfate	ND	0.05									

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **IC102-H_160607A: 13** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **06/07/16 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	97.5	1.0	100	0	98	90	110				
Sulfate	394	1.0	400	0	99	90	110				

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **IC102-H_160607A: 14** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **06/07/16 12:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	45.9	1.0	50	0.022	92	90	110				
Sulfate	203	1.0	200	0	102	90	110				

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **IC102-H_160607A: 15** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV060716-1** Method: **E300.0**
Analysis Date: **06/07/16 12:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	97.0	1.0	100	0	97	90	110				
Sulfate	394	1.0	400	0	98	90	110				

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **IC102-H_160607A: 28** SampType: **Sample Matrix Spike** Lab ID: **H16060099-002AMS** Method: **E300.0**
Analysis Date: **06/07/16 14:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	71.7	1.0	50	20.62	102	90	110				
Sulfate	266	1.0	200	57.85	104	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115832

Date: *27-Jun-16*

Run ID :Run Order: **IC102-H_160607A: 28** SampType: **Sample Matrix Spike** Lab ID: **H16060099-002AMS** Method: **E300.0**

Analysis Date: **06/07/16 14:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **IC102-H_160607A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-002AMSD** Method: **E300.0**

Analysis Date: **06/07/16 14:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	71.2	1.0	50	20.62	**101**	90	110	71.68	**0.7**	20	
Sulfate	267	1.0	200	57.85	**105**	90	110	266	**0.5**	20	

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115857

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160608B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **06/08/16 10:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.766	0.10	0.8	0	96	95	105				
Calcium	39.4	1.0	40	0	98	95	105				
Iron	3.91	0.020	4	0	98	95	105				
Magnesium	39.5	1.0	40	0	99	95	105				
Potassium	39.8	1.0	40	0	100	95	105				
Sodium	39.9	1.0	40	0	100	95	105				

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICP2-HE_160608B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **06/08/16 10:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.41	0.10	2.5	0	96	95	105				
Calcium	25.0	1.0	25	0	100	95	105				
Iron	2.46	0.020	2.5	0	98	95	105				
Magnesium	24.9	1.0	25	0	100	95	105				
Potassium	24.3	1.0	25	0	97	95	105				
Sodium	24.1	1.0	25	0	97	95	105				

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICP2-HE_160608B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **06/08/16 10:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00266	0.10		0		0	0				
Calcium	453	1.0	500	0	91	80	120				
Iron	181	0.020	200	0	90	80	120				
Magnesium	493	1.0	500	0	99	80	120				
Potassium	0.0270	1.0		0		0	0				
Sodium	0.0140	1.0		0		0	0				

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115857

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160608B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/08/16 10:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.962	0.10	1	0	96	80	120				
Calcium	456	1.0	500	0	91	80	120				
Iron	183	0.020	200	0	91	80	120				
Magnesium	498	1.0	500	0	100	80	120				
Potassium	20.1	1.0	20	0	101	80	120				
Sodium	20.1	1.0	20	0	101	80	120				

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Run ID :Run Order: **ICP2-HE_160608B: 63** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/08/16 15:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.42	0.10	2.5	0	97	90	110				
Calcium	25.0	1.0	25	0	100	90	110				
Iron	2.48	0.020	2.5	0	99	90	110				
Magnesium	24.8	1.0	25	0	99	90	110				
Potassium	24.1	1.0	25	0	97	90	110				
Sodium	24.1	1.0	25	0	96	90	110				

Associated samples: **H16060098-001C, H16060098-002C, H16060098-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160609B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/09/16 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.294	0.10	0.3	0	98	90	110				
Cadmium	0.0295	0.0010	0.03	0	98	90	110				
Copper	0.0610	0.010	0.06	0	102	90	110				
Silver	0.0295	0.0050	0.03	0	98	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160609B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/09/16 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.3	0.10	40	0	101	70	130				
Cadmium	0.00136	0.0010		0							
Copper	0.000364	0.010		0							
Silver	3.60E-05	0.0050		0							

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160609B: 44** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **06/09/16 14:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.003	0.0005									
Cadmium	ND	1E-05									
Copper	ND	6E-05									
Silver	ND	9E-06									

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICPMS204-B_160609B: 45** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **06/09/16 14:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0548	0.10	0.05	0.003114	103	85	115				
Cadmium	0.0501	0.0010	0.05	0	100	85	115				
Copper	0.0498	0.010	0.05	0	100	85	115				
Silver	0.0190	0.0050	0.02	0	95	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160609B: 45** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **06/09/16 14:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Run ID :Run Order: **ICPMS204-B_160609B: 93** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/09/16 17:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.300	0.10	0.3	0	100	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				
Copper	0.0623	0.010	0.06	0	104	90	110				
Silver	0.0300	0.0050	0.03	0	100	90	110				

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160609B: 94** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **06/09/16 17:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.3	0.10	40	0	103	70	130				
Cadmium	0.00135	0.0010		0							
Copper	0.000370	0.010		0							
Silver	8.20E-05	0.0050		0							

Associated samples: **H16060098-001B, H16060098-001C, H16060098-002B, H16060098-002C, H16060098-003B, H16060098-003C**

Run ID :Run Order: **ICPMS204-B_160609B: 115** SampType: **Sample Matrix Spike** Lab ID: **H16060091-013CMS** Method: **E200.8**
Analysis Date: **06/09/16 18:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0525	0.030	0.05	0.001378	102	70	130				
Cadmium	0.0515	0.0010	0.05	0	103	70	130				
Copper	0.0501	0.0050	0.05	0	100	70	130				
Silver	0.0190	0.0010	0.02	0	95	70	130				

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160609B: 116** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060091-013CMSD** Method: **E200.8**

Analysis Date: **06/09/16 18:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0498	0.030	0.05	0.001378	**97**	70	130	0.05246	**5.3**	20	
Cadmium	0.0503	0.0010	0.05	0	**101**	70	130	0.05146	**2.3**	20	
Copper	0.0492	0.0050	0.05	0	**98**	70	130	0.05012	**1.9**	20	
Silver	0.0193	0.0010	0.02	0	**96**	70	130	0.01898	**1.5**	20	

Associated samples: **H16060098-001B, H16060098-002B, H16060098-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115918

Date: *27-Jun-16*

Run ID :Run Order: **FIA202-HE_160610A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **06/10/16 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.261	0.010	0.25	0	105	90	110				

Associated samples: **H16060098-003D**

Run ID :Run Order: **FIA202-HE_160610A: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **06/10/16 11:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0991	0.010	0.1	0	99	90	110				

Associated samples: **H16060098-003D**

Run ID :Run Order: **FIA202-HE_160610A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **06/10/16 11:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.000830	0.010		0		0	0				

Associated samples: **H16060098-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116221

Date: *27-Jun-16*

Run ID :Run Order: **SOIL DRYING OVEN 2_160621C: 8** SampType: **Sample Duplicate** Lab ID: **H16060098-010ADUP** Method: **D2974**

Analysis Date: **06/22/16 12:48** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	23.2	0.20		0				25.13	**8.0**	20	

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116275

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160623A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **06/23/16 09:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.98	0.10	4	0	99	90	110				
Arsenic	0.800	0.10	0.8	0	100	90	110				
Barium	0.777	0.10	0.8	0	97	90	110				
Cadmium	0.387	0.010	0.4	0	97	90	110				
Copper	0.791	0.010	0.8	0	99	90	110				
Iron	3.95	0.030	4	0	99	90	110				
Lead	0.772	0.050	0.8	0	97	90	110				
Manganese	3.89	0.010	4	0	97	90	110				
Zinc	0.793	0.010	0.8	0	99	90	110				

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICP2-HE_160623A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **06/23/16 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	506	0.10	500	0	101	80	120				
Arsenic	0.000440	0.10		0		0	0				
Barium	-0.00134	0.10		0		0	0				
Cadmium	0.00623	0.010		0		0	0				
Copper	0.00260	0.010		0		0	0				
Iron	181	0.030	200	0	91	80	120				
Lead	-0.00652	0.050		0		0	0				
Manganese	-0.00524	0.010		0		0	0				
Zinc	0.00392	0.010		0		0	0				

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Run ID :Run Order: **ICP2-HE_160623A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **06/23/16 10:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	513	0.10	500	0	103	80	120				
Arsenic	0.945	0.10	1	0	94	80	120				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116275

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160623A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **06/23/16 10:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.492	0.10	0.5	0	98	80	120				
Cadmium	0.873	0.010	1	0	87	80	120				
Copper	0.497	0.010	0.5	0	99	80	120				
Iron	184	0.030	200	0	92	80	120				
Lead	0.875	0.050	1	0	88	80	120				
Manganese	0.464	0.010	0.5	0	93	80	120				
Zinc	0.955	0.010	1	0	95	80	120				

Associated samples: **H16060098-004A, H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116285

Date: *27-Jun-16*

Run ID :Run Order: **ICPMS204-B_160623B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **06/23/16 12:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0608	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0635	0.0010	0.06	0	**106**	90	110				
Beryllium	0.0317	0.0010	0.03	0	**106**	90	110				
Boron	0.0645	0.0011	0.06	0	**107**	90	110				
Cadmium	0.0315	0.0010	0.03	0	**105**	90	110				
Chromium	0.0628	0.0010	0.06	0	**105**	90	110				
Cobalt	0.0635	0.0010	0.06	0	**106**	90	110				
Lead	0.0612	0.0010	0.06	0	**102**	90	110				
Molybdenum	0.0607	0.0010	0.06	0	**101**	90	110				
Nickel	0.0643	0.0010	0.06	0	**107**	90	110				
Selenium	0.0640	0.0010	0.06	0	**107**	90	110				
Silver	0.0308	0.0010	0.03	0	**103**	90	110				
Uranium	0.0600	0.00030	0.06	0	**100**	90	110				
Vanadium	0.0610	0.0010	0.06	0	**102**	90	110				

Associated samples: **H16060098-005A, H16060098-006A, H16060098-007A, H16060098-008A, H16060098-009A, H16060098-010A, H16060098-011A, H16060098-012A, H16060098-013A, H16060098-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116292

Date: *27-Jun-16*

Run ID :Run Order: **ICP2-HE_160624A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **06/24/16 09:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	3.90	0.030	4	0	97	90	110				

Associated samples: **H16060098-010A**

Run ID :Run Order: **ICP2-HE_160624A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **06/24/16 10:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	179	0.030	200	0	89	80	120				

Associated samples: **H16060098-010A**

Run ID :Run Order: **ICP2-HE_160624A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **06/24/16 10:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	180	0.030	200	0	90	80	120				

Associated samples: **H16060098-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160606A

Date: *27-Jun-16*

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 1** SampType: **Method Blank** Lab ID: **MB-1_160606A** Method: **A2540 D**
Analysis Date: **06/06/16 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_160606A** Method: **A2540 D**
Analysis Date: **06/06/16 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	91.0	10	100	0	**91**	80	120				

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 4** SampType: **Sample Duplicate** Lab ID: **H16060091-001ADUP** Method: **A2540 D**
Analysis Date: **06/06/16 12:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	44.4	10		0				43.6	**1.8**	5	

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 1** SampType: **Sample Duplicate** Lab ID: **H16060091-011ADUP** Method: **A2540 D**
Analysis Date: **06/06/16 12:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	55.6	10		0				53.6	**3.7**	5	

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 2** SampType: **Sample Duplicate** Lab ID: **H16050382-001A DUP** Method: **A2540 D**
Analysis Date: **06/06/16 14:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	648	40		0				612	**5.7**	5	R

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16060098
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160606A

Date: *27-Jun-16*

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 3** SampType: **Sample Duplicate** Lab ID: **H16060099-016A DUP** Method: **A2540 D**

Analysis Date: **06/06/16 15:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	13.4	10		0				13.8	**2.9**	5	

Associated samples: **H16060098-001A, H16060098-002A, H16060098-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

Natural Resource Damage Program H16060098

Login completed by: Tracy L. Lorash
Date Received: 6/6/2016
Reviewed by: BL2000\rwilliams
Received by: wjj
Reviewed Date: 6/7/2016
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	°C See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	Not Applicable ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Relinquished time from client does not match received time by laboratory.
No collection time on COC for samples 1-3. Logged in with time from bottles.
Collection date on bottles is incorrect. We are to log in with date from COC per Gary.
Cooler1 was received at 3.0°C, Cooler 2 at 3.0, Cooler 3 at 3.6°C, Cooler 4 at 3.4°C, Cooler 5 containing sediment jars at 20.1°C, Cooler 6 containing sediment jars at 14.2°C. Samples in Coolers 5 and 6 were not received on ice and temperatures were taken from a client sample. Samples in Coolers 1, 2, 3 & 4 were received on ice and temperatures were taken from a temperature blank. tl 6/6/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: NRDP/DOJ

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Report Mail Address (Required): MT DEQ, P.O. Box 200901, Helena, MT 59620

☐ No Hard Copy Email:

Contact Name: Ben Quinones

Phone/Fax:

Cell: email: bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

Invoice Contact & Phone: Greg Mullen 444-0228

Purchase Order:

Quote/Bottle Order: 1088/20641

Invoice Address (Required): 1501 E. Lockey, Helena, MT 59620

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Diss. metals and DOC were field filtered. Lab to sieve sediment samples into 3 size fractions. Report sediment metals as dry weight concentrations.

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR Metals (See list)	Diss. Metals (See list)	TPN	NH_3-N, NO_2+NO_3, TP	TSS, VSS	Hardness (CaCO3 Ca & Mg)	Total Alk, HCO_3, SO_4, Cl, K, Na	DOC	Total metals Sediment (dry weight, see list)	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments
C3	1 SS-01	6-3-2016	[illegible]	SW, IS	↓	↓	↓	↓	↓	↓	↓	↓	↓				C1-3.0, C2-30
C4	2 SS-05A	6-3-2016	[illegible]	SW, IS	↓	↓	↓	↓	↓	↓	↓	↓	↓				C3-3.6, C4-3.4
C1	3 SS-15G	6-2-2016	[illegible]	SW, IS	↓	↓	↓	↓	↓	↓	↓	↓	↓				C5-20.1 C6 14.2
C6	4 Slag-01	6-3-2016	1545	IS									*				As, Cd, Cu, Pb, Zn only, <0.063 mm only
C6	5 SS-04	6-3-2016	1611	IS									*				As, Cd, Cu, Pb, Zn only, <0.063 mm only.
	6																
	7																
	8																
	9																
	10																

LABORATORY USE ONLY

Shipped by: Hand delivery

Cooler ID(s): Y

Receipt Temp: see comments °C

On Ice: (Y) N

Custody Seal: On Bottle Y N; On Cooler Y N; Intact Y N; Signature Match Y N

TBOC
ICE
TBOICE
H16060098

Custody Record MUST be Signed

Relinquished by (print): Gary L. Ingman Date/Time: 6/6/2016 0820 Signature: Gary L Ingman

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Wandison Date/Time: 6-6-16 8:11 Signature:

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

ANALYTICAL SUMMARY REPORT

July 06, 2016

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H16060099 Quote ID: H1088

Project Name: Silver Bow Monitoring

Energy Laboratories Inc Helena MT received the following 69 samples for MT DEQ-Federal Superfund on 6/6/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16060099-001	SS-06G	06/03/16 15:00	06/06/16	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended Solids, Suspended Volatile
H16060099-002	SS-07	06/03/16 14:30	06/06/16	Aqueous	Same As Above
H16060099-003	Field Blank #2 (SS-07)	06/03/16 13:45	06/06/16	Aqueous	Same As Above
H16060099-004	SS-08	06/03/16 13:00	06/06/16	Aqueous	Same As Above
H16060099-005	SS-10A	06/03/16 12:00	06/06/16	Aqueous	Same As Above
H16060099-006	SS-10B	06/03/16 11:00	06/06/16	Aqueous	Same As Above
H16060099-007	Field Duplicate #2 (SS-11C)	06/03/16 10:00	06/06/16	Aqueous	Same As Above
H16060099-008	SS-11C	06/03/16 10:00	06/06/16	Aqueous	Same As Above
H16060099-009	SS-11D	06/03/16 9:00	06/06/16	Aqueous	Same As Above
H16060099-010	SS-13	06/02/16 16:00	06/06/16	Aqueous	Same As Above
H16060099-011	Field Duplicate #1 (SS-14)	06/02/16 15:00	06/06/16	Aqueous	Same As Above
H16060099-012	SS-14	06/02/16 15:00	06/06/16	Aqueous	Same As Above
H16060099-013	SS-15A	06/02/16 13:00	06/06/16	Aqueous	Same As Above
H16060099-014	SS-15B	06/02/16 12:00	06/06/16	Aqueous	Same As Above
H16060099-015	SS-16B	06/02/16 11:00	06/06/16	Aqueous	Same As Above
H16060099-016	SS-17D	06/02/16 10:00	06/06/16	Aqueous	Same As Above
H16060099-017	Field Blank #1 (SS-17D	06/02/16 10:00	06/06/16	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H16060099-018	SS-19	06/02/16 9:00	06/06/16	Aqueous	Same As Above
H16060099-019	SS-06G Sediment Sieve <0.065mm	06/03/16 15:00	06/06/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16060099-020	SS-06G Sediment Sieve 0.065-1mm	06/03/16 15:00	06/06/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16060099-021	SS-06G Sediment Sieve 1-2mm	06/03/16 15:00	06/06/16	Sediment	Same As Above
H16060099-022	Sediment Duplicate #2 (SS-07) Sediment Sieve <0.065mm	06/03/16 14:30	06/06/16	Sediment	Same As Above
H16060099-023	Sediment Duplicate #2 (SS-07) Sediment Sieve 0.065-1mm	06/03/16 14:30	06/06/16	Sediment	Same As Above
H16060099-024	Sediment Duplicate #2 (SS-07) Sediment Sieve 1-2mm	06/03/16 14:30	06/06/16	Sediment	Same As Above
H16060099-025	SS-07 Sediment Sieve <0.065mm	06/03/16 14:30	06/06/16	Sediment	Same As Above
H16060099-026	SS-07 Sediment Sieve 0.065-1mm	06/03/16 14:30	06/06/16	Sediment	Same As Above
H16060099-027	SS-07 Sediment Sieve 1-2mm	06/03/16 14:30	06/06/16	Sediment	Same As Above
H16060099-028	SS-08 Sediment Sieve <0.065mm	06/03/16 13:00	06/06/16	Sediment	Same As Above
H16060099-029	SS-08 Sediment Sieve 0.065-1mm	06/03/16 13:00	06/06/16	Sediment	Same As Above
H16060099-030	SS-08 Sediment Sieve 1-2mm	06/03/16 13:00	06/06/16	Sediment	Same As Above
H16060099-031	SS-10A Sediment Sieve <0.065mm	06/03/16 12:00	06/06/16	Sediment	Same As Above
H16060099-032	SS-10A Sediment Sieve 0.065-1mm	06/03/16 12:00	06/06/16	Sediment	Same As Above
H16060099-033	SS-10A Sediment Sieve 1-2mm	06/03/16 12:00	06/06/16	Sediment	Same As Above
H16060099-034	SS-10B Sediment Sieve <0.065mm	06/03/16 11:00	06/06/16	Sediment	Same As Above
H16060099-035	SS-10B Sediment Sieve 0.065-1mm	06/03/16 11:00	06/06/16	Sediment	Same As Above
H16060099-036	SS-10B Sediment Sieve 1-2mm	06/03/16 11:00	06/06/16	Sediment	Same As Above
H16060099-037	SS-11C Sediment Sieve <0.065mm	06/03/16 10:00	06/06/16	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H16060099-038	SS-11C Sediment Sieve 0.065-1mm	06/03/16 10:00	06/06/16	Sediment	Same As Above
H16060099-039	SS-11C Sediment Sieve 1-2mm	06/03/16 10:00	06/06/16	Sediment	Same As Above
H16060099-040	SS-11D Sediment Sieve <0.065mm	06/03/16 9:00	06/06/16	Sediment	Same As Above
H16060099-041	SS-11D Sediment Sieve 0.065-1mm	06/03/16 9:00	06/06/16	Sediment	Same As Above
H16060099-042	SS-11D Sediment Sieve 1-2mm	06/03/16 9:00	06/06/16	Sediment	Same As Above
H16060099-043	SS-13 Sediment Sieve <0.065mm	06/02/16 16:00	06/06/16	Sediment	Same As Above
H16060099-044	SS-13 Sediment Sieve 0.065-1mm	06/02/16 16:00	06/06/16	Sediment	Same As Above
H16060099-045	SS-13 Sediment Sieve 1-2mm	06/02/16 16:00	06/06/16	Sediment	Same As Above
H16060099-046	SS-14 Sediment Sieve <0.065mm	06/02/16 15:00	06/06/16	Sediment	Same As Above
H16060099-047	SS-14 Sediment Sieve 0.065-1mm	06/02/16 15:00	06/06/16	Sediment	Same As Above
H16060099-048	SS-14 Sediment Sieve 1-2mm	06/02/16 15:00	06/06/16	Sediment	Same As Above
H16060099-049	Sediment Duplicate #1 (SS-15A) Sediment Sieve <0.065mm	06/02/16 13:00	06/06/16	Sediment	Same As Above
H16060099-050	Sediment Duplicate #1 (SS-15A) Sediment Sieve 0.065-1mm	06/02/16 13:00	06/06/16	Sediment	Same As Above
H16060099-051	Sediment Duplicate #1 (SS-15A) Sediment Sieve 1-2m	06/02/16 13:00	06/06/16	Sediment	Same As Above
H16060099-052	SS-15A Sediment Sieve <0.065mm	06/02/16 13:00	06/06/16	Sediment	Same As Above
H16060099-053	SS-15A Sediment Sieve 0.065-1mm	06/02/16 13:00	06/06/16	Sediment	Same As Above
H16060099-054	SS-15A Sediment Sieve 1-2mm	06/02/16 13:00	06/06/16	Sediment	Same As Above
H16060099-055	SS-15B Sediment Sieve <0.065mm	06/02/16 12:00	06/06/16	Sediment	Same As Above
H16060099-056	SS-15B Sediment Sieve 0.065-1mm	06/02/16 12:00	06/06/16	Sediment	Same As Above
H16060099-057	SS-15B Sediment Sieve 1-2mm	06/02/16 12:00	06/06/16	Sediment	Same As Above
H16060099-058	SS-16B Sediment Sieve <0.065mm	06/02/16 11:00	06/06/16	Sediment	Same As Above
H16060099-059	SS-16B Sediment Sieve 0.065-1mm	06/02/16 11:00	06/06/16	Sediment	Same As Above
H16060099-060	SS-16B Sediment Sieve 1-2mm	06/02/16 11:00	06/06/16	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H16060099-061	SS-17D Sediment Sieve <0.065mm	06/02/16 10:00	06/06/16	Sediment	Same As Above
H16060099-062	SS-17D Sediment Sieve 0.065-1mm	06/02/16 10:00	06/06/16	Sediment	Same As Above
H16060099-063	SS-17D Sediment Sieve 1-2mm	06/02/16 10:00	06/06/16	Sediment	Same As Above
H16060099-064	SS-19 Sediment Sieve <0.065mm	06/02/16 9:00	06/06/16	Sediment	Same As Above
H16060099-065	SS-19 Sediment Sieve 0.065-1mm	06/02/16 9:00	06/06/16	Sediment	Same As Above
H16060099-066	SS-19 Sediment Sieve 1-2mm	06/02/16 9:00	06/06/16	Sediment	Same As Above
H16060099-067	SS-15A US Sediment Sieve <0.065mm	06/02/16 13:00	06/06/16	Sediment	Same As Above
H16060099-068	SS-15A US Sediment Sieve 0.065-1mm	06/02/16 13:00	06/06/16	Sediment	Same As Above
H16060099-069	SS-15A US Sediment Sieve 1-2mm	06/02/16 13:00	06/06/16	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Work Order: H16060099

Report Date: 07/06/16

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16060099-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	06/06/16 15:07 / MA		L24 (14410200)_160606A	23	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	5	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	83	mg/L		4		A2320 B	06/07/16 09:46 / SR		PHSC_101-H_160607A	19	R115797
Bicarbonate as HCO3	91	mg/L		4		A2320 B	06/07/16 09:46 / SR		PHSC_101-H_160607A	19	R115797
Chloride	15	mg/L		1		E300.0	06/07/16 14:19 / SR		IC102-H_160607A	26	R115832
Sulfate	60	mg/L		1		E300.0	06/07/16 14:19 / SR		IC102-H_160607A	26	R115832
Hardness as CaCO3	131	mg/L		1		A2340 B	06/07/16 16:44 / abc		CALC_160612A	80	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.2	mg/L		0.5		A5310 C	06/09/16 23:43 / eli-c		SUB-C212501	13	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:17 / cm		FIA203-HE_160607D	17	R115823
Nitrogen, Nitrate+Nitrite as N	0.57	mg/L		0.02		E353.2	06/07/16 09:25 / cm		FIA203-HE_160607A	12	R115805
Nitrogen, Total	0.90	mg/L		0.05		A4500 N-C	06/07/16 11:13 / cm	06/07/16 10:05	FIA203-HE_160607B	18	33179
Phosphorus, Total as P	0.091	mg/L		0.003		E365.1	06/08/16 13:20 / cm	06/08/16 11:46	FIA202-HE_160608B	18	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Arsenic	0.005	mg/L		0.001		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Barium	0.033	mg/L		0.003		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 16:44 / sld		ICP2-HE_160607B	33	R115830
Cadmium	ND	mg/L		0.00003		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Calcium	37	mg/L		1		E200.7	06/07/16 16:44 / sld		ICP2-HE_160607B	33	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Copper	0.004	mg/L		0.001		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Iron	0.16	mg/L		0.02		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16060099-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Magnesium	9	mg/L		1		E200.7	06/07/16 16:44 / sld		ICP2-HE_160607B	33	R115830
Manganese	0.038	mg/L		0.001		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 13:43 / rgk	06/07/16 08:22	HGCV202-H_160608A	50	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Potassium	3	mg/L		1		E200.7	06/07/16 16:44 / sld		ICP2-HE_160607B	33	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Sodium	15	mg/L		1		E200.7	06/07/16 16:44 / sld		ICP2-HE_160607B	33	R115830
Uranium	0.0033	mg/L		0.0002		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
Zinc	ND	mg/L		0.008		E200.8	06/09/16 19:30 / dck		ICPMS204-B_160609B	129	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.165	mg/L		0.009		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Barium	0.035	mg/L		0.003		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 17:35 / sld	06/08/16 11:59	ICP2-HE_160609B	84	33199
Cadmium	0.00008	mg/L		0.00003		E200.8	06/13/16 22:52 / dck	06/08/16 11:59	ICPMS204-B_160613B	19	33199
Calcium	37	mg/L		1		E200.7	06/09/16 17:35 / sld	06/08/16 11:59	ICP2-HE_160609B	84	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Copper	0.009	mg/L		0.001		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Iron	0.70	mg/L		0.02		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Lead	0.0016	mg/L		0.0003		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Magnesium	10	mg/L		1		E200.7	06/09/16 17:35 / sld	06/08/16 11:59	ICP2-HE_160609B	84	33199
Manganese	0.064	mg/L		0.001		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Mercury	7.4E-06	mg/L		5E-06		E245.1	06/08/16 13:46 / rgk	06/07/16 08:22	HGCV202-H_160608A	51	33175
Molybdenum	0.005	mg/L		0.005		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16060099-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Potassium	3	mg/L		1		E200.7	06/09/16 17:35 / sld	06/08/16 11:59	ICP2-HE_160609B	84	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Sodium	15	mg/L		1		E200.7	06/09/16 17:35 / sld	06/08/16 11:59	ICP2-HE_160609B	84	33199
Uranium	0.0036	mg/L		0.0002		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199
Zinc	0.016	mg/L		0.008		E200.8	06/09/16 19:48 / dck	06/08/16 11:59	ICPMS204-B_160609B	135	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16060099-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 14:30
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	06/06/16 15:08 / MA		L24 (14410200)_160606A	24	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	6	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	83	mg/L		4		A2320 B	06/07/16 09:52 / SR		PHSC_101-H_160607A	21	R115797
Bicarbonate as HCO3	100	mg/L		4		A2320 B	06/07/16 09:52 / SR		PHSC_101-H_160607A	21	R115797
Chloride	21	mg/L		1		E300.0	06/07/16 14:31 / SR		IC102-H_160607A	27	R115832
Sulfate	58	mg/L		1		E300.0	06/07/16 14:31 / SR		IC102-H_160607A	27	R115832
Hardness as CaCO3	127	mg/L		1		A2340 B	06/07/16 16:48 / abc		CALC_160612A	91	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.6	mg/L		0.5		A5310 C	06/10/16 00:02 / eli-c		SUB-C212501	17	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	0.25	mg/L		0.05		E350.1	06/07/16 15:18 / cm		FIA203-HE_160607D	18	R115823
Nitrogen, Nitrate+Nitrite as N	1.18	mg/L		0.02		E353.2	06/07/16 09:29 / cm		FIA203-HE_160607A	15	R115805
Nitrogen, Total	1.92	mg/L		0.05		A4500 N-C	06/07/16 11:14 / cm	06/07/16 10:05	FIA203-HE_160607B	19	33179
Phosphorus, Total as P	0.356	mg/L		0.003		E365.1	06/08/16 13:21 / cm	06/08/16 11:46	FIA202-HE_160608B	19	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Arsenic	0.004	mg/L		0.001		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Barium	0.032	mg/L		0.003		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 16:48 / sld		ICP2-HE_160607B	34	R115830
Cadmium	0.00004	mg/L		0.00003		E200.8	06/13/16 22:55 / dck		ICPMS204-B_160613B	20	R115995
Calcium	36	mg/L		1		E200.7	06/07/16 16:48 / sld		ICP2-HE_160607B	34	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Copper	0.004	mg/L		0.001		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Iron	0.14	mg/L		0.02		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16060099-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 14:30
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Magnesium	9	mg/L		1		E200.7	06/07/16 16:48 / sld		ICP2-HE_160607B	34	R115830
Manganese	0.039	mg/L		0.001		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 13:49 / rgk	06/07/16 08:22	HGCV202-H_160608A	52	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Potassium	4	mg/L		1		E200.7	06/07/16 16:48 / sld		ICP2-HE_160607B	34	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Sodium	20	mg/L		1		E200.7	06/07/16 16:48 / sld		ICP2-HE_160607B	34	R115830
Uranium	0.0028	mg/L		0.0002		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
Zinc	0.020	mg/L		0.008		E200.8	06/09/16 20:10 / dck		ICPMS204-B_160609B	142	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.121	mg/L		0.009		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Barium	0.031	mg/L		0.003		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 18:27 / sld	06/08/16 11:59	ICP2-HE_160609B	98	33199
Cadmium	0.00009	mg/L		0.00003		E200.8	06/13/16 23:08 / dck	06/08/16 11:59	ICPMS204-B_160613B	24	33199
Calcium	36	mg/L		1		E200.7	06/09/16 18:27 / sld	06/08/16 11:59	ICP2-HE_160609B	98	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Copper	0.008	mg/L		0.001		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Iron	0.57	mg/L		0.02		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Lead	0.0013	mg/L		0.0003		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Magnesium	9	mg/L		1		E200.7	06/09/16 18:27 / sld	06/08/16 11:59	ICP2-HE_160609B	98	33199
Manganese	0.058	mg/L		0.001		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Mercury	6.4E-06	mg/L		5E-06		E245.1	06/08/16 13:51 / rgk	06/07/16 08:22	HGCV202-H_160608A	53	33175
Molybdenum	0.005	mg/L		0.005		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16060099-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 14:30
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Potassium	4	mg/L		1		E200.7	06/09/16 18:27 / sld	06/08/16 11:59	ICP2-HE_160609B	98	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Sodium	19	mg/L		1		E200.7	06/09/16 18:27 / sld	06/08/16 11:59	ICP2-HE_160609B	98	33199
Uranium	0.0030	mg/L		0.0002		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199
Zinc	0.030	mg/L		0.008		E200.8	06/09/16 20:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	143	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 (SS-07)
Lab ID: H16060099-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 13:45
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	06/06/16 15:08 / MA		L24 (14410200)_160606A	25	TSS160606A
Solids, Volatile Suspended	ND	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	7	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	06/07/16 09:57 / SR		PHSC_101-H_160607A	23	R115797
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	06/07/16 09:57 / SR		PHSC_101-H_160607A	23	R115797
Chloride	ND	mg/L		1		E300.0	06/07/16 15:37 / SR		IC102-H_160607A	33	R115832
Sulfate	ND	mg/L		1		E300.0	06/07/16 15:37 / SR		IC102-H_160607A	33	R115832
Hardness as CaCO3	ND	mg/L		1		A2340 B	06/13/16 16:20 / sld		WATERCALC_160613B	7	R115955
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	06/10/16 00:47 / eli-c		SUB-C212501	25	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:19 / cm		FIA203-HE_160607D	19	R115823
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	06/07/16 09:30 / cm		FIA203-HE_160607A	16	R115805
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	06/07/16 11:15 / cm	06/07/16 10:05	FIA203-HE_160607B	20	33179
Phosphorus, Total as P	ND	mg/L		0.003		E365.1	06/08/16 13:22 / cm	06/08/16 11:46	FIA202-HE_160608B	20	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Arsenic	ND	mg/L		0.001		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Barium	ND	mg/L		0.003		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 16:52 / sld		ICP2-HE_160607B	35	R115830
Cadmium	ND	mg/L		0.00003		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Calcium	ND	mg/L		1		E200.7	06/07/16 16:52 / sld		ICP2-HE_160607B	35	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Copper	ND	mg/L		0.001		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Iron	ND	mg/L		0.02		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 (SS-07)
Lab ID: H16060099-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 13:45
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Magnesium	ND	mg/L		1		E200.7	06/07/16 16:52 / sld		ICP2-HE_160607B	35	R115830
Manganese	ND	mg/L		0.001		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 13:54 / rgk	06/07/16 08:22	HGCV202-H_160608A	54	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Potassium	ND	mg/L		1		E200.7	06/07/16 16:52 / sld		ICP2-HE_160607B	35	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Sodium	ND	mg/L		1		E200.7	06/07/16 16:52 / sld		ICP2-HE_160607B	35	R115830
Uranium	ND	mg/L		0.0002		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
Zinc	0.010	mg/L		0.008		E200.8	06/09/16 20:17 / dck		ICPMS204-B_160609B	144	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Arsenic	ND	mg/L		0.001		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Barium	ND	mg/L		0.003		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 18:31 / sld	06/08/16 11:59	ICP2-HE_160609B	99	33199
Cadmium	ND	mg/L		0.00003		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Calcium	ND	mg/L		1		E200.7	06/09/16 18:31 / sld	06/08/16 11:59	ICP2-HE_160609B	99	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Copper	ND	mg/L		0.001		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Iron	ND	mg/L		0.02		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Lead	ND	mg/L		0.0003		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Magnesium	ND	mg/L		1		E200.7	06/09/16 18:31 / sld	06/08/16 11:59	ICP2-HE_160609B	99	33199
Manganese	ND	mg/L		0.001		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 13:57 / rgk	06/07/16 08:22	HGCV202-H_160608A	55	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 (SS-07)
Lab ID: H16060099-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 13:45
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Potassium	ND	mg/L		1		E200.7	06/09/16 18:31 / sld	06/08/16 11:59	ICP2-HE_160609B	99	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Sodium	ND	mg/L		1		E200.7	06/09/16 18:31 / sld	06/08/16 11:59	ICP2-HE_160609B	99	33199
Uranium	ND	mg/L		0.0002		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199
Zinc	ND	mg/L		0.008		E200.8	06/09/16 20:20 / dck	06/08/16 11:59	ICPMS204-B_160609B	145	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16060099-004
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	06/06/16 15:08 / MA		L24 (14410200)_160606A	26	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	8	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	86	mg/L		4		A2320 B	06/07/16 10:03 / SR		PHSC_101-H_160607A	25	R115797
Bicarbonate as HCO3	100	mg/L		4		A2320 B	06/07/16 10:03 / SR		PHSC_101-H_160607A	25	R115797
Chloride	21	mg/L		1		E300.0	06/07/16 15:48 / SR		IC102-H_160607A	34	R115832
Sulfate	63	mg/L		1		E300.0	06/07/16 15:48 / SR		IC102-H_160607A	34	R115832
Hardness as CaCO3	135	mg/L		1		A2340 B	06/07/16 16:56 / abc		CALC_160612A	113	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.4	mg/L		0.5		A5310 C	06/10/16 01:51 / eli-c		SUB-C212501	37	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:21 / cm		FIA203-HE_160607D	20	R115823
Nitrogen, Nitrate+Nitrite as N	0.75	mg/L		0.02		E353.2	06/07/16 09:31 / cm		FIA203-HE_160607A	17	R115805
Nitrogen, Total	1.21	mg/L		0.05		A4500 N-C	06/07/16 11:16 / cm	06/07/16 10:05	FIA203-HE_160607B	21	33179
Phosphorus, Total as P	0.275	mg/L		0.003		E365.1	06/08/16 13:23 / cm	06/08/16 11:46	FIA202-HE_160608B	21	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Arsenic	0.004	mg/L		0.001		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Barium	0.030	mg/L		0.003		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 16:56 / sld		ICP2-HE_160607B	36	R115830
Cadmium	0.00007	mg/L		0.00003		E200.8	06/13/16 23:11 / dck		ICPMS204-B_160613B	25	R115995
Calcium	38	mg/L		1		E200.7	06/07/16 16:56 / sld		ICP2-HE_160607B	36	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Copper	0.006	mg/L		0.001		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Iron	0.12	mg/L		0.02		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16060099-004
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Magnesium	10	mg/L		1		E200.7	06/07/16 16:56 / sld		ICP2-HE_160607B	36	R115830
Manganese	0.045	mg/L		0.001		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 13:59 / rgk	06/07/16 08:22	HGCV202-H_160608A	56	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Potassium	4	mg/L		1		E200.7	06/07/16 16:56 / sld		ICP2-HE_160607B	36	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Sodium	21	mg/L		1		E200.7	06/07/16 16:56 / sld		ICP2-HE_160607B	36	R115830
Uranium	0.0030	mg/L		0.0002		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
Zinc	0.023	mg/L		0.008		E200.8	06/09/16 20:23 / dck		ICPMS204-B_160609B	146	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.107	mg/L		0.009		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Barium	0.032	mg/L		0.003		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 18:35 / sld	06/08/16 11:59	ICP2-HE_160609B	100	33199
Cadmium	0.00013	mg/L		0.00003		E200.8	06/13/16 23:14 / dck	06/08/16 11:59	ICPMS204-B_160613B	26	33199
Calcium	38	mg/L		1		E200.7	06/09/16 18:35 / sld	06/08/16 11:59	ICP2-HE_160609B	100	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Copper	0.010	mg/L		0.001		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Iron	0.51	mg/L		0.02		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Lead	0.0016	mg/L		0.0003		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Magnesium	10	mg/L		1		E200.7	06/09/16 18:35 / sld	06/08/16 11:59	ICP2-HE_160609B	100	33199
Manganese	0.069	mg/L		0.001		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199
Mercury	8.3E-06	mg/L		5E-06		E245.1	06/08/16 14:02 / rgk	06/07/16 08:22	HGCV202-H_160608A	57	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	147	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16060099-004
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 147	33199
Potassium	4	mg/L		1		E200.7	06/09/16 18:35 / sld	06/08/16 11:59	ICP2-HE_160609B	: 100	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 147	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 147	33199
Sodium	21	mg/L		1		E200.7	06/09/16 18:35 / sld	06/08/16 11:59	ICP2-HE_160609B	: 100	33199
Uranium	0.0034	mg/L		0.0002		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 147	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 147	33199
Zinc	0.035	mg/L		0.008		E200.8	06/09/16 20:26 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 147	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16060099-005
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	06/06/16 15:09 / MA		L24 (14410200)_160606A	27	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	9	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	89	mg/L		4		A2320 B	06/07/16 10:09 / SR		PHSC_101-H_160607A	27	R115797
Bicarbonate as HCO3	99	mg/L		4		A2320 B	06/07/16 10:09 / SR		PHSC_101-H_160607A	27	R115797
Chloride	20	mg/L		1		E300.0	06/07/16 16:00 / SR		IC102-H_160607A	35	R115832
Sulfate	72	mg/L		1		E300.0	06/07/16 16:00 / SR		IC102-H_160607A	35	R115832
Hardness as CaCO3	139	mg/L		1		A2340 B	06/07/16 17:07 / abc		CALC_160612A	124	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.1	mg/L		0.5		A5310 C	06/10/16 02:07 / eli-c		SUB-C212501	41	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:22 / cm		FIA203-HE_160607D	21	R115823
Nitrogen, Nitrate+Nitrite as N	0.42	mg/L		0.02		E353.2	06/07/16 09:32 / cm		FIA203-HE_160607A	18	R115805
Nitrogen, Total	0.84	mg/L		0.05		A4500 N-C	06/07/16 11:17 / cm	06/07/16 10:05	FIA203-HE_160607B	22	33179
Phosphorus, Total as P	0.288	mg/L		0.003		E365.1	06/08/16 13:24 / cm	06/08/16 11:46	FIA202-HE_160608B	22	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Arsenic	0.005	mg/L		0.001		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Barium	0.032	mg/L		0.003		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 17:07 / sld		ICP2-HE_160607B	39	R115830
Cadmium	0.00008	mg/L		0.00003		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Calcium	40	mg/L		1		E200.7	06/07/16 17:07 / sld		ICP2-HE_160607B	39	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Copper	0.013	mg/L		0.001		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Iron	0.10	mg/L		0.02		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16060099-005
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Magnesium	10	mg/L		1		E200.7	06/07/16 17:07 / sld		ICP2-HE_160607B	39	R115830
Manganese	0.074	mg/L		0.001		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 14:05 / rgk	06/07/16 08:22	HGCV202-H_160608A	58	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Potassium	4	mg/L		1		E200.7	06/07/16 17:07 / sld		ICP2-HE_160607B	39	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Sodium	22	mg/L		1		E200.7	06/07/16 17:07 / sld		ICP2-HE_160607B	39	R115830
Uranium	0.0035	mg/L		0.0002		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
Zinc	0.022	mg/L		0.008		E200.8	06/09/16 20:30 / dck		ICPMS204-B_160609B	148	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.107	mg/L		0.009		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Barium	0.034	mg/L		0.003		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 18:38 / sld	06/08/16 11:59	ICP2-HE_160609B	101	33199
Cadmium	0.00023	mg/L		0.00003		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Calcium	41	mg/L		1		E200.7	06/09/16 18:38 / sld	06/08/16 11:59	ICP2-HE_160609B	101	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Copper	0.021	mg/L		0.001		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Iron	0.47	mg/L		0.02		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Lead	0.0014	mg/L		0.0003		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Magnesium	10	mg/L		1		E200.7	06/09/16 18:38 / sld	06/08/16 11:59	ICP2-HE_160609B	101	33199
Manganese	0.092	mg/L		0.001		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199
Mercury	7.0E-06	mg/L		5E-06		E245.1	06/08/16 14:13 / rgk	06/07/16 08:22	HGCV202-H_160608A	61	33175
Molybdenum	0.005	mg/L		0.005		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	154	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16060099-005
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 154	33199
Potassium	4	mg/L		1		E200.7	06/09/16 18:38 / sld	06/08/16 11:59	ICP2-HE_160609B	: 101	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 154	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 154	33199
Sodium	21	mg/L		1		E200.7	06/09/16 18:38 / sld	06/08/16 11:59	ICP2-HE_160609B	: 101	33199
Uranium	0.0038	mg/L		0.0002		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 154	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 154	33199
Zinc	0.044	mg/L		0.008		E200.8	06/09/16 20:49 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 154	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16060099-006
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	4	mg/L		1		A2540 D	06/06/16 15:09 / MA		L24 (14410200)_160606A	28	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	10	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	06/07/16 10:15 / SR		PHSC_101-H_160607A	29	R115797
Bicarbonate as HCO3	100	mg/L		4		A2320 B	06/07/16 10:15 / SR		PHSC_101-H_160607A	29	R115797
Chloride	21	mg/L		1		E300.0	06/07/16 16:11 / SR		IC102-H_160607A	36	R115832
Sulfate	71	mg/L		1		E300.0	06/07/16 16:11 / SR		IC102-H_160607A	36	R115832
Hardness as CaCO3	137	mg/L		1		A2340 B	06/07/16 17:10 / abc		CALC_160612A	135	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.1	mg/L		0.5		A5310 C	06/10/16 02:22 / eli-c		SUB-C212501	45	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:23 / cm		FIA203-HE_160607D	22	R115823
Nitrogen, Nitrate+Nitrite as N	0.42	mg/L		0.02		E353.2	06/07/16 09:34 / cm		FIA203-HE_160607A	19	R115805
Nitrogen, Total	0.80	mg/L		0.05		A4500 N-C	06/07/16 11:19 / cm	06/07/16 10:05	FIA203-HE_160607B	23	33179
Phosphorus, Total as P	0.282	mg/L		0.003		E365.1	06/08/16 13:25 / cm	06/08/16 11:46	FIA202-HE_160608B	23	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Arsenic	0.005	mg/L		0.001		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Barium	0.033	mg/L		0.003		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 17:10 / sld		ICP2-HE_160607B	40	R115830
Cadmium	0.00011	mg/L		0.00003		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Calcium	39	mg/L		1		E200.7	06/07/16 17:10 / sld		ICP2-HE_160607B	40	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Copper	0.013	mg/L		0.001		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Iron	0.11	mg/L		0.02		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16060099-006
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Magnesium	9	mg/L		1		E200.7	06/07/16 17:10 / sld		ICP2-HE_160607B	40	R115830
Manganese	0.079	mg/L		0.001		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 14:21 / rgk	06/07/16 08:22	HGCV202-H_160608A	64	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Potassium	4	mg/L		1		E200.7	06/07/16 17:10 / sld		ICP2-HE_160607B	40	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Sodium	22	mg/L		1		E200.7	06/07/16 17:10 / sld		ICP2-HE_160607B	40	R115830
Uranium	0.0035	mg/L		0.0002		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
Zinc	0.024	mg/L		0.008		E200.8	06/09/16 20:52 / dck		ICPMS204-B_160609B	155	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.090	mg/L		0.009		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Barium	0.034	mg/L		0.003		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 18:42 / sld	06/08/16 11:59	ICP2-HE_160609B	102	33199
Cadmium	0.00024	mg/L		0.00003		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Calcium	40	mg/L		1		E200.7	06/09/16 18:42 / sld	06/08/16 11:59	ICP2-HE_160609B	102	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Copper	0.021	mg/L		0.001		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Iron	0.45	mg/L		0.02		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Lead	0.0013	mg/L		0.0003		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Magnesium	10	mg/L		1		E200.7	06/09/16 18:42 / sld	06/08/16 11:59	ICP2-HE_160609B	102	33199
Manganese	0.093	mg/L		0.001		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199
Mercury	5.9E-06	mg/L		5E-06		E245.1	06/08/16 14:23 / rgk	06/07/16 08:22	HGCV202-H_160608A	65	33175
Molybdenum	0.005	mg/L		0.005		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	156	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16060099-006
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 156	33199
Potassium	4	mg/L		1		E200.7	06/09/16 18:42 / sld	06/08/16 11:59	ICP2-HE_160609B	: 102	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 156	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 156	33199
Sodium	21	mg/L		1		E200.7	06/09/16 18:42 / sld	06/08/16 11:59	ICP2-HE_160609B	: 102	33199
Uranium	0.0038	mg/L		0.0002		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 156	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 156	33199
Zinc	0.043	mg/L		0.008		E200.8	06/09/16 20:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 156	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #2 (SS-11C)
Lab ID: H16060099-007
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	4	mg/L	D	2		A2540 D	06/06/16 15:41 / MA		L24 (14410200)_160606A	46	TSS160606A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	11	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	94	mg/L		4		A2320 B	06/07/16 10:21 / SR		PHSC_101-H_160607A	31	R115797
Bicarbonate as HCO3	110	mg/L		4		A2320 B	06/07/16 10:21 / SR		PHSC_101-H_160607A	31	R115797
Chloride	37	mg/L		1		E300.0	06/07/16 16:22 / SR		IC102-H_160607A	37	R115832
Sulfate	81	mg/L		1		E300.0	06/07/16 16:22 / SR		IC102-H_160607A	37	R115832
Hardness as CaCO3	164	mg/L		1		A2340 B	06/07/16 17:14 / abc		CALC_160612A	146	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.4	mg/L		0.5		A5310 C	06/10/16 02:37 / eli-c		SUB-C212501	49	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:27 / cm		FIA203-HE_160607D	25	R115823
Nitrogen, Nitrate+Nitrite as N	0.29	mg/L		0.02		E353.2	06/07/16 09:35 / cm		FIA203-HE_160607A	20	R115805
Nitrogen, Total	0.68	mg/L		0.05		A4500 N-C	06/07/16 11:20 / cm	06/07/16 10:05	FIA203-HE_160607B	24	33179
Phosphorus, Total as P	0.296	mg/L		0.003		E365.1	06/08/16 13:26 / cm	06/08/16 11:46	FIA202-HE_160608B	24	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Arsenic	0.005	mg/L		0.001		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Barium	0.034	mg/L		0.003		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 17:14 / sld		ICP2-HE_160607B	41	R115830
Cadmium	0.00016	mg/L		0.00003		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Calcium	48	mg/L		1		E200.7	06/07/16 17:14 / sld		ICP2-HE_160607B	41	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Copper	0.013	mg/L		0.001		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Iron	0.09	mg/L		0.02		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #2 (SS-11C)
Lab ID: H16060099-007
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Magnesium	11	mg/L		1		E200.7	06/07/16 17:14 / sld		ICP2-HE_160607B	41	R115830
Manganese	0.132	mg/L		0.001		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 14:26 / rgk	06/07/16 08:22	HGCV202-H_160608A	66	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Potassium	5	mg/L		1		E200.7	06/07/16 17:14 / sld		ICP2-HE_160607B	41	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Sodium	27	mg/L		1		E200.7	06/07/16 17:14 / sld		ICP2-HE_160607B	41	R115830
Uranium	0.0035	mg/L		0.0002		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
Zinc	0.051	mg/L		0.008		E200.8	06/09/16 20:58 / dck		ICPMS204-B_160609B	157	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.090	mg/L		0.009		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Arsenic	0.007	mg/L		0.001		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Barium	0.036	mg/L		0.003		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 18:46 / sld	06/08/16 11:59	ICP2-HE_160609B	103	33199
Cadmium	0.00027	mg/L		0.00003		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Calcium	48	mg/L		1		E200.7	06/09/16 18:46 / sld	06/08/16 11:59	ICP2-HE_160609B	103	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Copper	0.020	mg/L		0.001		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Iron	0.37	mg/L		0.02		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Lead	0.0011	mg/L		0.0003		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Magnesium	11	mg/L		1		E200.7	06/09/16 18:46 / sld	06/08/16 11:59	ICP2-HE_160609B	103	33199
Manganese	0.153	mg/L		0.001		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199
Mercury	6.4E-06	mg/L		5E-06		E245.1	06/08/16 14:28 / rgk	06/07/16 08:22	HGCV202-H_160608A	67	33175
Molybdenum	0.005	mg/L		0.005		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	158	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #2 (SS-11C)
Lab ID: H16060099-007
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 158	33199
Potassium	5	mg/L		1		E200.7	06/09/16 18:46 / sld	06/08/16 11:59	ICP2-HE_160609B	: 103	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 158	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 158	33199
Sodium	27	mg/L		1		E200.7	06/09/16 18:46 / sld	06/08/16 11:59	ICP2-HE_160609B	: 103	33199
Uranium	0.0038	mg/L		0.0002		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 158	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 158	33199
Zinc	0.069	mg/L		0.008		E200.8	06/09/16 21:01 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 158	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16060099-008
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	06/06/16 15:12 / MA		L24 (14410200)_160606A	29	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	13	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	06/07/16 10:26 / SR		PHSC_101-H_160607A	33	R115797
Bicarbonate as HCO3	120	mg/L		4		A2320 B	06/07/16 10:26 / SR		PHSC_101-H_160607A	33	R115797
Chloride	37	mg/L		1		E300.0	06/07/16 16:33 / SR		IC102-H_160607A	38	R115832
Sulfate	80	mg/L		1		E300.0	06/07/16 16:33 / SR		IC102-H_160607A	38	R115832
Hardness as CaCO3	164	mg/L		1		A2340 B	06/07/16 17:29 / abc		CALC_160612A	157	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.3	mg/L		0.5		A5310 C	06/10/16 02:57 / eli-c		SUB-C212501	53	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:30 / cm		FIA203-HE_160607D	28	R115823
Nitrogen, Nitrate+Nitrite as N	0.29	mg/L		0.02		E353.2	06/07/16 09:36 / cm		FIA203-HE_160607A	21	R115805
Nitrogen, Total	0.70	mg/L		0.05		A4500 N-C	06/07/16 11:23 / cm	06/07/16 10:05	FIA203-HE_160607B	27	33179
Phosphorus, Total as P	0.290	mg/L		0.003		E365.1	06/08/16 13:27 / cm	06/08/16 11:46	FIA202-HE_160608B	25	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Barium	0.036	mg/L		0.003		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 17:29 / sld		ICP2-HE_160607B	45	R115830
Cadmium	0.00016	mg/L		0.00003		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Calcium	48	mg/L		1		E200.7	06/07/16 17:29 / sld		ICP2-HE_160607B	45	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Copper	0.014	mg/L		0.001		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Iron	0.10	mg/L		0.02		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16060099-008
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Magnesium	11	mg/L		1		E200.7	06/07/16 17:29 / sld		ICP2-HE_160607B	45	R115830
Manganese	0.142	mg/L		0.001		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 14:31 / rgk	06/07/16 08:22	HGCV202-H_160608A	68	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Potassium	5	mg/L		1		E200.7	06/07/16 17:29 / sld		ICP2-HE_160607B	45	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Sodium	27	mg/L		1		E200.7	06/07/16 17:29 / sld		ICP2-HE_160607B	45	R115830
Uranium	0.0037	mg/L		0.0002		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
Zinc	0.053	mg/L		0.008		E200.8	06/09/16 21:05 / dck		ICPMS204-B_160609B	159	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.092	mg/L		0.009		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Arsenic	0.007	mg/L		0.001		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Barium	0.038	mg/L		0.003		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 18:50 / sld	06/08/16 11:59	ICP2-HE_160609B	104	33199
Cadmium	0.00028	mg/L		0.00003		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Calcium	48	mg/L		1		E200.7	06/09/16 18:50 / sld	06/08/16 11:59	ICP2-HE_160609B	104	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Copper	0.021	mg/L		0.001		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Iron	0.38	mg/L		0.02		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Lead	0.0012	mg/L		0.0003		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Magnesium	11	mg/L		1		E200.7	06/09/16 18:50 / sld	06/08/16 11:59	ICP2-HE_160609B	104	33199
Manganese	0.159	mg/L		0.001		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199
Mercury	6.7E-06	mg/L		5E-06		E245.1	06/08/16 14:34 / rgk	06/07/16 08:22	HGCV202-H_160608A	69	33175
Molybdenum	0.005	mg/L		0.005		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	160	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16060099-008
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 160	33199
Potassium	5	mg/L		1		E200.7	06/09/16 18:50 / sld	06/08/16 11:59	ICP2-HE_160609B	: 104	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 160	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 160	33199
Sodium	26	mg/L		1		E200.7	06/09/16 18:50 / sld	06/08/16 11:59	ICP2-HE_160609B	: 104	33199
Uranium	0.0039	mg/L		0.0002		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 160	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 160	33199
Zinc	0.067	mg/L		0.008		E200.8	06/09/16 21:08 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 160	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16060099-009
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	06/06/16 15:12 / MA		L24 (14410200)_160606A	30	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:00 / SR		MISC WC_160607A	14	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	06/07/16 10:32 / SR		PHSC_101-H_160607A	35	R115797
Bicarbonate as HCO3	130	mg/L		4		A2320 B	06/07/16 10:32 / SR		PHSC_101-H_160607A	35	R115797
Chloride	30	mg/L		1		E300.0	06/07/16 16:44 / SR		IC102-H_160607A	39	R115832
Sulfate	69	mg/L		1		E300.0	06/07/16 16:44 / SR		IC102-H_160607A	39	R115832
Hardness as CaCO3	154	mg/L		1		A2340 B	06/07/16 17:32 / abc		CALC_160612A	168	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.6	mg/L		0.5		A5310 C	06/10/16 03:13 / eli-c		SUB-C212501	57	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:31 / cm		FIA203-HE_160607D	29	R115823
Nitrogen, Nitrate+Nitrite as N	0.25	mg/L		0.02		E353.2	06/07/16 09:37 / cm		FIA203-HE_160607A	22	R115805
Nitrogen, Total	0.72	mg/L		0.05		A4500 N-C	06/07/16 11:27 / cm	06/07/16 10:05	FIA203-HE_160607B	30	33179
Phosphorus, Total as P	0.267	mg/L		0.003		E365.1	06/08/16 13:30 / cm	06/08/16 11:46	FIA202-HE_160608B	28	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Arsenic	0.008	mg/L		0.001		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Barium	0.035	mg/L		0.003		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 17:32 / sld		ICP2-HE_160607B	46	R115830
Cadmium	0.00015	mg/L		0.00003		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Calcium	45	mg/L		1		E200.7	06/07/16 17:32 / sld		ICP2-HE_160607B	46	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Copper	0.011	mg/L		0.001		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Iron	0.10	mg/L		0.02		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16060099-009
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Magnesium	10	mg/L		1		E200.7	06/07/16 17:32 / sld		ICP2-HE_160607B	46	R115830
Manganese	0.135	mg/L		0.001		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 14:36 / rgk	06/07/16 08:22	HGCV202-H_160608A	70	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Potassium	5	mg/L		1		E200.7	06/07/16 17:32 / sld		ICP2-HE_160607B	46	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Sodium	27	mg/L		1		E200.7	06/07/16 17:32 / sld		ICP2-HE_160607B	46	R115830
Uranium	0.0030	mg/L		0.0002		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
Zinc	0.055	mg/L		0.008		E200.8	06/09/16 21:11 / dck		ICPMS204-B_160609B	161	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.194	mg/L		0.009		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Arsenic	0.010	mg/L		0.001		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Barium	0.037	mg/L		0.003		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 18:54 / sld	06/08/16 11:59	ICP2-HE_160609B	105	33199
Cadmium	0.00024	mg/L		0.00003		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Calcium	45	mg/L		1		E200.7	06/09/16 18:54 / sld	06/08/16 11:59	ICP2-HE_160609B	105	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Copper	0.017	mg/L		0.001		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Iron	0.42	mg/L		0.02		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Lead	0.0013	mg/L		0.0003		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Magnesium	10	mg/L		1		E200.7	06/09/16 18:54 / sld	06/08/16 11:59	ICP2-HE_160609B	105	33199
Manganese	0.160	mg/L		0.001		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199
Mercury	7.2E-06	mg/L		5E-06		E245.1	06/08/16 14:39 / rgk	06/07/16 08:22	HGCV202-H_160608A	71	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	162	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16060099-009
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/03/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 162	33199
Potassium	5	mg/L		1		E200.7	06/09/16 18:54 / sld	06/08/16 11:59	ICP2-HE_160609B	: 105	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 162	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 162	33199
Sodium	27	mg/L		1		E200.7	06/09/16 18:54 / sld	06/08/16 11:59	ICP2-HE_160609B	: 105	33199
Uranium	0.0032	mg/L		0.0002		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 162	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 162	33199
Zinc	0.069	mg/L		0.008		E200.8	06/09/16 21:14 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 162	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16060099-010
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 16:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	06/06/16 15:12 / MA		L24 (14410200)_160606A	31	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:01 / SR		MISC WC_160607A	15	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	06/07/16 10:37 / SR		PHSC_101-H_160607A	37	R115797
Bicarbonate as HCO3	100	mg/L		4		A2320 B	06/07/16 10:37 / SR		PHSC_101-H_160607A	37	R115797
Chloride	27	mg/L		1		E300.0	06/07/16 16:55 / SR		IC102-H_160607A	40	R115832
Sulfate	71	mg/L		1		E300.0	06/07/16 16:55 / SR		IC102-H_160607A	40	R115832
Hardness as CaCO3	150	mg/L		1		A2340 B	06/07/16 17:36 / abc		CALC_160612A	179	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.7	mg/L		0.5		A5310 C	06/10/16 03:28 / eli-c		SUB-C212501	61	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:32 / cm		FIA203-HE_160607D	30	R115823
Nitrogen, Nitrate+Nitrite as N	0.16	mg/L		0.02		E353.2	06/07/16 09:38 / cm		FIA203-HE_160607A	23	R115805
Nitrogen, Total	0.66	mg/L		0.05		A4500 N-C	06/07/16 11:28 / cm	06/07/16 10:05	FIA203-HE_160607B	31	33179
Phosphorus, Total as P	0.267	mg/L		0.003		E365.1	06/08/16 13:33 / cm	06/08/16 11:46	FIA202-HE_160608B	31	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Arsenic	0.009	mg/L		0.001		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Barium	0.028	mg/L		0.003		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 17:36 / sld		ICP2-HE_160607B	47	R115830
Cadmium	0.00009	mg/L		0.00003		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Calcium	44	mg/L		1		E200.7	06/07/16 17:36 / sld		ICP2-HE_160607B	47	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Copper	0.011	mg/L		0.001		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Iron	0.09	mg/L		0.02		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16060099-010
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 16:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Magnesium	10	mg/L		1		E200.7	06/07/16 17:36 / sld		ICP2-HE_160607B	47	R115830
Manganese	0.080	mg/L		0.001		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 14:42 / rgk	06/07/16 08:22	HGCV202-H_160608A	72	33175
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Potassium	4	mg/L		1		E200.7	06/07/16 17:36 / sld		ICP2-HE_160607B	47	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Sodium	26	mg/L		1		E200.7	06/07/16 17:36 / sld		ICP2-HE_160607B	47	R115830
Uranium	0.0036	mg/L		0.0002		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
Zinc	0.020	mg/L		0.008		E200.8	06/09/16 21:17 / dck		ICPMS204-B_160609B	163	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.191	mg/L		0.009		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Arsenic	0.010	mg/L		0.001		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Barium	0.030	mg/L		0.003		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 19:05 / sld	06/08/16 11:59	ICP2-HE_160609B	108	33199
Cadmium	0.00022	mg/L		0.00003		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Calcium	43	mg/L		1		E200.7	06/09/16 19:05 / sld	06/08/16 11:59	ICP2-HE_160609B	108	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Copper	0.017	mg/L		0.001		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Iron	0.42	mg/L		0.02		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Lead	0.0013	mg/L		0.0003		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Magnesium	10	mg/L		1		E200.7	06/09/16 19:05 / sld	06/08/16 11:59	ICP2-HE_160609B	108	33199
Manganese	0.110	mg/L		0.001		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199
Mercury	7.9E-06	mg/L		5E-06		E245.1	06/08/16 15:27 / rgk	06/07/16 08:24	HGCV202-H_160608A	84	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	167	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16060099-010
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 16:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 167	33199
Potassium	4	mg/L		1		E200.7	06/09/16 19:05 / sld	06/08/16 11:59	ICP2-HE_160609B	: 108	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 167	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 167	33199
Sodium	25	mg/L		1		E200.7	06/09/16 19:05 / sld	06/08/16 11:59	ICP2-HE_160609B	: 108	33199
Uranium	0.0038	mg/L		0.0002		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 167	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 167	33199
Zinc	0.042	mg/L		0.008		E200.8	06/09/16 21:30 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 167	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1 (SS-14)
Lab ID: H16060099-011
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	06/06/16 15:13 / MA		L24 (14410200)_160606A	32	TSS160606A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	06/07/16 10:01 / SR		MISC WC_160607A	16	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	06/07/16 10:43 / SR		PHSC_101-H_160607A	39	R115797
Bicarbonate as HCO3	110	mg/L		4		A2320 B	06/07/16 10:43 / SR		PHSC_101-H_160607A	39	R115797
Chloride	28	mg/L		1		E300.0	06/07/16 17:06 / SR		IC102-H_160607A	41	R115832
Sulfate	71	mg/L		1		E300.0	06/07/16 17:06 / SR		IC102-H_160607A	41	R115832
Hardness as CaCO3	150	mg/L		1		A2340 B	06/07/16 17:40 / abc		CALC_160612A	190	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.7	mg/L		0.5		A5310 C	06/10/16 03:48 / eli-c		SUB-C212501	65	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:34 / cm		FIA203-HE_160607D	31	R115823
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.02		E353.2	06/07/16 09:42 / cm		FIA203-HE_160607A	26	R115805
Nitrogen, Total	0.64	mg/L		0.05		A4500 N-C	06/07/16 11:29 / cm	06/07/16 10:05	FIA203-HE_160607B	32	33179
Phosphorus, Total as P	0.274	mg/L		0.003		E365.1	06/08/16 13:34 / cm	06/08/16 11:46	FIA202-HE_160608B	32	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Arsenic	0.009	mg/L		0.001		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Barium	0.030	mg/L		0.003		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 17:40 / sld		ICP2-HE_160607B	48	R115830
Cadmium	0.00010	mg/L		0.00003		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Calcium	44	mg/L		1		E200.7	06/07/16 17:40 / sld		ICP2-HE_160607B	48	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Copper	0.011	mg/L		0.001		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Iron	0.09	mg/L		0.02		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1 (SS-14)
Lab ID: H16060099-011
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Magnesium	10	mg/L		1		E200.7	06/07/16 17:40 / sld		ICP2-HE_160607B	48	R115830
Manganese	0.086	mg/L		0.001		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 15:35 / rgk	06/07/16 08:24	HGCV202-H_160608A	87	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Potassium	5	mg/L		1		E200.7	06/07/16 17:40 / sld		ICP2-HE_160607B	48	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Sodium	26	mg/L		1		E200.7	06/07/16 17:40 / sld		ICP2-HE_160607B	48	R115830
Uranium	0.0035	mg/L		0.0002		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
Zinc	0.020	mg/L		0.008		E200.8	06/09/16 21:33 / dck		ICPMS204-B_160609B	168	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.191	mg/L		0.009		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Arsenic	0.010	mg/L		0.001		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Barium	0.031	mg/L		0.003		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 19:08 / sld	06/08/16 11:59	ICP2-HE_160609B	109	33199
Cadmium	0.00021	mg/L		0.00003		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Calcium	43	mg/L		1		E200.7	06/09/16 19:08 / sld	06/08/16 11:59	ICP2-HE_160609B	109	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Copper	0.017	mg/L		0.001		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Iron	0.42	mg/L		0.02		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Lead	0.0014	mg/L		0.0003		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Magnesium	10	mg/L		1		E200.7	06/09/16 19:08 / sld	06/08/16 11:59	ICP2-HE_160609B	109	33199
Manganese	0.112	mg/L		0.001		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199
Mercury	9.5E-06	mg/L		5E-06		E245.1	06/08/16 15:37 / rgk	06/07/16 08:24	HGCV202-H_160608A	88	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	169	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1 (SS-14)
Lab ID: H16060099-011
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 169	33199
Potassium	4	mg/L		1		E200.7	06/09/16 19:08 / sld	06/08/16 11:59	ICP2-HE_160609B	: 109	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 169	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 169	33199
Sodium	26	mg/L		1		E200.7	06/09/16 19:08 / sld	06/08/16 11:59	ICP2-HE_160609B	: 109	33199
Uranium	0.0037	mg/L		0.0002		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 169	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 169	33199
Zinc	0.043	mg/L		0.008		E200.8	06/09/16 21:37 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 169	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16060099-012
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	9	mg/L		1		A2540 D	06/06/16 15:13 / MA		L24 (14410200)_160606A	33	TSS160606A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	06/07/16 10:01 / SR		MISC WC_160607A	17	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	06/07/16 10:49 / SR		PHSC_101-H_160607A	41	R115797
Bicarbonate as HCO3	110	mg/L		4		A2320 B	06/07/16 10:49 / SR		PHSC_101-H_160607A	41	R115797
Chloride	28	mg/L		1		E300.0	06/07/16 17:17 / SR		IC102-H_160607A	42	R115832
Sulfate	71	mg/L		1		E300.0	06/07/16 17:17 / SR		IC102-H_160607A	42	R115832
Hardness as CaCO3	157	mg/L		1		A2340 B	06/07/16 18:21 / abc		CALC_160612A	201	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.7	mg/L		0.5		A5310 C	06/10/16 04:07 / eli-c		SUB-C212501	69	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:35 / cm		FIA203-HE_160607D	32	R115823
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.02		E353.2	06/07/16 09:46 / cm		FIA203-HE_160607A	29	R115805
Nitrogen, Total	0.62	mg/L		0.05		A4500 N-C	06/07/16 11:30 / cm	06/07/16 10:05	FIA203-HE_160607B	33	33179
Phosphorus, Total as P	0.284	mg/L		0.003		E365.1	06/08/16 13:35 / cm	06/08/16 11:46	FIA202-HE_160608B	33	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Arsenic	0.010	mg/L		0.001		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Barium	0.030	mg/L		0.003		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 18:21 / sld		ICP2-HE_160607B	59	R115830
Cadmium	0.00011	mg/L		0.00003		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Calcium	45	mg/L		1		E200.7	06/07/16 18:21 / sld		ICP2-HE_160607B	59	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Copper	0.011	mg/L		0.001		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Iron	0.09	mg/L		0.02		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16060099-012
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Magnesium	11	mg/L		1		E200.7	06/07/16 18:21 / sld		ICP2-HE_160607B	59	R115830
Manganese	0.086	mg/L		0.001		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 15:40 / rgk	06/07/16 08:24	HGCV202-H_160608A	89	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Potassium	4	mg/L		1		E200.7	06/07/16 18:21 / sld		ICP2-HE_160607B	59	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Sodium	26	mg/L		1		E200.7	06/07/16 18:21 / sld		ICP2-HE_160607B	59	R115830
Uranium	0.0036	mg/L		0.0002		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
Zinc	0.021	mg/L		0.008		E200.8	06/09/16 21:52 / dck		ICPMS204-B_160609B	174	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.208	mg/L		0.009		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Arsenic	0.010	mg/L		0.001		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Barium	0.032	mg/L		0.003		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 19:23 / sld	06/08/16 11:59	ICP2-HE_160609B	113	33199
Cadmium	0.00020	mg/L		0.00003		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Calcium	44	mg/L		1		E200.7	06/09/16 19:23 / sld	06/08/16 11:59	ICP2-HE_160609B	113	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Copper	0.018	mg/L		0.001		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Iron	0.44	mg/L		0.02		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Lead	0.0014	mg/L		0.0003		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Magnesium	10	mg/L		1		E200.7	06/09/16 19:23 / sld	06/08/16 11:59	ICP2-HE_160609B	113	33199
Manganese	0.118	mg/L		0.001		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199
Mercury	0.000010	mg/L		5E-06		E245.1	06/08/16 15:43 / rgk	06/07/16 08:24	HGCV202-H_160608A	90	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	175	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16060099-012
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 175	33199
Potassium	4	mg/L		1		E200.7	06/09/16 19:23 / sld	06/08/16 11:59	ICP2-HE_160609B	: 113	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 175	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 175	33199
Sodium	25	mg/L		1		E200.7	06/09/16 19:23 / sld	06/08/16 11:59	ICP2-HE_160609B	: 113	33199
Uranium	0.0038	mg/L		0.0002		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 175	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 175	33199
Zinc	0.044	mg/L		0.008		E200.8	06/09/16 21:55 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 175	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16060099-013
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	06/06/16 15:14 / MA		L24 (14410200)_160606A	34	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:01 / SR		MISC WC_160607A	18	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	06/07/16 10:56 / SR		PHSC_101-H_160607A	43	R115797
Bicarbonate as HCO3	120	mg/L		4		A2320 B	06/07/16 10:56 / SR		PHSC_101-H_160607A	43	R115797
Chloride	28	mg/L		1		E300.0	06/07/16 18:24 / SR		IC102-H_160607A	48	R115832
Sulfate	69	mg/L		1		E300.0	06/07/16 18:24 / SR		IC102-H_160607A	48	R115832
Hardness as CaCO3	156	mg/L		1		A2340 B	06/07/16 18:25 / abc		CALC_160612A	212	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.7	mg/L		0.5		A5310 C	06/10/16 05:12 / eli-c		SUB-C212501	73	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:36 / cm		FIA203-HE_160607D	33	R115823
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.02		E353.2	06/07/16 09:47 / cm		FIA203-HE_160607A	30	R115805
Nitrogen, Total	0.55	mg/L		0.05		A4500 N-C	06/07/16 11:32 / cm	06/07/16 10:05	FIA203-HE_160607B	34	33179
Phosphorus, Total as P	0.304	mg/L		0.003		E365.1	06/08/16 13:36 / cm	06/08/16 11:46	FIA202-HE_160608B	34	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Arsenic	0.010	mg/L		0.001		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Barium	0.030	mg/L		0.003		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 18:25 / sld		ICP2-HE_160607B	60	R115830
Cadmium	0.00014	mg/L		0.00003		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Calcium	45	mg/L		1		E200.7	06/07/16 18:25 / sld		ICP2-HE_160607B	60	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Copper	0.013	mg/L		0.001		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Iron	0.10	mg/L		0.02		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16060099-013
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	0.0003	mg/L		0.0003		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Magnesium	10	mg/L		1		E200.7	06/07/16 18:25 / sld		ICP2-HE_160607B	60	R115830
Manganese	0.099	mg/L		0.001		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 15:45 / rgk	06/07/16 08:24	HGCV202-H_160608A	91	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Potassium	4	mg/L		1		E200.7	06/07/16 18:25 / sld		ICP2-HE_160607B	60	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Sodium	26	mg/L		1		E200.7	06/07/16 18:25 / sld		ICP2-HE_160607B	60	R115830
Uranium	0.0032	mg/L		0.0002		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
Zinc	0.030	mg/L		0.008		E200.8	06/09/16 21:58 / dck		ICPMS204-B_160609B	176	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.144	mg/L		0.009		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Arsenic	0.010	mg/L		0.001		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Barium	0.031	mg/L		0.003		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 19:27 / sld	06/08/16 11:59	ICP2-HE_160609B	114	33199
Cadmium	0.00023	mg/L		0.00003		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Calcium	44	mg/L		1		E200.7	06/09/16 19:27 / sld	06/08/16 11:59	ICP2-HE_160609B	114	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Copper	0.018	mg/L		0.001		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Iron	0.36	mg/L		0.02		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Lead	0.0013	mg/L		0.0003		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Magnesium	10	mg/L		1		E200.7	06/09/16 19:27 / sld	06/08/16 11:59	ICP2-HE_160609B	114	33199
Manganese	0.124	mg/L		0.001		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199
Mercury	0.000011	mg/L		5E-06		E245.1	06/08/16 15:53 / rgk	06/07/16 08:24	HGCV202-H_160608A	94	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	177	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16060099-013
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 177	33199
Potassium	4	mg/L		1		E200.7	06/09/16 19:27 / sld	06/08/16 11:59	ICP2-HE_160609B	: 114	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 177	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 177	33199
Sodium	26	mg/L		1		E200.7	06/09/16 19:27 / sld	06/08/16 11:59	ICP2-HE_160609B	: 114	33199
Uranium	0.0033	mg/L		0.0002		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 177	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 177	33199
Zinc	0.050	mg/L		0.008		E200.8	06/09/16 22:02 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 177	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16060099-014
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	06/06/16 15:14 / MA		L24 (14410200)_160606A	35	TSS160606A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	06/07/16 10:01 / SR		MISC WC_160607A	19	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	06/07/16 11:02 / SR		PHSC_101-H_160607A	45	R115797
Bicarbonate as HCO3	110	mg/L		4		A2320 B	06/07/16 11:02 / SR		PHSC_101-H_160607A	45	R115797
Chloride	11	mg/L		1		E300.0	06/07/16 18:35 / SR		IC102-H_160607A	49	R115832
Sulfate	44	mg/L		1		E300.0	06/07/16 18:35 / SR		IC102-H_160607A	49	R115832
Hardness as CaCO3	119	mg/L		1		A2340 B	06/07/16 18:29 / abc		CALC_160612A	223	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.9	mg/L		0.5		A5310 C	06/10/16 06:13 / eli-c		SUB-C212501	77	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:37 / cm		FIA203-HE_160607D	34	R115823
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.02		E353.2	06/07/16 09:48 / cm		FIA203-HE_160607A	31	R115805
Nitrogen, Total	0.36	mg/L		0.05		A4500 N-C	06/07/16 11:33 / cm	06/07/16 10:05	FIA203-HE_160607B	35	33179
Phosphorus, Total as P	0.149	mg/L		0.003		E365.1	06/08/16 13:37 / cm	06/08/16 11:46	FIA202-HE_160608B	35	33198
METALS, DISSOLVED											
Aluminum	0.010	mg/L		0.009		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Barium	0.024	mg/L		0.003		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 18:29 / sld		ICP2-HE_160607B	61	R115830
Cadmium	0.00006	mg/L		0.00003		E200.8	06/13/16 23:27 / dck		ICPMS204-B_160613B	30	R115995
Calcium	36	mg/L		1		E200.7	06/07/16 18:29 / sld		ICP2-HE_160607B	61	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Copper	0.006	mg/L		0.001		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Iron	0.05	mg/L		0.02		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16060099-014
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Magnesium	7	mg/L		1		E200.7	06/07/16 18:29 / sld		ICP2-HE_160607B	61	R115830
Manganese	0.048	mg/L		0.001		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 15:56 / rgk	06/07/16 08:24	HGCV202-H_160608A	95	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Potassium	3	mg/L		1		E200.7	06/07/16 18:29 / sld		ICP2-HE_160607B	61	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Sodium	13	mg/L		1		E200.7	06/07/16 18:29 / sld		ICP2-HE_160607B	61	R115830
Uranium	0.0015	mg/L		0.0002		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
Zinc	0.017	mg/L		0.008		E200.8	06/09/16 22:05 / dck		ICPMS204-B_160609B	178	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.271	mg/L		0.009		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Barium	0.026	mg/L		0.003		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 19:31 / sld	06/08/16 11:59	ICP2-HE_160609B	115	33199
Cadmium	0.00013	mg/L		0.00003		E200.8	06/13/16 23:30 / dck	06/08/16 11:59	ICPMS204-B_160613B	31	33199
Calcium	35	mg/L		1		E200.7	06/09/16 19:31 / sld	06/08/16 11:59	ICP2-HE_160609B	115	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Copper	0.009	mg/L		0.001		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Iron	0.29	mg/L		0.02		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Lead	0.0009	mg/L		0.0003		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Magnesium	7	mg/L		1		E200.7	06/09/16 19:31 / sld	06/08/16 11:59	ICP2-HE_160609B	115	33199
Manganese	0.067	mg/L		0.001		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199
Mercury	8.0E-06	mg/L		5E-06		E245.1	06/08/16 15:59 / rgk	06/07/16 08:24	HGCV202-H_160608A	96	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	182	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16060099-014
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 182	33199
Potassium	3	mg/L		1		E200.7	06/09/16 19:31 / sld	06/08/16 11:59	ICP2-HE_160609B	: 115	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 182	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 182	33199
Sodium	13	mg/L		1		E200.7	06/09/16 19:31 / sld	06/08/16 11:59	ICP2-HE_160609B	: 115	33199
Uranium	0.0017	mg/L		0.0002		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 182	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 182	33199
Zinc	0.026	mg/L		0.008		E200.8	06/09/16 22:18 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 182	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16060099-015
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	9	mg/L		1		A2540 D	06/06/16 15:14 / MA		L24 (14410200)_160606A	36	TSS160606A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	06/07/16 10:01 / SR		MISC WC_160607A	20	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	89	mg/L		4		A2320 B	06/07/16 11:07 / SR		PHSC_101-H_160607A	47	R115797
Bicarbonate as HCO3	110	mg/L		4		A2320 B	06/07/16 11:07 / SR		PHSC_101-H_160607A	47	R115797
Chloride	11	mg/L		1		E300.0	06/07/16 18:46 / SR		IC102-H_160607A	50	R115832
Sulfate	44	mg/L		1		E300.0	06/07/16 18:46 / SR		IC102-H_160607A	50	R115832
Hardness as CaCO3	121	mg/L		1		A2340 B	06/07/16 18:32 / abc		CALC_160612A	234	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.0	mg/L		0.5		A5310 C	06/10/16 06:28 / eli-c		SUB-C212501	81	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:38 / cm		FIA203-HE_160607D	35	R115823
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.02		E353.2	06/07/16 09:49 / cm		FIA203-HE_160607A	32	R115805
Nitrogen, Total	0.40	mg/L		0.05		A4500 N-C	06/07/16 11:34 / cm	06/07/16 10:05	FIA203-HE_160607B	36	33179
Phosphorus, Total as P	0.167	mg/L		0.003		E365.1	06/08/16 13:38 / cm	06/08/16 11:46	FIA202-HE_160608B	36	33198
METALS, DISSOLVED											
Aluminum	0.010	mg/L		0.009		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Barium	0.025	mg/L		0.003		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 18:32 / sld		ICP2-HE_160607B	62	R115830
Cadmium	0.00006	mg/L		0.00003		E200.8	06/13/16 23:33 / dck		ICPMS204-B_160613B	32	R115995
Calcium	36	mg/L		1		E200.7	06/07/16 18:32 / sld		ICP2-HE_160607B	62	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Copper	0.007	mg/L		0.001		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Iron	0.05	mg/L		0.02		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16060099-015
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Magnesium	7	mg/L		1		E200.7	06/07/16 18:32 / sld		ICP2-HE_160607B	62	R115830
Manganese	0.069	mg/L		0.001		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 16:01 / rgk	06/07/16 08:24	HGCV202-H_160608A	97	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Potassium	3	mg/L		1		E200.7	06/07/16 18:32 / sld		ICP2-HE_160607B	62	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Sodium	13	mg/L		1		E200.7	06/07/16 18:32 / sld		ICP2-HE_160607B	62	R115830
Uranium	0.0016	mg/L		0.0002		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
Zinc	0.022	mg/L		0.008		E200.8	06/09/16 22:21 / dck		ICPMS204-B_160609B	183	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.363	mg/L		0.009		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Arsenic	0.007	mg/L		0.001		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Barium	0.028	mg/L		0.003		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 19:35 / sld	06/08/16 11:59	ICP2-HE_160609B	116	33199
Cadmium	0.00015	mg/L		0.00003		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Calcium	36	mg/L		1		E200.7	06/09/16 19:35 / sld	06/08/16 11:59	ICP2-HE_160609B	116	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Copper	0.013	mg/L		0.001		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Iron	0.38	mg/L		0.02		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Lead	0.0013	mg/L		0.0003		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Magnesium	7	mg/L		1		E200.7	06/09/16 19:35 / sld	06/08/16 11:59	ICP2-HE_160609B	116	33199
Manganese	0.093	mg/L		0.001		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199
Mercury	0.000012	mg/L		5E-06		E245.1	06/08/16 16:04 / rgk	06/07/16 08:24	HGCV202-H_160608A	98	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	187	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16060099-015
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 187	33199
Potassium	3	mg/L		1		E200.7	06/09/16 19:35 / sld	06/08/16 11:59	ICP2-HE_160609B	: 116	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 187	33199
Silver	ND	mg/L		0.0002		E200.8	06/13/16 23:36 / dck	06/08/16 11:59	ICPMS204-B_160613B	: 33	33199
Sodium	13	mg/L		1		E200.7	06/09/16 19:35 / sld	06/08/16 11:59	ICP2-HE_160609B	: 116	33199
Uranium	0.0017	mg/L		0.0002		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 187	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 187	33199
Zinc	0.038	mg/L		0.008		E200.8	06/09/16 22:34 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 187	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16060099-016
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	14	mg/L	D	2		A2540 D	06/06/16 15:15 / MA		L24 (14410200)_160606A	37	TSS160606A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	06/07/16 10:01 / SR		MISC WC_160607A	21	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	06/07/16 11:12 / SR		PHSC_101-H_160607A	49	R115797
Bicarbonate as HCO3	110	mg/L		4		A2320 B	06/07/16 11:12 / SR		PHSC_101-H_160607A	49	R115797
Chloride	12	mg/L		1		E300.0	06/07/16 18:58 / SR		IC102-H_160607A	51	R115832
Sulfate	48	mg/L		1		E300.0	06/07/16 18:58 / SR		IC102-H_160607A	51	R115832
Hardness as CaCO3	123	mg/L		1		A2340 B	06/07/16 18:36 / abc		CALC_160612A	245	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.2	mg/L		0.5		A5310 C	06/10/16 06:43 / eli-c		SUB-C212501	85	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:40 / cm		FIA203-HE_160607D	36	R115823
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.02		E353.2	06/07/16 09:50 / cm		FIA203-HE_160607A	33	R115805
Nitrogen, Total	0.54	mg/L		0.05		A4500 N-C	06/07/16 11:35 / cm	06/07/16 10:05	FIA203-HE_160607B	37	33179
Phosphorus, Total as P	0.160	mg/L		0.003		E365.1	06/08/16 13:39 / cm	06/08/16 11:46	FIA202-HE_160608B	37	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Arsenic	0.006	mg/L		0.001		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Barium	0.025	mg/L		0.003		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 18:36 / sld		ICP2-HE_160607B	63	R115830
Cadmium	0.00007	mg/L		0.00003		E200.8	06/13/16 23:40 / dck		ICPMS204-B_160613B	34	R115995
Calcium	37	mg/L		1		E200.7	06/07/16 18:36 / sld		ICP2-HE_160607B	63	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Copper	0.008	mg/L		0.001		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Iron	0.05	mg/L		0.02		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16060099-016
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Magnesium	7	mg/L		1		E200.7	06/07/16 18:36 / sld		ICP2-HE_160607B	63	R115830
Manganese	0.069	mg/L		0.001		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 16:06 / rgk	06/07/16 08:24	HGCV202-H_160608A	99	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Potassium	3	mg/L		1		E200.7	06/07/16 18:36 / sld		ICP2-HE_160607B	63	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Sodium	14	mg/L		1		E200.7	06/07/16 18:36 / sld		ICP2-HE_160607B	63	R115830
Uranium	0.0017	mg/L		0.0002		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
Zinc	0.028	mg/L		0.008		E200.8	06/09/16 22:37 / dck		ICPMS204-B_160609B	188	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.455	mg/L		0.009		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Arsenic	0.007	mg/L		0.001		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Barium	0.029	mg/L		0.003		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 19:38 / sld	06/08/16 11:59	ICP2-HE_160609B	117	33199
Cadmium	0.00019	mg/L		0.00003		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Calcium	37	mg/L		1		E200.7	06/09/16 19:38 / sld	06/08/16 11:59	ICP2-HE_160609B	117	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Copper	0.016	mg/L		0.001		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Iron	0.49	mg/L		0.02		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Lead	0.0020	mg/L		0.0003		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Magnesium	7	mg/L		1		E200.7	06/09/16 19:38 / sld	06/08/16 11:59	ICP2-HE_160609B	117	33199
Manganese	0.108	mg/L		0.001		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199
Mercury	0.000016	mg/L		5E-06		E245.1	06/08/16 16:14 / rgk	06/07/16 08:24	HGCV202-H_160608A	102	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	189	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16060099-016
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 189	33199
Potassium	3	mg/L		1		E200.7	06/09/16 19:38 / sld	06/08/16 11:59	ICP2-HE_160609B	: 117	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 189	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 189	33199
Sodium	14	mg/L		1		E200.7	06/09/16 19:38 / sld	06/08/16 11:59	ICP2-HE_160609B	: 117	33199
Uranium	0.0018	mg/L		0.0002		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 189	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 189	33199
Zinc	0.052	mg/L		0.008		E200.8	06/09/16 22:40 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 189	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 (SS-17D
Lab ID: H16060099-017
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	06/06/16 15:16 / MA		L24 (14410200)_160606A	39	TSS160606A
Solids, Volatile Suspended	ND	mg/L		1		A2540 E	06/07/16 10:01 / SR		MISC WC_160607A	23	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	06/07/16 11:41 / SR		PHSC_101-H_160607A	56	R115797
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	06/07/16 11:41 / SR		PHSC_101-H_160607A	56	R115797
Chloride	ND	mg/L		1		E300.0	06/07/16 19:09 / SR		IC102-H_160607A	52	R115832
Sulfate	ND	mg/L		1		E300.0	06/07/16 19:09 / SR		IC102-H_160607A	52	R115832
Hardness as CaCO3	ND	mg/L		1		A2340 B	06/13/16 16:20 / sld		WATERCALC_160613B	8	R115955
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	06/10/16 07:03 / eli-c		SUB-C212501	89	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:43 / cm		FIA203-HE_160607D	39	R115823
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	06/07/16 09:52 / cm		FIA203-HE_160607A	34	R115805
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	06/07/16 11:36 / cm	06/07/16 10:05	FIA203-HE_160607B	38	33179
Phosphorus, Total as P	ND	mg/L		0.003		E365.1	06/08/16 13:41 / cm	06/08/16 11:46	FIA202-HE_160608B	38	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896
Arsenic	ND	mg/L		0.001		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896
Barium	ND	mg/L		0.003		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 18:40 / sld		ICP2-HE_160607B	64	R115830
Cadmium	ND	mg/L		0.00003		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896
Calcium	ND	mg/L		1		E200.7	06/07/16 18:40 / sld		ICP2-HE_160607B	64	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896
Copper	ND	mg/L		0.001		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896
Iron	ND	mg/L		0.02		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	190	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 (SS-17D
Lab ID: H16060099-017
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	: 190	R115896
Magnesium	ND	mg/L		1		E200.7	06/07/16 18:40 / sld		ICP2-HE_160607B	: 64	R115830
Manganese	ND	mg/L		0.001		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	: 190	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 16:17 / rgk	06/07/16 08:24	HGCV202-H_160608A	: 103	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	: 190	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	: 190	R115896
Potassium	ND	mg/L		1		E200.7	06/07/16 18:40 / sld		ICP2-HE_160607B	: 64	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	: 190	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	: 190	R115896
Sodium	ND	mg/L		1		E200.7	06/07/16 18:40 / sld		ICP2-HE_160607B	: 64	R115830
Uranium	ND	mg/L		0.0002		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	: 190	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	: 190	R115896
Zinc	0.009	mg/L		0.008		E200.8	06/09/16 22:43 / dck		ICPMS204-B_160609B	: 190	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Arsenic	ND	mg/L		0.001		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Barium	ND	mg/L		0.003		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 19:49 / sld	06/08/16 11:59	ICP2-HE_160609B	: 120	33199
Cadmium	ND	mg/L		0.00003		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Calcium	ND	mg/L		1		E200.7	06/09/16 19:49 / sld	06/08/16 11:59	ICP2-HE_160609B	: 120	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Copper	ND	mg/L		0.001		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Iron	ND	mg/L		0.02		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Lead	ND	mg/L		0.0003		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Magnesium	ND	mg/L		1		E200.7	06/09/16 19:49 / sld	06/08/16 11:59	ICP2-HE_160609B	: 120	33199
Manganese	ND	mg/L		0.001		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 16:20 / rgk	06/07/16 08:24	HGCV202-H_160608A	: 104	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 (SS-17D
Lab ID: H16060099-017
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Potassium	ND	mg/L		1		E200.7	06/09/16 19:49 / sld	06/08/16 11:59	ICP2-HE_160609B	: 120	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Sodium	ND	mg/L		1		E200.7	06/09/16 19:49 / sld	06/08/16 11:59	ICP2-HE_160609B	: 120	33199
Uranium	ND	mg/L		0.0002		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199
Zinc	ND	mg/L		0.008		E200.8	06/09/16 22:47 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 191	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16060099-018
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	15	mg/L		1		A2540 D	06/06/16 15:16 / MA		L24 (14410200)_160606A	40	TSS160606A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	06/07/16 10:01 / SR		MISC WC_160607A	24	160607A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	89	mg/L		4		A2320 B	06/07/16 11:47 / SR		PHSC_101-H_160607A	58	R115797
Bicarbonate as HCO3	110	mg/L		4		A2320 B	06/07/16 11:47 / SR		PHSC_101-H_160607A	58	R115797
Chloride	11	mg/L		1		E300.0	06/07/16 19:31 / SR		IC102-H_160607A	54	R115832
Sulfate	50	mg/L		1		E300.0	06/07/16 19:31 / SR		IC102-H_160607A	54	R115832
Hardness as CaCO3	126	mg/L		1		A2340 B	06/07/16 19:02 / abc		CALC_160612A	267	R115926
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	5.1	mg/L		0.5		A5310 C	06/10/16 07:22 / eli-c		SUB-C212501	93	C_R212501
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/07/16 15:47 / cm		FIA203-HE_160607D	42	R115823
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.02		E353.2	06/07/16 09:53 / cm		FIA203-HE_160607A	35	R115805
Nitrogen, Total	0.59	mg/L		0.05		A4500 N-C	06/07/16 11:42 / cm	06/07/16 10:06	FIA203-HE_160607B	43	33180
Phosphorus, Total as P	0.156	mg/L		0.003		E365.1	06/08/16 13:42 / cm	06/08/16 11:46	FIA202-HE_160608B	39	33198
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Arsenic	0.007	mg/L		0.001		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Barium	0.025	mg/L		0.003		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Boron	ND	mg/L		0.1		E200.7	06/07/16 19:02 / sld		ICP2-HE_160607B	70	R115830
Cadmium	0.00008	mg/L		0.00003		E200.8	06/13/16 23:43 / dck		ICPMS204-B_160613B	35	R115995
Calcium	38	mg/L		1		E200.7	06/07/16 19:02 / sld		ICP2-HE_160607B	70	R115830
Chromium	ND	mg/L		0.01		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Copper	0.008	mg/L		0.001		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Iron	0.05	mg/L		0.02		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16060099-018
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Magnesium	8	mg/L		1		E200.7	06/07/16 19:02 / sld		ICP2-HE_160607B	70	R115830
Manganese	0.066	mg/L		0.001		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Mercury	ND	mg/L		5E-06		E245.1	06/08/16 16:22 / rgk	06/07/16 08:24	HGCV202-H_160608A	105	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Nickel	ND	mg/L		0.002		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Potassium	3	mg/L		1		E200.7	06/07/16 19:02 / sld		ICP2-HE_160607B	70	R115830
Selenium	ND	mg/L		0.001		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Silver	ND	mg/L		0.0002		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Sodium	15	mg/L		1		E200.7	06/07/16 19:02 / sld		ICP2-HE_160607B	70	R115830
Uranium	0.0019	mg/L		0.0002		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
Zinc	0.029	mg/L		0.008		E200.8	06/09/16 22:50 / dck		ICPMS204-B_160609B	192	R115896
METALS, TOTAL RECOVERABLE											
Aluminum	0.476	mg/L		0.009		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Antimony	ND	mg/L		0.0005		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Arsenic	0.008	mg/L		0.001		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Barium	0.031	mg/L		0.003		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Beryllium	ND	mg/L		0.0008		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Boron	ND	mg/L		0.1		E200.7	06/09/16 19:53 / sld	06/08/16 11:59	ICP2-HE_160609B	121	33199
Cadmium	0.00021	mg/L		0.00003		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Calcium	38	mg/L		1		E200.7	06/09/16 19:53 / sld	06/08/16 11:59	ICP2-HE_160609B	121	33199
Chromium	ND	mg/L		0.01		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Cobalt	ND	mg/L		0.01		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Copper	0.018	mg/L		0.001		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Iron	0.52	mg/L		0.02		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Lead	0.0021	mg/L		0.0003		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Magnesium	8	mg/L		1		E200.7	06/09/16 19:53 / sld	06/08/16 11:59	ICP2-HE_160609B	121	33199
Manganese	0.113	mg/L		0.001		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199
Mercury	0.000016	mg/L		5E-06		E245.1	06/08/16 16:25 / rgk	06/07/16 08:24	HGCV202-H_160608A	106	33176
Molybdenum	ND	mg/L		0.005		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	196	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16060099-018
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 06/02/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 196	33199
Potassium	3	mg/L		1		E200.7	06/09/16 19:53 / sld	06/08/16 11:59	ICP2-HE_160609B	: 121	33199
Selenium	ND	mg/L		0.001		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 196	33199
Silver	ND	mg/L		0.0002		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 196	33199
Sodium	15	mg/L		1		E200.7	06/09/16 19:53 / sld	06/08/16 11:59	ICP2-HE_160609B	: 121	33199
Uranium	0.0021	mg/L		0.0002		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 196	33199
Vanadium	ND	mg/L		0.1		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 196	33199
Zinc	0.057	mg/L		0.008		E200.8	06/09/16 23:03 / dck	06/08/16 11:59	ICPMS204-B_160609B	: 196	33199

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve <0.065mm
Lab ID: H16060099-019
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	63.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 13	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.9	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 9	R116215
3050 EXTRACTABLE METALS											
Aluminum	21400	mg/kg-dry		10		SW6010B	06/22/16 14:37 / sld	06/20/16 09:45	ICP2-HE_160622A	: 102	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Arsenic	116	mg/kg-dry		5		SW6020	06/22/16 20:50 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 192	33334
Barium	487	mg/kg-dry		5		SW6010B	06/22/16 14:37 / sld	06/20/16 09:45	ICP2-HE_160622A	: 102	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Boron	16	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Cadmium	11.4	mg/kg-dry		0.2		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Chromium	121	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Cobalt	21	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Copper	862	mg/kg-dry		5		SW6010B	06/22/16 14:37 / sld	06/20/16 09:45	ICP2-HE_160622A	: 102	33334
Iron	38100	mg/kg-dry	D	20		SW6010B	06/22/16 14:37 / sld	06/20/16 09:45	ICP2-HE_160622A	: 102	33334
Lead	534	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Manganese	7800	mg/kg-dry		5		SW6010B	06/22/16 14:37 / sld	06/20/16 09:45	ICP2-HE_160622A	: 102	33334
Molybdenum	22	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Nickel	65	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 20:50 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 192	33334
Silver	5	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Uranium	9	mg/kg-dry		5		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Vanadium	105	mg/kg-dry		1		SW6020	06/23/16 12:46 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 23	33334
Zinc	2080	mg/kg-dry		5		SW6010B	06/22/16 14:37 / sld	06/20/16 09:45	ICP2-HE_160622A	: 102	33334
METALS, TOTAL											
Mercury	0.96	mg/kg-dry		0.10		SW7471B	06/21/16 09:41 / rgk	06/16/16 08:41	HGCV201-H_160621A	: 13	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 0.065-1mm
Lab ID: H16060099-020
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.1	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 14	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	36.9	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 10	R116215
3050 EXTRACTABLE METALS											
Aluminum	5620	mg/kg-dry		5		SW6010B	06/22/16 16:19 / sld	06/20/16 09:46	ICP2-HE_160622A	: 130	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Arsenic	24	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Barium	130	mg/kg-dry		5		SW6010B	06/22/16 16:19 / sld	06/20/16 09:46	ICP2-HE_160622A	: 130	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Cadmium	1.6	mg/kg-dry		0.2		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Chromium	11	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Cobalt	7	mg/kg-dry		5		SW6010B	06/22/16 16:19 / sld	06/20/16 09:46	ICP2-HE_160622A	: 130	33335
Copper	115	mg/kg-dry		5		SW6010B	06/22/16 16:19 / sld	06/20/16 09:46	ICP2-HE_160622A	: 130	33335
Iron	12800	mg/kg-dry	D	8		SW6010B	06/22/16 16:19 / sld	06/20/16 09:46	ICP2-HE_160622A	: 130	33335
Lead	89	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Manganese	2000	mg/kg-dry		5		SW6010B	06/22/16 16:19 / sld	06/20/16 09:46	ICP2-HE_160622A	: 130	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Nickel	5	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Vanadium	30	mg/kg-dry		1		SW6020	06/22/16 22:32 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 226	33335
Zinc	479	mg/kg-dry		5		SW6010B	06/22/16 16:19 / sld	06/20/16 09:46	ICP2-HE_160622A	: 130	33335
METALS, TOTAL											
Mercury	0.11	mg/kg-dry		0.10		SW7471B	06/21/16 09:54 / rgk	06/16/16 08:41	HGCV201-H_160621A	: 18	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 1-2mm
Lab ID: H16060099-021
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	14.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 16	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	39.3	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 11	R116215
3050 EXTRACTABLE METALS											
Aluminum	3620	mg/kg-dry		5		SW6010B	06/22/16 18:39 / sld	06/20/16 09:48	ICP2-HE_160622A	: 168	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Arsenic	23	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Barium	88	mg/kg-dry		5		SW6010B	06/22/16 18:39 / sld	06/20/16 09:48	ICP2-HE_160622A	: 168	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Cadmium	0.5	mg/kg-dry		0.2		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Chromium	6	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 18:39 / sld	06/20/16 09:48	ICP2-HE_160622A	: 168	33336
Copper	72	mg/kg-dry		5		SW6010B	06/22/16 18:39 / sld	06/20/16 09:48	ICP2-HE_160622A	: 168	33336
Iron	7830	mg/kg-dry	D	8		SW6010B	06/22/16 18:39 / sld	06/20/16 09:48	ICP2-HE_160622A	: 168	33336
Lead	29	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Manganese	1270	mg/kg-dry		5		SW6010B	06/22/16 18:39 / sld	06/20/16 09:48	ICP2-HE_160622A	: 168	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Vanadium	17	mg/kg-dry		1		SW6020	06/23/16 00:07 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 257	33336
Zinc	203	mg/kg-dry		5		SW6010B	06/22/16 18:39 / sld	06/20/16 09:48	ICP2-HE_160622A	: 168	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 09:56 / rgk	06/16/16 08:41	HGCV201-H_160621A	: 19	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment Duplicate #2 (SS-07) Sediment Sieve <0.065mm
Collection Date: 06/03/16 14:30
DateReceived: 06/06/16
Lab ID: H16060099-022
Report Date: 07/06/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	68.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	17	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	13.8	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	12	R116215
3050 EXTRACTABLE METALS											
Aluminum	21600	mg/kg-dry		10		SW6010B	06/22/16 14:40 / sld	06/20/16 09:45	ICP2-HE_160622A	103	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Arsenic	79	mg/kg-dry		5		SW6020	06/22/16 20:52 / dck	06/20/16 09:45	ICPMS204-B_160621A	193	33334
Barium	307	mg/kg-dry		5		SW6010B	06/22/16 14:40 / sld	06/20/16 09:45	ICP2-HE_160622A	103	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Boron	14	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Cadmium	7.3	mg/kg-dry		0.3		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Chromium	63	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Cobalt	14	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Copper	735	mg/kg-dry		5		SW6010B	06/22/16 14:40 / sld	06/20/16 09:45	ICP2-HE_160622A	103	33334
Iron	35900	mg/kg-dry	D	20		SW6010B	06/22/16 14:40 / sld	06/20/16 09:45	ICP2-HE_160622A	103	33334
Lead	350	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Manganese	3960	mg/kg-dry		5		SW6010B	06/22/16 14:40 / sld	06/20/16 09:45	ICP2-HE_160622A	103	33334
Molybdenum	17	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Nickel	32	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 20:52 / dck	06/20/16 09:45	ICPMS204-B_160621A	193	33334
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Uranium	7	mg/kg-dry		5		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Vanadium	87	mg/kg-dry		1		SW6020	06/23/16 12:49 / dck	06/20/16 09:45	ICPMS204-B_160623B	24	33334
Zinc	1550	mg/kg-dry		5		SW6010B	06/22/16 14:40 / sld	06/20/16 09:45	ICP2-HE_160622A	103	33334
METALS, TOTAL											
Mercury	0.95	mg/kg-dry		0.10		SW7471B	06/21/16 09:58 / rgk	06/16/16 08:41	HGCV201-H_160621A	20	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment Duplicate #2 (SS-07) Sediment Sieve 0.065-1mm
Collection Date: 06/03/16 14:30
DateReceived: 06/06/16
Lab ID: H16060099-023
Report Date: 07/06/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.7	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 18	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	40.4	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 13	R116215
3050 EXTRACTABLE METALS											
Aluminum	5400	mg/kg-dry		5		SW6010B	06/22/16 16:23 / sld	06/20/16 09:46	ICP2-HE_160622A	: 131	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Arsenic	27	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Barium	107	mg/kg-dry		5		SW6010B	06/22/16 16:23 / sld	06/20/16 09:46	ICP2-HE_160622A	: 131	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Cadmium	1.4	mg/kg-dry		0.2		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Chromium	10	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Cobalt	9	mg/kg-dry		5		SW6010B	06/22/16 16:23 / sld	06/20/16 09:46	ICP2-HE_160622A	: 131	33335
Copper	220	mg/kg-dry		5		SW6010B	06/22/16 16:23 / sld	06/20/16 09:46	ICP2-HE_160622A	: 131	33335
Iron	16400	mg/kg-dry	D	8		SW6010B	06/22/16 16:23 / sld	06/20/16 09:46	ICP2-HE_160622A	: 131	33335
Lead	87	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Manganese	1140	mg/kg-dry		5		SW6010B	06/22/16 16:23 / sld	06/20/16 09:46	ICP2-HE_160622A	: 131	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Nickel	5	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Vanadium	28	mg/kg-dry		1		SW6020	06/22/16 22:36 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 227	33335
Zinc	568	mg/kg-dry		5		SW6010B	06/22/16 16:23 / sld	06/20/16 09:46	ICP2-HE_160622A	: 131	33335
METALS, TOTAL											
Mercury	0.16	mg/kg-dry		0.10		SW7471B	06/21/16 10:00 / rgk	06/16/16 08:41	HGCV201-H_160621A	: 21	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment Duplicate #2 (SS-07) Sediment Sieve 1-2mm
Collection Date: 06/03/16 14:30
DateReceived: 06/06/16
Lab ID: H16060099-024
Report Date: 07/06/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	12.2	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 19	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	34.5	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 14	R116215
3050 EXTRACTABLE METALS											
Aluminum	2750	mg/kg-dry		5		SW6010B	06/22/16 18:43 / sld	06/20/16 09:48	ICP2-HE_160622A	: 169	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Arsenic	15	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Barium	67	mg/kg-dry		5		SW6010B	06/22/16 18:43 / sld	06/20/16 09:48	ICP2-HE_160622A	: 169	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Cadmium	0.3	mg/kg-dry		0.2		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Chromium	ND	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 18:43 / sld	06/20/16 09:48	ICP2-HE_160622A	: 169	33336
Copper	69	mg/kg-dry		5		SW6010B	06/22/16 18:43 / sld	06/20/16 09:48	ICP2-HE_160622A	: 169	33336
Iron	5670	mg/kg-dry	D	8		SW6010B	06/22/16 18:43 / sld	06/20/16 09:48	ICP2-HE_160622A	: 169	33336
Lead	18	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Manganese	791	mg/kg-dry		5		SW6010B	06/22/16 18:43 / sld	06/20/16 09:48	ICP2-HE_160622A	: 169	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Vanadium	12	mg/kg-dry		1		SW6020	06/23/16 00:10 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 258	33336
Zinc	141	mg/kg-dry		5		SW6010B	06/22/16 18:43 / sld	06/20/16 09:48	ICP2-HE_160622A	: 169	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 10:02 / rgk	06/16/16 08:41	HGCV201-H_160621A	: 22	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve <0.065mm
Lab ID: H16060099-025
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 14:30
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	77.0	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 20	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	30.4	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 15	R116215
3050 EXTRACTABLE METALS											
Aluminum	26200	mg/kg-dry		20		SW6010B	06/22/16 14:44 / sld	06/20/16 09:45	ICP2-HE_160622A	: 104	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Arsenic	98	mg/kg-dry		5		SW6020	06/22/16 20:55 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 194	33334
Barium	353	mg/kg-dry		5		SW6010B	06/22/16 14:44 / sld	06/20/16 09:45	ICP2-HE_160622A	: 104	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Boron	17	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Cadmium	8.3	mg/kg-dry		0.4		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Chromium	79	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Cobalt	16	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Copper	963	mg/kg-dry		5		SW6010B	06/22/16 14:44 / sld	06/20/16 09:45	ICP2-HE_160622A	: 104	33334
Iron	43800	mg/kg-dry	D	30		SW6010B	06/22/16 14:44 / sld	06/20/16 09:45	ICP2-HE_160622A	: 104	33334
Lead	386	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Manganese	3450	mg/kg-dry		5		SW6010B	06/22/16 14:44 / sld	06/20/16 09:45	ICP2-HE_160622A	: 104	33334
Molybdenum	18	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Nickel	41	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 20:55 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 194	33334
Silver	6	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Uranium	10	mg/kg-dry		5		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Vanadium	96	mg/kg-dry		1		SW6020	06/23/16 12:52 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 25	33334
Zinc	1890	mg/kg-dry		7		SW6010B	06/22/16 14:44 / sld	06/20/16 09:45	ICP2-HE_160622A	: 104	33334
METALS, TOTAL											
Mercury	1.2	mg/kg-dry		0.10		SW7471B	06/21/16 10:04 / rgk	06/16/16 08:41	HGCV201-H_160621A	: 23	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 0.065-1mm
Lab ID: H16060099-026
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 14:30
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	31.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 21	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	36.8	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 16	R116215
3050 EXTRACTABLE METALS											
Aluminum	6540	mg/kg-dry		5		SW6010B	06/22/16 16:26 / sld	06/20/16 09:46	ICP2-HE_160622A	: 132	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Arsenic	32	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Barium	113	mg/kg-dry		5		SW6010B	06/22/16 16:26 / sld	06/20/16 09:46	ICP2-HE_160622A	: 132	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Cadmium	2.1	mg/kg-dry		0.2		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Chromium	16	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Cobalt	8	mg/kg-dry		5		SW6020	06/29/16 12:08 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 20	33415
Copper	305	mg/kg-dry		5		SW6010B	06/22/16 16:26 / sld	06/20/16 09:46	ICP2-HE_160622A	: 132	33335
Iron	22600	mg/kg-dry	D	9		SW6010B	06/22/16 16:26 / sld	06/20/16 09:46	ICP2-HE_160622A	: 132	33335
Lead	81	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Manganese	820	mg/kg-dry		5		SW6010B	06/22/16 16:26 / sld	06/20/16 09:46	ICP2-HE_160622A	: 132	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Nickel	8	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Vanadium	36	mg/kg-dry		1		SW6020	06/22/16 22:39 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 228	33335
Zinc	778	mg/kg-dry		5		SW6010B	06/22/16 16:26 / sld	06/20/16 09:46	ICP2-HE_160622A	: 132	33335
METALS, TOTAL											
Mercury	0.43	mg/kg-dry		0.10		SW7471B	06/21/16 10:05 / rgk	06/16/16 08:41	HGCV201-H_160621A	: 24	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 1-2mm
Lab ID: H16060099-027
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 14:30
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 22	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	25.5	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 17	R116215
3050 EXTRACTABLE METALS											
Aluminum	2970	mg/kg-dry		5		SW6010B	06/22/16 18:46 / sld	06/20/16 09:48	ICP2-HE_160622A	: 170	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Arsenic	16	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Barium	58	mg/kg-dry		5		SW6010B	06/22/16 18:46 / sld	06/20/16 09:48	ICP2-HE_160622A	: 170	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Cadmium	0.4	mg/kg-dry		0.2		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Chromium	ND	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 12:23 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 25	33415
Copper	75	mg/kg-dry		5		SW6010B	06/22/16 18:46 / sld	06/20/16 09:48	ICP2-HE_160622A	: 170	33336
Iron	7960	mg/kg-dry	D	8		SW6010B	06/22/16 18:46 / sld	06/20/16 09:48	ICP2-HE_160622A	: 170	33336
Lead	32	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Manganese	704	mg/kg-dry		5		SW6010B	06/22/16 18:46 / sld	06/20/16 09:48	ICP2-HE_160622A	: 170	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Vanadium	16	mg/kg-dry		1		SW6020	06/23/16 00:13 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 259	33336
Zinc	288	mg/kg-dry		5		SW6010B	06/22/16 18:46 / sld	06/20/16 09:48	ICP2-HE_160622A	: 170	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 10:07 / rgk	06/16/16 08:41	HGCV201-H_160621A	: 25	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve <0.065mm
Lab ID: H16060099-028
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	77.4	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 23	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	6.0	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 18	R116215
3050 EXTRACTABLE METALS											
Aluminum	27100	mg/kg-dry		20		SW6010B	06/22/16 14:48 / sld	06/20/16 09:45	ICP2-HE_160622A	: 105	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Arsenic	73	mg/kg-dry		5		SW6020	06/22/16 20:58 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 195	33334
Barium	403	mg/kg-dry		5		SW6010B	06/22/16 14:48 / sld	06/20/16 09:45	ICP2-HE_160622A	: 105	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Boron	20	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Cadmium	13.3	mg/kg-dry		0.4		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Chromium	96	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Cobalt	17	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Copper	901	mg/kg-dry		5		SW6010B	06/22/16 14:48 / sld	06/20/16 09:45	ICP2-HE_160622A	: 105	33334
Iron	41000	mg/kg-dry	D	30		SW6010B	06/22/16 14:48 / sld	06/20/16 09:45	ICP2-HE_160622A	: 105	33334
Lead	479	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Manganese	3330	mg/kg-dry		5		SW6010B	06/22/16 14:48 / sld	06/20/16 09:45	ICP2-HE_160622A	: 105	33334
Molybdenum	19	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Nickel	55	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 20:58 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 195	33334
Silver	7	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Uranium	10	mg/kg-dry		5		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Vanadium	89	mg/kg-dry		1		SW6020	06/23/16 12:55 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 26	33334
Zinc	2290	mg/kg-dry		7		SW6010B	06/22/16 14:48 / sld	06/20/16 09:45	ICP2-HE_160622A	: 105	33334
METALS, TOTAL											
Mercury	1.8	mg/kg-dry		0.10		SW7471B	06/21/16 10:09 / rgk	06/16/16 08:41	HGCV201-H_160621A	: 26	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 0.065-1mm
Lab ID: H16060099-029
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	27.9	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 24	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	27.4	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 19	R116215
3050 EXTRACTABLE METALS											
Aluminum	6400	mg/kg-dry		5		SW6010B	06/22/16 16:30 / sld	06/20/16 09:46	ICP2-HE_160622A	: 133	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Arsenic	21	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Barium	81	mg/kg-dry		5		SW6010B	06/22/16 16:30 / sld	06/20/16 09:46	ICP2-HE_160622A	: 133	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Cadmium	3.0	mg/kg-dry		0.2		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Chromium	11	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Cobalt	7	mg/kg-dry		5		SW6010B	06/22/16 16:30 / sld	06/20/16 09:46	ICP2-HE_160622A	: 133	33335
Copper	202	mg/kg-dry		5		SW6010B	06/22/16 16:30 / sld	06/20/16 09:46	ICP2-HE_160622A	: 133	33335
Iron	13000	mg/kg-dry	D	9		SW6010B	06/22/16 16:30 / sld	06/20/16 09:46	ICP2-HE_160622A	: 133	33335
Lead	61	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Manganese	438	mg/kg-dry		5		SW6010B	06/22/16 16:30 / sld	06/20/16 09:46	ICP2-HE_160622A	: 133	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Nickel	5	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Vanadium	31	mg/kg-dry		1		SW6020	06/22/16 22:42 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 229	33335
Zinc	450	mg/kg-dry		5		SW6010B	06/22/16 16:30 / sld	06/20/16 09:46	ICP2-HE_160622A	: 133	33335
METALS, TOTAL											
Mercury	0.55	mg/kg-dry		0.10		SW7471B	06/27/16 12:03 / rgk	06/16/16 08:41	HGCV201-H_160627A	: 44	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 1-2mm
Lab ID: H16060099-030
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	16.4	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 25	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	43.6	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 20	R116215
3050 EXTRACTABLE METALS											
Aluminum	4880	mg/kg-dry		5		SW6010B	06/22/16 18:50 / sld	06/20/16 09:48	ICP2-HE_160622A	: 171	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Arsenic	9	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Barium	62	mg/kg-dry		5		SW6010B	06/22/16 18:50 / sld	06/20/16 09:48	ICP2-HE_160622A	: 171	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Cadmium	1.5	mg/kg-dry		0.2		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Chromium	6	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 18:50 / sld	06/20/16 09:48	ICP2-HE_160622A	: 171	33336
Copper	82	mg/kg-dry		5		SW6010B	06/22/16 18:50 / sld	06/20/16 09:48	ICP2-HE_160622A	: 171	33336
Iron	8140	mg/kg-dry	D	8		SW6010B	06/22/16 18:50 / sld	06/20/16 09:48	ICP2-HE_160622A	: 171	33336
Lead	45	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Manganese	542	mg/kg-dry		5		SW6010B	06/22/16 18:50 / sld	06/20/16 09:48	ICP2-HE_160622A	: 171	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Vanadium	15	mg/kg-dry		1		SW6020	06/23/16 00:16 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 260	33336
Zinc	236	mg/kg-dry		5		SW6010B	06/22/16 18:50 / sld	06/20/16 09:48	ICP2-HE_160622A	: 171	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/27/16 11:17 / rgk	06/16/16 08:41	HGCV201-H_160627A	: 35	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve <0.065mm
Lab ID: H16060099-031
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	63.8	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 27	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	14.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 21	R116215
3050 EXTRACTABLE METALS											
Aluminum	28600	mg/kg-dry		10		SW6010B	06/22/16 14:51 / sld	06/20/16 09:45	ICP2-HE_160622A	: 106	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Arsenic	18	mg/kg-dry		5		SW6020	06/22/16 21:01 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 196	33334
Barium	254	mg/kg-dry		5		SW6010B	06/22/16 14:51 / sld	06/20/16 09:45	ICP2-HE_160622A	: 106	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Boron	11	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Cadmium	4.8	mg/kg-dry		0.2		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Chromium	23	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Cobalt	12	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Copper	206	mg/kg-dry		5		SW6010B	06/22/16 14:51 / sld	06/20/16 09:45	ICP2-HE_160622A	: 106	33334
Iron	27900	mg/kg-dry	D	20		SW6010B	06/22/16 14:51 / sld	06/20/16 09:45	ICP2-HE_160622A	: 106	33334
Lead	101	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Manganese	2830	mg/kg-dry		5		SW6010B	06/22/16 14:51 / sld	06/20/16 09:45	ICP2-HE_160622A	: 106	33334
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Nickel	14	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:01 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 196	33334
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Vanadium	59	mg/kg-dry		1		SW6020	06/23/16 12:58 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 27	33334
Zinc	971	mg/kg-dry		5		SW6010B	06/22/16 14:51 / sld	06/20/16 09:45	ICP2-HE_160622A	: 106	33334
METALS, TOTAL											
Mercury	0.25	mg/kg-dry		0.10		SW7471B	06/27/16 11:19 / rgk	06/16/16 08:41	HGCV201-H_160627A	: 36	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 0.065-1mm
Lab ID: H16060099-032
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	35.5	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 28	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	10.5	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 22	R116215
3050 EXTRACTABLE METALS											
Aluminum	14200	mg/kg-dry		6		SW6010B	06/22/16 17:11 / sld	06/20/16 09:46	ICP2-HE_160622A	: 144	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Arsenic	12	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Barium	214	mg/kg-dry		5		SW6010B	06/22/16 17:11 / sld	06/20/16 09:46	ICP2-HE_160622A	: 144	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Cadmium	1.8	mg/kg-dry		0.3		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Chromium	10	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Cobalt	10	mg/kg-dry		5		SW6010B	06/22/16 17:11 / sld	06/20/16 09:46	ICP2-HE_160622A	: 144	33335
Copper	98	mg/kg-dry		5		SW6010B	06/22/16 17:11 / sld	06/20/16 09:46	ICP2-HE_160622A	: 144	33335
Iron	16800	mg/kg-dry	D	10		SW6010B	06/22/16 17:11 / sld	06/20/16 09:46	ICP2-HE_160622A	: 144	33335
Lead	41	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Manganese	1540	mg/kg-dry		5		SW6010B	06/22/16 17:11 / sld	06/20/16 09:46	ICP2-HE_160622A	: 144	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Nickel	5	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Vanadium	35	mg/kg-dry		1		SW6020	06/22/16 22:44 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 230	33335
Zinc	394	mg/kg-dry		5		SW6010B	06/22/16 17:11 / sld	06/20/16 09:46	ICP2-HE_160622A	: 144	33335
METALS, TOTAL											
Mercury	0.18	mg/kg-dry		0.10		SW7471B	06/27/16 11:21 / rgk	06/16/16 08:41	HGCV201-H_160627A	: 37	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 1-2mm
Lab ID: H16060099-033
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	17.9	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 29	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	4.6	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 23	R116215
3050 EXTRACTABLE METALS											
Aluminum	8250	mg/kg-dry		5		SW6010B	06/22/16 18:54 / sld	06/20/16 09:48	ICP2-HE_160622A	: 172	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Arsenic	6	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Barium	113	mg/kg-dry		5		SW6010B	06/22/16 18:54 / sld	06/20/16 09:48	ICP2-HE_160622A	: 172	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Cadmium	0.3	mg/kg-dry		0.2		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Chromium	ND	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 18:54 / sld	06/20/16 09:48	ICP2-HE_160622A	: 172	33336
Copper	23	mg/kg-dry		5		SW6010B	06/22/16 18:54 / sld	06/20/16 09:48	ICP2-HE_160622A	: 172	33336
Iron	7870	mg/kg-dry	D	8		SW6010B	06/22/16 18:54 / sld	06/20/16 09:48	ICP2-HE_160622A	: 172	33336
Lead	19	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Manganese	753	mg/kg-dry		5		SW6010B	06/22/16 18:54 / sld	06/20/16 09:48	ICP2-HE_160622A	: 172	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Vanadium	12	mg/kg-dry		1		SW6020	06/23/16 00:19 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 261	33336
Zinc	133	mg/kg-dry		5		SW6010B	06/22/16 18:54 / sld	06/20/16 09:48	ICP2-HE_160622A	: 172	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/27/16 11:23 / rgk	06/16/16 08:41	HGCV201-H_160627A	: 38	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Sieve <0.065mm
Lab ID: H16060099-034
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	73.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	30	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	13.2	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	24	R116215
3050 EXTRACTABLE METALS											
Aluminum	33400	mg/kg-dry		10		SW6010B	06/22/16 14:55 / sld	06/20/16 09:45	ICP2-HE_160622A	107	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Arsenic	39	mg/kg-dry		5		SW6020	06/22/16 21:04 / dck	06/20/16 09:45	ICPMS204-B_160621A	197	33334
Barium	224	mg/kg-dry		5		SW6010B	06/22/16 14:55 / sld	06/20/16 09:45	ICP2-HE_160622A	107	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Boron	13	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Cadmium	6.9	mg/kg-dry		0.3		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Chromium	36	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Cobalt	12	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Copper	429	mg/kg-dry		5		SW6010B	06/22/16 14:55 / sld	06/20/16 09:45	ICP2-HE_160622A	107	33334
Iron	30100	mg/kg-dry	D	20		SW6010B	06/22/16 14:55 / sld	06/20/16 09:45	ICP2-HE_160622A	107	33334
Lead	162	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Manganese	1280	mg/kg-dry		5		SW6010B	06/22/16 14:55 / sld	06/20/16 09:45	ICP2-HE_160622A	107	33334
Molybdenum	6	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Nickel	21	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:04 / dck	06/20/16 09:45	ICPMS204-B_160621A	197	33334
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Uranium	6	mg/kg-dry		5		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Vanadium	55	mg/kg-dry		1		SW6020	06/23/16 13:01 / dck	06/20/16 09:45	ICPMS204-B_160623B	28	33334
Zinc	1310	mg/kg-dry		6		SW6010B	06/22/16 14:55 / sld	06/20/16 09:45	ICP2-HE_160622A	107	33334
METALS, TOTAL											
Mercury	0.50	mg/kg-dry		0.10		SW7471B	06/27/16 11:25 / rgk	06/16/16 08:41	HGCV201-H_160627A	39	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Sieve 0.065-1mm
Lab ID: H16060099-035
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.7	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 31	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	32.3	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 25	R116215
3050 EXTRACTABLE METALS											
Aluminum	6730	mg/kg-dry		5		SW6010B	06/22/16 17:15 / sld	06/20/16 09:46	ICP2-HE_160622A	: 145	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Arsenic	6	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Barium	75	mg/kg-dry		5		SW6010B	06/22/16 17:15 / sld	06/20/16 09:46	ICP2-HE_160622A	: 145	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Cadmium	0.8	mg/kg-dry		0.2		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Chromium	15	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 12:26 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 26	33415
Copper	44	mg/kg-dry		5		SW6010B	06/22/16 17:15 / sld	06/20/16 09:46	ICP2-HE_160622A	: 145	33335
Iron	23000	mg/kg-dry	D	9		SW6010B	06/22/16 17:15 / sld	06/20/16 09:46	ICP2-HE_160622A	: 145	33335
Lead	13	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Manganese	260	mg/kg-dry		5		SW6010B	06/22/16 17:15 / sld	06/20/16 09:46	ICP2-HE_160622A	: 145	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Nickel	ND	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Vanadium	70	mg/kg-dry		1		SW6020	06/22/16 22:48 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 231	33335
Zinc	121	mg/kg-dry		5		SW6010B	06/22/16 17:15 / sld	06/20/16 09:46	ICP2-HE_160622A	: 145	33335
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/27/16 11:27 / rgk	06/16/16 08:41	HGCV201-H_160627A	: 40	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Sieve 1-2mm
Lab ID: H16060099-036
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	23.0	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 32	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	13.0	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 26	R116215
3050 EXTRACTABLE METALS											
Aluminum	3590	mg/kg-dry		5		SW6010B	06/22/16 18:57 / sld	06/20/16 09:48	ICP2-HE_160622A	: 173	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Arsenic	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Barium	32	mg/kg-dry		5		SW6010B	06/22/16 18:57 / sld	06/20/16 09:48	ICP2-HE_160622A	: 173	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Cadmium	0.3	mg/kg-dry		0.2		SW6020	06/23/16 12:36 / dck	06/20/16 09:48	ICPMS204-B_160623B	: 20	33336
Chromium	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 18:57 / sld	06/20/16 09:48	ICP2-HE_160622A	: 173	33336
Copper	13	mg/kg-dry		5		SW6010B	06/22/16 18:57 / sld	06/20/16 09:48	ICP2-HE_160622A	: 173	33336
Iron	4030	mg/kg-dry	D	9		SW6010B	06/22/16 18:57 / sld	06/20/16 09:48	ICP2-HE_160622A	: 173	33336
Lead	5	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Manganese	105	mg/kg-dry		5		SW6010B	06/22/16 18:57 / sld	06/20/16 09:48	ICP2-HE_160622A	: 173	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Vanadium	8	mg/kg-dry		1		SW6020	06/23/16 00:22 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 262	33336
Zinc	49	mg/kg-dry		5		SW6010B	06/22/16 18:57 / sld	06/20/16 09:48	ICP2-HE_160622A	: 173	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/27/16 11:29 / rgk	06/16/16 08:41	HGCV201-H_160627A	: 41	33310

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve <0.065mm
Lab ID: H16060099-037
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	62.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	33	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	2.2	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	27	R116215
3050 EXTRACTABLE METALS											
Aluminum	23500	mg/kg-dry		10		SW6010B	06/22/16 14:59 / sld	06/20/16 09:45	ICP2-HE_160622A	108	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Arsenic	39	mg/kg-dry		5		SW6020	06/22/16 21:07 / dck	06/20/16 09:45	ICPMS204-B_160621A	198	33334
Barium	476	mg/kg-dry		5		SW6010B	06/22/16 14:59 / sld	06/20/16 09:45	ICP2-HE_160622A	108	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Boron	11	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Cadmium	13.0	mg/kg-dry		0.2		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Chromium	68	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Cobalt	21	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Copper	521	mg/kg-dry		5		SW6010B	06/22/16 14:59 / sld	06/20/16 09:45	ICP2-HE_160622A	108	33334
Iron	27900	mg/kg-dry	D	20		SW6010B	06/22/16 14:59 / sld	06/20/16 09:45	ICP2-HE_160622A	108	33334
Lead	360	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Manganese	7090	mg/kg-dry		5		SW6010B	06/22/16 14:59 / sld	06/20/16 09:45	ICP2-HE_160622A	108	33334
Molybdenum	6	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Nickel	43	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:07 / dck	06/20/16 09:45	ICPMS204-B_160621A	198	33334
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Uranium	6	mg/kg-dry		5		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Vanadium	74	mg/kg-dry		1		SW6020	06/23/16 13:13 / dck	06/20/16 09:45	ICPMS204-B_160623B	32	33334
Zinc	1730	mg/kg-dry		5		SW6010B	06/22/16 14:59 / sld	06/20/16 09:45	ICP2-HE_160622A	108	33334
METALS, TOTAL											
Mercury	0.41	mg/kg-dry		0.10		SW7471B	06/21/16 10:51 / rgk	06/20/16 08:00	HGCV201-H_160621A	47	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 0.065-1mm
Lab ID: H16060099-038
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 34	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	34.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 28	R116215
3050 EXTRACTABLE METALS											
Aluminum	5550	mg/kg-dry		5		SW6010B	06/22/16 17:18 / sld	06/20/16 09:46	ICP2-HE_160622A	: 146	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Arsenic	5	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Barium	111	mg/kg-dry		5		SW6010B	06/22/16 17:18 / sld	06/20/16 09:46	ICP2-HE_160622A	: 146	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Cadmium	1.1	mg/kg-dry		0.2		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Chromium	17	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 12:39 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 30	33415
Copper	47	mg/kg-dry		5		SW6010B	06/22/16 17:18 / sld	06/20/16 09:46	ICP2-HE_160622A	: 146	33335
Iron	22000	mg/kg-dry	D	8		SW6010B	06/22/16 17:18 / sld	06/20/16 09:46	ICP2-HE_160622A	: 146	33335
Lead	16	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Manganese	416	mg/kg-dry		5		SW6010B	06/22/16 17:18 / sld	06/20/16 09:46	ICP2-HE_160622A	: 146	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Nickel	5	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Vanadium	70	mg/kg-dry		1		SW6020	06/22/16 22:51 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 232	33335
Zinc	155	mg/kg-dry		5		SW6010B	06/22/16 17:18 / sld	06/20/16 09:46	ICP2-HE_160622A	: 146	33335
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 10:53 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 48	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 1-2mm
Lab ID: H16060099-039
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	16.0	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 35	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	20.4	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 29	R116215
3050 EXTRACTABLE METALS											
Aluminum	4440	mg/kg-dry		5		SW6010B	06/22/16 19:01 / sld	06/20/16 09:48	ICP2-HE_160622A	: 174	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Arsenic	ND	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Barium	91	mg/kg-dry		5		SW6010B	06/22/16 19:01 / sld	06/20/16 09:48	ICP2-HE_160622A	: 174	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Cadmium	0.4	mg/kg-dry		0.2		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Chromium	9	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 19:01 / sld	06/20/16 09:48	ICP2-HE_160622A	: 174	33336
Copper	19	mg/kg-dry		5		SW6010B	06/22/16 19:01 / sld	06/20/16 09:48	ICP2-HE_160622A	: 174	33336
Iron	6260	mg/kg-dry	D	8		SW6010B	06/22/16 19:01 / sld	06/20/16 09:48	ICP2-HE_160622A	: 174	33336
Lead	9	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Manganese	495	mg/kg-dry		5		SW6010B	06/22/16 19:01 / sld	06/20/16 09:48	ICP2-HE_160622A	: 174	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Nickel	5	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Vanadium	15	mg/kg-dry		1		SW6020	06/23/16 00:25 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 263	33336
Zinc	88	mg/kg-dry		5		SW6010B	06/22/16 19:01 / sld	06/20/16 09:48	ICP2-HE_160622A	: 174	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 10:55 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 49	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve <0.065mm
Lab ID: H16060099-040
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	54.2	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 36	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.5	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 30	R116215
3050 EXTRACTABLE METALS											
Aluminum	15100	mg/kg-dry		8		SW6010B	06/22/16 15:02 / sld	06/20/16 09:45	ICP2-HE_160622A	: 109	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Arsenic	13	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Barium	192	mg/kg-dry		5		SW6010B	06/22/16 15:02 / sld	06/20/16 09:45	ICP2-HE_160622A	: 109	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Boron	6	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Cadmium	3.8	mg/kg-dry		0.4		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Chromium	28	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Cobalt	8	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Copper	168	mg/kg-dry		5		SW6010B	06/22/16 15:02 / sld	06/20/16 09:45	ICP2-HE_160622A	: 109	33334
Iron	14100	mg/kg-dry	D	10		SW6010B	06/22/16 15:02 / sld	06/20/16 09:45	ICP2-HE_160622A	: 109	33334
Lead	64	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Manganese	2230	mg/kg-dry		5		SW6010B	06/22/16 15:02 / sld	06/20/16 09:45	ICP2-HE_160622A	: 109	33334
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Nickel	17	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Vanadium	33	mg/kg-dry		1		SW6020	06/22/16 21:20 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 202	33334
Zinc	492	mg/kg-dry		5		SW6010B	06/22/16 15:02 / sld	06/20/16 09:45	ICP2-HE_160622A	: 109	33334
METALS, TOTAL											
Mercury	0.16	mg/kg-dry		0.10		SW7471B	06/21/16 11:03 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 53	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 0.065-1mm
Lab ID: H16060099-041
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 38	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	28.5	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 31	R116215
3050 EXTRACTABLE METALS											
Aluminum	7610	mg/kg-dry		5		SW6010B	06/22/16 17:22 / sld	06/20/16 09:46	ICP2-HE_160622A	: 147	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Arsenic	5	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Barium	178	mg/kg-dry		5		SW6010B	06/22/16 17:22 / sld	06/20/16 09:46	ICP2-HE_160622A	: 147	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Cadmium	0.9	mg/kg-dry		0.2		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Chromium	14	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 12:42 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 31	33415
Copper	49	mg/kg-dry		5		SW6010B	06/22/16 17:22 / sld	06/20/16 09:46	ICP2-HE_160622A	: 147	33335
Iron	11200	mg/kg-dry	D	9		SW6010B	06/22/16 17:22 / sld	06/20/16 09:46	ICP2-HE_160622A	: 147	33335
Lead	16	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Manganese	672	mg/kg-dry		5		SW6010B	06/22/16 17:22 / sld	06/20/16 09:46	ICP2-HE_160622A	: 147	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Nickel	7	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Vanadium	29	mg/kg-dry		1		SW6020	06/22/16 22:54 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 233	33335
Zinc	153	mg/kg-dry		5		SW6010B	06/22/16 17:22 / sld	06/20/16 09:46	ICP2-HE_160622A	: 147	33335
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 11:04 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 54	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 1-2mm
Lab ID: H16060099-042
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/03/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 39	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	16.4	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 32	R116215
3050 EXTRACTABLE METALS											
Aluminum	5560	mg/kg-dry		5		SW6010B	06/22/16 19:05 / sld	06/20/16 09:48	ICP2-HE_160622A	: 175	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Arsenic	ND	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Barium	109	mg/kg-dry		5		SW6010B	06/22/16 19:05 / sld	06/20/16 09:48	ICP2-HE_160622A	: 175	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Cadmium	0.4	mg/kg-dry		0.2		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Chromium	10	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 19:05 / sld	06/20/16 09:48	ICP2-HE_160622A	: 175	33336
Copper	18	mg/kg-dry		5		SW6010B	06/22/16 19:05 / sld	06/20/16 09:48	ICP2-HE_160622A	: 175	33336
Iron	6360	mg/kg-dry	D	8		SW6010B	06/22/16 19:05 / sld	06/20/16 09:48	ICP2-HE_160622A	: 175	33336
Lead	9	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Manganese	505	mg/kg-dry		5		SW6010B	06/22/16 19:05 / sld	06/20/16 09:48	ICP2-HE_160622A	: 175	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Nickel	5	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Vanadium	14	mg/kg-dry		1		SW6020	06/23/16 00:37 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 267	33336
Zinc	70	mg/kg-dry		5		SW6010B	06/22/16 19:05 / sld	06/20/16 09:48	ICP2-HE_160622A	: 175	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 11:06 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 55	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve <0.065mm
Lab ID: H16060099-043
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 16:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	70.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 40	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.6	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 33	R116215
3050 EXTRACTABLE METALS											
Aluminum	23400	mg/kg-dry		10		SW6010B	06/22/16 15:13 / sld	06/20/16 09:45	ICP2-HE_160622A	: 112	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Arsenic	43	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Barium	292	mg/kg-dry		5		SW6010B	06/22/16 15:13 / sld	06/20/16 09:45	ICP2-HE_160622A	: 112	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Boron	14	mg/kg-dry		5		SW6020	06/23/16 13:20 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 33	33334
Cadmium	11.7	mg/kg-dry		0.6		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Chromium	38	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Cobalt	15	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Copper	522	mg/kg-dry		5		SW6010B	06/22/16 15:13 / sld	06/20/16 09:45	ICP2-HE_160622A	: 112	33334
Iron	24400	mg/kg-dry	D	20		SW6010B	06/22/16 15:13 / sld	06/20/16 09:45	ICP2-HE_160622A	: 112	33334
Lead	151	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Manganese	1310	mg/kg-dry		5		SW6010B	06/22/16 15:13 / sld	06/20/16 09:45	ICP2-HE_160622A	: 112	33334
Molybdenum	7	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Nickel	24	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Uranium	9	mg/kg-dry		5		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Vanadium	59	mg/kg-dry		1		SW6020	06/22/16 21:23 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 203	33334
Zinc	2170	mg/kg-dry		6		SW6010B	06/22/16 15:13 / sld	06/20/16 09:45	ICP2-HE_160622A	: 112	33334
METALS, TOTAL											
Mercury	0.54	mg/kg-dry		0.10		SW7471B	06/21/16 11:08 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 56	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 0.065-1mm
Lab ID: H16060099-044
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 16:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	40.2	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	41	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	29.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	34	R116215
3050 EXTRACTABLE METALS											
Aluminum	9680	mg/kg-dry		6		SW6010B	06/22/16 17:26 / sld	06/20/16 09:46	ICP2-HE_160622A	148	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Arsenic	11	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Barium	184	mg/kg-dry		5		SW6010B	06/22/16 17:26 / sld	06/20/16 09:46	ICP2-HE_160622A	148	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Cadmium	3.0	mg/kg-dry		0.3		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Chromium	19	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Cobalt	8	mg/kg-dry		5		SW6010B	06/22/16 17:26 / sld	06/20/16 09:46	ICP2-HE_160622A	148	33335
Copper	113	mg/kg-dry		5		SW6010B	06/22/16 17:26 / sld	06/20/16 09:46	ICP2-HE_160622A	148	33335
Iron	13400	mg/kg-dry	D	10		SW6010B	06/22/16 17:26 / sld	06/20/16 09:46	ICP2-HE_160622A	148	33335
Lead	31	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Manganese	396	mg/kg-dry		5		SW6010B	06/22/16 17:26 / sld	06/20/16 09:46	ICP2-HE_160622A	148	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Nickel	11	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Vanadium	37	mg/kg-dry		1		SW6020	06/22/16 22:57 / dck	06/20/16 09:46	ICPMS204-B_160621A	234	33335
Zinc	476	mg/kg-dry		5		SW6010B	06/22/16 17:26 / sld	06/20/16 09:46	ICP2-HE_160622A	148	33335
METALS, TOTAL											
Mercury	0.15	mg/kg-dry		0.10		SW7471B	06/21/16 11:46 / rgk	06/20/16 08:00	HGCV201-H_160621A	57	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 1-2mm
Lab ID: H16060099-045
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 16:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	22.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 42	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	13.0	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 35	R116215
3050 EXTRACTABLE METALS											
Aluminum	4890	mg/kg-dry		5		SW6010B	06/22/16 19:09 / sld	06/20/16 09:48	ICP2-HE_160622A	: 176	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Arsenic	5	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Barium	103	mg/kg-dry		5		SW6010B	06/22/16 19:09 / sld	06/20/16 09:48	ICP2-HE_160622A	: 176	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Cadmium	0.6	mg/kg-dry		0.2		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Chromium	12	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 19:09 / sld	06/20/16 09:48	ICP2-HE_160622A	: 176	33336
Copper	19	mg/kg-dry		5		SW6010B	06/22/16 19:09 / sld	06/20/16 09:48	ICP2-HE_160622A	: 176	33336
Iron	6060	mg/kg-dry	D	9		SW6010B	06/22/16 19:09 / sld	06/20/16 09:48	ICP2-HE_160622A	: 176	33336
Lead	11	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Manganese	187	mg/kg-dry		5		SW6010B	06/22/16 19:09 / sld	06/20/16 09:48	ICP2-HE_160622A	: 176	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Nickel	6	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Vanadium	15	mg/kg-dry		1		SW6020	06/23/16 00:40 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 268	33336
Zinc	102	mg/kg-dry		5		SW6010B	06/22/16 19:09 / sld	06/20/16 09:48	ICP2-HE_160622A	: 176	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 11:48 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 58	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve <0.065mm
Lab ID: H16060099-046
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	73.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 43	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 36	R116215
3050 EXTRACTABLE METALS											
Aluminum	21100	mg/kg-dry		10		SW6010B	06/22/16 15:17 / sld	06/20/16 09:45	ICP2-HE_160622A	: 113	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Arsenic	32	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Barium	288	mg/kg-dry		5		SW6010B	06/22/16 15:17 / sld	06/20/16 09:45	ICP2-HE_160622A	: 113	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Boron	13	mg/kg-dry		5		SW6020	06/23/16 13:23 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 34	33334
Cadmium	7.8	mg/kg-dry		0.6		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Chromium	49	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Cobalt	13	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Copper	435	mg/kg-dry		5		SW6010B	06/22/16 15:17 / sld	06/20/16 09:45	ICP2-HE_160622A	: 113	33334
Iron	22200	mg/kg-dry	D	20		SW6010B	06/22/16 15:17 / sld	06/20/16 09:45	ICP2-HE_160622A	: 113	33334
Lead	193	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Manganese	4650	mg/kg-dry		5		SW6010B	06/22/16 15:17 / sld	06/20/16 09:45	ICP2-HE_160622A	: 113	33334
Molybdenum	6	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Nickel	31	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Vanadium	51	mg/kg-dry		2		SW6020	06/22/16 21:26 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 204	33334
Zinc	1720	mg/kg-dry		6		SW6010B	06/22/16 15:17 / sld	06/20/16 09:45	ICP2-HE_160622A	: 113	33334
METALS, TOTAL											
Mercury	0.48	mg/kg-dry		0.10		SW7471B	06/21/16 11:54 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 61	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 0.065-1mm
Lab ID: H16060099-047
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	26.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 44	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	38.3	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 37	R116215
3050 EXTRACTABLE METALS											
Aluminum	7010	mg/kg-dry		5		SW6010B	06/22/16 17:29 / sld	06/20/16 09:46	ICP2-HE_160622A	: 149	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Arsenic	8	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Barium	186	mg/kg-dry		5		SW6010B	06/22/16 17:29 / sld	06/20/16 09:46	ICP2-HE_160622A	: 149	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Cadmium	0.8	mg/kg-dry		0.2		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Chromium	14	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 12:45 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 32	33415
Copper	48	mg/kg-dry		5		SW6010B	06/22/16 17:29 / sld	06/20/16 09:46	ICP2-HE_160622A	: 149	33335
Iron	13200	mg/kg-dry	D	9		SW6010B	06/22/16 17:29 / sld	06/20/16 09:46	ICP2-HE_160622A	: 149	33335
Lead	18	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Manganese	590	mg/kg-dry		5		SW6010B	06/22/16 17:29 / sld	06/20/16 09:46	ICP2-HE_160622A	: 149	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Nickel	6	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Vanadium	33	mg/kg-dry		1		SW6020	06/22/16 23:00 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 235	33335
Zinc	181	mg/kg-dry		5		SW6010B	06/22/16 17:29 / sld	06/20/16 09:46	ICP2-HE_160622A	: 149	33335
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 11:56 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 62	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 1-2mm
Lab ID: H16060099-048
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 15:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 45	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	18.2	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 38	R116215
3050 EXTRACTABLE METALS											
Aluminum	4490	mg/kg-dry		5		SW6010B	06/22/16 19:20 / sld	06/20/16 09:48	ICP2-HE_160622A	: 179	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Arsenic	8	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Barium	117	mg/kg-dry		5		SW6010B	06/22/16 19:20 / sld	06/20/16 09:48	ICP2-HE_160622A	: 179	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Cadmium	0.4	mg/kg-dry		0.2		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Chromium	13	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 19:20 / sld	06/20/16 09:48	ICP2-HE_160622A	: 179	33336
Copper	21	mg/kg-dry		5		SW6010B	06/22/16 19:20 / sld	06/20/16 09:48	ICP2-HE_160622A	: 179	33336
Iron	7940	mg/kg-dry	D	9		SW6010B	06/22/16 19:20 / sld	06/20/16 09:48	ICP2-HE_160622A	: 179	33336
Lead	13	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Manganese	545	mg/kg-dry		5		SW6010B	06/22/16 19:20 / sld	06/20/16 09:48	ICP2-HE_160622A	: 179	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Nickel	7	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Vanadium	16	mg/kg-dry		1		SW6020	06/23/16 00:43 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 269	33336
Zinc	129	mg/kg-dry		5		SW6010B	06/22/16 19:20 / sld	06/20/16 09:48	ICP2-HE_160622A	: 179	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 11:57 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 63	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment Duplicate #1 (SS-15A) Sediment Sieve <0.065mm
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Lab ID: H16060099-049
Report Date: 07/06/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	69.2	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 46	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	2.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 39	R116215
3050 EXTRACTABLE METALS											
Aluminum	21500	mg/kg-dry		10		SW6010B	06/22/16 15:21 / sld	06/20/16 09:45	ICP2-HE_160622A	: 114	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Arsenic	80	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Barium	432	mg/kg-dry		5		SW6010B	06/22/16 15:21 / sld	06/20/16 09:45	ICP2-HE_160622A	: 114	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Boron	13	mg/kg-dry		5		SW6020	06/23/16 13:26 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 35	33334
Cadmium	12.8	mg/kg-dry		0.5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Chromium	47	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Cobalt	15	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Copper	971	mg/kg-dry		5		SW6010B	06/22/16 15:21 / sld	06/20/16 09:45	ICP2-HE_160622A	: 114	33334
Iron	23200	mg/kg-dry	D	20		SW6010B	06/22/16 15:21 / sld	06/20/16 09:45	ICP2-HE_160622A	: 114	33334
Lead	315	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Manganese	4110	mg/kg-dry		5		SW6010B	06/22/16 15:21 / sld	06/20/16 09:45	ICP2-HE_160622A	: 114	33334
Molybdenum	5	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Nickel	29	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Vanadium	49	mg/kg-dry		1		SW6020	06/22/16 21:29 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 205	33334
Zinc	2260	mg/kg-dry		5		SW6010B	06/22/16 15:21 / sld	06/20/16 09:45	ICP2-HE_160622A	: 114	33334
METALS, TOTAL											
Mercury	1.4	mg/kg-dry		0.10		SW7471B	06/21/16 12:04 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 67	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment Duplicate #1 (SS-15A) Sediment Sieve 0.065-1mm
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Lab ID: H16060099-050
Report Date: 07/06/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	22.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 47	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	28.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 40	R116215
3050 EXTRACTABLE METALS											
Aluminum	5440	mg/kg-dry		5		SW6010B	06/22/16 17:33 / sld	06/20/16 09:46	ICP2-HE_160622A	: 150	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Arsenic	95	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Barium	131	mg/kg-dry		5		SW6010B	06/22/16 17:33 / sld	06/20/16 09:46	ICP2-HE_160622A	: 150	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Cadmium	2.6	mg/kg-dry		0.2		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Chromium	21	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 12:48 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 33	33415
Copper	327	mg/kg-dry		5		SW6010B	06/22/16 17:33 / sld	06/20/16 09:46	ICP2-HE_160622A	: 150	33335
Iron	27100	mg/kg-dry	D	8		SW6010B	06/22/16 17:33 / sld	06/20/16 09:46	ICP2-HE_160622A	: 150	33335
Lead	119	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Manganese	1570	mg/kg-dry		5		SW6010B	06/22/16 17:33 / sld	06/20/16 09:46	ICP2-HE_160622A	: 150	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Nickel	8	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Uranium	12	mg/kg-dry		5		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Vanadium	73	mg/kg-dry		1		SW6020	06/22/16 23:12 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 239	33335
Zinc	738	mg/kg-dry		5		SW6010B	06/22/16 17:33 / sld	06/20/16 09:46	ICP2-HE_160622A	: 150	33335
METALS, TOTAL											
Mercury	0.28	mg/kg-dry		0.10		SW7471B	06/21/16 12:06 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 68	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment Duplicate #1 (SS-15A) Sediment Sieve 1-2m
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Lab ID: H16060099-051
Report Date: 07/06/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.7	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 49	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	20.9	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 41	R116215
3050 EXTRACTABLE METALS											
Aluminum	3820	mg/kg-dry		5		SW6010B	06/22/16 19:23 / sld	06/20/16 09:48	ICP2-HE_160622A	: 180	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Arsenic	140	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Barium	79	mg/kg-dry		5		SW6010B	06/22/16 19:23 / sld	06/20/16 09:48	ICP2-HE_160622A	: 180	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Cadmium	1.1	mg/kg-dry		0.2		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Chromium	11	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 12:51 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 34	33415
Copper	1600	mg/kg-dry		5		SW6010B	06/22/16 19:23 / sld	06/20/16 09:48	ICP2-HE_160622A	: 180	33336
Iron	11700	mg/kg-dry	D	8		SW6010B	06/22/16 19:23 / sld	06/20/16 09:48	ICP2-HE_160622A	: 180	33336
Lead	85	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Manganese	1630	mg/kg-dry		5		SW6010B	06/22/16 19:23 / sld	06/20/16 09:48	ICP2-HE_160622A	: 180	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Nickel	6	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Silver	9	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Vanadium	17	mg/kg-dry		1		SW6020	06/23/16 00:46 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 270	33336
Zinc	404	mg/kg-dry		5		SW6010B	06/22/16 19:23 / sld	06/20/16 09:48	ICP2-HE_160622A	: 180	33336
METALS, TOTAL											
Mercury	0.20	mg/kg-dry		0.10		SW7471B	06/21/16 12:08 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 69	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A Sediment Sieve <0.065mm
Lab ID: H16060099-052
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	79.7	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 50	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	5.8	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 42	R116215
3050 EXTRACTABLE METALS											
Aluminum	25900	mg/kg-dry		20		SW6010B	06/22/16 15:24 / sld	06/20/16 09:45	ICP2-HE_160622A	: 115	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Arsenic	98	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Barium	474	mg/kg-dry		5		SW6010B	06/22/16 15:24 / sld	06/20/16 09:45	ICP2-HE_160622A	: 115	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Boron	19	mg/kg-dry		5		SW6020	06/23/16 13:29 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 36	33334
Cadmium	16.3	mg/kg-dry		0.8		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Chromium	59	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Cobalt	20	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Copper	1360	mg/kg-dry		5		SW6010B	06/22/16 15:24 / sld	06/20/16 09:45	ICP2-HE_160622A	: 115	33334
Iron	31600	mg/kg-dry	D	30		SW6010B	06/22/16 15:24 / sld	06/20/16 09:45	ICP2-HE_160622A	: 115	33334
Lead	421	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Manganese	6450	mg/kg-dry		5		SW6010B	06/22/16 15:24 / sld	06/20/16 09:45	ICP2-HE_160622A	: 115	33334
Molybdenum	6	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Nickel	39	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Silver	6	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Uranium	5	mg/kg-dry		5		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Vanadium	66	mg/kg-dry		2		SW6020	06/22/16 21:32 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 206	33334
Zinc	3130	mg/kg-dry		8		SW6010B	06/22/16 15:24 / sld	06/20/16 09:45	ICP2-HE_160622A	: 115	33334
METALS, TOTAL											
Mercury	2.2	mg/kg-dry		0.10		SW7471B	06/21/16 12:17 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 73	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A Sediment Sieve 0.065-1mm
Lab ID: H16060099-053
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.9	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	51	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	33.2	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	43	R116215
3050 EXTRACTABLE METALS											
Aluminum	4450	mg/kg-dry		5		SW6010B	06/22/16 17:37 / sld	06/20/16 09:46	ICP2-HE_160622A	151	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Arsenic	108	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Barium	108	mg/kg-dry		5		SW6010B	06/22/16 17:37 / sld	06/20/16 09:46	ICP2-HE_160622A	151	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Cadmium	1.5	mg/kg-dry		0.2		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Chromium	22	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Cobalt	16	mg/kg-dry		5		SW6020	06/29/16 12:54 / dck	06/27/16 08:50	ICPMS204-B_160629A	35	33415
Copper	506	mg/kg-dry		5		SW6010B	06/22/16 17:37 / sld	06/20/16 09:46	ICP2-HE_160622A	151	33335
Iron	32700	mg/kg-dry	D	9		SW6010B	06/22/16 17:37 / sld	06/20/16 09:46	ICP2-HE_160622A	151	33335
Lead	291	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Manganese	1410	mg/kg-dry		5		SW6010B	06/22/16 17:37 / sld	06/20/16 09:46	ICP2-HE_160622A	151	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Nickel	7	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Vanadium	88	mg/kg-dry		1		SW6020	06/22/16 23:15 / dck	06/20/16 09:46	ICPMS204-B_160621A	240	33335
Zinc	529	mg/kg-dry		5		SW6010B	06/22/16 17:37 / sld	06/20/16 09:46	ICP2-HE_160622A	151	33335
METALS, TOTAL											
Mercury	0.41	mg/kg-dry		0.10		SW7471B	06/21/16 12:11 / rgk	06/20/16 08:00	HGCV201-H_160621A	71	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A Sediment Sieve 1-2mm
Lab ID: H16060099-054
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	16.4	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 52	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	23.6	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 44	R116215
3050 EXTRACTABLE METALS											
Aluminum	5000	mg/kg-dry		5		SW6010B	06/22/16 19:27 / sld	06/20/16 09:48	ICP2-HE_160622A	: 181	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Arsenic	114	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Barium	146	mg/kg-dry		5		SW6010B	06/22/16 19:27 / sld	06/20/16 09:48	ICP2-HE_160622A	: 181	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Cadmium	1.5	mg/kg-dry		0.2		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Chromium	12	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 12:57 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 36	33415
Copper	422	mg/kg-dry		5		SW6010B	06/22/16 19:27 / sld	06/20/16 09:48	ICP2-HE_160622A	: 181	33336
Iron	18100	mg/kg-dry	D	8		SW6010B	06/22/16 19:27 / sld	06/20/16 09:48	ICP2-HE_160622A	: 181	33336
Lead	120	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Manganese	2280	mg/kg-dry		5		SW6010B	06/22/16 19:27 / sld	06/20/16 09:48	ICP2-HE_160622A	: 181	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Nickel	6	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Silver	12	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Vanadium	22	mg/kg-dry		1		SW6020	06/23/16 00:49 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 271	33336
Zinc	763	mg/kg-dry		5		SW6010B	06/22/16 19:27 / sld	06/20/16 09:48	ICP2-HE_160622A	: 181	33336
METALS, TOTAL											
Mercury	0.14	mg/kg-dry		0.10		SW7471B	06/21/16 12:15 / rgk	06/20/16 08:00	HGCV201-H_160621A	: 72	33329

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve <0.065mm
Lab ID: H16060099-055
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	58.5	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 53	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	1.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 45	R116215
3050 EXTRACTABLE METALS											
Aluminum	24300	mg/kg-dry		9		SW6010B	06/22/16 15:28 / sld	06/20/16 09:45	ICP2-HE_160622A	: 116	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Arsenic	88	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Barium	376	mg/kg-dry		5		SW6010B	06/22/16 15:28 / sld	06/20/16 09:45	ICP2-HE_160622A	: 116	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Boron	9	mg/kg-dry		5		SW6020	06/23/16 13:31 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 37	33334
Cadmium	8.7	mg/kg-dry		0.4		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Chromium	137	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Cobalt	14	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Copper	635	mg/kg-dry		5		SW6010B	06/22/16 15:28 / sld	06/20/16 09:45	ICP2-HE_160622A	: 116	33334
Iron	29600	mg/kg-dry	D	20		SW6010B	06/22/16 15:28 / sld	06/20/16 09:45	ICP2-HE_160622A	: 116	33334
Lead	243	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Manganese	4000	mg/kg-dry		5		SW6010B	06/22/16 15:28 / sld	06/20/16 09:45	ICP2-HE_160622A	: 116	33334
Molybdenum	6	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Nickel	72	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Vanadium	65	mg/kg-dry		1		SW6020	06/22/16 21:35 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 207	33334
Zinc	1330	mg/kg-dry		5		SW6010B	06/22/16 15:28 / sld	06/20/16 09:45	ICP2-HE_160622A	: 116	33334
METALS, TOTAL											
Mercury	1.0	mg/kg-dry		0.10		SW7471B	06/22/16 10:52 / rgk	06/20/16 08:59	HGCV201-H_160622A	: 27	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 0.065-1mm
Lab ID: H16060099-056
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	18.0	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 54	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	35.5	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 46	R116215
3050 EXTRACTABLE METALS											
Aluminum	6540	mg/kg-dry		5		SW6010B	06/22/16 17:40 / sld	06/20/16 09:46	ICP2-HE_160622A	: 152	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Arsenic	59	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Barium	85	mg/kg-dry		5		SW6010B	06/22/16 17:40 / sld	06/20/16 09:46	ICP2-HE_160622A	: 152	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Cadmium	1.9	mg/kg-dry		0.2		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Chromium	21	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Cobalt	5	mg/kg-dry		5		SW6020	06/29/16 18:07 / dck	06/29/16 08:34	ICPMS204-B_160629A	: 100	33447
Copper	96	mg/kg-dry		5		SW6010B	06/22/16 17:40 / sld	06/20/16 09:46	ICP2-HE_160622A	: 152	33335
Iron	28300	mg/kg-dry	D	8		SW6010B	06/22/16 17:40 / sld	06/20/16 09:46	ICP2-HE_160622A	: 152	33335
Lead	50	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Manganese	545	mg/kg-dry		5		SW6010B	06/22/16 17:40 / sld	06/20/16 09:46	ICP2-HE_160622A	: 152	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Nickel	8	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Vanadium	81	mg/kg-dry		1		SW6020	06/22/16 23:18 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 241	33335
Zinc	696	mg/kg-dry		5		SW6010B	06/22/16 17:40 / sld	06/20/16 09:46	ICP2-HE_160622A	: 152	33335
METALS, TOTAL											
Mercury	0.20	mg/kg-dry		0.10		SW7471B	06/22/16 10:44 / rgk	06/20/16 08:59	HGCV201-H_160622A	: 23	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 1-2mm
Lab ID: H16060099-057
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 12:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	16.1	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 55	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	28.4	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 47	R116215
3050 EXTRACTABLE METALS											
Aluminum	8400	mg/kg-dry		5		SW6010B	06/22/16 19:31 / sld	06/20/16 09:48	ICP2-HE_160622A	: 182	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Arsenic	39	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Barium	92	mg/kg-dry		5		SW6010B	06/22/16 19:31 / sld	06/20/16 09:48	ICP2-HE_160622A	: 182	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Cadmium	0.3	mg/kg-dry		0.2		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Chromium	14	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 13:00 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 37	33415
Copper	107	mg/kg-dry		5		SW6010B	06/22/16 19:31 / sld	06/20/16 09:48	ICP2-HE_160622A	: 182	33336
Iron	16000	mg/kg-dry	D	8		SW6010B	06/22/16 19:31 / sld	06/20/16 09:48	ICP2-HE_160622A	: 182	33336
Lead	29	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Manganese	406	mg/kg-dry		5		SW6010B	06/22/16 19:31 / sld	06/20/16 09:48	ICP2-HE_160622A	: 182	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Nickel	9	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Vanadium	25	mg/kg-dry		1		SW6020	06/23/16 00:52 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 272	33336
Zinc	415	mg/kg-dry		5		SW6010B	06/22/16 19:31 / sld	06/20/16 09:48	ICP2-HE_160622A	: 182	33336
METALS, TOTAL											
Mercury	0.11	mg/kg-dry		0.10		SW7471B	06/22/16 10:54 / rgk	06/20/16 08:59	HGCV201-H_160622A	: 28	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Sieve <0.065mm
Lab ID: H16060099-058
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	68.5	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 56	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.7	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 48	R116215
3050 EXTRACTABLE METALS											
Aluminum	35500	mg/kg-dry		10		SW6010B	06/22/16 15:32 / sld	06/20/16 09:45	ICP2-HE_160622A	: 117	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Arsenic	64	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Barium	323	mg/kg-dry		5		SW6010B	06/22/16 15:32 / sld	06/20/16 09:45	ICP2-HE_160622A	: 117	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Boron	14	mg/kg-dry		5		SW6020	06/23/16 13:34 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 38	33334
Cadmium	10.7	mg/kg-dry		0.5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Chromium	56	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Cobalt	19	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Copper	643	mg/kg-dry		5		SW6010B	06/22/16 15:32 / sld	06/20/16 09:45	ICP2-HE_160622A	: 117	33334
Iron	40600	mg/kg-dry	D	20		SW6010B	06/22/16 15:32 / sld	06/20/16 09:45	ICP2-HE_160622A	: 117	33334
Lead	257	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Manganese	5580	mg/kg-dry		5		SW6010B	06/22/16 15:32 / sld	06/20/16 09:45	ICP2-HE_160622A	: 117	33334
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Nickel	34	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Vanadium	101	mg/kg-dry		1		SW6020	06/22/16 21:38 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 208	33334
Zinc	1890	mg/kg-dry		5		SW6010B	06/22/16 15:32 / sld	06/20/16 09:45	ICP2-HE_160622A	: 117	33334
METALS, TOTAL											
Mercury	1.0	mg/kg-dry		0.10		SW7471B	06/22/16 10:56 / rgk	06/20/16 08:59	HGCV201-H_160622A	: 29	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Sieve 0.065-1mm
Lab ID: H16060099-059
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	23.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 57	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	59.0	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 49	R116215
3050 EXTRACTABLE METALS											
Aluminum	6470	mg/kg-dry		5		SW6010B	06/22/16 17:51 / sld	06/20/16 09:46	ICP2-HE_160622A	: 155	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Arsenic	38	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Barium	134	mg/kg-dry		5		SW6010B	06/22/16 17:51 / sld	06/20/16 09:46	ICP2-HE_160622A	: 155	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Cadmium	0.8	mg/kg-dry		0.2		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Chromium	17	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Cobalt	6	mg/kg-dry		5		SW6020	06/29/16 13:03 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 38	33415
Copper	160	mg/kg-dry		5		SW6010B	06/22/16 17:51 / sld	06/20/16 09:46	ICP2-HE_160622A	: 155	33335
Iron	25100	mg/kg-dry	D	9		SW6010B	06/22/16 17:51 / sld	06/20/16 09:46	ICP2-HE_160622A	: 155	33335
Lead	40	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Manganese	805	mg/kg-dry		5		SW6010B	06/22/16 17:51 / sld	06/20/16 09:46	ICP2-HE_160622A	: 155	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Nickel	7	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Uranium	8	mg/kg-dry		5		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Vanadium	77	mg/kg-dry		1		SW6020	06/22/16 23:21 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 242	33335
Zinc	280	mg/kg-dry		5		SW6010B	06/22/16 17:51 / sld	06/20/16 09:46	ICP2-HE_160622A	: 155	33335
METALS, TOTAL											
Mercury	0.14	mg/kg-dry		0.10		SW7471B	06/22/16 10:58 / rgk	06/20/16 08:59	HGCV201-H_160622A	: 30	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Sieve 1-2mm
Lab ID: H16060099-060
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 11:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.9	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 58	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	15.8	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 50	R116215
3050 EXTRACTABLE METALS											
Aluminum	3650	mg/kg-dry		5		SW6010B	06/22/16 19:34 / sld	06/20/16 09:48	ICP2-HE_160622A	: 183	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Arsenic	28	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Barium	67	mg/kg-dry		5		SW6010B	06/22/16 19:34 / sld	06/20/16 09:48	ICP2-HE_160622A	: 183	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Cadmium	0.5	mg/kg-dry		0.2		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Chromium	7	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 13:06 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 39	33415
Copper	126	mg/kg-dry		5		SW6010B	06/22/16 19:34 / sld	06/20/16 09:48	ICP2-HE_160622A	: 183	33336
Iron	12000	mg/kg-dry	D	8		SW6010B	06/22/16 19:34 / sld	06/20/16 09:48	ICP2-HE_160622A	: 183	33336
Lead	22	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Manganese	527	mg/kg-dry		5		SW6010B	06/22/16 19:34 / sld	06/20/16 09:48	ICP2-HE_160622A	: 183	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Vanadium	28	mg/kg-dry		1		SW6020	06/23/16 00:55 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 273	33336
Zinc	235	mg/kg-dry		5		SW6010B	06/22/16 19:34 / sld	06/20/16 09:48	ICP2-HE_160622A	: 183	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/22/16 11:00 / rgk	06/20/16 08:59	HGCV201-H_160622A	: 31	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve <0.065mm
Lab ID: H16060099-061
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	71.5	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 60	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	20.2	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 51	R116215
3050 EXTRACTABLE METALS											
Aluminum	30500	mg/kg-dry		10		SW6010B	06/22/16 15:35 / sld	06/20/16 09:45	ICP2-HE_160622A	: 118	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Arsenic	75	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Barium	260	mg/kg-dry		5		SW6010B	06/22/16 15:35 / sld	06/20/16 09:45	ICP2-HE_160622A	: 118	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Boron	13	mg/kg-dry		5		SW6020	06/23/16 13:37 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 39	33334
Cadmium	7.8	mg/kg-dry		0.6		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Chromium	46	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Cobalt	12	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Copper	580	mg/kg-dry		5		SW6010B	06/22/16 15:35 / sld	06/20/16 09:45	ICP2-HE_160622A	: 118	33334
Iron	33100	mg/kg-dry	D	20		SW6010B	06/22/16 15:35 / sld	06/20/16 09:45	ICP2-HE_160622A	: 118	33334
Lead	215	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Manganese	1920	mg/kg-dry		5		SW6010B	06/22/16 15:35 / sld	06/20/16 09:45	ICP2-HE_160622A	: 118	33334
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Nickel	25	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Vanadium	71	mg/kg-dry		1		SW6020	06/22/16 21:41 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 209	33334
Zinc	1500	mg/kg-dry		6		SW6010B	06/22/16 15:35 / sld	06/20/16 09:45	ICP2-HE_160622A	: 118	33334
METALS, TOTAL											
Mercury	1.4	mg/kg-dry		0.10		SW7471B	06/22/16 11:02 / rgk	06/20/16 08:59	HGCV201-H_160622A	: 32	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 0.065-1mm
Lab ID: H16060099-062
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	27.8	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	61	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	68.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	52	R116215
3050 EXTRACTABLE METALS											
Aluminum	8290	mg/kg-dry		5		SW6010B	06/22/16 17:55 / sld	06/20/16 09:46	ICP2-HE_160622A	156	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Arsenic	18	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Barium	162	mg/kg-dry		5		SW6010B	06/22/16 17:55 / sld	06/20/16 09:46	ICP2-HE_160622A	156	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Cadmium	1.0	mg/kg-dry		0.2		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Chromium	15	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Cobalt	8	mg/kg-dry		5		SW6010B	06/22/16 17:55 / sld	06/20/16 09:46	ICP2-HE_160622A	156	33335
Copper	99	mg/kg-dry		5		SW6010B	06/22/16 17:55 / sld	06/20/16 09:46	ICP2-HE_160622A	156	33335
Iron	15000	mg/kg-dry	D	9		SW6010B	06/22/16 17:55 / sld	06/20/16 09:46	ICP2-HE_160622A	156	33335
Lead	42	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Manganese	400	mg/kg-dry		5		SW6010B	06/22/16 17:55 / sld	06/20/16 09:46	ICP2-HE_160622A	156	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Nickel	7	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Vanadium	38	mg/kg-dry		1		SW6020	06/22/16 23:24 / dck	06/20/16 09:46	ICPMS204-B_160621A	243	33335
Zinc	283	mg/kg-dry		5		SW6010B	06/22/16 17:55 / sld	06/20/16 09:46	ICP2-HE_160622A	156	33335
METALS, TOTAL											
Mercury	0.17	mg/kg-dry		0.10		SW7471B	06/22/16 11:04 / rgk	06/20/16 08:59	HGCV201-H_160622A	33	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 1-2mm
Lab ID: H16060099-063
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 10:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	31.3	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	62	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	4.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	53	R116215
3050 EXTRACTABLE METALS											
Aluminum	5030	mg/kg-dry		6		SW6010B	06/22/16 19:38 / sld	06/20/16 09:48	ICP2-HE_160622A	184	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Arsenic	103	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Barium	148	mg/kg-dry		5		SW6010B	06/22/16 19:38 / sld	06/20/16 09:48	ICP2-HE_160622A	184	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Cadmium	0.9	mg/kg-dry		0.2		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Chromium	12	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 15:51 / dck	06/27/16 08:50	ICPMS204-B_160629A	57	33415
Copper	115	mg/kg-dry		5		SW6010B	06/22/16 19:38 / sld	06/20/16 09:48	ICP2-HE_160622A	184	33336
Iron	11600	mg/kg-dry	D	10		SW6010B	06/22/16 19:38 / sld	06/20/16 09:48	ICP2-HE_160622A	184	33336
Lead	54	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Manganese	263	mg/kg-dry		5		SW6010B	06/22/16 19:38 / sld	06/20/16 09:48	ICP2-HE_160622A	184	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Nickel	6	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Vanadium	21	mg/kg-dry		1		SW6020	06/23/16 00:58 / dck	06/20/16 09:48	ICPMS204-B_160621A	274	33336
Zinc	294	mg/kg-dry		5		SW6010B	06/22/16 19:38 / sld	06/20/16 09:48	ICP2-HE_160622A	184	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/22/16 11:06 / rgk	06/20/16 08:59	HGCV201-H_160622A	34	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve <0.065mm
Lab ID: H16060099-064
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	72.4	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 63	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.3	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 54	R116215
3050 EXTRACTABLE METALS											
Aluminum	24100	mg/kg-dry		10		SW6010B	06/22/16 15:39 / sld	06/20/16 09:45	ICP2-HE_160622A	: 119	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Arsenic	64	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Barium	269	mg/kg-dry		5		SW6010B	06/22/16 15:39 / sld	06/20/16 09:45	ICP2-HE_160622A	: 119	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Boron	11	mg/kg-dry		5		SW6020	06/23/16 13:40 / dck	06/20/16 09:45	ICPMS204-B_160623B	: 40	33334
Cadmium	12.0	mg/kg-dry		0.6		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Chromium	56	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Cobalt	15	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Copper	983	mg/kg-dry		5		SW6010B	06/22/16 15:39 / sld	06/20/16 09:45	ICP2-HE_160622A	: 119	33334
Iron	28000	mg/kg-dry	D	20		SW6010B	06/22/16 15:39 / sld	06/20/16 09:45	ICP2-HE_160622A	: 119	33334
Lead	240	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Manganese	5330	mg/kg-dry		5		SW6010B	06/22/16 15:39 / sld	06/20/16 09:45	ICP2-HE_160622A	: 119	33334
Molybdenum	6	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Nickel	35	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Uranium	5	mg/kg-dry		5		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Vanadium	71	mg/kg-dry		2		SW6020	06/22/16 21:44 / dck	06/20/16 09:45	ICPMS204-B_160621A	: 210	33334
Zinc	1870	mg/kg-dry		6		SW6010B	06/22/16 15:39 / sld	06/20/16 09:45	ICP2-HE_160622A	: 119	33334
METALS, TOTAL											
Mercury	1.5	mg/kg-dry		0.10		SW7471B	06/22/16 11:07 / rgk	06/20/16 08:59	HGCV201-H_160622A	: 35	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 0.065-1mm
Lab ID: H16060099-065
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	22.7	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 64	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	34.0	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 55	R116215
3050 EXTRACTABLE METALS											
Aluminum	4540	mg/kg-dry		5		SW6010B	06/22/16 17:59 / sld	06/20/16 09:46	ICP2-HE_160622A	: 157	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Arsenic	26	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Barium	91	mg/kg-dry		5		SW6010B	06/22/16 17:59 / sld	06/20/16 09:46	ICP2-HE_160622A	: 157	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Cadmium	0.8	mg/kg-dry		0.2		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Chromium	9	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Cobalt	ND	mg/kg-dry		5		SW6020	06/29/16 15:54 / dck	06/27/16 08:50	ICPMS204-B_160629A	: 58	33415
Copper	95	mg/kg-dry		5		SW6010B	06/22/16 17:59 / sld	06/20/16 09:46	ICP2-HE_160622A	: 157	33335
Iron	9620	mg/kg-dry	D	8		SW6010B	06/22/16 17:59 / sld	06/20/16 09:46	ICP2-HE_160622A	: 157	33335
Lead	33	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Manganese	493	mg/kg-dry		5		SW6010B	06/22/16 17:59 / sld	06/20/16 09:46	ICP2-HE_160622A	: 157	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Nickel	5	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Vanadium	23	mg/kg-dry		1		SW6020	06/22/16 23:27 / dck	06/20/16 09:46	ICPMS204-B_160621A	: 244	33335
Zinc	294	mg/kg-dry		5		SW6010B	06/22/16 17:59 / sld	06/20/16 09:46	ICP2-HE_160622A	: 157	33335
METALS, TOTAL											
Mercury	0.28	mg/kg-dry		0.10		SW7471B	06/21/16 15:43 / rgk	06/20/16 08:59	HGCV201-H_160621B	: 39	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 1-2mm
Lab ID: H16060099-066
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 09:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	16.9	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 65	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	29.1	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 56	R116215
3050 EXTRACTABLE METALS											
Aluminum	3200	mg/kg-dry		5		SW6010B	06/22/16 19:42 / sld	06/20/16 09:48	ICP2-HE_160622A	: 185	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Arsenic	13	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Barium	75	mg/kg-dry		5		SW6010B	06/22/16 19:42 / sld	06/20/16 09:48	ICP2-HE_160622A	: 185	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Cadmium	0.3	mg/kg-dry		0.2		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Chromium	7	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 19:42 / sld	06/20/16 09:48	ICP2-HE_160622A	: 185	33336
Copper	48	mg/kg-dry		5		SW6010B	06/22/16 19:42 / sld	06/20/16 09:48	ICP2-HE_160622A	: 185	33336
Iron	6320	mg/kg-dry	D	8		SW6010B	06/22/16 19:42 / sld	06/20/16 09:48	ICP2-HE_160622A	: 185	33336
Lead	19	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Manganese	413	mg/kg-dry		5		SW6010B	06/22/16 19:42 / sld	06/20/16 09:48	ICP2-HE_160622A	: 185	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Vanadium	15	mg/kg-dry		1		SW6020	06/23/16 01:01 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 275	33336
Zinc	112	mg/kg-dry		5		SW6010B	06/22/16 19:42 / sld	06/20/16 09:48	ICP2-HE_160622A	: 185	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 15:45 / rgk	06/20/16 08:59	HGCV201-H_160621B	: 40	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A US Sediment Sieve <0.065mm
Lab ID: H16060099-067
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	62.7	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	66	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.5	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	57	R116215
3050 EXTRACTABLE METALS											
Aluminum	18200	mg/kg-dry		10		SW6010B	06/22/16 15:42 / sld	06/20/16 09:45	ICP2-HE_160622A	120	33334
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Arsenic	32	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Barium	237	mg/kg-dry		5		SW6010B	06/22/16 15:42 / sld	06/20/16 09:45	ICP2-HE_160622A	120	33334
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Boron	12	mg/kg-dry		5		SW6020	06/23/16 13:43 / dck	06/20/16 09:45	ICPMS204-B_160623B	41	33334
Cadmium	10.6	mg/kg-dry		0.4		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Chromium	32	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Cobalt	12	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Copper	553	mg/kg-dry		5		SW6010B	06/22/16 15:42 / sld	06/20/16 09:45	ICP2-HE_160622A	120	33334
Iron	19900	mg/kg-dry	D	20		SW6010B	06/22/16 15:42 / sld	06/20/16 09:45	ICP2-HE_160622A	120	33334
Lead	159	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Manganese	4640	mg/kg-dry		5		SW6010B	06/22/16 15:42 / sld	06/20/16 09:45	ICP2-HE_160622A	120	33334
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Nickel	21	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Vanadium	44	mg/kg-dry		1		SW6020	06/22/16 21:56 / dck	06/20/16 09:45	ICPMS204-B_160621A	214	33334
Zinc	1240	mg/kg-dry		5		SW6010B	06/22/16 15:42 / sld	06/20/16 09:45	ICP2-HE_160622A	120	33334
METALS, TOTAL											
Mercury	0.48	mg/kg-dry		0.10		SW7471B	06/21/16 15:47 / rgk	06/20/16 08:59	HGCV201-H_160621B	41	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A US Sediment Sieve 0.065-1mm
Lab ID: H16060099-068
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.7	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	67	R116221
SIEVE ANALYSIS											
No. 230 (63 um), Retained	18.6	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	58	R116215
3050 EXTRACTABLE METALS											
Aluminum	3890	mg/kg-dry		5		SW6010B	06/22/16 18:02 / sld	06/20/16 09:46	ICP2-HE_160622A	158	33335
Antimony	ND	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Arsenic	50	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Barium	199	mg/kg-dry		5		SW6010B	06/22/16 18:02 / sld	06/20/16 09:46	ICP2-HE_160622A	158	33335
Beryllium	ND	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Boron	ND	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Cadmium	2.8	mg/kg-dry		0.2		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Chromium	17	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Cobalt	6	mg/kg-dry		5		SW6020	06/29/16 15:57 / dck	06/27/16 08:50	ICPMS204-B_160629A	59	33415
Copper	202	mg/kg-dry		5		SW6010B	06/22/16 18:02 / sld	06/20/16 09:46	ICP2-HE_160622A	158	33335
Iron	29400	mg/kg-dry	D	9		SW6010B	06/22/16 18:02 / sld	06/20/16 09:46	ICP2-HE_160622A	158	33335
Lead	83	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Manganese	1130	mg/kg-dry		5		SW6010B	06/22/16 18:02 / sld	06/20/16 09:46	ICP2-HE_160622A	158	33335
Molybdenum	ND	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Nickel	ND	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Selenium	ND	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Silver	ND	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Uranium	ND	mg/kg-dry		5		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Vanadium	75	mg/kg-dry		1		SW6020	06/22/16 23:30 / dck	06/20/16 09:46	ICPMS204-B_160621A	245	33335
Zinc	1060	mg/kg-dry		5		SW6010B	06/22/16 18:02 / sld	06/20/16 09:46	ICP2-HE_160622A	158	33335
METALS, TOTAL											
Mercury	0.14	mg/kg-dry		0.10		SW7471B	06/21/16 15:49 / rgk	06/20/16 08:59	HGCV201-H_160621B	42	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A US Sediment Sieve 1-2mm
Lab ID: H16060099-069
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 06/02/16 13:00
DateReceived: 06/06/16
Report Date: 07/06/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	9.6	wt%		0.2		D2974	06/22/16 12:48 / cbt		RYING OVEN 2_160621C	: 68	R116221
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	24.3	wt%-wet		0.1		SSSA 15-2	06/14/16 15:00 / swj		MISC SOILS_160614E	: 59	R116215
3050 EXTRACTABLE METALS											
Aluminum	2420	mg/kg-dry		5		SW6010B	06/22/16 19:45 / sld	06/20/16 09:48	ICP2-HE_160622A	: 186	33336
Antimony	ND	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Arsenic	30	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Barium	43	mg/kg-dry		5		SW6010B	06/22/16 19:45 / sld	06/20/16 09:48	ICP2-HE_160622A	: 186	33336
Beryllium	ND	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Boron	ND	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Cadmium	0.9	mg/kg-dry		0.2		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Chromium	8	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Cobalt	ND	mg/kg-dry		5		SW6010B	06/22/16 19:45 / sld	06/20/16 09:48	ICP2-HE_160622A	: 186	33336
Copper	142	mg/kg-dry		5		SW6010B	06/22/16 19:45 / sld	06/20/16 09:48	ICP2-HE_160622A	: 186	33336
Iron	7430	mg/kg-dry	D	7		SW6010B	06/22/16 19:45 / sld	06/20/16 09:48	ICP2-HE_160622A	: 186	33336
Lead	31	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Manganese	475	mg/kg-dry		5		SW6010B	06/22/16 19:45 / sld	06/20/16 09:48	ICP2-HE_160622A	: 186	33336
Molybdenum	ND	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Nickel	ND	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Selenium	ND	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Silver	ND	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Uranium	ND	mg/kg-dry		5		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Vanadium	11	mg/kg-dry		1		SW6020	06/23/16 01:14 / dck	06/20/16 09:48	ICPMS204-B_160621A	: 279	33336
Zinc	321	mg/kg-dry		5		SW6010B	06/22/16 19:45 / sld	06/20/16 09:48	ICP2-HE_160622A	: 186	33336
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	06/21/16 15:51 / rgk	06/20/16 08:59	HGCV201-H_160621B	: 43	33332

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160607A-SLDS-VSS-W

Date: *06-Jul-16*

Run ID :Run Order: **MISC WC_160607A: 1** SampType: **Method Blank** Lab ID: **MBLK1_160607A** Method: **A2540 E**

Analysis Date: **06/07/16 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	ND	1									

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **MISC WC_160607A: 12** SampType: **Sample Duplicate** Lab ID: **H16060099-007ADUP** Method: **A2540 E**

Analysis Date: **06/07/16 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	3	10		0				2.6		30	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **MISC WC_160607A: 22** SampType: **Sample Duplicate** Lab ID: **H16060099-016ADUP** Method: **A2540 E**

Analysis Date: **06/07/16 10:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	4	10		0				4.4		30	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160608WA-HGCV202

Date: *06-Jul-16*

Run ID :Run Order: **HGCV202-H_160608A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **06/08/16 11:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000195	0.00010	0.0002	0	97	90	110				

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B, H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **HGCV202-H_160608A: 43** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/08/16 13:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000199	0.00010	0.0002	0	99	90	110				

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B, H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **HGCV202-H_160608A: 59** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/08/16 14:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000204	0.00010	0.0002	0	102	90	110				

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B, H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **HGCV202-H_160608A: 73** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/08/16 14:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000204	0.00010	0.0002	0	102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160608WA-HGCV202

Date: *06-Jul-16*

Run ID :Run Order: **HGCV202-H_160608A: 73** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/08/16 14:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B, H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **HGCV202-H_160608A: 92** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/08/16 15:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000198	0.00010	0.0002	0	99	90	110				

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B, H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160621sa-201

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160621B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/21/16 14:33** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00093	0.50	0.001	0	93	90	110				

Associated samples: **H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160621B: 15** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/21/16 14:51** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	101	90	110				

Associated samples: **H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160621B: 16** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/21/16 14:53** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	100	90	110				

Associated samples: **H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160621B: 37** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/21/16 15:39** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0024	0.50	0.0025	0	97	90	110				

Associated samples: **H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160621sa-hgcv201

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160621A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/21/16 09:24** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	102	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Run ID :Run Order: **HGCV201-H_160621A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/21/16 09:26** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	100	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Run ID :Run Order: **HGCV201-H_160621A: 27** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/21/16 10:11** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0024	0.50	0.0025	0	94	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Run ID :Run Order: **HGCV201-H_160621A: 42** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/21/16 10:42** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0022	0.50	0.0025	0	90	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160621sa-hgcv201

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160621A: 59** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/21/16 11:50** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0027	0.50	0.0025	0	**106**	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Run ID :Run Order: **HGCV201-H_160621A: 74** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/21/16 12:19** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**99**	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160622sa-hgcv201

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160622A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/22/16 09:45** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00100	0.50	0.001	0	100	90	110				

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A**

Run ID :Run Order: **HGCV201-H_160622A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/22/16 09:47** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	101	90	110				

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A**

Run ID :Run Order: **HGCV201-H_160622A: 20** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/22/16 10:16** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160627sa-201

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160627A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/27/16 10:17** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00099	0.50	0.001	0	99	90	110				

Associated samples: **H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Run ID :Run Order: **HGCV201-H_160627A: 28** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/27/16 11:04** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Associated samples: **H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Run ID :Run Order: **HGCV201-H_160627A: 42** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/27/16 11:31** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	104	90	110				

Associated samples: **H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33175

Date: *06-Jul-16*

Run ID :Run Order: **HGCV202-H_160608A: 45** SampType: **Method Blank** Lab ID: **MB-33175** Method: **E245.1**

Analysis Date: **06/08/16 13:30** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B**

Run ID :Run Order: **HGCV202-H_160608A: 46** SampType: **Laboratory Control Sample** Lab ID: **LCS-33175** Method: **E245.1**

Analysis Date: **06/08/16 13:33** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000141	0.00010	0.00015	0	94	90	110				

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B**

Run ID :Run Order: **HGCV202-H_160608A: 48** SampType: **Sample Matrix Spike** Lab ID: **H16060098-003CMS** Method: **E245.1**

Analysis Date: **06/08/16 13:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000487	103	70	130				

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B**

Run ID :Run Order: **HGCV202-H_160608A: 49** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-003CMSD** Method: **E245.1**

Analysis Date: **06/08/16 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000487	102	70	130	0.0001601	1.6	20	

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33175

Date: *06-Jul-16*

Run ID :Run Order: **HGCV202-H_160608A: 62** SampType: **Sample Matrix Spike** Lab ID: **H16060099-005CMS** Method: **E245.1**

Analysis Date: **06/08/16 14:15** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000705	**103**	70	130				

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B**

Run ID :Run Order: **HGCV202-H_160608A: 63** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-005CMSD** Method: **E245.1**

Analysis Date: **06/08/16 14:18** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00017	0.00010	0.00015	0.00000705	**106**	70	130	0.0001617	**2.8**	20	

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33176

Date: *06-Jul-16*

Run ID :Run Order: **HGCV202-H_160608A: 75** SampType: **Method Blank** Lab ID: **MB-33176** Method: **E245.1**
Analysis Date: **06/08/16 14:55** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2E-06	1E-06									

Associated samples: **H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **HGCV202-H_160608A: 76** SampType: **Laboratory Control Sample** Lab ID: **LCS-33176** Method: **E245.1**
Analysis Date: **06/08/16 14:58** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000155	0.00010	0.00015	0.00000188	**102**	90	110				

Associated samples: **H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **HGCV202-H_160608A: 85** SampType: **Sample Matrix Spike** Lab ID: **H16060099-010CMS** Method: **E245.1**
Analysis Date: **06/08/16 15:30** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000789	**105**	70	130				

Associated samples: **H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **HGCV202-H_160608A: 86** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-010CMSD** Method: **E245.1**
Analysis Date: **06/08/16 15:32** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000789	**103**	70	130	0.000165	**1.5**	20	

Associated samples: **H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **HGCV202-H_160608A: 100** SampType: **Sample Matrix Spike** Lab ID: **H16060099-016BMS** Method: **E245.1**
Analysis Date: **06/08/16 16:09** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000152	0.00010	0.00015	0.00000309	**99**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33176

Date: *06-Jul-16*

Run ID :Run Order: **HGCV202-H_160608A: 100** SampType: **Sample Matrix Spike** Lab ID: **H16060099-016BMS** Method: **E245.1**

Analysis Date: **06/08/16 16:09** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **HGCV202-H_160608A: 101** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-016BMSD** Method: **E245.1**

Analysis Date: **06/08/16 16:12** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000153	0.00010	0.00015	0.00000309	**100**	70	130	0.0001518	**0.6**	20	

Associated samples: **H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33179

Date: *06-Jul-16*

Run ID :Run Order: **FIA203-HE_160607B: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-33179** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:04** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	6.46	0.15	6.37	0	101	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A**

Run ID :Run Order: **FIA203-HE_160607B: 12** SampType: **Method Blank** Lab ID: **MB-33179** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:05** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.007									

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A**

Run ID :Run Order: **FIA203-HE_160607B: 14** SampType: **Sample Matrix Spike** Lab ID: **H16060098-001Ams** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:08** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.58	0.10	1	0.6412	94	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A**

Run ID :Run Order: **FIA203-HE_160607B: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-001Amsd** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:09** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.57	0.10	1	0.6412	93	90	110	1.578	0.6	20	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A**

Run ID :Run Order: **FIA203-HE_160607B: 28** SampType: **Sample Matrix Spike** Lab ID: **H16060099-008Ams** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:25** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.59	0.10	1	0.7015	89	90	110				S

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33179

Date: *06-Jul-16*

Run ID :Run Order: **FIA203-HE_160607B: 28** SampType: **Sample Matrix Spike** Lab ID: **H16060099-008Ams** Method: **A4500 N-C**

Analysis Date: **06/07/16 11:25** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A**

Run ID :Run Order: **FIA203-HE_160607B: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-008Amsd** Method: **A4500 N-C**

Analysis Date: **06/07/16 11:26** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.61	0.10	1	0.7015	**91**	90	110	1.587	**1.3**	20	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33180

Date: *06-Jul-16*

Run ID :Run Order: **FIA203-HE_160607B: 41** SampType: **Laboratory Control Sample** Lab ID: **LCS-33180** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:40** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	6.49	0.15	6.37	0	102	90	110				

Associated samples: **H16060099-018A**

Run ID :Run Order: **FIA203-HE_160607B: 42** SampType: **Method Blank** Lab ID: **MB-33180** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:41** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.007									

Associated samples: **H16060099-018A**

Run ID :Run Order: **FIA203-HE_160607B: 44** SampType: **Sample Matrix Spike** Lab ID: **H16060099-018Ams** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:44** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.52	0.10	1	0.5871	93	90	110				

Associated samples: **H16060099-018A**

Run ID :Run Order: **FIA203-HE_160607B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-018Amsd** Method: **A4500 N-C**
Analysis Date: **06/07/16 11:45** Units: **mg/L** **Prep Info:** Prep Date: **6/7/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.48	0.10	1	0.5871	89	90	110	1.518	2.7	20	S

Associated samples: **H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33198

Date: *06-Jul-16*

Run ID :Run Order: **FIA202-HE_160608B: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-33198** Method: **E365.1**

Analysis Date: **06/08/16 13:14** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.383	0.010	0.4	0.00395	95	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA202-HE_160608B: 13** SampType: **Method Blank** Lab ID: **MB-33198** Method: **E365.1**

Analysis Date: **06/08/16 13:15** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.004	0.001									

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA202-HE_160608B: 15** SampType: **Sample Matrix Spike** Lab ID: **H16060056-017DMS** Method: **E365.1**

Analysis Date: **06/08/16 13:17** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.199	0.010	0.2	0.00213	98	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA202-HE_160608B: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060056-017DMSD** Method: **E365.1**

Analysis Date: **06/08/16 13:18** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.200	0.010	0.2	0.00213	99	90	110	0.1989	0.4	20	

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33198

Date: *06-Jul-16*

Run ID :Run Order: **FIA202-HE_160608B: 29** SampType: **Sample Matrix Spike** Lab ID: **H16060099-009DMS** Method: **E365.1**

Analysis Date: **06/08/16 13:31** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.476	0.010	0.2	0.2672	**105**	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA202-HE_160608B: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-009DMSD** Method: **E365.1**

Analysis Date: **06/08/16 13:32** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.477	0.010	0.2	0.2672	**105**	90	110	0.4763	**0.2**	20	

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160609B: 82** SampType: **Method Blank** Lab ID: **MB-33199** Method: **E200.7**

Analysis Date: **06/09/16 17:27** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.003									
Calcium	0.07	0.04									
Magnesium	ND	0.01									
Potassium	ND	0.04									
Sodium	ND	0.02									

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 83** SampType: **Laboratory Control Sample** Lab ID: **LCS-33199** Method: **E200.7**

Analysis Date: **06/09/16 17:31** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.472	0.050	0.5	0	94	85	115				
Calcium	24.9	1.0	25	0.06554	99	85	115				
Magnesium	24.7	1.0	25	0	99	85	115				
Potassium	24.2	1.0	25	0	97	85	115				
Sodium	24.2	1.0	25	0	97	85	115				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 85** SampType: **Serial Dilution** Lab ID: **H16060099-001CDIL** Method: **E200.7**

Analysis Date: **06/09/16 17:39** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0401	0.050		0		0	0	0.03425		10	N
Calcium	38.0	1.0		0		0	0	37.42	1.5	10	
Magnesium	9.93	1.0		0		0	0	9.578	3.6	10	
Potassium	3.21	1.0		0		0	0	3.141	2.1	10	
Sodium	14.6	1.0		0		0	0	14.58	0.1	10	

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160609B: 86** SampType: **Sample Matrix Spike** Lab ID: **H16060099-001CMS3** Method: **E200.7**

Analysis Date: **06/09/16 17:42** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.509	0.050	0.5	0.03425	95	70	130				
Calcium	61.2	1.0	25	37.42	95	70	130				
Magnesium	33.9	1.0	25	9.578	97	70	130				
Potassium	27.8	1.0	25	3.141	99	70	130				
Sodium	39.0	1.0	25	14.58	98	70	130				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 97** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-001CMSD3** Method: **E200.7**

Analysis Date: **06/09/16 18:23** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.515	0.050	0.5	0.03425	96	70	130	0.5086	1.3	20	
Calcium	61.8	1.0	25	37.42	97	70	130	61.23	0.9	20	
Magnesium	34.0	1.0	25	9.578	98	70	130	33.9	0.2	20	
Potassium	28.2	1.0	25	3.141	100	70	130	27.79	1.6	20	
Sodium	39.9	1.0	25	14.58	101	70	130	39.02	2.1	20	

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 110** SampType: **Serial Dilution** Lab ID: **H16060099-011CDIL** Method: **E200.7**

Analysis Date: **06/09/16 19:12** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0534	0.050		0		0	0	0.04668		10	N
Calcium	44.3	1.0		0		0	0	43.36	2.1	10	
Magnesium	10.3	1.0		0		0	0	9.819	5.1	10	
Potassium	4.81	1.0		0		0	0	4.488	6.9	10	
Sodium	25.7	1.0		0		0	0	25.58	0.3	10	

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160609B: 111** SampType: **Sample Matrix Spike** Lab ID: **H16060099-011CMS3** Method: **E200.7**

Analysis Date: **06/09/16 19:16** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.535	0.050	0.5	0.04668	98	70	130				
Calcium	69.8	1.0	25	43.36	106	70	130				
Magnesium	35.2	1.0	25	9.819	102	70	130				
Potassium	30.3	1.0	25	4.488	103	70	130				
Sodium	52.2	1.0	25	25.58	107	70	130				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 112** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-011CMSD3** Method: **E200.7**

Analysis Date: **06/09/16 19:20** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.520	0.050	0.5	0.04668	95	70	130	0.5348	2.8	20	
Calcium	66.8	1.0	25	43.36	94	70	130	69.84	4.4	20	
Magnesium	33.8	1.0	25	9.819	96	70	130	35.23	4.3	20	
Potassium	28.8	1.0	25	4.488	97	70	130	30.31	5.0	20	
Sodium	49.6	1.0	25	25.58	96	70	130	52.23	5.1	20	

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 131** SampType: **Method Blank** Lab ID: **MB-33199** Method: **E200.8**

Analysis Date: **06/09/16 19:36** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	0.0001	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	0.003	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	0.004	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	3E-05									
Potassium	0.06	0.01									
Selenium	ND	0.0003									
Silver	ND	1E-05									
Sodium	0.2	0.005									
Uranium	ND	1E-05									
Vanadium	0.0005	0.00010									
Zinc	0.001	0.0003									

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICPMS204-B_160609B: 132** SampType: **Laboratory Control Sample** Lab ID: **LCS-33199** Method: **E200.8**

Analysis Date: **06/09/16 19:39** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.28	0.030	2.5	0	**91**	85	115				
Antimony	0.491	0.0010	0.5	0	**98**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 132** SampType: **Laboratory Control Sample** Lab ID: **LCS-33199** Method: **E200.8**

Analysis Date: **06/09/16 19:39** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.475	0.0010	0.5	0.0001484	95	85	115				
Barium	0.481	0.050	0.5	0	96	85	115				
Beryllium	0.235	0.0010	0.25	0	94	85	115				
Boron	0.459	0.050	0.5	0.002875	91	85	115				
Cadmium	0.235	0.0010	0.25	0	94	85	115				
Calcium	23.8	1.0	25	0	95	85	115				
Chromium	0.464	0.0050	0.5	0	93	85	115				
Cobalt	0.463	0.0050	0.5	0	93	85	115				
Copper	0.457	0.0050	0.5	0	91	85	115				
Iron	2.24	0.020	2.5	0	90	85	115				
Lead	0.470	0.0010	0.5	0	94	85	115				
Magnesium	23.3	1.0	25	0.004077	93	85	115				
Manganese	2.27	0.0010	2.5	0	91	85	115				
Molybdenum	0.484	0.0010	0.5	0	97	85	115				
Nickel	0.459	0.0050	0.5	0	92	85	115				
Potassium	22.9	1.0	25	0.06415	91	85	115				
Selenium	0.451	0.0010	0.5	0	90	85	115				
Silver	0.224	0.0010	0.25	0	90	85	115				
Sodium	23.3	1.0	25	0.1959	92	85	115				
Uranium	0.455	0.00030	0.5	0	91	85	115				
Vanadium	0.469	0.010	0.5	0.0004986	94	85	115				
Zinc	0.467	0.010	0.5	0.001355	93	85	115				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICPMS204-B_160609B: 136** SampType: **Sample Matrix Spike** Lab ID: **H16060099-001CMS3** Method: **E200.8**

Analysis Date: **06/09/16 19:52** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.64	0.030	2.5	0.1654	99	70	130				
Antimony	0.496	0.0010	0.5	0.0003314	99	70	130				
Arsenic	0.498	0.0010	0.5	0.006421	98	70	130				
Barium	0.538	0.050	0.5	0.03505	101	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 136** SampType: **Sample Matrix Spike** Lab ID: **H16060099-001CMS3** Method: **E200.8**

Analysis Date: **06/09/16 19:52** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.241	0.0010	0.25	0	97	70	130				
Boron	0.506	0.050	0.5	0.04106	93	70	130				
Cadmium	0.238	0.0010	0.25	0.0000617	95	70	130				
Calcium	56.5	1.0	25	35.59	84	70	130				
Chromium	0.486	0.0050	0.5	0.0003788	97	70	130				
Cobalt	0.475	0.0050	0.5	0.000181	95	70	130				
Copper	0.473	0.0050	0.5	0.008699	93	70	130				
Iron	3.00	0.020	2.5	0.7005	92	70	130				
Lead	0.485	0.0010	0.5	0.001635	97	70	130				
Magnesium	33.2	1.0	25	9.866	93	70	130				
Manganese	2.40	0.0010	2.5	0.06415	94	70	130				
Molybdenum	0.497	0.0010	0.5	0.005368	98	70	130				
Nickel	0.469	0.0050	0.5	0.0005661	94	70	130				
Potassium	26.3	1.0	25	3.195	93	70	130				
Selenium	0.457	0.0010	0.5	0.0005651	91	70	130				
Silver	0.227	0.0010	0.25	0.0001538	91	70	130				
Sodium	37.9	1.0	25	15.09	91	70	130				
Uranium	0.476	0.00030	0.5	0.003637	95	70	130				
Vanadium	0.490	0.010	0.5	0.003662	97	70	130				
Zinc	0.480	0.010	0.5	0.01582	93	70	130				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICPMS204-B_160609B: 137** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-001CMSD3** Method: **E200.8**

Analysis Date: **06/09/16 19:55** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.83	0.030	2.5	0.1654	106	70	130	2.636	7.0	20	
Antimony	0.531	0.0010	0.5	0.0003314	106	70	130	0.4965	6.7	20	
Arsenic	0.531	0.0010	0.5	0.006421	105	70	130	0.4984	6.4	20	
Barium	0.573	0.050	0.5	0.03505	108	70	130	0.5376	6.3	20	
Beryllium	0.254	0.0010	0.25	0	102	70	130	0.2413	5.3	20	
Boron	0.562	0.050	0.5	0.04106	104	70	130	0.5062	11	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 137** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-001CMSD3** Method: **E200.8**

Analysis Date: **06/09/16 19:55** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.252	0.0010	0.25	0.0000617	101	70	130	0.2384	5.5	20	
Calcium	60.4	1.0	25	35.59	99	70	130	56.5	6.7	20	
Chromium	0.518	0.0050	0.5	0.0003788	103	70	130	0.4856	6.4	20	
Cobalt	0.503	0.0050	0.5	0.000181	101	70	130	0.4747	5.8	20	
Copper	0.503	0.0050	0.5	0.008699	99	70	130	0.4734	6.0	20	
Iron	3.24	0.020	2.5	0.7005	102	70	130	3.002	7.7	20	
Lead	0.521	0.0010	0.5	0.001635	104	70	130	0.4851	7.2	20	
Magnesium	35.8	1.0	25	9.866	104	70	130	33.21	7.5	20	
Manganese	2.54	0.0010	2.5	0.06415	99	70	130	2.404	5.7	20	
Molybdenum	0.529	0.0010	0.5	0.005368	105	70	130	0.4971	6.3	20	
Nickel	0.496	0.0050	0.5	0.0005661	99	70	130	0.4689	5.6	20	
Potassium	28.4	1.0	25	3.195	101	70	130	26.33	7.5	20	
Selenium	0.487	0.0010	0.5	0.0005651	97	70	130	0.4574	6.3	20	
Silver	0.241	0.0010	0.25	0.0001538	96	70	130	0.2271	6.1	20	
Sodium	41.2	1.0	25	15.09	104	70	130	37.93	8.2	20	
Uranium	0.508	0.00030	0.5	0.003637	101	70	130	0.4764	6.5	20	
Vanadium	0.523	0.010	0.5	0.003662	104	70	130	0.49	6.6	20	
Zinc	0.512	0.010	0.5	0.01582	99	70	130	0.4797	6.4	20	

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICPMS204-B_160609B: 170** SampType: **Sample Matrix Spike** Lab ID: **H16060099-011CMS3** Method: **E200.8**

Analysis Date: **06/09/16 21:40** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.74	0.030	2.5	0.1911	102	70	130				
Antimony	0.510	0.0010	0.5	0.0002756	102	70	130				
Arsenic	0.516	0.0010	0.5	0.01025	101	70	130				
Barium	0.550	0.050	0.5	0.03098	104	70	130				
Beryllium	0.246	0.0010	0.25	0	98	70	130				
Boron	0.540	0.050	0.5	0.04646	99	70	130				
Cadmium	0.243	0.0010	0.25	0.0002098	97	70	130				
Calcium	64.6	1.0	25	39.93	99	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 170** SampType: **Sample Matrix Spike** Lab ID: **H16060099-011CMS3** Method: **E200.8**

Analysis Date: **06/09/16 21:40** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.495	0.0050	0.5	0.0003159	99	70	130				
Cobalt	0.488	0.0050	0.5	0.0002726	98	70	130				
Copper	0.498	0.0050	0.5	0.01746	96	70	130				
Iron	2.82	0.020	2.5	0.4234	96	70	130				
Lead	0.499	0.0010	0.5	0.001409	100	70	130				
Magnesium	34.7	1.0	25	10.01	99	70	130				
Manganese	2.52	0.0010	2.5	0.1118	96	70	130				
Molybdenum	0.503	0.0010	0.5	0.004762	100	70	130				
Nickel	0.480	0.0050	0.5	0.0009065	96	70	130				
Potassium	28.5	1.0	25	4.324	97	70	130				
Selenium	0.470	0.0010	0.5	0.0007084	94	70	130				
Silver	0.228	0.0010	0.25	0	91	70	130				
Sodium	50.3	1.0	25	25.53	99	70	130				
Uranium	0.495	0.00030	0.5	0.003731	98	70	130				
Vanadium	0.503	0.010	0.5	0.00356	100	70	130				
Zinc	0.517	0.010	0.5	0.04318	95	70	130				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICPMS204-B_160609B: 171** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-011CMSD3** Method: **E200.8**

Analysis Date: **06/09/16 21:43** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.80	0.030	2.5	0.1911	104	70	130	2.739	2.2	20	
Antimony	0.516	0.0010	0.5	0.0002756	103	70	130	0.5102	1.1	20	
Arsenic	0.519	0.0010	0.5	0.01025	102	70	130	0.5158	0.7	20	
Barium	0.556	0.050	0.5	0.03098	105	70	130	0.5505	1.0	20	
Beryllium	0.251	0.0010	0.25	0	100	70	130	0.2461	1.8	20	
Boron	0.564	0.050	0.5	0.04646	103	70	130	0.5403	4.2	20	
Cadmium	0.245	0.0010	0.25	0.0002098	98	70	130	0.2427	0.9	20	
Calcium	64.2	1.0	25	39.93	97	70	130	64.57	0.6	20	
Chromium	0.498	0.0050	0.5	0.0003159	100	70	130	0.4947	0.7	20	
Cobalt	0.493	0.0050	0.5	0.0002726	99	70	130	0.4879	1.1	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 171** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-011CMSD3** Method: **E200.8**

Analysis Date: **06/09/16 21:43** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.505	0.0050	0.5	0.01746	**98**	70	130	0.4977	**1.5**	20	
Iron	2.85	0.020	2.5	0.4234	**97**	70	130	2.821	**0.9**	20	
Lead	0.504	0.0010	0.5	0.001409	**101**	70	130	0.4992	**1.0**	20	
Magnesium	35.2	1.0	25	10.01	**101**	70	130	34.69	**1.6**	20	
Manganese	2.54	0.0010	2.5	0.1118	**97**	70	130	2.52	**0.7**	20	
Molybdenum	0.512	0.0010	0.5	0.004762	**101**	70	130	0.5032	**1.7**	20	
Nickel	0.485	0.0050	0.5	0.0009065	**97**	70	130	0.4802	**1.0**	20	
Potassium	28.6	1.0	25	4.324	**97**	70	130	28.49	**0.6**	20	
Selenium	0.477	0.0010	0.5	0.0007084	**95**	70	130	0.4699	**1.5**	20	
Silver	0.232	0.0010	0.25	0	**93**	70	130	0.228	**1.5**	20	
Sodium	50.9	1.0	25	25.53	**101**	70	130	50.32	**1.1**	20	
Uranium	0.501	0.00030	0.5	0.003731	**100**	70	130	0.4954	**1.2**	20	
Vanadium	0.512	0.010	0.5	0.00356	**102**	70	130	0.5026	**1.8**	20	
Zinc	0.522	0.010	0.5	0.04318	**96**	70	130	0.5172	**1.0**	20	

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICPMS204-B_160613B: 18** SampType: **Method Blank** Lab ID: **MB-33199** Method: **E200.8**

Analysis Date: **06/13/16 22:49** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	0.0001	6E-05									
Arsenic	ND	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	0.003	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	ND	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	0.002	0.002									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33199

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160613B: 18** SampType: **Method Blank** Lab ID: **MB-33199** Method: **E200.8**

Analysis Date: **06/13/16 22:49** Units: **mg/L** **Prep Info:** Prep Date: **6/8/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	2E-05									
Magnesium	ND	0.002									
Manganese	ND	0.0002									
Molybdenum	8E-05	3E-05									
Nickel	ND	3E-05									
Potassium	ND	0.01									
Selenium	ND	0.0003									
Silver	0.0003	1E-05									
Sodium	ND	0.005									
Uranium	ND	1E-05									
Vanadium	ND	0.00010									
Zinc	0.002	0.0003									

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33310

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160621A: 10** SampType: **Method Blank** Lab ID: **MB-33310** Method: **SW7471B**
Analysis Date: **06/21/16 09:35** Units: **mg/kg** **Prep Info:** Prep Date: **6/16/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.010									

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Run ID :Run Order: **HGCV201-H_160621A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-33310** Method: **SW7471B**
Analysis Date: **06/21/16 09:37** Units: **mg/kg** **Prep Info:** Prep Date: **6/16/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.5	0.50	5	0	109	71	126.4				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Run ID :Run Order: **HGCV201-H_160621A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33310** Method: **SW7471B**
Analysis Date: **06/21/16 09:39** Units: **mg/kg** **Prep Info:** Prep Date: **6/16/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.22	0.50	0.2	0	109	80	120				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Run ID :Run Order: **HGCV201-H_160621A: 16** SampType: **Sample Matrix Spike** Lab ID: **H16060099-019AMS** Method: **SW7471B**
Analysis Date: **06/21/16 09:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/16/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.5	0.50	0.527	0.9582	100	80	120				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33310

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160621A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-019AMSD** Method: **SW7471B**
Analysis Date: **06/21/16 09:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/16/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.5	0.50	0.527	0.9582	99	80	120	1.487	0.4	20	

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Run ID :Run Order: **HGCV201-H_160627A: 30** SampType: **Method Blank** Lab ID: **MB-33310** Method: **SW7471B**
Analysis Date: **06/27/16 11:08** Units: **mg/kg** **Prep Info:** Prep Date: **6/16/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.010									

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Run ID :Run Order: **HGCV201-H_160627A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16060099-029AMS** Method: **SW7471B**
Analysis Date: **06/27/16 12:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/16/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.65	0.50	0.2718	0.5511	38	80	120				S

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Run ID :Run Order: **HGCV201-H_160627A: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-029AMSD** Method: **SW7471B**
Analysis Date: **06/27/16 12:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/16/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.64	0.50	0.2718	0.5511	31	80	120	0.655	2.9	20	S

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33329

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160621A: 44** SampType: **Method Blank** Lab ID: **MB-33329** Method: **SW7471B**
Analysis Date: **06/21/16 10:45** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.010									

Associated samples: **H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Run ID :Run Order: **HGCV201-H_160621A: 45** SampType: **Laboratory Control Sample** Lab ID: **LCS-33329** Method: **SW7471B**
Analysis Date: **06/21/16 10:47** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.5	0.50	4.95	0	112	71	126.4				

Associated samples: **H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Run ID :Run Order: **HGCV201-H_160621A: 46** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33329** Method: **SW7471B**
Analysis Date: **06/21/16 10:49** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.22	0.50	0.2	0	109	80	120				

Associated samples: **H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Run ID :Run Order: **HGCV201-H_160621A: 51** SampType: **Sample Matrix Spike** Lab ID: **H16060099-039AMS** Method: **SW7471B**
Analysis Date: **06/21/16 10:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.24	0.50	0.2357	0.0126	95	80	120				

Associated samples: **H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33329

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160621A: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-039AMSD** Method: **SW7471B**

Analysis Date: **06/21/16 11:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.26	0.50	0.2357	0.0126	105	80	120	0.2373		20	

Associated samples: **H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Run ID :Run Order: **HGCV201-H_160621A: 65** SampType: **Sample Matrix Spike** Lab ID: **H16060099-048AMS** Method: **SW7471B**

Analysis Date: **06/21/16 12:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.33	0.50	0.2616	0.02372	119	80	120				

Associated samples: **H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Run ID :Run Order: **HGCV201-H_160621A: 66** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-048AMSD** Method: **SW7471B**

Analysis Date: **06/21/16 12:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.33	0.50	0.2616	0.02372	117	80	120	0.335		20	

Associated samples: **H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33332

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160621B: 18** SampType: **Method Blank** Lab ID: **MB-33332** Method: **SW7471B**
Analysis Date: **06/21/16 15:01** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.01									

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160621B: 19** SampType: **Laboratory Control Sample** Lab ID: **LCS-33332** Method: **SW7471B**
Analysis Date: **06/21/16 15:03** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.6	0.50	5	0	112	71	126.4				

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160621B: 20** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33332** Method: **SW7471B**
Analysis Date: **06/21/16 15:05** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.2	0	101	80	120				

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160621B: 46** SampType: **Sample Matrix Spike** Lab ID: **H16060363-001AMS** Method: **SW7471B**
Analysis Date: **06/21/16 15:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.26	0.50	0.2319	0.01983	103	80	120				

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160621B: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060363-001AMSD** Method: **SW7471B**
Analysis Date: **06/21/16 15:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.50	0.2343	0.01983	108	80	120	0.2597		20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33332

Date: *06-Jul-16*

Run ID :Run Order: **HGCV201-H_160621B: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060363-001AMSD** Method: **SW7471B**

Analysis Date: **06/21/16 15:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160622A: 10** SampType: **Method Blank** Lab ID: **MB-33332** Method: **SW7471B**

Analysis Date: **06/22/16 09:53** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.01									

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160622A: 25** SampType: **Sample Matrix Spike** Lab ID: **H16060099-056AMS** Method: **SW7471B**

Analysis Date: **06/22/16 10:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.37	0.50	0.2317	0.1994	75	80	120				S

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **HGCV201-H_160622A: 26** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-056AMSD** Method: **SW7471B**

Analysis Date: **06/22/16 10:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.34	0.50	0.2341	0.1994	60	80	120	0.3734		20	S

Associated samples: **H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33334

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 97** SampType: **Method Blank** Lab ID: **MB-33334** Method: **SW6010B**
Analysis Date: **06/22/16 14:18** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Barium	0.05	0.02									
Copper	ND	0.2									
Iron	4	1									
Manganese	0.09	0.05									
Zinc	0.4	0.3									

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Run ID :Run Order: **ICP2-HE_160622A: 100** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33334** Method: **SW6010B**
Analysis Date: **06/22/16 14:30** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	247	5.0	248.5	0	**100**	80	120				
Barium	49.7	1.0	49.7	0.04504	**100**	80	120				
Copper	49.0	1.0	49.7	0	**99**	80	120				
Iron	243	5.0	248.5	4.003	**96**	80	120				
Manganese	236	1.0	248.5	0.08959	**95**	80	120				
Zinc	46.7	1.0	49.7	0.3693	**93**	80	120				

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Run ID :Run Order: **ICP2-HE_160622A: 101** SampType: **Laboratory Control Sample** Lab ID: **LCS-33334** Method: **SW6010B**
Analysis Date: **06/22/16 14:33** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9220	5.0	9830	0	**94**	46.3	130.2				
Barium	169	1.0	187	0.04504	**90**	78.6	112.8				
Copper	120	1.0	137	0	**88**	76.6	108.8				
Iron	13800	6.6	16300	4.003	**84**	51.7	131.9				
Manganese	391	1.0	434	0.08959	**90**	81.1	116.6				
Zinc	222	1.7	231	0.3693	**96**	75.3	111.7				

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33334

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 124** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-067APDS** Method: **SW6010B**

Analysis Date: **06/22/16 15:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	21800	11	3439	18180		75	125				A
Barium	865	1.0	687.7	237.3	91	75	125				
Copper	1180	2.4	687.7	553	91	75	125				
Iron	23000	18	3439	19850		75	125				A
Manganese	7740	1.0	3439	4642	90	75	125				
Zinc	1860	4.6	687.7	1239	90	75	125				

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Run ID :Run Order: **ICP2-HE_160622A: 125** SampType: **Sample Matrix Spike** Lab ID: **H16060099-067AMS** Method: **SW6010B**

Analysis Date: **06/22/16 16:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	24300	11	670.4	18180		75	125				A
Barium	377	1.0	134.1	237.3	105	75	125				
Copper	688	2.4	134.1	553		75	125				A
Iron	23800	18	670.4	19850		75	125				A
Manganese	5400	1.0	670.4	4642		75	125				A
Zinc	1380	4.5	134.1	1239		75	125				A

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Run ID :Run Order: **ICP2-HE_160622A: 126** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-067AMSD** Method: **SW6010B**

Analysis Date: **06/22/16 16:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	27600	10	649.6	18180		75	125	24310	13	20	A
Barium	420	1.0	129.9	237.3	141	75	125	377.4	11	20	S
Copper	709	2.3	129.9	553		75	125	688	3.1	20	A
Iron	26700	17	649.6	19850		75	125	23800	12	20	A
Manganese	5820	1.0	649.6	4642		75	125	5399	7.5	20	A
Zinc	1480	4.4	129.9	1239		75	125	1375	7.5	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33334

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 126** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-067AMSD** Method: **SW6010B**

Analysis Date: **06/22/16 16:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33334

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 188** SampType: **Method Blank** Lab ID: **MB-33334** Method: **SW6020**

Analysis Date: **06/22/16 20:37** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.2	0.05									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Cobalt	ND	0.03									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	0.2	0.05									
Uranium	ND	0.06									
Vanadium	0.5	0.4									

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Run ID :Run Order: **ICPMS204-B_160621A: 189** SampType: **Laboratory Control Sample** Lab ID: **LCS-33334** Method: **SW6020**

Analysis Date: **06/22/16 20:40** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	59.5	1.0	240	0	**25**	0	92.9				
Arsenic	167	1.0	196	0.1839	**85**	71.4	105.1				
Beryllium	78.3	1.0	83.6	0	**94**	76.2	108				
Boron	110	2.1	129	0	**85**	59.5	106.2				
Cadmium	96.7	1.0	99	0	**98**	73.9	106.1				
Chromium	110	1.0	117	0	**94**	73.5	108.5				
Cobalt	113	1.0	108	0	**105**	74.2	105.6				
Lead	99.2	1.0	105	0	**95**	74.4	108.6				
Molybdenum	116	1.0	127	0	**92**	66.5	103.1				
Nickel	83.2	1.0	86.2	0	**96**	72.3	105				
Selenium	193	1.0	205	0	**94**	71.2	110.2				
Silver	40.6	1.0	42.1	0.1539	**96**	70.8	111.9				
Uranium	93.0	1.0	99.9	0	**93**	80.1	120.1				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33334

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 189** SampType: **Laboratory Control Sample** Lab ID: **LCS-33334** Method: **SW6020**

Analysis Date: **06/22/16 20:40** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	107	1.0	114	0.5341	94	67	107				

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Run ID :Run Order: **ICPMS204-B_160621A: 190** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33334** Method: **SW6020**

Analysis Date: **06/22/16 20:43** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.2	1.0	49.7	0	101	80	120				
Arsenic	51.9	1.0	49.7	0.1839	104	80	120				
Beryllium	25.5	1.0	24.85	0	103	80	120				
Boron	51.4	2.1	49.7	0	103	80	120				
Cadmium	25.0	1.0	24.85	0	101	80	120				
Chromium	50.2	1.0	49.7	0	101	80	120				
Cobalt	51.1	1.0	49.7	0	103	80	120				
Lead	50.1	1.0	49.7	0	101	80	120				
Molybdenum	49.5	1.0	49.7	0	100	80	120				
Nickel	50.6	1.0	49.7	0	102	80	120				
Selenium	50.0	1.0	49.7	0	101	80	120				
Silver	24.8	1.0	24.85	0.1539	99	80	120				
Uranium	49.8	1.0	49.7	0	100	80	120				
Vanadium	50.2	1.0	49.7	0.5341	100	80	120				

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Run ID :Run Order: **ICPMS204-B_160621A: 216** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-067APDS** Method: **SW6020**

Analysis Date: **06/22/16 22:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1320	1.0	1335	0.5462	99	75	125				
Arsenic	1310	1.0	1335	31.7	96	75	125				
Beryllium	604	1.0	667.7	1.003	90	75	125				
Boron	1190	5.8	1335	10.42	88	75	125				
Cadmium	635	1.0	667.7	10.55	93	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33334

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 216** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-067APDS** Method: **SW6020**

Analysis Date: **06/22/16 22:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1270	2.2	1335	31.65	93	75	125				
Cobalt	1230	1.0	1335	12.09	91	75	125				
Lead	1380	1.0	1335	159.2	91	75	125				
Molybdenum	1300	1.0	1335	2.908	97	75	125				
Nickel	1240	1.0	1335	21.07	91	75	125				
Selenium	1210	1.0	1335	0.798	90	75	125				
Silver	517	1.0	667.7	1.884	77	75	125				
Uranium	1260	1.0	1335	2.381	94	75	125				
Vanadium	1300	1.1	1335	44.35	94	75	125				

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Run ID :Run Order: **ICPMS204-B_160621A: 217** SampType: **Sample Matrix Spike** Lab ID: **H16060099-067AMS** Method: **SW6020**

Analysis Date: **06/22/16 22:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	55.5	1.0	134.1	0.5462	41	75	125				S
Arsenic	164	1.0	134.1	31.7	99	75	125				
Beryllium	65.1	1.0	67.04	1.003	96	75	125				
Boron	146	5.8	134.1	10.42	101	75	125				
Cadmium	76.0	1.0	67.04	10.55	98	75	125				
Chromium	166	2.2	134.1	31.65	100	75	125				
Cobalt	144	1.0	134.1	12.09	99	75	125				
Lead	288	1.0	134.1	159.2	96	75	125				
Molybdenum	130	1.0	134.1	2.908	95	75	125				
Nickel	154	1.0	134.1	21.07	99	75	125				
Selenium	129	1.0	134.1	0.798	96	75	125				
Silver	68.1	1.0	67.04	1.884	99	75	125				
Uranium	133	1.0	134.1	2.381	98	75	125				
Vanadium	178	1.1	134.1	44.35	100	75	125				

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33334

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 218** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-067AMSD** Method: **SW6020**

Analysis Date: **06/22/16 22:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.7	1.0	129.9	0.5462	40	75	125	55.45	5.1	20	S
Arsenic	164	1.0	129.9	31.7	102	75	125	164	0.2	20	
Beryllium	64.0	1.0	64.96	1.003	97	75	125	65.08	1.7	20	
Boron	140	5.6	129.9	10.42	100	75	125	146.1	4.2	20	
Cadmium	74.5	1.0	64.96	10.55	98	75	125	75.98	2.0	20	
Chromium	168	2.2	129.9	31.65	105	75	125	165.6	1.2	20	
Cobalt	143	1.0	129.9	12.09	101	75	125	144.4	0.7	20	
Lead	294	1.0	129.9	159.2	104	75	125	288	2.1	20	
Molybdenum	127	1.0	129.9	2.908	96	75	125	129.9	2.0	20	
Nickel	152	1.0	129.9	21.07	101	75	125	154.2	1.4	20	
Selenium	126	1.0	129.9	0.798	96	75	125	129.5	2.8	20	
Silver	65.7	1.0	64.96	1.884	98	75	125	68.05	3.4	20	
Uranium	131	1.0	129.9	2.381	99	75	125	133.4	1.9	20	
Vanadium	181	1.1	129.9	44.35	106	75	125	178.4	1.7	20	

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Run ID :Run Order: **ICPMS204-B_160623B: 22** SampType: **Method Blank** Lab ID: **MB-33334** Method: **SW6020**

Analysis Date: **06/23/16 12:43** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.04									
Arsenic	0.3	0.02									
Beryllium	ND	0.07									
Boron	ND	1									
Cadmium	ND	0.08									
Chromium	ND	0.4									
Cobalt	ND	0.02									
Lead	ND	0.05									
Molybdenum	ND	0.05									
Nickel	0.08	0.05									
Selenium	ND	0.08									
Silver	ND	0.03									
Uranium	ND	0.03									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33334

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160623B: 22** SampType: **Method Blank** Lab ID: **MB-33334** Method: **SW6020**

Analysis Date: **06/23/16 12:43** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.8	0.2									

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-037A, H16060099-040A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33335

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 127** SampType: **Method Blank** Lab ID: **MB-33335** Method: **SW6010B**

Analysis Date: **06/22/16 16:08** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Barium	ND	0.02									
Cobalt	ND	0.2									
Copper	ND	0.2									
Iron	3	1									
Manganese	0.1	0.05									
Zinc	ND	0.3									

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICP2-HE_160622A: 128** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33335** Method: **SW6010B**

Analysis Date: **06/22/16 16:12** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	257	5.0	249.8	0	103	80	120				
Barium	49.9	1.0	49.95	0	100	80	120				
Cobalt	47.8	1.0	49.95	0	96	80	120				
Copper	49.8	1.0	49.95	0	100	80	120				
Iron	251	5.0	249.8	2.505	100	80	120				
Manganese	245	1.0	249.8	0.132	98	80	120				
Zinc	50.0	1.0	49.95	0	100	80	120				

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICP2-HE_160622A: 129** SampType: **Laboratory Control Sample** Lab ID: **LCS-33335** Method: **SW6010B**

Analysis Date: **06/22/16 16:15** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9770	5.0	9830	0	99	46.3	130.2				
Barium	166	1.0	187	0	89	78.6	112.8				
Cobalt	102	1.0	108	0	95	74.2	105.6				
Copper	123	1.0	137	0	90	76.6	108.8				
Iron	15600	6.7	16300	2.505	96	51.7	131.9				
Manganese	397	1.0	434	0.132	91	81.1	116.6				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33335

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 129** SampType: **Laboratory Control Sample** Lab ID: **LCS-33335** Method: **SW6010B**

Analysis Date: **06/22/16 16:15** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	232	1.7	231	0	100	75.3	111.7				

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICP2-HE_160622A: 160** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-068APDS** Method: **SW6010B**

Analysis Date: **06/22/16 18:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5380	5.2	1644	3894	90	75	125				
Barium	499	1.0	328.9	198.6	91	75	125				
Cobalt	302	1.2	328.9	10.65	89	75	125				
Copper	501	1.2	328.9	201.8	91	75	125				
Iron	29800	8.8	1644	29430		75	125				A
Manganese	2570	1.0	1644	1131	88	75	125				
Zinc	1330	2.2	328.9	1058	82	75	125				

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICP2-HE_160622A: 161** SampType: **Sample Matrix Spike** Lab ID: **H16060099-068AMS** Method: **SW6010B**

Analysis Date: **06/22/16 18:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5220	5.0	314.8	3894		75	125				A
Barium	148	1.0	62.96	198.6	-80	75	125				S
Cobalt	69.0	1.1	62.96	10.65	93	75	125				
Copper	291	1.1	62.96	201.8	141	75	125				S
Iron	26600	8.4	314.8	29430		75	125				A
Manganese	1530	1.0	314.8	1131	126	75	125				S
Zinc	1120	2.1	62.96	1058		75	125				A

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33335

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 162** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-068AMSD** Method: **SW6010B**

Analysis Date: **06/22/16 18:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5330	5.0	319.3	3894		75	125	5225	**2.1**	20	A
Barium	150	1.0	63.86	198.6	**-76**	75	125	148.3	**1.1**	20	S
Cobalt	71.1	1.1	63.86	10.65	**95**	75	125	69.03	**2.9**	20	
Copper	240	1.1	63.86	201.8	**59**	75	125	290.8	**19**	20	S
Iron	30600	8.5	319.3	29430		75	125	26640	**14**	20	A
Manganese	1100	1.0	319.3	1131	**-8**	75	125	1529	**32**	20	SR
Zinc	1340	2.2	63.86	1058		75	125	1119	**18**	20	A

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33335

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 220** SampType: **Method Blank** Lab ID: **MB-33335** Method: **SW6020**

Analysis Date: **06/22/16 22:14** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.1	0.05									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	0.6	0.05									
Uranium	ND	0.06									
Vanadium	0.7	0.4									

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160621A: 221** SampType: **Laboratory Control Sample** Lab ID: **LCS-33335** Method: **SW6020**

Analysis Date: **06/22/16 22:17** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	58.4	1.0	240	0	**24**	0	92.9				
Arsenic	181	1.0	196	0.1188	**92**	71.4	105.1				
Beryllium	86.5	1.0	83.6	0	**103**	76.2	108				
Boron	117	2.2	129	0	**91**	59.5	106.2				
Cadmium	99.8	1.0	99	0	**101**	73.9	106.1				
Chromium	122	1.0	117	0	**104**	73.5	108.5				
Lead	106	1.0	105	0	**101**	74.4	108.6				
Molybdenum	122	1.0	127	0	**96**	66.5	103.1				
Nickel	87.4	1.0	86.2	0	**101**	72.3	105				
Selenium	205	1.0	205	0	**100**	71.2	110.2				
Silver	42.3	1.0	42.1	0.5746	**99**	70.8	111.9				
Uranium	99.1	1.0	99.9	0	**99**	80.1	120.1				
Vanadium	118	1.0	114	0.734	**103**	67	107				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33335

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 221** SampType: **Laboratory Control Sample** Lab ID: **LCS-33335** Method: **SW6020**

Analysis Date: **06/22/16 22:17** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160621A: 222** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33335** Method: **SW6020**

Analysis Date: **06/22/16 22:20** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.9	1.0	49.95	0	104	80	120				
Arsenic	54.0	1.0	49.95	0.1188	108	80	120				
Beryllium	26.7	1.0	24.98	0	107	80	120				
Boron	54.2	2.2	49.95	0	109	80	120				
Cadmium	25.9	1.0	24.98	0	104	80	120				
Chromium	52.6	1.0	49.95	0	105	80	120				
Lead	52.3	1.0	49.95	0	105	80	120				
Molybdenum	52.0	1.0	49.95	0	104	80	120				
Nickel	53.4	1.0	49.95	0	107	80	120				
Selenium	52.6	1.0	49.95	0	105	80	120				
Silver	26.3	1.0	24.98	0.5746	103	80	120				
Uranium	52.0	1.0	49.95	0	104	80	120				
Vanadium	52.4	1.0	49.95	0.734	103	80	120				

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160621A: 247** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-068APDS** Method: **SW6020**

Analysis Date: **06/22/16 23:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	620	1.0	638.6	1.536	97	75	125				
Arsenic	677	1.0	638.6	49.73	98	75	125				
Beryllium	300	1.0	319.3	0.3052	94	75	125				
Boron	600	2.8	638.6	0	94	75	125				
Cadmium	305	1.0	319.3	2.774	95	75	125				
Chromium	630	1.1	638.6	16.51	96	75	125				
Lead	688	1.0	638.6	82.95	95	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33335

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 247** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-068APDS** Method: **SW6020**

Analysis Date: **06/22/16 23:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	622	1.0	638.6	1.75	97	75	125				
Nickel	605	1.0	638.6	4.9	94	75	125				
Selenium	591	1.0	638.6	0	92	75	125				
Silver	156	1.0	319.3	2.181	48	75	125				S
Uranium	614	1.0	638.6	2.968	96	75	125				
Vanadium	688	1.0	638.6	75.03	96	75	125				

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160621A: 248** SampType: **Sample Matrix Spike** Lab ID: **H16060099-068AMS** Method: **SW6020**

Analysis Date: **06/22/16 23:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.2	1.0	62.96	1.536	77	75	125				
Arsenic	137	1.0	62.96	49.73	138	75	125				S
Beryllium	32.5	1.0	31.48	0.3052	102	75	125				
Boron	67.9	2.7	62.96	0	108	75	125				
Cadmium	36.1	1.0	31.48	2.774	106	75	125				
Chromium	81.8	1.1	62.96	16.51	104	75	125				
Lead	136	1.0	62.96	82.95	84	75	125				
Molybdenum	66.7	1.0	62.96	1.75	103	75	125				
Nickel	70.8	1.0	62.96	4.9	105	75	125				
Selenium	64.7	1.0	62.96	0	103	75	125				
Silver	33.6	1.0	31.48	2.181	100	75	125				
Uranium	69.5	1.0	62.96	2.968	106	75	125				
Vanadium	140	1.0	62.96	75.03	102	75	125				

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160621A: 249** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-068AMSD** Method: **SW6020**

Analysis Date: **06/22/16 23:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.0	1.0	63.86	1.536	74	75	125	50.21	2.5	20	S

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33335

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 249** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-068AMSD** Method: **SW6020**

Analysis Date: **06/22/16 23:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	98.3	1.0	63.86	49.73	76	75	125	136.8	33	20	R
Beryllium	33.4	1.0	31.93	0.3052	104	75	125	32.53	2.6	20	
Boron	66.6	2.8	63.86	0	104	75	125	67.94	2.0	20	
Cadmium	36.5	1.0	31.93	2.774	105	75	125	36.09	1.0	20	
Chromium	84.7	1.1	63.86	16.51	107	75	125	81.79	3.5	20	
Lead	135	1.0	63.86	82.95	81	75	125	135.7	0.6	20	
Molybdenum	65.5	1.0	63.86	1.75	100	75	125	66.74	1.8	20	
Nickel	72.1	1.0	63.86	4.9	105	75	125	70.83	1.8	20	
Selenium	64.4	1.0	63.86	0	101	75	125	64.73	0.5	20	
Silver	33.9	1.0	31.93	2.181	99	75	125	33.64	0.8	20	
Uranium	68.0	1.0	63.86	2.968	102	75	125	69.51	2.3	20	
Vanadium	153	1.0	63.86	75.03	122	75	125	139.5	9.1	20	

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160623B: 15** SampType: **Method Blank** Lab ID: **MB-33335** Method: **SW6020**

Analysis Date: **06/23/16 12:21** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.04									
Arsenic	0.4	0.02									
Beryllium	ND	0.07									
Boron	ND	1									
Cadmium	ND	0.08									
Chromium	ND	0.4									
Lead	ND	0.05									
Molybdenum	ND	0.05									
Nickel	0.07	0.05									
Selenium	ND	0.08									
Silver	ND	0.03									
Uranium	ND	0.03									
Vanadium	1	0.2									

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33335

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160623B: 16** SampType: **Laboratory Control Sample** Lab ID: **LCS-33335** Method: **SW6020**

Analysis Date: **06/23/16 12:25** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	57.8	1.0	240	0	**24**	0	92.9				
Arsenic	176	1.0	196	0.3575	**90**	71.4	105.1				
Beryllium	84.5	1.0	83.6	0	**101**	76.2	108				
Boron	121	1.1	129	0	**94**	59.5	106.2				
Cadmium	100	1.0	99	0	**101**	73.9	106.1				
Chromium	123	1.0	117	0	**106**	73.5	108.5				
Lead	105	1.0	105	0	**100**	74.4	108.6				
Molybdenum	123	1.0	127	0	**97**	66.5	103.1				
Nickel	86.3	1.0	86.2	0.06584	**100**	72.3	105				
Selenium	195	1.0	205	0	**95**	71.2	110.2				
Silver	42.4	1.0	42.1	0	**101**	70.8	111.9				
Uranium	99.0	1.0	99.9	0	**99**	80.1	120.1				
Vanadium	124	1.0	114	1.315	**107**	67	107				

Associated samples: **H16060099-020A, H16060099-023A, H16060099-026A, H16060099-029A, H16060099-032A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-044A, H16060099-047A, H16060099-050A, H16060099-053A, H16060099-056A, H16060099-059A, H16060099-062A, H16060099-065A, H16060099-068A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33336

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 163** SampType: **Method Blank** Lab ID: **MB-33336** Method: **SW6010B**
Analysis Date: **06/22/16 18:21** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Barium	0.04	0.02									
Cobalt	ND	0.2									
Copper	ND	0.2									
Iron	2	1									
Manganese	ND	0.05									
Zinc	0.3	0.3									

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICP2-HE_160622A: 164** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33336** Method: **SW6010B**
Analysis Date: **06/22/16 18:24** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	244	5.0	248	0	98	80	120				
Barium	47.5	1.0	49.6	0.0441	96	80	120				
Cobalt	46.7	1.0	49.6	0	94	80	120				
Copper	47.9	1.0	49.6	0	97	80	120				
Iron	242	5.0	248	2.426	96	80	120				
Manganese	236	1.0	248	0	95	80	120				
Zinc	47.0	1.0	49.6	0.3312	94	80	120				

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICP2-HE_160622A: 167** SampType: **Laboratory Control Sample** Lab ID: **LCS-33336** Method: **SW6010B**
Analysis Date: **06/22/16 18:35** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9140	5.0	9830	0	93	46.3	130.2				
Barium	154	1.0	187	0.0441	83	78.6	112.8				
Cobalt	99.3	1.0	108	0	92	74.2	105.6				
Copper	115	1.0	137	0	84	76.6	108.8				
Iron	14700	6.4	16300	2.426	90	51.7	131.9				
Manganese	381	1.0	434	0	88	81.1	116.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33336

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 167** SampType: **Laboratory Control Sample** Lab ID: **LCS-33336** Method: **SW6010B**

Analysis Date: **06/22/16 18:35** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	219	1.6	231	0.3312	95	75.3	111.7				

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICP2-HE_160622A: 191** SampType: **Sample Matrix Spike** Lab ID: **H16060099-069AMS** Method: **SW6010B**

Analysis Date: **06/22/16 20:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3260	5.0	276.6	2416		75	125				A
Barium	90.3	1.0	55.32	43.39	85	75	125				
Cobalt	56.7	1.0	55.32	3.194	97	75	125				
Copper	382	1.0	55.32	142.2	433	75	125				S
Iron	9380	7.4	276.6	7427		75	125				A
Manganese	842	1.0	276.6	474.7	133	75	125				S
Zinc	324	1.9	55.32	320.5		75	125				A

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160622A: 192** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-069AMSD** Method: **SW6010B**

Analysis Date: **06/22/16 20:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3570	5.0	276.6	2416		75	125	3258	9.2	20	A
Barium	104	1.0	55.32	43.39	109	75	125	90.28	14	20	
Cobalt	55.0	1.0	55.32	3.194	94	75	125	56.71	3.0	20	
Copper	173	1.0	55.32	142.2	56	75	125	381.6	75	20	SR
Iron	10600	7.4	276.6	7427		75	125	9383	13	20	A
Manganese	1150	1.0	276.6	474.7	244	75	125	841.6	31	20	SR
Zinc	1370	1.9	55.32	320.5		75	125	324.2	120	20	AR

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33336

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160623A: 30** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-069APDS** Method: **SW6010B**

Analysis Date: **06/23/16 11:21** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3850	5.0	1413	2459	98	75	125				
Barium	308	1.0	282.6	44.47	93	75	125				
Cobalt	263	1.0	282.6	2.773	92	75	125				
Copper	409	1.0	282.6	143.7	94	75	125				
Iron	9070	7.6	1413	7695		75	125				A
Manganese	1770	1.0	1413	481.9	91	75	125				
Zinc	590	1.9	282.6	329.6	92	75	125				

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICP2-HE_160623A: 33** SampType: **Sample Matrix Spike** Lab ID: **H16060099-069AMS** Method: **SW6010B**

Analysis Date: **06/23/16 11:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3370	5.0	276.6	2459		75	125				A
Barium	92.6	1.0	55.32	44.47	87	75	125				
Cobalt	57.2	1.0	55.32	2.773	98	75	125				
Copper	389	1.0	55.32	143.7	444	75	125				S
Iron	9810	7.4	276.6	7695		75	125				A
Manganese	867	1.0	276.6	481.9	139	75	125				S
Zinc	336	1.9	55.32	329.6		75	125				A

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160623A: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-069AMSD** Method: **SW6010B**

Analysis Date: **06/23/16 11:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3680	5.0	276.6	2459		75	125	3370	8.8	20	A
Barium	106	1.0	55.32	44.47	112	75	125	92.58	14	20	
Cobalt	56.9	1.0	55.32	2.773	98	75	125	57.2	0.4	20	
Copper	179	1.0	55.32	143.7	64	75	125	389.2	74	20	SR
Iron	11300	7.4	276.6	7695		75	125	9808	14	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33336

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160623A: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-069AMSD** Method: **SW6010B**

Analysis Date: **06/23/16 11:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1190	1.0	276.6	481.9	**254**	75	125	866.9	**31**	20	SR
Zinc	1490	1.9	55.32	329.6		75	125	336.2	**130**	20	AR

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33336

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 253** SampType: **Method Blank** Lab ID: **MB-33336** Method: **SW6020**

Analysis Date: **06/22/16 23:54** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.09	0.05									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	0.1	0.1									
Selenium	ND	0.2									
Silver	0.06	0.05									
Uranium	ND	0.06									
Vanadium	0.4	0.4									

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICPMS204-B_160621A: 254** SampType: **Laboratory Control Sample** Lab ID: **LCS-33336** Method: **SW6020**

Analysis Date: **06/22/16 23:57** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	60.3	1.0	240	0	**25**	0	92.9				
Arsenic	179	1.0	196	0.08546	**91**	71.4	105.1				
Beryllium	83.0	1.0	83.6	0	**99**	76.2	108				
Boron	114	2.1	129	0	**88**	59.5	106.2				
Cadmium	98.9	1.0	99	0	**100**	73.9	106.1				
Chromium	118	1.0	117	0	**101**	73.5	108.5				
Lead	106	1.0	105	0	**101**	74.4	108.6				
Molybdenum	119	1.0	127	0	**93**	66.5	103.1				
Nickel	85.3	1.0	86.2	0.1194	**99**	72.3	105				
Selenium	203	1.0	205	0	**99**	71.2	110.2				
Silver	42.1	1.0	42.1	0.06189	**100**	70.8	111.9				
Uranium	97.2	1.0	99.9	0	**97**	80.1	120.1				
Vanadium	115	1.0	114	0.4495	**100**	67	107				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33336

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 254** SampType: **Laboratory Control Sample** Lab ID: **LCS-33336** Method: **SW6020**

Analysis Date: **06/22/16 23:57** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICPMS204-B_160621A: 255** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33336** Method: **SW6020**

Analysis Date: **06/23/16 00:00** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.8	1.0	49.6	0	104	80	120				
Arsenic	52.8	1.0	49.6	0.08546	106	80	120				
Beryllium	26.2	1.0	24.8	0	106	80	120				
Boron	51.6	2.1	49.6	0	104	80	120				
Cadmium	25.5	1.0	24.8	0	103	80	120				
Chromium	51.7	1.0	49.6	0	104	80	120				
Lead	51.4	1.0	49.6	0	104	80	120				
Molybdenum	51.3	1.0	49.6	0	104	80	120				
Nickel	52.5	1.0	49.6	0.1194	106	80	120				
Selenium	51.3	1.0	49.6	0	104	80	120				
Silver	25.4	1.0	24.8	0.06189	102	80	120				
Uranium	51.3	1.0	49.6	0	103	80	120				
Vanadium	51.5	1.0	49.6	0.4495	103	80	120				

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICPMS204-B_160621A: 281** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-069APDS** Method: **SW6020**

Analysis Date: **06/23/16 01:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	545	1.0	548.7	0.3387	99	75	125				
Arsenic	590	1.0	548.7	30.41	102	75	125				
Beryllium	261	1.0	274.4	0.1878	95	75	125				
Boron	525	2.4	548.7	0	96	75	125				
Cadmium	273	1.0	274.4	0.8626	99	75	125				
Chromium	550	1.0	548.7	7.792	99	75	125				
Lead	565	1.0	548.7	31.24	97	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33336

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 281** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-069APDS** Method: **SW6020**

Analysis Date: **06/23/16 01:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	555	1.0	548.7	3.239	101	75	125				
Nickel	540	1.0	548.7	4.358	98	75	125				
Selenium	532	1.0	548.7	0	97	75	125				
Silver	206	1.0	274.4	0.771	75	75	125				
Uranium	537	1.0	548.7	1.33	98	75	125				
Vanadium	561	1.0	548.7	11.03	100	75	125				

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICPMS204-B_160621A: 282** SampType: **Sample Matrix Spike** Lab ID: **H16060099-069AMS** Method: **SW6020**

Analysis Date: **06/23/16 01:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	93.7	1.0	55.32	0.3387	169	75	125				S
Arsenic	134	1.0	55.32	30.41	187	75	125				S
Beryllium	27.9	1.0	27.66	0.1878	100	75	125				
Boron	59.6	2.4	55.32	0	108	75	125				
Cadmium	28.2	1.0	27.66	0.8626	99	75	125				
Chromium	66.0	1.0	55.32	7.792	105	75	125				
Lead	95.9	1.0	55.32	31.24	117	75	125				
Molybdenum	56.0	1.0	55.32	3.239	95	75	125				
Nickel	61.0	1.0	55.32	4.358	102	75	125				
Selenium	54.9	1.0	55.32	0	99	75	125				
Silver	35.0	1.0	27.66	0.771	124	75	125				
Uranium	58.1	1.0	55.32	1.33	103	75	125				
Vanadium	74.5	1.0	55.32	11.03	115	75	125				

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICPMS204-B_160621A: 283** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-069AMSD** Method: **SW6020**

Analysis Date: **06/23/16 01:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.1	1.0	55.32	0.3387	88	75	125	93.71	62	20	R

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33336

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 283** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-069AMSD** Method: **SW6020**

Analysis Date: **06/23/16 01:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	91.9	1.0	55.32	30.41	111	75	125	134	37	20	R
Beryllium	28.5	1.0	27.66	0.1878	102	75	125	27.89	2.2	20	
Boron	59.4	2.4	55.32	0	107	75	125	59.58	0.4	20	
Cadmium	35.3	1.0	27.66	0.8626	124	75	125	28.22	22	20	R
Chromium	70.0	1.0	55.32	7.792	112	75	125	66.05	5.8	20	
Lead	158	1.0	55.32	31.24	229	75	125	95.86	49	20	SR
Molybdenum	61.2	1.0	55.32	3.239	105	75	125	55.98	9.0	20	
Nickel	63.1	1.0	55.32	4.358	106	75	125	61.01	3.3	20	
Selenium	55.8	1.0	55.32	0	101	75	125	54.94	1.5	20	
Silver	31.0	1.0	27.66	0.771	109	75	125	34.98	12	20	
Uranium	60.0	1.0	55.32	1.33	106	75	125	58.14	3.1	20	
Vanadium	78.2	1.0	55.32	11.03	121	75	125	74.46	4.9	20	

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Run ID :Run Order: **ICPMS204-B_160623B: 18** SampType: **Method Blank** Lab ID: **MB-33336** Method: **SW6020**

Analysis Date: **06/23/16 12:31** Units: **mg/kg** **Prep Info:** Prep Date: **6/20/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.05	0.04									
Arsenic	0.4	0.02									
Beryllium	ND	0.07									
Boron	ND	1									
Cadmium	ND	0.08									
Chromium	ND	0.4									
Lead	0.08	0.05									
Molybdenum	0.1	0.05									
Nickel	0.1	0.05									
Selenium	0.1	0.08									
Silver	0.06	0.03									
Uranium	0.07	0.03									
Vanadium	0.7	0.2									

Associated samples: **H16060099-021A, H16060099-024A, H16060099-027A, H16060099-030A, H16060099-033A, H16060099-036A, H16060099-039A, H16060099-042A, H16060099-045A, H16060099-048A, H16060099-051A, H16060099-054A, H16060099-057A, H16060099-060A, H16060099-063A, H16060099-066A, H16060099-069A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33336

Date: *06-Jul-16*

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33415

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160629A: 17** SampType: **Method Blank** Lab ID: **MB-33415** Method: **SW6020**
Analysis Date: **06/29/16 11:59** Units: **mg/kg** **Prep Info:** Prep Date: **6/27/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	ND	0.03									

Associated samples: **H16060099-026A, H16060099-027A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-047A, H16060099-050A, H16060099-051A, H16060099-053A, H16060099-054A, H16060099-057A, H16060099-059A, H16060099-060A, H16060099-063A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160629A: 18** SampType: **Laboratory Control Sample** Lab ID: **LCS-33415** Method: **SW6020**
Analysis Date: **06/29/16 12:02** Units: **mg/kg** **Prep Info:** Prep Date: **6/27/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	108	1.0	108	0	100	74.2	105.6				

Associated samples: **H16060099-026A, H16060099-027A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-047A, H16060099-050A, H16060099-051A, H16060099-053A, H16060099-054A, H16060099-057A, H16060099-059A, H16060099-060A, H16060099-063A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160629A: 19** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33415** Method: **SW6020**
Analysis Date: **06/29/16 12:05** Units: **mg/kg** **Prep Info:** Prep Date: **6/27/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	53.5	1.0	49.9	0	107	80	120				

Associated samples: **H16060099-026A, H16060099-027A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-047A, H16060099-050A, H16060099-051A, H16060099-053A, H16060099-054A, H16060099-057A, H16060099-059A, H16060099-060A, H16060099-063A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160629A: 22** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-026APDS** Method: **SW6020**
Analysis Date: **06/29/16 12:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/27/2016** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	714	1.0	725.1	8.425	97	75	125				

Associated samples: **H16060099-026A, H16060099-027A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-047A, H16060099-050A, H16060099-051A, H16060099-053A, H16060099-054A, H16060099-057A, H16060099-059A, H16060099-060A, H16060099-063A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160629A: 23** SampType: **Sample Matrix Spike** Lab ID: **H16060099-026AMS** Method: **SW6020**
Analysis Date: **06/29/16 12:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/27/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	83.7	1.0	72.22	8.425	104	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33415

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160629A: 23** SampType: **Sample Matrix Spike** Lab ID: **H16060099-026AMS** Method: **SW6020**

Analysis Date: **06/29/16 12:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/27/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-026A, H16060099-027A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-047A, H16060099-050A, H16060099-051A, H16060099-053A, H16060099-054A, H16060099-057A, H16060099-059A, H16060099-060A, H16060099-063A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160629A: 24** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-026AMSD** Method: **SW6020**

Analysis Date: **06/29/16 12:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/27/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	76.0	1.0	72.14	8.425	94	75	125	83.7	9.7	20	

Associated samples: **H16060099-026A, H16060099-027A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-047A, H16060099-050A, H16060099-051A, H16060099-053A, H16060099-054A, H16060099-057A, H16060099-059A, H16060099-060A, H16060099-063A, H16060099-065A, H16060099-068A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33447

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160629A: 97** SampType: **Method Blank** Lab ID: **MB-33447** Method: **SW6020**
Analysis Date: **06/29/16 17:58** Units: **mg/kg** **Prep Info:** Prep Date: **6/29/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	ND	0.04									

Associated samples: **H16060099-056A**

Run ID :Run Order: **ICPMS204-B_160629A: 98** SampType: **Laboratory Control Sample** Lab ID: **LCS-33447** Method: **SW6020**
Analysis Date: **06/29/16 18:01** Units: **mg/kg** **Prep Info:** Prep Date: **6/29/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	112	1.0	108	0	**104**	74.2	105.6				

Associated samples: **H16060099-056A**

Run ID :Run Order: **ICPMS204-B_160629A: 99** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-33447** Method: **SW6020**
Analysis Date: **06/29/16 18:04** Units: **mg/kg** **Prep Info:** Prep Date: **6/29/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	53.6	1.0	49.95	0	**107**	80	120				

Associated samples: **H16060099-056A**

Run ID :Run Order: **ICPMS204-B_160629A: 102** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16060099-056APDS** Method: **SW6020**
Analysis Date: **06/29/16 18:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/29/2016** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	579	1.0	608.5	5.422	**94**	75	125				

Associated samples: **H16060099-056A**

Run ID :Run Order: **ICPMS204-B_160629A: 103** SampType: **Sample Matrix Spike** Lab ID: **H16060099-056AMS** Method: **SW6020**
Analysis Date: **06/29/16 18:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/29/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	65.1	1.0	60.91	5.422	**98**	75	125				

Associated samples: **H16060099-056A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 33447

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160629A: 104** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-056AMSD** Method: **SW6020**

Analysis Date: **06/29/16 18:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/29/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	66.2	1.0	60.91	5.422	**100**	75	125	65.11	**1.6**	20	

Associated samples: **H16060099-056A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R212501

Date: *06-Jul-16*

Run ID :Run Order: **SUB-C212501: 1** SampType: **Method Blank** Lab ID: **MBLK** Method: **A5310 C**

Analysis Date: **06/09/16 19:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	0.5	0.04									

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Run ID :Run Order: **SUB-C212501: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-8116** Method: **A5310 C**

Analysis Date: **06/10/16 04:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.32	0.50	5	0.4519	97	90	110	0			

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Run ID :Run Order: **SUB-C212501: 3** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-7923** Method: **A5310 C**

Analysis Date: **06/10/16 04:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.23	0.50	5	0	105	90	110	0			

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Run ID :Run Order: **SUB-C212501: 4** SampType: **Sample Matrix Spike** Lab ID: **H16060099-013E** Method: **A5310 C**

Analysis Date: **06/10/16 05:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	26.4	0.50	20	6.349	100	85	115	0			

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R212501

Date: *06-Jul-16*

Run ID :Run Order: **SUB-C212501: 5** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-013E** Method: **A5310 C**

Analysis Date: **06/10/16 05:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	26.2	0.50	20	6.349	99	85	115	26.38	0.5	10	

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Run ID :Run Order: **SUB-C212501: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A5310 C**

Analysis Date: **06/09/16 20:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.24	0.50	5	0	105	90	110	0			

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Run ID :Run Order: **SUB-C212501: 21** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-7923** Method: **A5310 C**

Analysis Date: **06/10/16 00:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.18	0.50	5	0	104	90	110	0			

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Run ID :Run Order: **SUB-C212501: 29** SampType: **Sample Matrix Spike** Lab ID: **H16060099-003E** Method: **A5310 C**

Analysis Date: **06/10/16 01:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	21.0	0.50	20	0.6686	101	85	115	0			

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R212501

Date: *06-Jul-16*

Run ID :Run Order: **SUB-C212501: 30** SampType: **Sample Matrix Spike** Lab ID: **H16060099-003E** Method: **A5310 C**
Analysis Date: **06/10/16 01:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	21.0	0.50	20	0.6686	101	85	115	0			

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Run ID :Run Order: **SUB-C212501: 31** SampType: **Sample Matrix Spike** Lab ID: **H16060099-003E** Method: **A5310 C**
Analysis Date: **06/10/16 01:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	21.0	0.50	20	0.6686	101	85	115	0			

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Run ID :Run Order: **SUB-C212501: 32** SampType: **Sample Matrix Spike** Lab ID: **H16060099-003E** Method: **A5310 C**
Analysis Date: **06/10/16 01:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	21.0	0.50	20	0.6686	101	85	115	0			

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Run ID :Run Order: **SUB-C212501: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-003E** Method: **A5310 C**
Analysis Date: **06/10/16 01:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	20.9	0.50	20	0.6686	101	85	115	20.96	0.5	10	

Associated samples: **H16060099-001E, H16060099-002E, H16060099-003E, H16060099-004E, H16060099-005E, H16060099-006E, H16060099-007E, H16060099-008E, H16060099-009E, H16060099-010E, H16060099-011E, H16060099-012E, H16060099-013E, H16060099-014E, H16060099-015E, H16060099-016E, H16060099-017E, H16060099-018E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115797

Date: *06-Jul-16*

Run ID :Run Order: **PHSC_101-H_160607A: 6** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **06/07/16 08:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **PHSC_101-H_160607A: 8** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **06/07/16 09:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	2.24	96	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **PHSC_101-H_160607A: 11** SampType: **Sample Duplicate** Lab ID: **H16050547-016BDUP** Method: **A2320 B**

Analysis Date: **06/07/16 09:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	290	4.0		0				282.4	1.8	10	
Bicarbonate as HCO3	340	4.0		0				335.1	1.5	10	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **PHSC_101-H_160607A: 51** SampType: **Sample Duplicate** Lab ID: **H16060099-016ADUP** Method: **A2320 B**

Analysis Date: **06/07/16 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	88	4.0		0				87.1	0.7	10	
Bicarbonate as HCO3	110	4.0		0				105.7	0.7	10	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115797

Date: *06-Jul-16*

Run ID :Run Order: **PHSC_101-H_160607A: 53** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **06/07/16 11:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **PHSC_101-H_160607A: 55** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **06/07/16 11:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	2.08	**100**	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **PHSC_101-H_160607A: 62** SampType: **Sample Duplicate** Lab ID: **H16050547-020BDUP** Method: **A2320 B**

Analysis Date: **06/07/16 11:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	270	4.0		0				266.5	**0.8**	10	
Bicarbonate as HCO3	330	4.0		0				324.3	**0.8**	10	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115805

Date: *06-Jul-16*

Run ID :Run Order: **FIA203-HE_160607A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**

Analysis Date: **06/07/16 09:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.898	0.010	1	0	90	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E353.2**

Analysis Date: **06/07/16 09:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.00822	0.010		0		0	0				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**

Analysis Date: **06/07/16 09:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.974	0.011	1	0	97	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607A: 13** SampType: **Sample Matrix Spike** Lab ID: **H16060099-001DMS** Method: **E353.2**

Analysis Date: **06/07/16 09:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.51	0.011	1	0.5668	94	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115805

Date: *06-Jul-16*

Run ID :Run Order: **FIA203-HE_160607A: 14** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-001DMSD** Method: **E353.2**

Analysis Date: **06/07/16 09:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.52	0.011	1	0.5668	**95**	90	110	1.511	**0.7**	20	

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607A: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **06/07/16 09:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.510	0.010	0.5	0	**102**	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607A: 27** SampType: **Sample Matrix Spike** Lab ID: **H16060099-011DMS** Method: **E353.2**

Analysis Date: **06/07/16 09:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.121	**98**	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607A: 28** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-011DMSD** Method: **E353.2**

Analysis Date: **06/07/16 09:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.121	**98**	90	110	1.096	**0.1**	20	

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115810

Date: *06-Jul-16*

Run ID :Run Order: **FIA203-HE_160607B: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **06/07/16 11:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.491	0.10	0.5	0	98	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **FIA203-HE_160607B: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **06/07/16 11:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.000780	0.10		0		0	0				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **FIA203-HE_160607B: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **06/07/16 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.492	0.10	0.5	0	98	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **FIA203-HE_160607B: 40** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **06/07/16 11:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.492	0.10	0.5	0	99	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115823

Date: *06-Jul-16*

Run ID :Run Order: **FIA203-HE_160607D: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**

Analysis Date: **06/07/16 15:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	14.1	0.50	14.2	0	99	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607D: 8** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**

Analysis Date: **06/07/16 15:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	101	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607D: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **06/07/16 15:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.508	0.050	0.5	0	102	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607D: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E350.1**

Analysis Date: **06/07/16 15:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.0698	0.050		0		0	0				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115823

Date: *06-Jul-16*

Run ID :Run Order: **FIA203-HE_160607D: 13** SampType: **Sample Matrix Spike** Lab ID: **H16060098-001DMS** Method: **E350.1**

Analysis Date: **06/07/16 15:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.938	0.055	1	0	94	80	120				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607D: 14** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-001DMSD** Method: **E350.1**

Analysis Date: **06/07/16 15:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.945	0.055	1	0	94	80	120	0.9378	0.7	10	

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607D: 23** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **06/07/16 15:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.501	0.050	0.5	0	100	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607D: 26** SampType: **Sample Matrix Spike** Lab ID: **H16060099-007DMS** Method: **E350.1**

Analysis Date: **06/07/16 15:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.946	0.055	1	0	95	80	120				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115823

Date: *06-Jul-16*

Run ID :Run Order: **FIA203-HE_160607D: 27** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-007DMSD** Method: **E350.1**

Analysis Date: **06/07/16 15:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.927	0.055	1	0	93	80	120	0.9459	2.0	10	

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607D: 37** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **06/07/16 15:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.509	0.050	0.5	0	102	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607D: 40** SampType: **Sample Matrix Spike** Lab ID: **H16060099-017DMS** Method: **E350.1**

Analysis Date: **06/07/16 15:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.968	0.055	1	0	97	80	120				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA203-HE_160607D: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-017DMSD** Method: **E350.1**

Analysis Date: **06/07/16 15:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.963	0.055	1	0	96	80	120	0.9683	0.6	10	

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115830

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160607B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **06/07/16 13:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.797	0.10	0.8	0	100	95	105				
Calcium	39.8	1.0	40	0	100	95	105				
Magnesium	39.5	1.0	40	0	99	95	105				
Potassium	40.1	1.0	40	0	100	95	105				
Sodium	40.0	1.0	40	0	100	95	105				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **06/07/16 13:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.45	0.10	2.5	0	98	95	105				
Calcium	25.1	1.0	25	0	101	95	105				
Magnesium	24.7	1.0	25	0	99	95	105				
Potassium	25.2	1.0	25	0	101	95	105				
Sodium	25.1	1.0	25	0	101	95	105				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **06/07/16 14:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00657	0.10		0		0	0				
Calcium	460	1.0	500	0	92	80	120				
Magnesium	485	1.0	500	0	97	80	120				
Potassium	0.0534	1.0		0		0	0				
Sodium	0.0501	1.0		0		0	0				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115830

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160607B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/07/16 14:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.976	0.10	1	0	98	80	120				
Calcium	465	1.0	500	0	93	80	120				
Magnesium	496	1.0	500	0	99	80	120				
Potassium	20.6	1.0	20	0	103	80	120				
Sodium	20.6	1.0	20	0	103	80	120				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 21** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **06/07/16 14:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.002									
Calcium	0.07	0.02									
Magnesium	0.006	0.003									
Potassium	0.04	0.03									
Sodium	0.03	0.02									

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 22** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **06/07/16 14:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.963	0.10	1	0	96	85	115				
Calcium	47.8	1.0	50	0.06925	95	85	115				
Magnesium	46.4	1.0	50	0.00632	93	85	115				
Potassium	50.1	1.0	50	0.04068	100	85	115				
Sodium	50.4	1.0	50	0.03391	101	85	115				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115830

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160607B: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/07/16 16:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.41	0.10	2.5	0	96	90	110				
Calcium	24.2	1.0	25	0	97	90	110				
Magnesium	23.1	1.0	25	0	93	90	110				
Potassium	25.7	1.0	25	0	103	90	110				
Sodium	25.8	1.0	25	0	103	90	110				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 29** SampType: **Sample Matrix Spike** Lab ID: **H16060098-001BMS2** Method: **E200.7**

Analysis Date: **06/07/16 16:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.00	0.050	1	0.01313	99	70	130				
Calcium	72.3	1.0	50	23.81	97	70	130				
Magnesium	54.1	1.0	50	6.004	96	70	130				
Potassium	53.2	1.0	50	2.442	101	70	130				
Sodium	59.2	1.0	50	8.472	101	70	130				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060098-001BMSD2** Method: **E200.7**

Analysis Date: **06/07/16 16:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.990	0.050	1	0.01313	98	70	130	1.004	1.5	20	
Calcium	72.2	1.0	50	23.81	97	70	130	72.29	0.1	20	
Magnesium	54.0	1.0	50	6.004	96	70	130	54.13	0.2	20	
Potassium	52.7	1.0	50	2.442	100	70	130	53.19	1.0	20	
Sodium	58.8	1.0	50	8.472	101	70	130	59.19	0.7	20	

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115830

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160607B: 37** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/07/16 16:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.44	0.10	2.5	0	98	90	110				
Calcium	24.6	1.0	25	0	98	90	110				
Magnesium	24.0	1.0	25	0	96	90	110				
Potassium	25.1	1.0	25	0	100	90	110				
Sodium	25.1	1.0	25	0	100	90	110				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 43** SampType: **Sample Matrix Spike** Lab ID: **H16060099-007BMS2** Method: **E200.7**

Analysis Date: **06/07/16 17:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.04592	98	70	130				
Calcium	96.7	1.0	50	48.32	97	70	130				
Magnesium	59.1	1.0	50	10.58	97	70	130				
Potassium	56.1	1.0	50	5.003	102	70	130				
Sodium	78.3	1.0	50	27.03	102	70	130				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 44** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-007BMSD2** Method: **E200.7**

Analysis Date: **06/07/16 17:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.04592	100	70	130	1.025	2.1	20	
Calcium	96.6	1.0	50	48.32	97	70	130	96.74	0.1	20	
Magnesium	59.1	1.0	50	10.58	97	70	130	59.08	0.1	20	
Potassium	56.0	1.0	50	5.003	102	70	130	56.1	0.2	20	
Sodium	78.0	1.0	50	27.03	102	70	130	78.26	0.3	20	

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115830

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160607B: 56** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/07/16 18:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	99	90	110				
Calcium	25.3	1.0	25	0	101	90	110				
Magnesium	25.2	1.0	25	0	101	90	110				
Potassium	24.4	1.0	25	0	98	90	110				
Sodium	24.3	1.0	25	0	97	90	110				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 66** SampType: **Sample Matrix Spike** Lab ID: **H16060099-017BMS2** Method: **E200.7**

Analysis Date: **06/07/16 18:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.956	0.050	1	0	96	70	130				
Calcium	48.4	1.0	50	0.08504	97	70	130				
Magnesium	48.7	1.0	50	0.1082	97	70	130				
Potassium	48.6	1.0	50	0.02848	97	70	130				
Sodium	48.7	1.0	50	0.01843	97	70	130				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICP2-HE_160607B: 67** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-017BMSD2** Method: **E200.7**

Analysis Date: **06/07/16 18:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.964	0.050	1	0	96	70	130	0.9556	0.9	20	
Calcium	49.1	1.0	50	0.08504	98	70	130	48.36	1.5	20	
Magnesium	49.5	1.0	50	0.1082	99	70	130	48.69	1.7	20	
Potassium	49.5	1.0	50	0.02848	99	70	130	48.63	1.9	20	
Sodium	49.6	1.0	50	0.01843	99	70	130	48.67	1.8	20	

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115830

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160607B: 68** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/07/16 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.48	0.10	2.5	0	99	90	110				
Calcium	25.0	1.0	25	0	100	90	110				
Magnesium	24.9	1.0	25	0	100	90	110				
Potassium	24.6	1.0	25	0	99	90	110				
Sodium	24.6	1.0	25	0	99	90	110				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115832

Date: *06-Jul-16*

Run ID :Run Order: **IC102-H_160607A: 12** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**

Analysis Date: **06/07/16 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.02	0.006									
Sulfate	ND	0.05									

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **IC102-H_160607A: 13** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**

Analysis Date: **06/07/16 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	97.5	1.0	100	0	98	90	110				
Sulfate	394	1.0	400	0	99	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **IC102-H_160607A: 14** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**

Analysis Date: **06/07/16 12:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	45.9	1.0	50	0.022	92	90	110				
Sulfate	203	1.0	200	0	102	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **IC102-H_160607A: 15** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV060716-1** Method: **E300.0**

Analysis Date: **06/07/16 12:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	97.0	1.0	100	0	97	90	110				
Sulfate	394	1.0	400	0	98	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115832

Date: *06-Jul-16*

Run ID :Run Order: **IC102-H_160607A: 28** SampType: **Sample Matrix Spike** Lab ID: **H16060099-002AMS** Method: **E300.0**

Analysis Date: **06/07/16 14:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	71.7	1.0	50	20.62	102	90	110				
Sulfate	266	1.0	200	57.85	104	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **IC102-H_160607A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-002AMSD** Method: **E300.0**

Analysis Date: **06/07/16 14:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	71.2	1.0	50	20.62	101	90	110	71.68	0.7	20	
Sulfate	267	1.0	200	57.85	105	90	110	266	0.5	20	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **IC102-H_160607A: 30** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV060716-2** Method: **E300.0**

Analysis Date: **06/07/16 15:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99.5	1.0	100	0	99	90	110				
Sulfate	399	1.0	400	0	100	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **IC102-H_160607A: 43** SampType: **Sample Matrix Spike** Lab ID: **H16060099-012AMS** Method: **E300.0**

Analysis Date: **06/07/16 17:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	77.9	1.0	50	27.54	101	90	110				
Sulfate	279	1.0	200	71.49	104	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115832

Date: *06-Jul-16*

Run ID :Run Order: **IC102-H_160607A: 44** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-012AMSD** Method: **E300.0**

Analysis Date: **06/07/16 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	78.9	1.0	50	27.54	**103**	90	110	77.94	**1.2**	20	
Sulfate	279	1.0	200	71.49	**104**	90	110	278.9	**0.1**	20	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **IC102-H_160607A: 45** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV060716-3** Method: **E300.0**

Analysis Date: **06/07/16 17:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99.7	1.0	100	0	**100**	90	110				
Sulfate	404	1.0	400	0	**101**	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **IC102-H_160607A: 55** SampType: **Sample Matrix Spike** Lab ID: **H16060099-018AMS** Method: **E300.0**

Analysis Date: **06/07/16 19:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	61.3	1.0	50	11.39	**100**	90	110				
Sulfate	257	1.0	200	50.02	**103**	90	110				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **IC102-H_160607A: 56** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-018AMSD** Method: **E300.0**

Analysis Date: **06/07/16 19:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	61.8	1.0	50	11.39	**101**	90	110	61.27	**0.9**	20	
Sulfate	259	1.0	200	50.02	**105**	90	110	256.9	**0.9**	20	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115855

Date: *06-Jul-16*

Run ID :Run Order: **FIA202-HE_160608B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **06/08/16 13:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.252	0.010	0.25	0	101	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA202-HE_160608B: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **06/08/16 13:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.101	0.010	0.1	0	101	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA202-HE_160608B: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **06/08/16 13:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00107	0.010		0		0	0				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Run ID :Run Order: **FIA202-HE_160608B: 27** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **06/08/16 13:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0943	0.010	0.1	0	94	90	110				

Associated samples: **H16060099-001D, H16060099-002D, H16060099-003D, H16060099-004D, H16060099-005D, H16060099-006D, H16060099-007D, H16060099-008D, H16060099-009D, H16060099-010D, H16060099-011D, H16060099-012D, H16060099-013D, H16060099-014D, H16060099-015D, H16060099-016D, H16060099-017D, H16060099-018D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115891

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160609B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **06/09/16 09:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.786	0.10	0.8	0	98	95	105				
Calcium	41.2	1.0	40	0	103	95	105				
Magnesium	39.8	1.0	40	0	100	95	105				
Potassium	39.3	1.0	40	0	98	95	105				
Sodium	39.0	1.0	40	0	98	95	105				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **06/09/16 09:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.51	0.10	2.5	0	101	95	105				
Calcium	26.1	1.0	25	0	104	95	105				
Magnesium	25.0	1.0	25	0	100	95	105				
Potassium	24.9	1.0	25	0	100	95	105				
Sodium	24.7	1.0	25	0	99	95	105				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **06/09/16 10:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00982	0.10		0		0	0				
Calcium	479	1.0	500	0	96	80	120				
Magnesium	493	1.0	500	0	99	80	120				
Potassium	0.0379	1.0		0		0	0				
Sodium	0.0504	1.0		0		0	0				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115891

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160609B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/09/16 10:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.989	0.10	1	0	99	80	120				
Calcium	480	1.0	500	0	96	80	120				
Magnesium	494	1.0	500	0	99	80	120				
Potassium	20.1	1.0	20	0	100	80	120				
Sodium	20.0	1.0	20	0	100	80	120				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 75** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/09/16 17:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	90	110				
Calcium	25.4	1.0	25	0	102	90	110				
Magnesium	25.0	1.0	25	0	100	90	110				
Potassium	25.1	1.0	25	0	100	90	110				
Sodium	25.0	1.0	25	0	100	90	110				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 94** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/09/16 18:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.42	0.10	2.5	0	97	90	110				
Calcium	24.7	1.0	25	0	99	90	110				
Magnesium	24.3	1.0	25	0	97	90	110				
Potassium	24.5	1.0	25	0	98	90	110				
Sodium	24.4	1.0	25	0	98	90	110				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115891

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160609B: 106** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/09/16 18:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.40	0.10	2.5	0	96	90	110				
Calcium	24.4	1.0	25	0	98	90	110				
Magnesium	23.9	1.0	25	0	96	90	110				
Potassium	24.0	1.0	25	0	96	90	110				
Sodium	23.9	1.0	25	0	96	90	110				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Run ID :Run Order: **ICP2-HE_160609B: 118** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/09/16 19:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.42	0.10	2.5	0	97	90	110				
Calcium	24.8	1.0	25	0	99	90	110				
Magnesium	24.5	1.0	25	0	98	90	110				
Potassium	24.6	1.0	25	0	98	90	110				
Sodium	24.4	1.0	25	0	98	90	110				

Associated samples: **H16060099-001C, H16060099-002C, H16060099-003C, H16060099-004C, H16060099-005C, H16060099-006C, H16060099-007C, H16060099-008C, H16060099-009C, H16060099-010C, H16060099-011C, H16060099-012C, H16060099-013C, H16060099-014C, H16060099-015C, H16060099-016C, H16060099-017C, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/09/16 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.294	0.10	0.3	0	98	90	110				
Antimony	0.0572	0.050	0.06	0	95	90	110				
Arsenic	0.0587	0.0050	0.06	0	98	90	110				
Barium	0.0583	0.10	0.06	0	97	90	110				
Beryllium	0.0298	0.0010	0.03	0	99	90	110				
Cadmium	0.0295	0.0010	0.03	0	98	90	110				
Chromium	0.0593	0.010	0.06	0	99	90	110				
Cobalt	0.0600	0.010	0.06	0	100	90	110				
Copper	0.0610	0.010	0.06	0	102	90	110				
Iron	0.310	0.020	0.3	0	103	90	110				
Lead	0.0584	0.010	0.06	0	97	90	110				
Manganese	0.301	0.010	0.3	0	100	90	110				
Molybdenum	0.0575	0.0050	0.06	0	96	90	110				
Nickel	0.0600	0.010	0.06	0	100	90	110				
Selenium	0.0605	0.0050	0.06	0	101	90	110				
Silver	0.0295	0.0050	0.03	0	98	90	110				
Uranium	0.0566	0.0010	0.06	0	94	90	110				
Vanadium	0.0583	0.10	0.06	0	97	90	110				
Zinc	0.0620	0.010	0.06	0	103	90	110				

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B, H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **ICPMS204-B_160609B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/09/16 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.3	0.10	40	0	101	70	130				
Antimony	0.000141	0.050		0							
Arsenic	-0.000179	0.0050		0							
Barium	0.000171	0.10		0							
Beryllium	3.10E-05	0.0010		0							
Cadmium	0.00136	0.0010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/09/16 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.000936	0.010		0							
Cobalt	1.50E-05	0.010		0							
Copper	0.000364	0.010		0							
Iron	98.5	0.020	100	0	**98**	70	130				
Lead	0.000249	0.010		0							
Manganese	1.00E-05	0.010		0							
Molybdenum	0.823	0.0050	0.8	0	**103**	70	130				
Nickel	0.000255	0.010		0							
Selenium	0.000279	0.0050		0							
Silver	3.60E-05	0.0050		0							
Uranium	0.000125	0.0010		0							
Vanadium	-0.00151	0.10		0							
Zinc	0.000619	0.010		0							

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B, H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **ICPMS204-B_160609B: 44** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **06/09/16 14:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.003	0.0005									
Antimony	5E-05	3E-05									
Arsenic	ND	6E-05									
Barium	ND	0.0001									
Beryllium	ND	5E-05									
Cadmium	ND	1E-05									
Chromium	ND	3E-05									
Cobalt	ND	2E-05									
Copper	ND	6E-05									
Iron	0.0006	0.0002									
Lead	9E-06	5E-06									
Manganese	ND	6E-05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 44** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **06/09/16 14:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	3E-05	2E-05									
Nickel	ND	4E-05									
Selenium	ND	0.0003									
Silver	ND	9E-06									
Uranium	1E-05	6E-06									
Vanadium	ND	0.0001									
Zinc	0.0003	0.0002									

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160609B: 45** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **06/09/16 14:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0548	0.10	0.05	0.003114	**103**	85	115				
Antimony	0.0474	0.050	0.05	0.0000525	**95**	85	115				
Arsenic	0.0489	0.0050	0.05	0	**98**	85	115				
Barium	0.0497	0.10	0.05	0	**99**	85	115				
Beryllium	0.0477	0.0010	0.05	0	**95**	85	115				
Cadmium	0.0501	0.0010	0.05	0	**100**	85	115				
Chromium	0.0489	0.010	0.05	0	**98**	85	115				
Cobalt	0.0500	0.010	0.05	0	**100**	85	115				
Copper	0.0498	0.010	0.05	0	**100**	85	115				
Iron	0.153	0.020	0.15	0.0006232	**102**	85	115				
Lead	0.0492	0.010	0.05	0.0000086	**98**	85	115				
Manganese	0.0509	0.010	0.05	0	**102**	85	115				
Molybdenum	0.0474	0.0050	0.05	0.0000294	**95**	85	115				
Nickel	0.0502	0.010	0.05	0	**100**	85	115				
Selenium	0.0512	0.0050	0.05	0	**102**	85	115				
Silver	0.0190	0.0050	0.02	0	**95**	85	115				
Uranium	0.0470	0.0010	0.05	0.0000123	**94**	85	115				
Vanadium	0.0468	0.10	0.05	0	**94**	85	115				
Zinc	0.0530	0.010	0.05	0.0003132	**105**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 45** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **06/09/16 14:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160609B: 93** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/09/16 17:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.300	0.10	0.3	0	100	90	110				
Antimony	0.0584	0.050	0.06	0	97	90	110				
Arsenic	0.0616	0.0050	0.06	0	103	90	110				
Barium	0.0609	0.10	0.06	0	102	90	110				
Beryllium	0.0308	0.0010	0.03	0	103	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				
Chromium	0.0604	0.010	0.06	0	101	90	110				
Cobalt	0.0612	0.010	0.06	0	102	90	110				
Copper	0.0623	0.010	0.06	0	104	90	110				
Iron	0.318	0.020	0.3	0	106	90	110				
Lead	0.0591	0.010	0.06	0	98	90	110				
Manganese	0.304	0.010	0.3	0	101	90	110				
Molybdenum	0.0582	0.0050	0.06	0	97	90	110				
Nickel	0.0617	0.010	0.06	0	103	90	110				
Selenium	0.0608	0.0050	0.06	0	101	90	110				
Silver	0.0300	0.0050	0.03	0	100	90	110				
Uranium	0.0576	0.0010	0.06	0	96	90	110				
Vanadium	0.0592	0.10	0.06	0	99	90	110				
Zinc	0.0632	0.010	0.06	0	105	90	110				

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B, H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 94** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/09/16 17:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.3	0.10	40	0	103	70	130				
Antimony	0.000168	0.050		0							
Arsenic	-0.000189	0.0050		0							
Barium	0.000224	0.10		0							
Beryllium	1.00E-06	0.0010		0							
Cadmium	0.00135	0.0010		0							
Chromium	0.00121	0.010		0							
Cobalt	6.30E-05	0.010		0							
Copper	0.000370	0.010		0							
Iron	103	0.020	100	0	103	70	130				
Lead	0.000232	0.010		0							
Manganese	0.000117	0.010		0							
Molybdenum	0.858	0.0050	0.8	0	107	70	130				
Nickel	0.000320	0.010		0							
Selenium	0.000391	0.0050		0							
Silver	8.20E-05	0.0050		0							
Uranium	0.000151	0.0010		0							
Vanadium	-0.00150	0.10		0							
Zinc	0.000767	0.010		0							

Associated samples: **H16060099-001B, H16060099-001C, H16060099-002B, H16060099-002C, H16060099-003B, H16060099-003C, H16060099-004B, H16060099-004C, H16060099-005B, H16060099-005C, H16060099-006B, H16060099-006C, H16060099-007B, H16060099-007C, H16060099-008B, H16060099-008C, H16060099-009B, H16060099-009C, H16060099-010B, H16060099-010C, H16060099-011B, H16060099-011C, H16060099-012B, H16060099-012C, H16060099-013B, H16060099-013C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-016C, H16060099-017B, H16060099-017C, H16060099-018B, H16060099-018C**

Run ID :Run Order: **ICPMS204-B_160609B: 115** SampType: **Sample Matrix Spike** Lab ID: **H16060091-013CMS** Method: **E200.8**

Analysis Date: **06/09/16 18:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0525	0.030	0.05	0.001378	102	70	130				
Antimony	0.0492	0.0010	0.05	0	99	70	130				
Arsenic	0.0547	0.0010	0.05	0	109	70	130				
Barium	0.0838	0.050	0.05	0.03061	106	70	130				
Beryllium	0.0495	0.0010	0.05	0	99	70	130				
Cadmium	0.0515	0.0010	0.05	0	103	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 115** SampType: **Sample Matrix Spike** Lab ID: **H16060091-013CMS** Method: **E200.8**

Analysis Date: **06/09/16 18:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0503	0.0050	0.05	0	101	70	130				
Cobalt	0.0506	0.0050	0.05	0.0000568	101	70	130				
Copper	0.0501	0.0050	0.05	0	100	70	130				
Iron	0.178	0.020	0.15	0.02645	101	70	130				
Lead	0.0510	0.0010	0.05	0	102	70	130				
Manganese	0.0622	0.0010	0.05	0.01152	101	70	130				
Molybdenum	0.0491	0.0010	0.05	0.0001131	98	70	130				
Nickel	0.0504	0.0050	0.05	0.000313	100	70	130				
Selenium	0.0569	0.0010	0.05	0.0005063	113	70	130				
Silver	0.0190	0.0010	0.02	0	95	70	130				
Uranium	0.0486	0.00030	0.05	0.0003296	96	70	130				
Vanadium	0.0484	0.010	0.05	0	97	70	130				
Zinc	0.0539	0.010	0.05	0.001299	105	70	130				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160609B: 116** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060091-013CMSD** Method: **E200.8**

Analysis Date: **06/09/16 18:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0498	0.030	0.05	0.001378	97	70	130	0.05246	5.3	20	
Antimony	0.0493	0.0010	0.05	0	99	70	130	0.04925	0.2	20	
Arsenic	0.0531	0.0010	0.05	0	106	70	130	0.05469	2.9	20	
Barium	0.0822	0.050	0.05	0.03061	103	70	130	0.08377	1.9	20	
Beryllium	0.0490	0.0010	0.05	0	98	70	130	0.04953	1.0	20	
Cadmium	0.0503	0.0010	0.05	0	101	70	130	0.05146	2.3	20	
Chromium	0.0494	0.0050	0.05	0	99	70	130	0.05031	1.8	20	
Cobalt	0.0497	0.0050	0.05	0.0000568	99	70	130	0.05065	1.9	20	
Copper	0.0492	0.0050	0.05	0	98	70	130	0.05012	1.9	20	
Iron	0.176	0.020	0.15	0.02645	100	70	130	0.1778	0.8	20	
Lead	0.0493	0.0010	0.05	0	99	70	130	0.05098	3.3	20	
Manganese	0.0612	0.0010	0.05	0.01152	99	70	130	0.0622	1.7	20	
Molybdenum	0.0490	0.0010	0.05	0.0001131	98	70	130	0.04914	0.3	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 116** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060091-013CMSD** Method: **E200.8**

Analysis Date: **06/09/16 18:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.0491	0.0050	0.05	0.000313	98	70	130	0.05039	2.6	20	
Selenium	0.0545	0.0010	0.05	0.0005063	108	70	130	0.05687	4.3	20	
Silver	0.0193	0.0010	0.02	0	96	70	130	0.01898	1.5	20	
Uranium	0.0477	0.00030	0.05	0.0003296	95	70	130	0.04857	1.8	20	
Vanadium	0.0473	0.010	0.05	0	95	70	130	0.0484	2.2	20	
Zinc	0.0523	0.010	0.05	0.001299	102	70	130	0.05389	3.0	20	

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160609B: 149** SampType: **Sample Matrix Spike** Lab ID: **H16060099-005BMS** Method: **E200.8**

Analysis Date: **06/09/16 20:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0520	0.030	0.05	0.005573	93	70	130				
Antimony	0.0462	0.0010	0.05	0.0002299	92	70	130				
Arsenic	0.0545	0.0010	0.05	0.004841	99	70	130				
Barium	0.0789	0.050	0.05	0.03161	95	70	130				
Beryllium	0.0478	0.0010	0.05	0	96	70	130				
Cadmium	0.0476	0.0010	0.05	0.0000833	95	70	130				
Chromium	0.0466	0.0050	0.05	0	93	70	130				
Cobalt	0.0470	0.0050	0.05	0.0001517	94	70	130				
Copper	0.0593	0.0050	0.05	0.01251	94	70	130				
Iron	0.235	0.020	0.15	0.0974	92	70	130				
Lead	0.0470	0.0010	0.05	0.0002195	94	70	130				
Manganese	0.119	0.0010	0.05	0.07389	90	70	130				
Molybdenum	0.0502	0.0010	0.05	0.004866	91	70	130				
Nickel	0.0469	0.0050	0.05	0.0005567	93	70	130				
Selenium	0.0513	0.0010	0.05	0.0005356	101	70	130				
Silver	0.0171	0.0010	0.02	0	86	70	130				
Uranium	0.0487	0.00030	0.05	0.003509	90	70	130				
Vanadium	0.0461	0.010	0.05	0	92	70	130				
Zinc	0.0706	0.010	0.05	0.02222	97	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 149** SampType: **Sample Matrix Spike** Lab ID: **H16060099-005BMS** Method: **E200.8**

Analysis Date: **06/09/16 20:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160609B: 150** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-005BMSD** Method: **E200.8**

Analysis Date: **06/09/16 20:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0517	0.030	0.05	0.005573	92	70	130	0.05196	0.5	20	
Antimony	0.0472	0.0010	0.05	0.0002299	94	70	130	0.04622	2.1	20	
Arsenic	0.0542	0.0010	0.05	0.004841	99	70	130	0.05451	0.6	20	
Barium	0.0789	0.050	0.05	0.03161	95	70	130	0.07891	0.0	20	
Beryllium	0.0476	0.0010	0.05	0	95	70	130	0.04781	0.5	20	
Cadmium	0.0472	0.0010	0.05	0.0000833	94	70	130	0.04759	0.9	20	
Chromium	0.0461	0.0050	0.05	0	92	70	130	0.0466	1.1	20	
Cobalt	0.0467	0.0050	0.05	0.0001517	93	70	130	0.04697	0.6	20	
Copper	0.0587	0.0050	0.05	0.01251	92	70	130	0.0593	1.0	20	
Iron	0.235	0.020	0.15	0.0974	92	70	130	0.2353	0.1	20	
Lead	0.0468	0.0010	0.05	0.0002195	93	70	130	0.04697	0.3	20	
Manganese	0.118	0.0010	0.05	0.07389	88	70	130	0.1188	0.7	20	
Molybdenum	0.0505	0.0010	0.05	0.004866	91	70	130	0.05024	0.5	20	
Nickel	0.0470	0.0050	0.05	0.0005567	93	70	130	0.04692	0.1	20	
Selenium	0.0499	0.0010	0.05	0.0005356	99	70	130	0.05126	2.6	20	
Silver	0.0174	0.0010	0.02	0	87	70	130	0.01713	1.9	20	
Uranium	0.0485	0.00030	0.05	0.003509	90	70	130	0.04871	0.3	20	
Vanadium	0.0458	0.010	0.05	0	92	70	130	0.04607	0.6	20	
Zinc	0.0693	0.010	0.05	0.02222	94	70	130	0.07063	1.9	20	

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 184** SampType: **Sample Matrix Spike** Lab ID: **H16060099-015BMS** Method: **E200.8**

Analysis Date: **06/09/16 22:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0571	0.030	0.05	0.009569	95	70	130				
Antimony	0.0480	0.0010	0.05	0.0001907	96	70	130				
Arsenic	0.0578	0.0010	0.05	0.00622	103	70	130				
Barium	0.0753	0.050	0.05	0.02478	101	70	130				
Beryllium	0.0497	0.0010	0.05	0	99	70	130				
Cadmium	0.0493	0.0010	0.05	0.0000323	98	70	130				
Chromium	0.0479	0.0050	0.05	0	96	70	130				
Cobalt	0.0500	0.0050	0.05	0.0009214	98	70	130				
Copper	0.0563	0.0050	0.05	0.006943	99	70	130				
Iron	0.197	0.020	0.15	0.05326	96	70	130				
Lead	0.0490	0.0010	0.05	0.0001677	98	70	130				
Manganese	0.116	0.0010	0.05	0.06874	95	70	130				
Molybdenum	0.0477	0.0010	0.05	0.001975	91	70	130				
Nickel	0.0490	0.0050	0.05	0.0006024	97	70	130				
Selenium	0.0536	0.0010	0.05	0.0005994	106	70	130				
Silver	0.0175	0.0010	0.02	0	88	70	130				
Uranium	0.0480	0.00030	0.05	0.001613	93	70	130				
Vanadium	0.0474	0.010	0.05	0	95	70	130				
Zinc	0.0738	0.010	0.05	0.02205	103	70	130				

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160609B: 185** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-015BMSD** Method: **E200.8**

Analysis Date: **06/09/16 22:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0539	0.030	0.05	0.009569	89	70	130	0.05712	5.8	20	
Antimony	0.0469	0.0010	0.05	0.0001907	93	70	130	0.04805	2.5	20	
Arsenic	0.0552	0.0010	0.05	0.00622	98	70	130	0.05775	4.4	20	
Barium	0.0716	0.050	0.05	0.02478	94	70	130	0.07527	5.1	20	
Beryllium	0.0485	0.0010	0.05	0	97	70	130	0.04974	2.4	20	
Cadmium	0.0470	0.0010	0.05	0.0000323	94	70	130	0.04926	4.7	20	
Chromium	0.0456	0.0050	0.05	0	91	70	130	0.04794	5.0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115896

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160609B: 185** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-015BMSD** Method: **E200.8**

Analysis Date: **06/09/16 22:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0472	0.0050	0.05	0.0009214	93	70	130	0.05004	5.7	20	
Copper	0.0532	0.0050	0.05	0.006943	92	70	130	0.0563	5.7	20	
Iron	0.187	0.020	0.15	0.05326	89	70	130	0.197	5.1	20	
Lead	0.0465	0.0010	0.05	0.0001677	93	70	130	0.04897	5.1	20	
Manganese	0.110	0.0010	0.05	0.06874	84	70	130	0.1164	5.2	20	
Molybdenum	0.0474	0.0010	0.05	0.001975	91	70	130	0.04767	0.5	20	
Nickel	0.0466	0.0050	0.05	0.0006024	92	70	130	0.04898	4.9	20	
Selenium	0.0511	0.0010	0.05	0.0005994	101	70	130	0.05364	4.9	20	
Silver	0.0174	0.0010	0.02	0	87	70	130	0.01752	1.0	20	
Uranium	0.0460	0.00030	0.05	0.001613	89	70	130	0.04797	4.1	20	
Vanadium	0.0448	0.010	0.05	0	90	70	130	0.04739	5.5	20	
Zinc	0.0686	0.010	0.05	0.02205	93	70	130	0.07379	7.2	20	

Associated samples: **H16060099-001B, H16060099-002B, H16060099-003B, H16060099-004B, H16060099-005B, H16060099-006B, H16060099-007B, H16060099-008B, H16060099-009B, H16060099-010B, H16060099-011B, H16060099-012B, H16060099-013B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-017B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115995

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160613B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/13/16 22:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0298	0.0010	0.03	0	99	90	110				
Silver	0.0299	0.0050	0.03	0	100	90	110				

Associated samples: **H16060099-001C, H16060099-002B, H16060099-002C, H16060099-004B, H16060099-004C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160613B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/13/16 22:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.00129	0.0010		0							
Silver	0.000114	0.0050		0							

Associated samples: **H16060099-001C, H16060099-002B, H16060099-002C, H16060099-004B, H16060099-004C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160613B: 15** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **06/13/16 22:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	1E-05									

Associated samples: **H16060099-002B, H16060099-004B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160613B: 16** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **06/13/16 22:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0509	0.0010	0.05	0	102	85	115				

Associated samples: **H16060099-002B, H16060099-004B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160613B: 21** SampType: **Sample Matrix Spike** Lab ID: **H16060099-002BMS** Method: **E200.8**

Analysis Date: **06/13/16 22:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0511	0.0010	0.05	0.0000402	102	70	130				

Associated samples: **H16060099-002B, H16060099-004B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115995

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160613B: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060099-002BMSD** Method: **E200.8**
Analysis Date: **06/13/16 23:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0499	0.0010	0.05	0.0000402	100	70	130	0.05112	2.4	20	

Associated samples: **H16060099-002B, H16060099-004B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160613B: 44** SampType: **Sample Matrix Spike** Lab ID: **H16060131-005BMS** Method: **E200.8**
Analysis Date: **06/14/16 00:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0475	0.0010	0.05	0.0000491	95	70	130				

Associated samples: **H16060099-002B, H16060099-004B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160613B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16060131-005BMSD** Method: **E200.8**
Analysis Date: **06/14/16 00:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0476	0.0010	0.05	0.0000491	95	70	130	0.04746	0.3	20	

Associated samples: **H16060099-002B, H16060099-004B, H16060099-014B, H16060099-015B, H16060099-016B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160613B: 189** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **06/14/16 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.00133	0.0010		0							
Silver	-3.00E-06	0.0050		0							

Associated samples: **H16060099-001C, H16060099-002B, H16060099-002C, H16060099-004B, H16060099-004C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-018B**

Run ID :Run Order: **ICPMS204-B_160613B: 270** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/14/16 18:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0311	0.0010	0.03	0	104	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				

Associated samples: **H16060099-001C, H16060099-002B, H16060099-002C, H16060099-004B, H16060099-004C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R115995

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160613B: 273** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/14/16 18:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.00132	0.0010		0							
Silver	6.20E-05	0.0050		0							

Associated samples: **H16060099-001C, H16060099-002B, H16060099-002C, H16060099-004B, H16060099-004C, H16060099-014B, H16060099-014C, H16060099-015B, H16060099-015C, H16060099-016B, H16060099-018B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116208

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **06/21/16 10:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0560	0.0010	0.06	0	93	90	110				
Arsenic	0.0581	0.0010	0.06	0	97	90	110				
Beryllium	0.0291	0.0010	0.03	0	97	90	110				
Boron	0.0578	0.0011	0.06	0	96	90	110				
Cadmium	0.0291	0.0010	0.03	0	97	90	110				
Chromium	0.0578	0.0010	0.06	0	96	90	110				
Cobalt	0.0588	0.0010	0.06	0	98	90	110				
Lead	0.0567	0.0010	0.06	0	94	90	110				
Molybdenum	0.0559	0.0010	0.06	0	93	90	110				
Nickel	0.0584	0.0010	0.06	0	97	90	110				
Selenium	0.0594	0.0010	0.06	0	99	90	110				
Silver	0.0287	0.0010	0.03	0	96	90	110				
Uranium	0.0569	0.00030	0.06	0	95	90	110				
Vanadium	0.0559	0.0010	0.06	0	93	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **ICPMS204-B_160621A: 58** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **06/21/16 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0565	0.0010	0.06	0	94	90	110				
Arsenic	0.0584	0.0010	0.06	0	97	90	110				
Beryllium	0.0295	0.0010	0.03	0	98	90	110				
Boron	0.0586	0.0011	0.06	0	98	90	110				
Cadmium	0.0290	0.0010	0.03	0	97	90	110				
Chromium	0.0585	0.0010	0.06	0	98	90	110				
Cobalt	0.0588	0.0010	0.06	0	98	90	110				
Lead	0.0565	0.0010	0.06	0	94	90	110				
Molybdenum	0.0567	0.0010	0.06	0	95	90	110				
Nickel	0.0592	0.0010	0.06	0	99	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116208

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 58** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **06/21/16 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0580	0.0010	0.06	0	97	90	110				
Silver	0.0287	0.0010	0.03	0	96	90	110				
Uranium	0.0559	0.00030	0.06	0	93	90	110				
Vanadium	0.0565	0.0010	0.06	0	94	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **ICPMS204-B_160621A: 137** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **06/21/16 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0582	0.0010	0.06	0	97	90	110				
Arsenic	0.0610	0.0010	0.06	0	102	90	110				
Beryllium	0.0302	0.0010	0.03	0	101	90	110				
Boron	0.0584	0.0011	0.06	0	97	90	110				
Cadmium	0.0299	0.0010	0.03	0	100	90	110				
Chromium	0.0603	0.0010	0.06	0	100	90	110				
Cobalt	0.0606	0.0010	0.06	0	101	90	110				
Lead	0.0592	0.0010	0.06	0	99	90	110				
Molybdenum	0.0583	0.0010	0.06	0	97	90	110				
Nickel	0.0610	0.0010	0.06	0	102	90	110				
Selenium	0.0598	0.0010	0.06	0	100	90	110				
Silver	0.0294	0.0010	0.03	0	98	90	110				
Uranium	0.0581	0.00030	0.06	0	97	90	110				
Vanadium	0.0583	0.0010	0.06	0	97	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116208

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160621A: 179** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **06/22/16 14:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0597	0.0010	0.06	0	99	90	110				
Arsenic	0.0632	0.0010	0.06	0	105	90	110				
Beryllium	0.0320	0.0010	0.03	0	107	90	110				
Boron	0.0633	0.0011	0.06	0	106	90	110				
Cadmium	0.0311	0.0010	0.03	0	104	90	110				
Chromium	0.0622	0.0010	0.06	0	104	90	110				
Cobalt	0.0628	0.0010	0.06	0	105	90	110				
Lead	0.0610	0.0010	0.06	0	102	90	110				
Molybdenum	0.0611	0.0010	0.06	0	102	90	110				
Nickel	0.0631	0.0010	0.06	0	105	90	110				
Selenium	0.0636	0.0010	0.06	0	106	90	110				
Silver	0.0307	0.0010	0.03	0	102	90	110				
Uranium	0.0596	0.00030	0.06	0	99	90	110				
Vanadium	0.0606	0.0010	0.06	0	101	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116221

Date: *06-Jul-16*

Run ID :Run Order: **SOIL DRYING OVEN 2_160621C: 1** SampType: **Sample Duplicate** Lab ID: **H16060099-020ADUP** Method: **D2974**

Analysis Date: **06/22/16 12:48** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	19.3	0.20		0				20.1	4.2	20	

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **SOIL DRYING OVEN 2_160621C: 2** SampType: **Sample Duplicate** Lab ID: **H16060099-030ADUP** Method: **D2974**

Analysis Date: **06/22/16 12:48** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	16.1	0.20		0				16.43	2.0	20	

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **SOIL DRYING OVEN 2_160621C: 3** SampType: **Sample Duplicate** Lab ID: **H16060099-040ADUP** Method: **D2974**

Analysis Date: **06/22/16 12:48** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	58.0	0.20		0				54.18	6.9	20	

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **SOIL DRYING OVEN 2_160621C: 4** SampType: **Sample Duplicate** Lab ID: **H16060099-050ADUP** Method: **D2974**

Analysis Date: **06/22/16 12:48** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	24.8	0.20		0				22.28	11	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116221

Date: *06-Jul-16*

Run ID :Run Order: **SOIL DRYING OVEN 2_160621C: 4** SampType: **Sample Duplicate** Lab ID: **H16060099-050ADUP** Method: **D2974**

Analysis Date: **06/22/16 12:48** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **SOIL DRYING OVEN 2_160621C: 5** SampType: **Sample Duplicate** Lab ID: **H16060099-060ADUP** Method: **D2974**

Analysis Date: **06/22/16 12:48** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	20.6	0.20		0				19.88	3.3	20	

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116237

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **06/22/16 08:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.07	0.10	4	0	102	90	110				
Barium	0.768	0.10	0.8	0	96	90	110				
Cobalt	0.789	0.021	0.8	0	99	90	110				
Copper	0.774	0.010	0.8	0	97	90	110				
Iron	3.91	0.030	4	0	98	90	110				
Manganese	3.89	0.010	4	0	97	90	110				
Zinc	0.783	0.010	0.8	0	98	90	110				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Run ID :Run Order: **ICP2-HE_160622A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **06/22/16 09:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	514	0.10	500	0	103	80	120				
Barium	-0.00311	0.10		0		0	0				
Cobalt	-0.00899	0.021		0		0	0				
Copper	-0.00341	0.010		0		0	0				
Iron	178	0.030	200	0	89	80	120				
Manganese	-0.00272	0.010		0		0	0				
Zinc	0.00135	0.010		0		0	0				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116237

Date: *06-Jul-16*

Run ID :Run Order: **ICP2-HE_160622A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **06/22/16 09:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	516	0.10	500	0	**103**	80	120				
Barium	0.483	0.10	0.5	0	**97**	80	120				
Cobalt	0.425	0.021	0.5	0	**85**	80	120				
Copper	0.482	0.010	0.5	0	**96**	80	120				
Iron	176	0.030	200	0	**88**	80	120				
Manganese	0.457	0.010	0.5	0	**91**	80	120				
Zinc	0.886	0.010	1	0	**89**	80	120				

Associated samples: **H16060099-019A, H16060099-020A, H16060099-021A, H16060099-022A, H16060099-023A, H16060099-024A, H16060099-025A, H16060099-026A, H16060099-027A, H16060099-028A, H16060099-029A, H16060099-030A, H16060099-031A, H16060099-032A, H16060099-033A, H16060099-034A, H16060099-035A, H16060099-036A, H16060099-037A, H16060099-038A, H16060099-039A, H16060099-040A, H16060099-041A, H16060099-042A, H16060099-043A, H16060099-044A, H16060099-045A, H16060099-046A, H16060099-047A, H16060099-048A, H16060099-049A, H16060099-050A, H16060099-051A, H16060099-052A, H16060099-053A, H16060099-054A, H16060099-055A, H16060099-056A, H16060099-057A, H16060099-058A, H16060099-059A, H16060099-060A, H16060099-061A, H16060099-062A, H16060099-063A, H16060099-064A, H16060099-065A, H16060099-066A, H16060099-067A, H16060099-068A, H16060099-069A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116285

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160623B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **06/23/16 12:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0608	0.0010	0.06	0	**101**	90	110				
Beryllium	0.0317	0.0010	0.03	0	**106**	90	110				
Boron	0.0645	0.0011	0.06	0	**107**	90	110				
Cadmium	0.0315	0.0010	0.03	0	**105**	90	110				
Chromium	0.0628	0.0010	0.06	0	**105**	90	110				
Cobalt	0.0635	0.0010	0.06	0	**106**	90	110				
Lead	0.0612	0.0010	0.06	0	**102**	90	110				
Molybdenum	0.0607	0.0010	0.06	0	**101**	90	110				
Nickel	0.0643	0.0010	0.06	0	**107**	90	110				
Silver	0.0308	0.0010	0.03	0	**103**	90	110				
Uranium	0.0600	0.00030	0.06	0	**100**	90	110				
Vanadium	0.0610	0.0010	0.06	0	**102**	90	110				

Associated samples: **H16060099-019A, H16060099-022A, H16060099-025A, H16060099-028A, H16060099-031A, H16060099-034A, H16060099-036A, H16060099-037A, H16060099-043A, H16060099-046A, H16060099-049A, H16060099-052A, H16060099-055A, H16060099-058A, H16060099-061A, H16060099-064A, H16060099-067A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R116411

Date: *06-Jul-16*

Run ID :Run Order: **ICPMS204-B_160629A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **06/29/16 11:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0589	0.0010	0.06	0	**98**	90	110				

Associated samples: **H16060099-026A, H16060099-027A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-047A, H16060099-050A, H16060099-051A, H16060099-053A, H16060099-054A, H16060099-056A, H16060099-057A, H16060099-059A, H16060099-060A, H16060099-063A, H16060099-065A, H16060099-068A**

Run ID :Run Order: **ICPMS204-B_160629A: 51** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **06/29/16 15:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0609	0.0010	0.06	0	**101**	90	110				

Associated samples: **H16060099-026A, H16060099-027A, H16060099-035A, H16060099-038A, H16060099-041A, H16060099-047A, H16060099-050A, H16060099-051A, H16060099-053A, H16060099-054A, H16060099-056A, H16060099-057A, H16060099-059A, H16060099-060A, H16060099-063A, H16060099-065A, H16060099-068A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160606A

Date: *06-Jul-16*

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 1** SampType: **Method Blank** Lab ID: **MB-1_160606A** Method: **A2540 D**

Analysis Date: **06/06/16 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_160606A** Method: **A2540 D**

Analysis Date: **06/06/16 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	91.0	10	100	0	**91**	80	120				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 4** SampType: **Sample Duplicate** Lab ID: **H16060091-001ADUP** Method: **A2540 D**

Analysis Date: **06/06/16 12:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	44.4	10		0				43.6	**1.8**	5	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 1** SampType: **Sample Duplicate** Lab ID: **H16060091-011ADUP** Method: **A2540 D**

Analysis Date: **06/06/16 12:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	55.6	10		0				53.6	**3.7**	5	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160606A

Date: *06-Jul-16*

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 2** SampType: **Sample Duplicate** Lab ID: **H16050382-001A DUP** Method: **A2540 D**

Analysis Date: **06/06/16 14:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	648	40		0				612	5.7	5	R

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 3** SampType: **Sample Duplicate** Lab ID: **H16060099-016A DUP** Method: **A2540 D**

Analysis Date: **06/06/16 15:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	13.4	10		0				13.8	2.9	5	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 4** SampType: **Method Blank** Lab ID: **MB-26_160606A** Method: **A2540 D**

Analysis Date: **06/06/16 15:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 4** SampType: **Laboratory Control Sample** Lab ID: **LCS-27_160606A** Method: **A2540 D**

Analysis Date: **06/06/16 15:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	100.0	10	100	0	100	80	120				

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16060099
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160606A

Date: *06-Jul-16*

Run ID :Run Order: **ACCU-124 (14410200)_160606A: 4** SampType: **Sample Duplicate** Lab ID: **H16060099-007A DUP** Method: **A2540 D**

Analysis Date: **06/06/16 15:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	4.20	10		0				3.6		5	

Associated samples: **H16060099-001A, H16060099-002A, H16060099-003A, H16060099-004A, H16060099-005A, H16060099-006A, H16060099-007A, H16060099-008A, H16060099-009A, H16060099-010A, H16060099-011A, H16060099-012A, H16060099-013A, H16060099-014A, H16060099-015A, H16060099-016A, H16060099-017A, H16060099-018A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H16060099

Login completed by: Tracy L. Lorash

Date Received: 6/6/2016

Reviewed by: BL2000\rwilliams

Received by: wjj

Reviewed Date: 6/10/2016

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	°C See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	Not Applicable ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Relinquished time from client does not match received time by laboratory.
Collection date on bottles is incorrect. We are to login with date from COC per Gary.
No collection time on COC. Logged in with time from bottles.
Received sediment jar labeled SS-15A US collected 6/2/16 that is not on the COC. Per Joe, we are to analyze the same as SS-15A. Logged in with collection time from SS-15A.
Sample ID on COC is Field Blank #1 (SS-17D) -ID on bottles is Field Blank #1. Logged in with ID from COC.
Cooler 1 was received at 3.0°C, Cooler 2 at 3.0°C, Cooler 3 at 3.6°C, Cooler 4 at 3.4°C. Samples were received on ice and temperatures were taken from a temperature blank. Cooler 5 containing sediment samples was received at 20.1°C, Cooler 6 containing sediment samples was received at 19.2°C. Samples were received on ice and temperatures were taken from a client sample. tl 6/7/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Report Mail Address (Required): P.O. Box 200901-0901, Helena, MT 59620-0901

☐ No Hard Copy Email:

Invoice Address (Required): Same as above

☐ No Hard Copy Email:

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Contact Name: Ben Quinones

Phone/Fax:

Cell: email bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

Invoice Contact & Phone: Same as above

Purchase Order:

Quote/Bottle Order: 1088/20641

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Shipped by: Hand delivery

Cooler ID(s): Y

Receipt Temp: see comments °C

On Ice: (Y) N

Custody Seal: On Bottle Y N; On Cooler Y N; Intact Y N; Signature Match Y (N)

Comments: Diss. metals and DOC were field filtered. Lab to size sediment metals into 3 size fractions. Report sediment results as dry weight concs.

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR Metals (see list)	Diss. Metals (see list)	TPN	NH_3+NO_2, TP	TSS, VSS	Hardness (TR Ca & Mg)	Total Alk., HCO_3, SO_4, Cl, K, Na	DOC	Total metals sediment (see list, dry weight concs)	SEE ATTACHED
C2	1 SS-06G	6-3-2016	8W, 1S		↓	↓	↓	↓	↓	↓	↓	↓		
C6	2 Sediment Duplicate #2 (SS-07)	6-3-2016	1S											
C2	3 SS-07	6-3-2016	8W, 1S											
C3	4 Field Blank #2 (SS-07)	6-3-2016	8W											
C2	5 SS-08	6-3-2016	8W, 1S											
C3	6 SS-10A	6-3-2016	8W, 1S											
C3	7 SS-10B	6-3-2016	8W, 1S											
C3	8 Field Duplicate #2 (SS-11C)	6-3-2016	8W											
C3	9 SS-11C	6-3-2016	8W, 1S											
C3	10 SS-11D	6-3-2016	8W, 1S											

C1 3.0
C2 3.0 } TPN
C3 3.6
C4 3.4
C5 20.1 } TPN
C6 19.2

LABORATORY USE ONLY H16060099

Custody Record MUST be Signed

Relinquished by (print): Gary L. Ingman Date/Time: 6/6/2016 0820 Signature: Gary L Ingman

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Wardson Date/Time: 6-6-16 8:00 Signature:

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, QA/QC

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Report Mail Address (Required): P.O. Box 200901, Helena, MT 59620-0901

☐ No Hard Copy Email:

Invoice Address (Required): Same as above

☐ No Hard Copy Email:

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Contact Name: Ben Quinones

Phone/Fax:

Cell: email bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

Invoice Contact & Phone: Same as above

Purchase Order:

Quote/Bottle Order: 1088/20641

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

ANALYSIS REQUESTED

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other
DW - Drinking Water

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR Metals (See list)	Diss. Metals (See list)	TPN	NH_3-N, NO_2+NO_3, TP	TSS, VSS	Hardness (TR Ca & Mg)	Total Alk, HCO3, SO4, Cl, K, Na	Total Metals, Sediment (Dry Weight, See list)	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments
C1	1 SS-13	6-2-2016		8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓				C1 3.0 TB
C1	2 Field Duplicate #1 (SS-14)	6-2-2016		8W	↓	↓	↓	↓	↓	↓	↓	↓				C2 3.0
C4	3 SS-14	6-2-2016		8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓				C3 3.6
C5	4 Sediment Duplicate #1 (SS-15A)	6-2-2016		1S								↓				C4 3.4
C1	5 SS-15A	6-2-2016		8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓				C5 20.1 } Ice B
B2	6 SS-15B	6-2-2016		8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓				C6 19.2 }
C4	7 SS-16B	6-2-2016		8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓				
C4	8 SS-17D	6-2-2016		8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓				
C4	9 Field Blank #1 (SS-17D)	6-2-2016		8W	↓	↓	↓	↓	↓	↓	↓	↓				
C3	10 SS-19	6-2-2016		8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓				

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Diss. metals and DOC were field filtered. Lab to sieve sediment samples into 3 size fractions. Report sediment metals as dry weight concs.

Shipped by: Hand delivered

Cooler ID(s): Y

Receipt Temp: See Comments °C

On Ice: (Y) N

Custody Seal: On Bottle Y N; On Cooler Y N; Intact Y N; Signature Match Y N

LABORATORY USE ONLY: HH6060099

Custody Record MUST be Signed

Relinquished by (print): Gary L. Ingman Date/Time: 6/6/2016 0820 Signature: Gary L Ingman

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Sample Disposal: Return to Client: Lab Disposal:

Received by Laboratory: Wanda John Date/Time: 6-6-16 8:11 Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, QA/QC

APPENDIX B3

ANALYTICAL LABORATORY RESULTS
3RD QUARTER MONITORING

ANALYTICAL SUMMARY REPORT

December 28, 2016

Natural Resource Damage Program
1301 E Lockey
Helena, MT 59620-1425

Work Order: H16090351 Quote ID: H1088 - Silver Bow Monitoring

Project Name: Silver Bow Creek Monitoring

Energy Laboratories Inc Helena MT received the following 18 samples for Natural Resource Damage Program on 9/16/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16090351-001	SS-01	09/15/16 17:30	09/16/16	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended Solids, Suspended Volatile
H16090351-002	SS-05A	09/15/16 16:00	09/16/16	Aqueous	Same As Above
H16090351-003	Field Blank #1 (SS-15G)	09/14/16 13:00	09/16/16	Aqueous	Same As Above
H16090351-004	SS-15G	09/14/16 13:30	09/16/16	Aqueous	Same As Above
H16090351-005	SS-01 Sediment Sieve <0.065mm	09/15/16 17:30	09/16/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16090351-006	SS-01 Sediment Sieve 0.065-1mm	09/15/16 17:30	09/16/16	Sediment	Same As Above
H16090351-007	SS-01 Sediment Sieve 1-2mm	09/15/16 17:30	09/16/16	Sediment	Same As Above
H16090351-008	SS-05A Sediment Sieve <0.065mm	09/15/16 16:00	09/16/16	Sediment	Same As Above
H16090351-009	SS-05A Sediment Sieve 0.065-1mm	09/15/16 16:00	09/16/16	Sediment	Same As Above
H16090351-010	SS-05A Sediment Sieve 1-2mm	09/15/16 16:00	09/16/16	Sediment	Same As Above
H16090351-011	SS-15G Sediment Sieve <0.065mm	09/14/16 13:30	09/16/16	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H16090351-012	SS-15G Sediment Sieve 0.065-1mm	09/14/16 13:30	09/16/16	Sediment	Same As Above
H16090351-013	SS-15G Sediment Sieve 1-2mm	09/14/16 13:30	09/16/16	Sediment	Same As Above
H16090351-014	Sediment Duplicate #2 (SS-01) Sediment Sieve <0.065mm	09/15/16 17:30	09/16/16	Sediment	Same As Above
H16090351-015	Sediment Duplicate #2 (SS-01) Sediment Sieve 0.065-1mm	09/15/16 17:30	09/16/16	Sediment	Same As Above
H16090351-016	Sediment Duplicate #2 (SS-01) Sediment Sieve 1-2mm	09/15/16 17:30	09/16/16	Sediment	Same As Above
H16090351-017	Slag-01 Sediment Sieve <0.065mm	09/15/16 16:30	09/16/16	Sediment	Metals by ICP/ICPMS, Total Percent Moisture Digestion, Total Metals Sieve Analysis, Wet
H16090351-018	SS-04 Sediment Sieve <0.065mm	09/15/16 16:45	09/16/16	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: Natural Resource Damage Program
Project: Silver Bow Creek Monitoring
Work Order: H16090351

Revised Date: 12/28/16
Report Date: 10/06/16

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

The report was revised due to an error in the (Total/Ortho)phosphorous result(s). Review of the method indicated there was an error in the preparation of the standards used for the analysis. The standard was prepared at 2x the concentration resulting in sample results half of the true value. The report was revised with the concentration re-calculated according to the concentrations used in the calibration curve. A corrective action has been initiated with preventative actions implemented. The revised report replaces your original report as phosphorous was revised. Abc 12/28/16

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16090351-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 17:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	3	mg/L		1		A2540 D	09/19/16 11:36 / SR		L24 (14410200)_160919A	11	TSS160919A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	8	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	99	mg/L		4		A2320 B	09/19/16 13:18 / SR		PHSC_101-H_160919A	72	R118760
Bicarbonate as HCO3	120	mg/L		4		A2320 B	09/19/16 13:18 / SR		PHSC_101-H_160919A	72	R118760
Chloride	12	mg/L		1		E300.0	09/20/16 14:10 / SR		IC102-H_160920A	41	R118837
Sulfate	31	mg/L		1		E300.0	09/20/16 14:10 / SR		IC102-H_160920A	41	R118837
Hardness as CaCO3	121	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	15	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	09/25/16 14:53 / eli-c		SUB-C215617	26	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 11:50 / cm		FIA203-HE_160919A	97	R118775
Nitrogen, Nitrate+Nitrite as N	1.25	mg/L		0.02		E353.2	09/20/16 15:38 / cm		FIA203-HE_160920C	62	R118834
Nitrogen, Total	1.32	mg/L		0.05		A4500 N-C	09/20/16 11:56 / cm	09/20/16 08:37	FIA203-HE_160920A	97	34492
Phosphorus, Total as P	0.089	mg/L		0.003		E365.1	09/22/16 13:36 / cm	09/22/16 09:01	FIA202-HE_160922A	40	34531
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Arsenic	0.002	mg/L		0.001		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Barium	0.057	mg/L		0.003		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:06 / sld		ICP2-HE_160919A	97	R118771
Cadmium	ND	mg/L		0.00003		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Calcium	37	mg/L		1		E200.7	09/19/16 17:06 / sld		ICP2-HE_160919A	97	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Copper	0.001	mg/L		0.001		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Iron	0.07	mg/L		0.02		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16090351-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 17:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Magnesium	9	mg/L		1		E200.7	09/19/16 17:06 / sld		ICP2-HE_160919A	97	R118771
Manganese	0.026	mg/L		0.001		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 12:21 / rgk	09/22/16 22:21	HGCV202-H_160926A	17	34536
Molybdenum	ND	mg/L		0.005		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Potassium	3	mg/L		1		E200.7	09/19/16 17:06 / sld		ICP2-HE_160919A	97	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Sodium	12	mg/L		1		E200.7	09/19/16 17:06 / sld		ICP2-HE_160919A	97	R118771
Uranium	0.0039	mg/L		0.0002		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
Zinc	ND	mg/L		0.008		E200.8	09/20/16 21:53 / dck		ICPMS204-B_160920A	203	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.029	mg/L		0.009		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Arsenic	0.003	mg/L		0.001		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Barium	0.059	mg/L		0.003		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 11:50 / sld	09/19/16 09:14	ICP2-HE_160919C	66	34478
Cadmium	ND	mg/L		0.00003		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Calcium	34	mg/L		1		E200.7	09/20/16 11:50 / sld	09/19/16 09:14	ICP2-HE_160919C	66	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Copper	0.002	mg/L		0.001		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Iron	0.22	mg/L		0.02		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Lead	ND	mg/L		0.0003		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Magnesium	9	mg/L		1		E200.7	09/20/16 11:50 / sld	09/19/16 09:14	ICP2-HE_160919C	66	34478
Manganese	0.031	mg/L		0.001		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 12:29 / rgk	09/22/16 22:21	HGCV202-H_160926A	20	34536
Molybdenum	ND	mg/L		0.005		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16090351-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 17:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Potassium	3	mg/L		1		E200.7	09/20/16 11:50 / sld	09/19/16 09:14	ICP2-HE_160919C	66	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Sodium	12	mg/L		1		E200.7	09/20/16 11:50 / sld	09/19/16 09:14	ICP2-HE_160919C	66	34478
Uranium	0.0043	mg/L		0.0002		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478
Zinc	ND	mg/L		0.008		E200.8	09/20/16 21:56 / dck	09/19/16 09:14	ICPMS204-B_160920A	204	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16090351-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 16:00
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	09/19/16 11:36 / SR		L24 (14410200)_160919A	12	TSS160919A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	9	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/19/16 13:23 / SR		PHSC_101-H_160919A	74	R118760
Bicarbonate as HCO3	130	mg/L		4		A2320 B	09/19/16 13:23 / SR		PHSC_101-H_160919A	74	R118760
Chloride	18	mg/L		1		E300.0	09/20/16 15:16 / SR		IC102-H_160920A	47	R118837
Sulfate	37	mg/L		1		E300.0	09/20/16 15:16 / SR		IC102-H_160920A	47	R118837
Hardness as CaCO3	142	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	16	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.1	mg/L		0.5		A5310 C	09/25/16 15:09 / eli-c		SUB-C215617	27	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 11:54 / cm		FIA203-HE_160919A	100	R118775
Nitrogen, Nitrate+Nitrite as N	1.30	mg/L		0.02		E353.2	09/20/16 15:39 / cm		FIA203-HE_160920C	63	R118834
Nitrogen, Total	1.44	mg/L		0.05		A4500 N-C	09/20/16 11:58 / cm	09/20/16 08:37	FIA203-HE_160920A	98	34492
Phosphorus, Total as P	0.104	mg/L		0.003		E365.1	09/22/16 13:37 / cm	09/22/16 09:01	FIA202-HE_160922A	41	34531
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Arsenic	0.005	mg/L		0.001		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Barium	0.058	mg/L		0.003		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:21 / sld		ICP2-HE_160919A	101	R118771
Cadmium	0.00004	mg/L		0.00003		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Calcium	42	mg/L		1		E200.7	09/19/16 17:21 / sld		ICP2-HE_160919A	101	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Copper	0.002	mg/L		0.001		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Iron	0.07	mg/L		0.02		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16090351-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 16:00
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Magnesium	10	mg/L		1		E200.7	09/19/16 17:21 / sld		ICP2-HE_160919A	101	R118771
Manganese	0.061	mg/L		0.001		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 12:31 / rgk	09/22/16 22:21	HGCV202-H_160926A	21	34536
Molybdenum	0.007	mg/L		0.005		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Potassium	3	mg/L		1		E200.7	09/19/16 17:21 / sld		ICP2-HE_160919A	101	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Sodium	16	mg/L		1		E200.7	09/19/16 17:21 / sld		ICP2-HE_160919A	101	R118771
Uranium	0.0048	mg/L		0.0002		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
Zinc	0.008	mg/L		0.008		E200.8	09/20/16 21:59 / dck		ICPMS204-B_160920A	205	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.086	mg/L		0.009		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Arsenic	0.005	mg/L		0.001		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Barium	0.059	mg/L		0.003		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 12:31 / sld	09/19/16 09:14	ICP2-HE_160919C	77	34478
Cadmium	0.00013	mg/L		0.00003		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Calcium	41	mg/L		1		E200.7	09/20/16 12:31 / sld	09/19/16 09:14	ICP2-HE_160919C	77	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Copper	0.006	mg/L		0.001		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Iron	0.35	mg/L		0.02		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Lead	0.0020	mg/L		0.0003		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Magnesium	10	mg/L		1		E200.7	09/20/16 12:31 / sld	09/19/16 09:14	ICP2-HE_160919C	77	34478
Manganese	0.081	mg/L		0.001		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 12:34 / rgk	09/22/16 22:21	HGCV202-H_160926A	22	34536
Molybdenum	0.007	mg/L		0.005		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16090351-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 16:00
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Potassium	3	mg/L		1		E200.7	09/20/16 12:31 / sld	09/19/16 09:14	ICP2-HE_160919C	77	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Sodium	16	mg/L		1		E200.7	09/20/16 12:31 / sld	09/19/16 09:14	ICP2-HE_160919C	77	34478
Uranium	0.0052	mg/L		0.0002		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478
Zinc	0.016	mg/L		0.008		E200.8	09/20/16 22:02 / dck	09/19/16 09:14	ICPMS204-B_160920A	206	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Blank #1 (SS-15G)
Lab ID: H16090351-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 13:00
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	09/19/16 11:36 / SR		L24 (14410200)_160919A	13	TSS160919A
Solids, Volatile Suspended	ND	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	10	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	09/19/16 13:29 / SR		PHSC_101-H_160919A	76	R118760
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	09/19/16 13:29 / SR		PHSC_101-H_160919A	76	R118760
Chloride	ND	mg/L		1		E300.0	09/20/16 15:28 / SR		IC102-H_160920A	48	R118837
Sulfate	ND	mg/L		1		E300.0	09/20/16 15:28 / SR		IC102-H_160920A	48	R118837
Hardness as CaCO3	ND	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	17	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	09/25/16 15:24 / eli-c		SUB-C215617	28	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 11:55 / cm		FIA203-HE_160919A	101	R118775
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	09/20/16 15:40 / cm		FIA203-HE_160920C	64	R118834
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	09/20/16 12:04 / cm	09/20/16 08:40	FIA203-HE_160920A	103	34493
Phosphorus, Total as P	ND	mg/L		0.003		E365.1	09/23/16 14:46 / cm	09/23/16 09:22	FIA202-HE_160923B	18	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Arsenic	ND	mg/L		0.001		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Barium	ND	mg/L		0.003		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:25 / sld		ICP2-HE_160919A	102	R118771
Cadmium	ND	mg/L		0.00003		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Calcium	ND	mg/L		1		E200.7	09/19/16 17:25 / sld		ICP2-HE_160919A	102	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Copper	ND	mg/L		0.001		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Iron	ND	mg/L		0.02		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Blank #1 (SS-15G)
Lab ID: H16090351-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 13:00
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Magnesium	ND	mg/L		1		E200.7	09/19/16 17:25 / sld		ICP2-HE_160919A	102	R118771
Manganese	ND	mg/L		0.001		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 12:37 / rgk	09/22/16 22:21	HGCV202-H_160926A	23	34536
Molybdenum	ND	mg/L		0.005		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Potassium	ND	mg/L		1		E200.7	09/19/16 17:25 / sld		ICP2-HE_160919A	102	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Sodium	ND	mg/L		1		E200.7	09/19/16 17:25 / sld		ICP2-HE_160919A	102	R118771
Uranium	ND	mg/L		0.0002		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:06 / dck		ICPMS204-B_160920A	207	R118827
Zinc	0.013	mg/L		0.008		E200.8	09/21/16 17:29 / dck		ICPMS204-B_160921C	77	R118878
METALS, TOTAL RECOVERABLE											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Arsenic	ND	mg/L		0.001		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Barium	ND	mg/L		0.003		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 12:35 / sld	09/19/16 09:14	ICP2-HE_160919C	78	34478
Cadmium	ND	mg/L		0.00003		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Calcium	ND	mg/L		1		E200.7	09/20/16 12:35 / sld	09/19/16 09:14	ICP2-HE_160919C	78	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Copper	ND	mg/L		0.001		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Iron	ND	mg/L		0.02		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Lead	ND	mg/L		0.0003		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Magnesium	ND	mg/L		1		E200.7	09/20/16 12:35 / sld	09/19/16 09:14	ICP2-HE_160919C	78	34478
Manganese	ND	mg/L		0.001		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 12:40 / rgk	09/22/16 22:21	HGCV202-H_160926A	24	34536
Molybdenum	ND	mg/L		0.005		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Blank #1 (SS-15G)
Lab ID: H16090351-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 13:00
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Potassium	ND	mg/L		1		E200.7	09/20/16 12:35 / sld	09/19/16 09:14	ICP2-HE_160919C	78	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Sodium	ND	mg/L		1		E200.7	09/20/16 12:35 / sld	09/19/16 09:14	ICP2-HE_160919C	78	34478
Uranium	ND	mg/L		0.0002		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478
Zinc	ND	mg/L		0.008		E200.8	09/20/16 22:19 / dck	09/19/16 09:14	ICPMS204-B_160920A	211	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16090351-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 13:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	2	mg/L		1		A2540 D	09/19/16 11:36 / SR		L24 (14410200)_160919A	14	TSS160919A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	11	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/19/16 13:35 / SR		PHSC_101-H_160919A	78	R118760
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/19/16 13:35 / SR		PHSC_101-H_160919A	78	R118760
Chloride	ND	mg/L		1		E300.0	09/20/16 15:39 / SR		IC102-H_160920A	49	R118837
Sulfate	28	mg/L		1		E300.0	09/20/16 15:39 / SR		IC102-H_160920A	49	R118837
Hardness as CaCO3	136	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	18	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	1.5	mg/L		0.5		A5310 C	09/25/16 15:39 / eli-c		SUB-C215617	29	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 11:56 / cm		FIA203-HE_160919A	102	R118775
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	09/20/16 15:41 / cm		FIA203-HE_160920C	65	R118834
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	09/20/16 12:07 / cm	09/20/16 08:40	FIA203-HE_160920A	106	34493
Phosphorus, Total as P	0.027	mg/L		0.003		E365.1	09/23/16 14:49 / cm	09/23/16 09:22	FIA202-HE_160923B	21	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Arsenic	0.003	mg/L		0.001		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Barium	0.023	mg/L		0.003		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:28 / sld		ICP2-HE_160919A	103	R118771
Cadmium	ND	mg/L		0.00003		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Calcium	41	mg/L		1		E200.7	09/19/16 17:28 / sld		ICP2-HE_160919A	103	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Copper	ND	mg/L		0.001		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Iron	ND	mg/L		0.02		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16090351-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 13:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Magnesium	8	mg/L		1		E200.7	09/19/16 17:28 / sld		ICP2-HE_160919A	103	R118771
Manganese	0.002	mg/L		0.001		E200.8	09/21/16 17:32 / dck		ICPMS204-B_160921C	78	R118878
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 12:48 / rgk	09/22/16 22:21	HGCV202-H_160926A	27	34536
Molybdenum	ND	mg/L		0.005		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Potassium	1	mg/L		1		E200.7	09/19/16 17:28 / sld		ICP2-HE_160919A	103	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Sodium	4	mg/L		1		E200.7	09/19/16 17:28 / sld		ICP2-HE_160919A	103	R118771
Uranium	0.0006	mg/L		0.0002		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
Zinc	ND	mg/L		0.008		E200.8	09/20/16 22:22 / dck		ICPMS204-B_160920A	212	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.028	mg/L		0.009		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Arsenic	0.003	mg/L		0.001		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Barium	0.021	mg/L		0.003		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 12:39 / sld	09/19/16 09:14	ICP2-HE_160919C	79	34478
Cadmium	ND	mg/L		0.00003		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Calcium	41	mg/L		1		E200.7	09/20/16 12:39 / sld	09/19/16 09:14	ICP2-HE_160919C	79	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Copper	ND	mg/L		0.001		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Iron	0.04	mg/L		0.02		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Lead	ND	mg/L		0.0003		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Magnesium	8	mg/L		1		E200.7	09/20/16 12:39 / sld	09/19/16 09:14	ICP2-HE_160919C	79	34478
Manganese	0.004	mg/L		0.001		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 12:50 / rgk	09/22/16 22:21	HGCV202-H_160926A	28	34536
Molybdenum	ND	mg/L		0.005		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16090351-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 13:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Potassium	2	mg/L		1		E200.7	09/20/16 12:39 / sld	09/19/16 09:14	ICP2-HE_160919C	79	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Sodium	4	mg/L		1		E200.7	09/20/16 12:39 / sld	09/19/16 09:14	ICP2-HE_160919C	79	34478
Uranium	0.0007	mg/L		0.0002		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478
Zinc	ND	mg/L		0.008		E200.8	09/20/16 22:26 / dck	09/19/16 09:14	ICPMS204-B_160920A	213	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve <0.065mm
Lab ID: H16090351-005
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 17:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	65.4	wt%		0.2		D2974	10/03/16 10:49 / sld		DRYING OVEN 2_160930B	1	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.1	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	16	R119082
3050 EXTRACTABLE METALS											
Aluminum	24200	mg/kg-dry		10		SW6010B	09/29/16 13:52 / sld	09/27/16 14:30	ICP2-HE_160929B	73	34583
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Arsenic	39	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Barium	343	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Boron	13	mg/kg-dry		5		SW6010B	09/29/16 13:52 / sld	09/27/16 14:30	ICP2-HE_160929B	73	34583
Cadmium	2.2	mg/kg-dry		0.5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Chromium	96	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Cobalt	14	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Copper	357	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Iron	42000	mg/kg-dry	D	20		SW6010B	09/29/16 13:52 / sld	09/27/16 14:30	ICP2-HE_160929B	73	34583
Lead	190	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Manganese	2050	mg/kg-dry		5		SW6010B	09/29/16 13:52 / sld	09/27/16 14:30	ICP2-HE_160929B	73	34583
Molybdenum	30	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Nickel	41	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Selenium	6	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Uranium	13	mg/kg-dry		5		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Vanadium	142	mg/kg-dry		1		SW6020	09/29/16 11:53 / dck	09/27/16 14:30	ICPMS204-B_160928B	131	34583
Zinc	486	mg/kg-dry		5		SW6010B	09/29/16 13:52 / sld	09/27/16 14:30	ICP2-HE_160929B	73	34583
METALS, TOTAL											
Mercury	0.20	mg/kg-dry		0.10		SW7471B	09/29/16 10:31 / rgk	09/28/16 11:31	HGCV201-H_160929A	13	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve 0.065-1mm
Lab ID: H16090351-006
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 17:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.8	wt%		0.2		D2974	09/29/16 08:32 / sld		RYING OVEN 2_160928A	15	R119067
SIEVE ANALYSIS											
No. 230 (63 um), Retained	31.8	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	17	R119082
3050 EXTRACTABLE METALS											
Aluminum	3730	mg/kg-dry		5		SW6010B	09/29/16 13:05 / sld	09/27/16 14:32	ICP2-HE_160929B	60	34582
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Arsenic	7	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Barium	47	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Boron	ND	mg/kg-dry		5		SW6010B	09/29/16 13:05 / sld	09/27/16 14:32	ICP2-HE_160929B	60	34582
Cadmium	0.4	mg/kg-dry		0.2		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Chromium	22	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Cobalt	5	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Copper	51	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Iron	29000	mg/kg-dry	D	8		SW6010B	09/29/16 13:05 / sld	09/27/16 14:32	ICP2-HE_160929B	60	34582
Lead	23	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Manganese	242	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Molybdenum	ND	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Nickel	6	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Selenium	ND	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Uranium	6	mg/kg-dry		5		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Vanadium	90	mg/kg-dry		1		SW6020	09/29/16 11:07 / dck	09/27/16 14:32	ICPMS204-B_160928B	117	34582
Zinc	396	mg/kg-dry		5		SW6010B	09/29/16 13:05 / sld	09/27/16 14:32	ICP2-HE_160929B	60	34582
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	09/29/16 10:38 / rgk	09/28/16 11:31	HGCV201-H_160929A	17	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve 1-2mm
Lab ID: H16090351-007
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 17:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	15.2	wt%		0.2		D2974	09/29/16 08:32 / sld		RYING OVEN 2_160928A	16	R119067
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	22.6	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	18	R119082
3050 EXTRACTABLE METALS											
Aluminum	3930	mg/kg-dry		5		SW6010B	09/29/16 11:40 / sld	09/27/16 14:32	ICP2-HE_160929B	37	34581
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Arsenic	ND	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Barium	61	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Boron	ND	mg/kg-dry		5		SW6010B	09/29/16 11:40 / sld	09/27/16 14:32	ICP2-HE_160929B	37	34581
Cadmium	ND	mg/kg-dry		0.2		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Chromium	9	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Cobalt	ND	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Copper	29	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Iron	7020	mg/kg-dry	D	8		SW6010B	09/29/16 11:40 / sld	09/27/16 14:32	ICP2-HE_160929B	37	34581
Lead	12	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Manganese	286	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Molybdenum	ND	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Nickel	ND	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Selenium	ND	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Uranium	ND	mg/kg-dry		5		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Vanadium	19	mg/kg-dry		1		SW6020	09/29/16 10:11 / dck	09/27/16 14:32	ICPMS204-B_160928B	102	34581
Zinc	184	mg/kg-dry		5		SW6010B	09/29/16 11:40 / sld	09/27/16 14:32	ICP2-HE_160929B	37	34581
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	09/29/16 10:40 / rgk	09/28/16 11:31	HGCV201-H_160929A	18	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve <0.065mm
Lab ID: H16090351-008
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 16:00
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	70.6	wt%		0.2		D2974	10/03/16 10:49 / sld		DRYING OVEN 2_160930B	2	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Passed	10.9	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	19	R119082
3050 EXTRACTABLE METALS											
Aluminum	24100	mg/kg-dry		10		SW6010B	09/29/16 13:56 / sld	09/27/16 14:30	ICP2-HE_160929B	74	34583
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Arsenic	279	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Barium	386	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Boron	15	mg/kg-dry		5		SW6010B	09/29/16 13:56 / sld	09/27/16 14:30	ICP2-HE_160929B	74	34583
Cadmium	13.1	mg/kg-dry		0.6		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Chromium	78	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Cobalt	15	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Copper	2440	mg/kg-dry		5		SW6010B	09/29/16 13:56 / sld	09/27/16 14:30	ICP2-HE_160929B	74	34583
Iron	45200	mg/kg-dry	D	20		SW6010B	09/29/16 13:56 / sld	09/27/16 14:30	ICP2-HE_160929B	74	34583
Lead	896	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Manganese	2020	mg/kg-dry		5		SW6010B	09/29/16 13:56 / sld	09/27/16 14:30	ICP2-HE_160929B	74	34583
Molybdenum	15	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Nickel	36	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Selenium	5	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Silver	12	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Uranium	11	mg/kg-dry		5		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Vanadium	98	mg/kg-dry		1		SW6020	09/29/16 11:56 / dck	09/27/16 14:30	ICPMS204-B_160928B	132	34583
Zinc	2830	mg/kg-dry		6		SW6010B	09/29/16 13:56 / sld	09/27/16 14:30	ICP2-HE_160929B	74	34583
METALS, TOTAL											
Mercury	1.6	mg/kg-dry		0.10		SW7471B	09/29/16 12:12 / rgk	09/28/16 11:31	HGCV201-H_160929A	39	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve 0.065-1mm
Lab ID: H16090351-009
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 16:00
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.4	wt%		0.2		D2974	09/29/16 08:32 / sld		RYING OVEN 2_160928A	: 17	R119067
SIEVE ANALYSIS											
No. 230 (63 um), Retained	44.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 20	R119082
3050 EXTRACTABLE METALS											
Aluminum	5190	mg/kg-dry		5		SW6010B	09/29/16 13:09 / sld	09/27/16 14:32	ICP2-HE_160929B	: 61	34582
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Arsenic	96	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Barium	85	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Boron	ND	mg/kg-dry		5		SW6010B	09/29/16 13:09 / sld	09/27/16 14:32	ICP2-HE_160929B	: 61	34582
Cadmium	3.3	mg/kg-dry		0.2		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Chromium	31	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Cobalt	17	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Copper	636	mg/kg-dry		5		SW6010B	09/29/16 13:09 / sld	09/27/16 14:32	ICP2-HE_160929B	: 61	34582
Iron	80000	mg/kg-dry	D	20		SW6010B	09/30/16 11:58 / sld	09/27/16 14:32	ICP2-HE_160930B	: 34	34582
Lead	191	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Manganese	787	mg/kg-dry		5		SW6010B	09/29/16 13:09 / sld	09/27/16 14:32	ICP2-HE_160929B	: 61	34582
Molybdenum	ND	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Nickel	13	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Selenium	ND	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Uranium	ND	mg/kg-dry		5		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Vanadium	101	mg/kg-dry		1		SW6020	09/29/16 11:10 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 118	34582
Zinc	1170	mg/kg-dry		5		SW6010B	09/29/16 13:09 / sld	09/27/16 14:32	ICP2-HE_160929B	: 61	34582
METALS, TOTAL											
Mercury	0.14	mg/kg-dry		0.10		SW7471B	09/29/16 10:44 / rgk	09/28/16 11:31	HGCV201-H_160929A	: 20	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve 1-2mm
Lab ID: H16090351-010
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 16:00
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.8	wt%		0.2		D2974	09/29/16 08:32 / sld		RYING OVEN 2_160928A	18	R119067
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	13.7	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	21	R119082
3050 EXTRACTABLE METALS											
Aluminum	4920	mg/kg-dry		5		SW6010B	09/29/16 11:51 / sld	09/27/16 14:32	ICP2-HE_160929B	40	34581
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Arsenic	70	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Barium	101	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Boron	19	mg/kg-dry		5		SW6010B	09/29/16 11:51 / sld	09/27/16 14:32	ICP2-HE_160929B	40	34581
Cadmium	1.3	mg/kg-dry		0.2		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Chromium	7	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Cobalt	ND	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Copper	217	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Iron	13600	mg/kg-dry	D	8		SW6010B	09/29/16 11:51 / sld	09/27/16 14:32	ICP2-HE_160929B	40	34581
Lead	71	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Manganese	356	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Molybdenum	ND	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Nickel	ND	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Selenium	ND	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Uranium	ND	mg/kg-dry		5		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Vanadium	17	mg/kg-dry		1		SW6020	09/29/16 10:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	103	34581
Zinc	533	mg/kg-dry		5		SW6010B	09/29/16 11:51 / sld	09/27/16 14:32	ICP2-HE_160929B	40	34581
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	09/29/16 10:46 / rgk	09/28/16 11:31	HGCV201-H_160929A	21	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G Sediment Sieve <0.065mm
Lab ID: H16090351-011
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 13:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	83.1	wt%		0.2		D2974	10/03/16 10:49 / sld		DRYING OVEN 2_160930B	3	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Passed	7.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	22	R119082
3050 EXTRACTABLE METALS											
Aluminum	34600	mg/kg-dry		20		SW6010B	09/29/16 14:00 / sld	09/27/16 14:30	ICP2-HE_160929B	75	34583
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Arsenic	51	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Barium	280	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Boron	15	mg/kg-dry		8		SW6010B	09/29/16 14:00 / sld	09/27/16 14:30	ICP2-HE_160929B	75	34583
Cadmium	2	mg/kg-dry		1		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Chromium	69	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Cobalt	12	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Copper	173	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Iron	27300	mg/kg-dry	D	40		SW6010B	09/29/16 14:00 / sld	09/27/16 14:30	ICP2-HE_160929B	75	34583
Lead	117	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Manganese	977	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Molybdenum	ND	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Nickel	40	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Selenium	ND	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Uranium	ND	mg/kg-dry		5		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Vanadium	61	mg/kg-dry		2		SW6020	09/29/16 11:59 / dck	09/27/16 14:30	ICPMS204-B_160928B	133	34583
Zinc	268	mg/kg-dry		10		SW6010B	09/29/16 14:00 / sld	09/27/16 14:30	ICP2-HE_160929B	75	34583
METALS, TOTAL											
Mercury	0.29	mg/kg-dry		0.10		SW7471B	09/29/16 10:48 / rgk	09/28/16 11:31	HGCV201-H_160929A	22	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G Sediment Sieve 0.065-1mm
Lab ID: H16090351-012
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 13:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.4	wt%		0.2		D2974	09/29/16 08:32 / sld		RYING OVEN 2_160928A	19	R119067
SIEVE ANALYSIS											
No. 230 (63 um), Retained	64.6	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	23	R119082
3050 EXTRACTABLE METALS											
Aluminum	9790	mg/kg-dry		5		SW6010B	09/29/16 13:12 / sld	09/27/16 14:32	ICP2-HE_160929B	62	34582
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Arsenic	23	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Barium	166	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Boron	ND	mg/kg-dry		5		SW6010B	09/29/16 13:12 / sld	09/27/16 14:32	ICP2-HE_160929B	62	34582
Cadmium	ND	mg/kg-dry		0.2		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Chromium	15	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Cobalt	5	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Copper	24	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Iron	14700	mg/kg-dry	D	9		SW6010B	09/29/16 13:12 / sld	09/27/16 14:32	ICP2-HE_160929B	62	34582
Lead	9	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Manganese	146	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Molybdenum	ND	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Nickel	9	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Selenium	ND	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Uranium	ND	mg/kg-dry		5		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Vanadium	34	mg/kg-dry		1		SW6020	09/29/16 11:14 / dck	09/27/16 14:32	ICPMS204-B_160928B	119	34582
Zinc	69	mg/kg-dry		5		SW6010B	09/29/16 13:12 / sld	09/27/16 14:32	ICP2-HE_160929B	62	34582
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	09/29/16 10:49 / rgk	09/28/16 11:31	HGCV201-H_160929A	23	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G Sediment Sieve 1-2mm
Lab ID: H16090351-013
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 13:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.2	wt%		0.2		D2974	09/29/16 08:32 / sld		RYING OVEN 2_160928A	: 20	R119067
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	10.7	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 24	R119082
3050 EXTRACTABLE METALS											
Aluminum	12200	mg/kg-dry		5		SW6010B	09/29/16 11:55 / sld	09/27/16 14:32	ICP2-HE_160929B	: 41	34581
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Arsenic	23	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Barium	137	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Boron	ND	mg/kg-dry		5		SW6010B	09/29/16 11:55 / sld	09/27/16 14:32	ICP2-HE_160929B	: 41	34581
Cadmium	ND	mg/kg-dry		0.2		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Chromium	14	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Cobalt	ND	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Copper	38	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Iron	15300	mg/kg-dry	D	8		SW6010B	09/29/16 11:55 / sld	09/27/16 14:32	ICP2-HE_160929B	: 41	34581
Lead	9	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Manganese	208	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Molybdenum	ND	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Nickel	11	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Selenium	ND	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Uranium	ND	mg/kg-dry		5		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Vanadium	27	mg/kg-dry		1		SW6020	09/29/16 10:18 / dck	09/27/16 14:32	ICPMS204-B_160928B	: 104	34581
Zinc	92	mg/kg-dry		5		SW6010B	09/29/16 11:55 / sld	09/27/16 14:32	ICP2-HE_160929B	: 41	34581
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	09/29/16 10:51 / rgk	09/28/16 11:31	HGCV201-H_160929A	: 24	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Project: Silver Bow Creek Monitoring
Client Sample ID: Sediment Duplicate #2 (SS-01) Sediment Sieve <0.065mm
Collection Date: 09/15/16 17:30
DateReceived: 09/16/16
Lab ID: H16090351-014
Report Date: 10/06/16
Revised Date: 12/28/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	60.6	wt%		0.2		D2974	10/03/16 10:49 / sld		DRYING OVEN 2_160930B	4	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.5	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	25	R119082
3050 EXTRACTABLE METALS											
Aluminum	25400	mg/kg-dry		10		SW6010B	10/03/16 10:39 / sld	09/29/16 13:03	ICP2-HE_161003B	28	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Arsenic	42	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Barium	372	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Boron	13	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Cadmium	2.0	mg/kg-dry		0.4		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Chromium	85	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Cobalt	14	mg/kg-dry		5		SW6010B	10/03/16 10:39 / sld	09/29/16 13:03	ICP2-HE_161003B	28	34600
Copper	435	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Iron	38500	mg/kg-dry	D	20		SW6010B	10/03/16 10:39 / sld	09/29/16 13:03	ICP2-HE_161003B	28	34600
Lead	174	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Manganese	2270	mg/kg-dry		5		SW6010B	10/03/16 10:39 / sld	09/29/16 13:03	ICP2-HE_161003B	28	34600
Molybdenum	24	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Nickel	39	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Uranium	11	mg/kg-dry		5		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Vanadium	123	mg/kg-dry		1		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
Zinc	448	mg/kg-dry	D	30		SW6020	10/02/16 19:33 / dck	09/29/16 13:03	ICPMS204-B_161002A	19	34600
METALS, TOTAL											
Mercury	0.20	mg/kg-dry		0.10		SW7471B	09/29/16 10:53 / rgk	09/28/16 11:31	HGCV201-H_160929A	25	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Project: Silver Bow Creek Monitoring
Client Sample ID: Sediment Duplicate #2 (SS-01) Sediment Sieve 0.065-1mm
Collection Date: 09/15/16 17:30
DateReceived: 09/16/16
Lab ID: H16090351-015
Report Date: 10/06/16
Revised Date: 12/28/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.1	wt%		0.2		D2974	09/29/16 08:32 / sld		RYING OVEN 2_160928A	21	R119067
SIEVE ANALYSIS											
No. 230 (63 um), Retained	33.0	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	26	R119082
3050 EXTRACTABLE METALS											
Aluminum	3600	mg/kg-dry		5		SW6010B	09/29/16 13:16 / sld	09/27/16 14:32	ICP2-HE_160929B	63	34582
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Arsenic	7	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Barium	48	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Boron	ND	mg/kg-dry		5		SW6010B	09/29/16 13:16 / sld	09/27/16 14:32	ICP2-HE_160929B	63	34582
Cadmium	0.3	mg/kg-dry		0.2		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Chromium	15	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Cobalt	ND	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Copper	52	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Iron	20000	mg/kg-dry	D	8		SW6010B	09/29/16 13:16 / sld	09/27/16 14:32	ICP2-HE_160929B	63	34582
Lead	34	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Manganese	264	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Molybdenum	ND	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Nickel	ND	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Selenium	ND	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Uranium	ND	mg/kg-dry		5		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Vanadium	59	mg/kg-dry		1		SW6020	09/29/16 11:17 / dck	09/27/16 14:32	ICPMS204-B_160928B	120	34582
Zinc	441	mg/kg-dry		5		SW6010B	09/29/16 13:16 / sld	09/27/16 14:32	ICP2-HE_160929B	63	34582
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	09/29/16 10:59 / rgk	09/28/16 11:31	HGCV201-H_160929A	28	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Project: Silver Bow Creek Monitoring
Client Sample ID: Sediment Duplicate #2 (SS-01) Sediment Sieve 1-2mm
Collection Date: 09/15/16 17:30
DateReceived: 09/16/16
Lab ID: H16090351-016
Report Date: 10/06/16
Revised Date: 12/28/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	17.6	wt%		0.2		D2974	10/03/16 10:49 / sld		DRYING OVEN 2_160930B	5	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	26.2	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	27	R119082
3050 EXTRACTABLE METALS											
Aluminum	3970	mg/kg-dry		5		SW6010B	09/29/16 11:58 / sld	09/27/16 14:32	ICP2-HE_160929B	42	34581
Antimony	ND	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Arsenic	ND	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Barium	47	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Beryllium	ND	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Boron	ND	mg/kg-dry		5		SW6010B	09/29/16 11:58 / sld	09/27/16 14:32	ICP2-HE_160929B	42	34581
Cadmium	ND	mg/kg-dry		0.2		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Chromium	8	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Cobalt	ND	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Copper	36	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Iron	6490	mg/kg-dry	D	8		SW6010B	09/29/16 11:58 / sld	09/27/16 14:32	ICP2-HE_160929B	42	34581
Lead	10	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Manganese	236	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Molybdenum	ND	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Nickel	ND	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Selenium	ND	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Silver	ND	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Uranium	ND	mg/kg-dry		5		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Vanadium	19	mg/kg-dry		1		SW6020	09/29/16 10:21 / dck	09/27/16 14:32	ICPMS204-B_160928B	105	34581
Zinc	66	mg/kg-dry		5		SW6010B	09/29/16 11:58 / sld	09/27/16 14:32	ICP2-HE_160929B	42	34581
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	09/29/16 11:06 / rgk	09/28/16 11:31	HGCV201-H_160929A	32	34548

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Slag-01 Sediment Sieve <0.065mm
Lab ID: H16090351-017
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 16:30
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	58.3	wt%		0.2		D2974	10/03/16 10:49 / sld		DRYING OVEN 2_160930B	6	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.8	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	28	R119082
3050 EXTRACTABLE METALS											
Arsenic	144	mg/kg-dry		5		SW6020	09/29/16 12:03 / dck	09/27/16 14:30	ICPMS204-B_160928B	134	34583
Cadmium	15.4	mg/kg-dry		0.4		SW6020	09/29/16 12:03 / dck	09/27/16 14:30	ICPMS204-B_160928B	134	34583
Copper	1250	mg/kg-dry		5		SW6010B	09/29/16 14:04 / sld	09/27/16 14:30	ICP2-HE_160929B	76	34583
Lead	845	mg/kg-dry		5		SW6020	09/29/16 12:03 / dck	09/27/16 14:30	ICPMS204-B_160928B	134	34583
Zinc	2390	mg/kg-dry		5		SW6010B	09/29/16 14:04 / sld	09/27/16 14:30	ICP2-HE_160929B	76	34583

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-04 Sediment Sieve <0.065mm
Lab ID: H16090351-018
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 16:45
DateReceived: 09/16/16
Report Date: 10/06/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	58.6	wt%		0.2		D2974	10/03/16 10:49 / sld		DRYING OVEN 2_160930B	7	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Passed	11.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	29	R119082
3050 EXTRACTABLE METALS											
Arsenic	98	mg/kg-dry		5		SW6020	09/29/16 12:06 / dck	09/27/16 14:31	ICPMS204-B_160928B	135	34583
Cadmium	6.4	mg/kg-dry		0.4		SW6020	09/29/16 12:06 / dck	09/27/16 14:31	ICPMS204-B_160928B	135	34583
Copper	790	mg/kg-dry		5		SW6020	09/29/16 12:06 / dck	09/27/16 14:31	ICPMS204-B_160928B	135	34583
Lead	266	mg/kg-dry		5		SW6020	09/29/16 12:06 / dck	09/27/16 14:31	ICPMS204-B_160928B	135	34583
Zinc	1680	mg/kg-dry		5		SW6010B	09/29/16 14:07 / sld	09/27/16 14:31	ICP2-HE_160929B	77	34583

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160920A-SLDS-VSS-W

Date: *28-Dec-16*

Run ID :Run Order: **MISC WC_160920A: 7** SampType: **Method Blank** Lab ID: **MBLK1_160920A** Method: **A2540 E**

Analysis Date: **09/20/16 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	ND	1									

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160926sa-hgcv202

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160926A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **09/26/16 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000201	0.00010	0.0002	0	101	90	110				

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **HGCV202-H_160926A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **09/26/16 11:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000200	0.00010	0.0002	0	100	90	110				

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **HGCV202-H_160926A: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/26/16 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0	101	90	110				

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160929sa-201

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_160929A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **09/29/16 10:09** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	103	90	110				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Run ID :Run Order: **HGCV201-H_160929A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **09/29/16 10:11** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Run ID :Run Order: **HGCV201-H_160929A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **09/29/16 10:55** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	102	90	110				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Run ID :Run Order: **HGCV201-H_160929A: 37** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **09/29/16 11:16** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 59** SampType: **Method Blank** Lab ID: **MB-34478** Method: **E200.7**
Analysis Date: **09/20/16 11:25** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.003									
Calcium	0.06	0.04									
Magnesium	ND	0.01									
Potassium	0.04	0.04									
Sodium	ND	0.02									

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 60** SampType: **Laboratory Control Sample** Lab ID: **LCS-34478** Method: **E200.7**
Analysis Date: **09/20/16 11:28** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.500	0.050	0.5	0	100	85	115				
Calcium	24.8	1.0	25	0.05569	99	85	115				
Magnesium	24.8	1.0	25	0	99	85	115				
Potassium	26.0	1.0	25	0.0416	104	85	115				
Sodium	26.1	1.0	25	0	105	85	115				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 62** SampType: **Serial Dilution** Lab ID: **H16090340-017CDIL** Method: **E200.7**
Analysis Date: **09/20/16 11:36** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.050		0		0	0	0.01038		10	
Calcium	27.8	1.0		0		0	0	31.32	12	10	R
Magnesium	7.33	1.0		0		0	0	7.945	8.1	10	
Potassium	1.41	1.0		0		0	0	1.312		10	N
Sodium	7.50	1.0		0		0	0	8.678	15	10	R

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 64** SampType: **Sample Matrix Spike** Lab ID: **H16090340-017CMS3** Method: **E200.7**
Analysis Date: **09/20/16 11:43** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.501	0.050	0.5	0.01038	98	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 64** SampType: **Sample Matrix Spike** Lab ID: **H16090340-017CMS3** Method: **E200.7**

Analysis Date: **09/20/16 11:43** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	54.3	1.0	25	31.32	92	70	130				
Magnesium	31.9	1.0	25	7.945	96	70	130				
Potassium	25.9	1.0	25	1.312	98	70	130				
Sodium	33.3	1.0	25	8.678	98	70	130				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 65** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090340-017CMSD3** Method: **E200.7**

Analysis Date: **09/20/16 11:47** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.512	0.050	0.5	0.01038	100	70	130	0.5006	2.3	20	
Calcium	55.7	1.0	25	31.32	97	70	130	54.26	2.6	20	
Magnesium	32.8	1.0	25	7.945	100	70	130	31.95	2.7	20	
Potassium	27.4	1.0	25	1.312	104	70	130	25.9	5.5	20	
Sodium	35.0	1.0	25	8.678	105	70	130	33.28	4.9	20	

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 92** SampType: **Serial Dilution** Lab ID: **H16090353-010CDIL** Method: **E200.7**

Analysis Date: **09/20/16 13:28** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0783	0.050		0		0	0	0.07418		10	N
Calcium	62.6	1.0		0		0	0	63.13	0.8	10	
Magnesium	13.4	1.0		0		0	0	13.23	1.4	10	
Potassium	6.70	1.0		0		0	0	6.923	3.2	10	
Sodium	33.8	1.0		0		0	0	34.6	2.4	10	

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 94** SampType: **Sample Matrix Spike** Lab ID: **H16090353-010CMS3** Method: **E200.7**

Analysis Date: **09/20/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.565	0.050	0.5	0.07418	98	70	130				
Calcium	87.1	1.0	25	63.13	96	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 94** SampType: **Sample Matrix Spike** Lab ID: **H16090353-010CMS3** Method: **E200.7**

Analysis Date: **09/20/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	38.0	1.0	25	13.23	99	70	130				
Potassium	32.1	1.0	25	6.923	101	70	130				
Sodium	59.6	1.0	25	34.6	100	70	130				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 95** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-010CMSD3** Method: **E200.7**

Analysis Date: **09/20/16 13:39** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.577	0.050	0.5	0.07418	101	70	130	0.5647	2.1	20	
Calcium	87.6	1.0	25	63.13	98	70	130	87.14	0.6	20	
Magnesium	38.1	1.0	25	13.23	99	70	130	37.98	0.2	20	
Potassium	32.4	1.0	25	6.923	102	70	130	32.07	0.9	20	
Sodium	60.1	1.0	25	34.6	102	70	130	59.6	0.8	20	

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 180** SampType: **Method Blank** Lab ID: **MB-34478** Method: **E200.8**

Analysis Date: **09/20/16 20:37** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	0.0001	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	ND	0.001									
Cadmium	2E-05	1E-05									
Calcium	0.02	0.009									
Chromium	0.0001	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	ND	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	3E-05									
Potassium	ND	0.01									
Selenium	ND	0.0003									
Silver	4E-05	1E-05									
Sodium	ND	0.005									
Uranium	ND	1E-05									
Vanadium	0.0002	0.00010									
Zinc	0.0006	0.0003									

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICPMS204-B_160920A: 181** SampType: **Laboratory Control Sample** Lab ID: **LCS-34478** Method: **E200.8**

Analysis Date: **09/20/16 20:40** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.030	2.5	0	**100**	85	115				
Antimony	0.530	0.0010	0.5	0	**106**	85	115				
Arsenic	0.515	0.0010	0.5	0.0001217	**103**	85	115				
Barium	0.529	0.050	0.5	0	**106**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 181** SampType: **Laboratory Control Sample** Lab ID: **LCS-34478** Method: **E200.8**

Analysis Date: **09/20/16 20:40** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.266	0.0010	0.25	0	107	85	115				
Boron	0.495	0.050	0.5	0	99	85	115				
Cadmium	0.259	0.0010	0.25	0.0000217	104	85	115				
Calcium	27.6	1.0	25	0.01616	110	85	115				
Chromium	0.520	0.0050	0.5	0.0001059	104	85	115				
Cobalt	0.517	0.0050	0.5	0	103	85	115				
Copper	0.516	0.0050	0.5	0	103	85	115				
Iron	2.60	0.020	2.5	0	104	85	115				
Lead	0.524	0.0010	0.5	0	105	85	115				
Magnesium	25.8	1.0	25	0	103	85	115				
Manganese	2.65	0.0010	2.5	0	106	85	115				
Molybdenum	0.521	0.0010	0.5	0	104	85	115				
Nickel	0.513	0.0050	0.5	0	103	85	115				
Potassium	25.5	1.0	25	0	102	85	115				
Selenium	0.501	0.0010	0.5	0	100	85	115				
Silver	0.0520	0.0010	0.05	0.000041	104	85	115				
Sodium	26.1	1.0	25	0	104	85	115				
Uranium	0.570	0.00030	0.5	0	114	85	115				
Vanadium	0.521	0.010	0.5	0.0001625	104	85	115				
Zinc	0.506	0.010	0.5	0.0005938	101	85	115				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICPMS204-B_160920A: 185** SampType: **Sample Matrix Spike** Lab ID: **H16090340-017CMS3** Method: **E200.8**

Analysis Date: **09/20/16 20:53** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.030	2.5	0.0941	97	70	130				
Antimony	0.510	0.0010	0.5	0.000428	102	70	130				
Arsenic	0.508	0.0010	0.5	0.01584	98	70	130				
Barium	0.547	0.050	0.5	0.0375	102	70	130				
Beryllium	0.251	0.0010	0.25	0.0000776	100	70	130				
Boron	0.469	0.050	0.5	0.01231	91	70	130				
Cadmium	0.244	0.0010	0.25	0.000044	98	70	130				
Calcium	58.2	1.0	25	32.26	104	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 185** SampType: **Sample Matrix Spike** Lab ID: **H16090340-017CMS3** Method: **E200.8**

Analysis Date: **09/20/16 20:53** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.505	0.0050	0.5	0.0002466	101	70	130				
Cobalt	0.495	0.0050	0.5	0.0000916	99	70	130				
Copper	0.498	0.0050	0.5	0.004411	99	70	130				
Iron	2.65	0.020	2.5	0.1422	100	70	130				
Lead	0.508	0.0010	0.5	0.001263	101	70	130				
Magnesium	32.4	1.0	25	8.505	96	70	130				
Manganese	2.48	0.0010	2.5	0.01596	99	70	130				
Molybdenum	0.510	0.0010	0.5	0.002326	101	70	130				
Nickel	0.492	0.0050	0.5	0.0002752	98	70	130				
Potassium	26.1	1.0	25	1.218	100	70	130				
Selenium	0.464	0.0010	0.5	0	93	70	130				
Silver	0.0494	0.0010	0.05	0.0000779	99	70	130				
Sodium	33.6	1.0	25	8.874	99	70	130				
Uranium	0.559	0.00030	0.5	0.004622	111	70	130				
Vanadium	0.507	0.010	0.5	0.001867	101	70	130				
Zinc	0.468	0.010	0.5	0.004467	93	70	130				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICPMS204-B_160920A: 186** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090340-017CMSD3** Method: **E200.8**

Analysis Date: **09/20/16 20:57** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.64	0.030	2.5	0.0941	102	70	130	2.523	4.7	20	
Antimony	0.532	0.0010	0.5	0.000428	106	70	130	0.5096	4.3	20	
Arsenic	0.529	0.0010	0.5	0.01584	103	70	130	0.5083	4.1	20	
Barium	0.575	0.050	0.5	0.0375	108	70	130	0.5472	5.0	20	
Beryllium	0.257	0.0010	0.25	0.0000776	103	70	130	0.2506	2.6	20	
Boron	0.524	0.050	0.5	0.01231	102	70	130	0.4689	11	20	
Cadmium	0.257	0.0010	0.25	0.000044	103	70	130	0.2444	5.1	20	
Calcium	60.4	1.0	25	32.26	113	70	130	58.18	3.8	20	
Chromium	0.525	0.0050	0.5	0.0002466	105	70	130	0.5048	4.0	20	
Cobalt	0.518	0.0050	0.5	0.0000916	104	70	130	0.4951	4.6	20	
Copper	0.519	0.0050	0.5	0.004411	103	70	130	0.4978	4.2	20	
Iron	2.78	0.020	2.5	0.1422	105	70	130	2.65	4.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 186** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090340-017CMSD3** Method: **E200.8**

Analysis Date: **09/20/16 20:57** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.528	0.0010	0.5	0.001263	105	70	130	0.5079	3.9	20	
Magnesium	34.0	1.0	25	8.505	102	70	130	32.43	4.6	20	
Manganese	2.64	0.0010	2.5	0.01596	105	70	130	2.485	6.0	20	
Molybdenum	0.534	0.0010	0.5	0.002326	106	70	130	0.5098	4.7	20	
Nickel	0.513	0.0050	0.5	0.0002752	103	70	130	0.4919	4.2	20	
Potassium	27.1	1.0	25	1.218	104	70	130	26.13	3.7	20	
Selenium	0.487	0.0010	0.5	0	97	70	130	0.4641	4.8	20	
Silver	0.0520	0.0010	0.05	0.0000779	104	70	130	0.04943	5.0	20	
Sodium	35.3	1.0	25	8.874	106	70	130	33.57	5.0	20	
Uranium	0.582	0.00030	0.5	0.004622	116	70	130	0.5587	4.2	20	
Vanadium	0.529	0.010	0.5	0.001867	105	70	130	0.5069	4.3	20	
Zinc	0.491	0.010	0.5	0.004467	97	70	130	0.4684	4.6	20	

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICPMS204-B_160921C: 82** SampType: **Method Blank** Lab ID: **MB-34478** Method: **E200.8**

Analysis Date: **09/21/16 17:45** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	6E-05	6E-05									
Arsenic	0.0001	7E-05									
Barium	0.0001	5E-05									
Beryllium	ND	7E-05									
Boron	0.002	0.001									
Cadmium	ND	1E-05									
Calcium	0.02	0.009									
Chromium	0.0001	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	ND	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 82** SampType: **Method Blank** Lab ID: **MB-34478** Method: **E200.8**

Analysis Date: **09/21/16 17:45** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	ND	3E-05									
Potassium	ND	0.01									
Selenium	ND	0.0003									
Silver	3E-05	1E-05									
Sodium	ND	0.005									
Uranium	ND	1E-05									
Vanadium	0.0002	0.00010									
Zinc	ND	0.0003									

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34492

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920A: 71** SampType: **Laboratory Control Sample** Lab ID: **LCS-34492** Method: **A4500 N-C**
Analysis Date: **09/20/16 11:25** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	12.6	0.30	13.7	0.02672	92	90	110				

Associated samples: **H16090351-001A, H16090351-002A**

Run ID :Run Order: **FIA203-HE_160920A: 72** SampType: **Method Blank** Lab ID: **MB-34492** Method: **A4500 N-C**
Analysis Date: **09/20/16 11:27** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.03	0.007									

Associated samples: **H16090351-001A, H16090351-002A**

Run ID :Run Order: **FIA203-HE_160920A: 74** SampType: **Sample Matrix Spike** Lab ID: **H16090348-002AMS** Method: **A4500 N-C**
Analysis Date: **09/20/16 11:29** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.977	0.10	1	0.009296	97	90	110				

Associated samples: **H16090351-001A, H16090351-002A**

Run ID :Run Order: **FIA203-HE_160920A: 75** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090348-002AMSD** Method: **A4500 N-C**
Analysis Date: **09/20/16 11:30** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.957	0.10	1	0.009296	95	90	110	0.9769	2.1	20	

Associated samples: **H16090351-001A, H16090351-002A**

Run ID :Run Order: **FIA203-HE_160920A: 88** SampType: **Sample Matrix Spike** Lab ID: **H16090348-012AMS** Method: **A4500 N-C**
Analysis Date: **09/20/16 11:46** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.17	0.10	1	0.2214	95	90	110				

Associated samples: **H16090351-001A, H16090351-002A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34492

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920A: 89** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090348-012AMSD** Method: **A4500 N-C**

Analysis Date: **09/20/16 11:47** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.14	0.10	1	0.2214	**92**	90	110	1.173	**2.9**	20	

Associated samples: **H16090351-001A, H16090351-002A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34493

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920A: 101** SampType: **Laboratory Control Sample** Lab ID: **LCS-34493** Method: **A4500 N-C**
Analysis Date: **09/20/16 12:01** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	12.4	0.30	13.7	0.02586	**90**	90	110				

Associated samples: **H16090351-003A, H16090351-004A**

Run ID :Run Order: **FIA203-HE_160920A: 102** SampType: **Method Blank** Lab ID: **MB-34493** Method: **A4500 N-C**
Analysis Date: **09/20/16 12:02** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.03	0.007									

Associated samples: **H16090351-003A, H16090351-004A**

Run ID :Run Order: **FIA203-HE_160920A: 104** SampType: **Sample Matrix Spike** Lab ID: **H16090351-003AMS** Method: **A4500 N-C**
Analysis Date: **09/20/16 12:05** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.938	0.10	1	0	**94**	90	110				

Associated samples: **H16090351-003A, H16090351-004A**

Run ID :Run Order: **FIA203-HE_160920A: 105** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-003AMSD** Method: **A4500 N-C**
Analysis Date: **09/20/16 12:06** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.931	0.10	1	0	**93**	90	110	0.9381	**0.7**	20	

Associated samples: **H16090351-003A, H16090351-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34531

Date: *28-Dec-16*

Run ID :Run Order: **FIA202-HE_160922A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-34531** Method: **E365.1**
Analysis Date: **09/22/16 13:08** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.837	0.010	0.8	0	105	90	110				

Associated samples: **H16090351-001D, H16090351-002D**

Run ID :Run Order: **FIA202-HE_160922A: 13** SampType: **Method Blank** Lab ID: **MB-34531** Method: **E365.1**
Analysis Date: **09/22/16 13:09** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.002									

Associated samples: **H16090351-001D, H16090351-002D**

Run ID :Run Order: **FIA202-HE_160922A: 32** SampType: **Sample Matrix Spike** Lab ID: **H16090346-001CMS** Method: **E365.1**
Analysis Date: **09/22/16 13:28** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.455	0.010	0.4	0	114	90	110				S

Associated samples: **H16090351-001D, H16090351-002D**

Run ID :Run Order: **FIA202-HE_160922A: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090346-001CMSD** Method: **E365.1**
Analysis Date: **09/22/16 13:29** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.445	0.010	0.4	0	111	90	110	0.4548	2.2	20	S

Associated samples: **H16090351-001D, H16090351-002D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34536

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160926A: 11** SampType: **Method Blank** Lab ID: **MB-34536** Method: **E245.1**
Analysis Date: **09/26/16 12:04** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **HGCV202-H_160926A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-34536** Method: **E245.1**
Analysis Date: **09/26/16 12:07** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000158	0.00010	0.00015	0	105	90	110				

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **HGCV202-H_160926A: 18** SampType: **Sample Matrix Spike** Lab ID: **H16090351-001BMS** Method: **E245.1**
Analysis Date: **09/26/16 12:23** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000154	0.00010	0.00015	0.00000105	102	70	130				

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **HGCV202-H_160926A: 19** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-001BMSD** Method: **E245.1**
Analysis Date: **09/26/16 12:26** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000158	0.00010	0.00015	0.00000105	105	70	130	0.0001536	3.0	20	

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **HGCV202-H_160926A: 29** SampType: **Sample Matrix Spike** Lab ID: **H16090351-004CMS** Method: **E245.1**
Analysis Date: **09/26/16 12:53** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.000002	106	70	130				

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34536

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160926A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-004CMSD** Method: **E245.1**

Analysis Date: **09/26/16 12:56** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.000002	**102**	70	130	0.0001607	**3.6**	20	

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34541

Date: *28-Dec-16*

Run ID :Run Order: **FIA202-HE_160923B: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-34541** Method: **E365.1**
Analysis Date: **09/23/16 14:39** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.777	0.010	0.8	0	97	90	110				

Associated samples: **H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA202-HE_160923B: 13** SampType: **Method Blank** Lab ID: **MB-34541** Method: **E365.1**
Analysis Date: **09/23/16 14:41** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.002									

Associated samples: **H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA202-HE_160923B: 19** SampType: **Sample Matrix Spike** Lab ID: **H16090351-003DMS** Method: **E365.1**
Analysis Date: **09/23/16 14:47** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.420	0.010	0.4	0	105	90	110				

Associated samples: **H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA202-HE_160923B: 20** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-003DMSD** Method: **E365.1**
Analysis Date: **09/23/16 14:48** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.414	0.010	0.4	0	103	90	110	0.42	1.5	20	

Associated samples: **H16090351-003D, H16090351-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34548

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_160929A: 10** SampType: **Method Blank** Lab ID: **MB-34548** Method: **SW7471B**
Analysis Date: **09/29/16 10:25** Units: **mg/kg** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.001									

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Run ID :Run Order: **HGCV201-H_160929A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-34548** Method: **SW7471B**
Analysis Date: **09/29/16 10:27** Units: **mg/kg** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.9	0.50	5.5	0	**107**	71	126.4				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Run ID :Run Order: **HGCV201-H_160929A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34548** Method: **SW7471B**
Analysis Date: **09/29/16 10:29** Units: **mg/kg** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.194	0	**105**	80	120				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Run ID :Run Order: **HGCV201-H_160929A: 15** SampType: **Sample Matrix Spike** Lab ID: **H16090351-005AMS** Method: **SW7471B**
Analysis Date: **09/29/16 10:34** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.73	0.50	0.5544	0.2034	**95**	80	120				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Run ID :Run Order: **HGCV201-H_160929A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-005AMSD** Method: **SW7471B**
Analysis Date: **09/29/16 10:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.75	0.50	0.5602	0.2034	**98**	80	120	0.7324	**2.7**	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34548

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_160929A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-005AMSD** Method: **SW7471B**

Analysis Date: **09/29/16 10:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Run ID :Run Order: **HGCV201-H_160929A: 30** SampType: **Sample Matrix Spike** Lab ID: **H16090351-015AMS** Method: **SW7471B**

Analysis Date: **09/29/16 11:03** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.50	0.2422	0.007988	**108**	80	120				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Run ID :Run Order: **HGCV201-H_160929A: 31** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-015AMSD** Method: **SW7471B**

Analysis Date: **09/29/16 11:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.25	0.50	0.2422	0.007988	**102**	80	120	0.2697		20	

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-014A, H16090351-015A, H16090351-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34581

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160929B: 34** SampType: **Method Blank** Lab ID: **MB-34581** Method: **SW6010B**
Analysis Date: **09/29/16 11:29** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.9	0.8									
Boron	ND	0.3									
Iron	7	1									
Zinc	ND	0.3									

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Run ID :Run Order: **ICP2-HE_160929B: 35** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34581** Method: **SW6010B**
Analysis Date: **09/29/16 11:33** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	265	5.0	250	0.86	106	80	120				
Boron	50.6	1.0	50	0	101	80	120				
Iron	254	5.0	250	6.744	99	80	120				
Zinc	49.7	1.0	50	0	99	80	120				

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Run ID :Run Order: **ICP2-HE_160929B: 36** SampType: **Laboratory Control Sample** Lab ID: **LCS-34581** Method: **SW6010B**
Analysis Date: **09/29/16 11:36** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10600	5.0	9830	0.86	108	46.3	130.2				
Boron	112	1.3	129	0	87	59.5	106.2				
Iron	17000	6.7	16300	6.744	104	51.7	131.9				
Zinc	232	1.7	231	0	100	75.3	111.7				

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Run ID :Run Order: **ICP2-HE_160929B: 44** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-016APDS** Method: **SW6010B**
Analysis Date: **09/29/16 12:06** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5590	5.0	1546	3968	105	75	125				
Boron	295	1.6	309.2	1.823	95	75	125				
Iron	8000	8.3	1546	6495		75	125				A
Zinc	357	2.1	309.2	66.01	94	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34581

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160929B: 44** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-016APDS** Method: **SW6010B**

Analysis Date: **09/29/16 12:06** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Run ID :Run Order: **ICP2-HE_160929B: 45** SampType: **Sample Matrix Spike** Lab ID: **H16090351-016AMS** Method: **SW6010B**

Analysis Date: **09/29/16 12:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4170	5.0	297.2	3968		75	125				A
Boron	58.3	1.5	59.44	1.823	95	75	125				
Iron	7770	7.9	297.2	6495		75	125				A
Zinc	411	2.0	59.44	66.01	581	75	125				S

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160929B: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-016AMSD** Method: **SW6010B**

Analysis Date: **09/29/16 12:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4820	5.0	300.8	3968		75	125	4168	14	20	A
Boron	60.9	1.5	60.17	1.823	98	75	125	58.27	4.4	20	
Iron	6760	8.0	300.8	6495		75	125	7774	14	20	A
Zinc	99.8	2.0	60.17	66.01	56	75	125	411.2	120	20	SR

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160930B: 41** SampType: **Method Blank** Lab ID: **MB-34581** Method: **SW6010B**

Analysis Date: **09/30/16 12:24** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.0	0.8									
Boron	ND	0.3									
Iron	8	1									
Zinc	ND	0.3									

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34581

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160930B: 44** SampType: **Sample Matrix Spike** Lab ID: **H16090351-016AMS** Method: **SW6010B**

Analysis Date: **09/30/16 12:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4160	5.0	297.2	3969		75	125				A
Boron	63.9	1.5	59.44	1.974	**104**	75	125				
Iron	8120	7.9	297.2	6788		75	125				A
Zinc	421	2.0	59.44	65.32	**599**	75	125				S

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_160930B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-016AMSD** Method: **SW6010B**

Analysis Date: **09/30/16 12:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4840	5.0	300.8	3969		75	125	4163	**15**	20	A
Boron	63.3	1.5	60.17	1.974	**102**	75	125	63.9	**0.9**	20	
Iron	7040	8.0	300.8	6788		75	125	8124	**14**	20	A
Zinc	98.4	2.0	60.17	65.32	**55**	75	125	421.5	**120**	20	SR

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34581

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 99** SampType: **Method Blank** Lab ID: **MB-34581** Method: **SW6020**

Analysis Date: **09/29/16 10:01** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	ND	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Cobalt	ND	0.03									
Copper	ND	0.6									
Lead	ND	0.09									
Manganese	ND	0.2									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Run ID :Run Order: **ICPMS204-B_160928B: 100** SampType: **Laboratory Control Sample** Lab ID: **LCS-34581** Method: **SW6020**

Analysis Date: **09/29/16 10:04** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	70.0	1.0	240	0	**29**	0	92.9				
Arsenic	167	1.0	196	0	**85**	71.4	105.1				
Barium	185	1.0	187	0	**99**	78.6	112.8				
Beryllium	79.6	1.0	83.6	0	**95**	76.2	108				
Cadmium	94.2	1.0	99	0	**95**	73.9	106.1				
Chromium	116	1.0	117	0	**99**	73.5	108.5				
Cobalt	111	1.0	108	0	**103**	74.2	105.6				
Copper	125	1.0	137	0	**92**	76.6	108.8				
Lead	103	1.0	105	0	**99**	74.4	108.6				
Manganese	455	1.0	434	0	**105**	81.1	116.6				
Molybdenum	115	1.0	127	0	**91**	66.5	103.1				
Nickel	83.0	1.0	86.2	0	**96**	72.3	105				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34581

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 100** SampType: **Laboratory Control Sample** Lab ID: **LCS-34581** Method: **SW6020**

Analysis Date: **09/29/16 10:04** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	190	1.0	205	0	93	71.2	110.2				
Silver	42.0	1.0	42.1	0	100	70.8	111.9				
Uranium	98.0	1.0	99.9	0	98	80.1	120.1				
Vanadium	116	1.0	114	0	102	67	107				

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Run ID :Run Order: **ICPMS204-B_160928B: 101** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34581** Method: **SW6020**

Analysis Date: **09/29/16 10:08** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	53.4	1.0	50	0	107	80	120				
Arsenic	50.6	1.0	50	0	101	80	120				
Barium	54.6	1.0	50	0	109	80	120				
Beryllium	26.0	1.0	25	0	104	80	120				
Cadmium	25.9	1.0	25	0	104	80	120				
Chromium	53.0	1.0	50	0	106	80	120				
Cobalt	53.0	1.0	50	0	106	80	120				
Copper	52.9	1.0	50	0	106	80	120				
Lead	52.8	1.0	50	0	105	80	120				
Manganese	267	1.0	250	0	107	80	120				
Molybdenum	50.1	1.0	50	0	100	80	120				
Nickel	52.8	1.0	50	0	106	80	120				
Selenium	49.1	1.0	50	0	98	80	120				
Silver	27.1	1.0	25	0	109	80	120				
Uranium	53.0	1.0	50	0	106	80	120				
Vanadium	51.8	1.0	50	0	104	80	120				

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Run ID :Run Order: **ICPMS204-B_160928B: 107** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-016APDS** Method: **SW6020**

Analysis Date: **09/29/16 10:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	600	1.0	600.5	0.1937	100	75	125				
Arsenic	579	1.0	600.5	4.979	96	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34581

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 107** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-016APDS** Method: **SW6020**

Analysis Date: **09/29/16 10:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	661	1.0	600.5	47.05	102	75	125				
Beryllium	280	1.0	300.2	0	93	75	125				
Cadmium	288	1.0	300.2	0	96	75	125				
Chromium	606	1.0	600.5	7.518	100	75	125				
Cobalt	592	1.0	600.5	2.049	98	75	125				
Copper	605	1.0	600.5	35.93	95	75	125				
Lead	622	1.0	600.5	9.728	102	75	125				
Manganese	3190	1.0	3002	235.5	98	75	125				
Molybdenum	601	1.0	600.5	0.8118	100	75	125				
Nickel	582	1.0	600.5	3.458	96	75	125				
Selenium	542	1.0	600.5	0.3987	90	75	125				
Silver	253	1.0	300.2	0.2248	84	75	125				
Uranium	636	1.0	600.5	1.33	106	75	125				
Vanadium	621	1.0	600.5	19.42	100	75	125				

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Run ID :Run Order: **ICPMS204-B_160928B: 108** SampType: **Sample Matrix Spike** Lab ID: **H16090351-016AMS** Method: **SW6020**

Analysis Date: **09/29/16 10:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	54.0	1.0	59.44	0.1937	90	75	125				
Arsenic	68.9	1.0	59.44	4.979	108	75	125				
Barium	104	1.0	59.44	47.05	96	75	125				
Beryllium	31.0	1.0	29.72	0	104	75	125				
Cadmium	30.7	1.0	29.72	0	103	75	125				
Chromium	82.9	1.0	59.44	7.518	127	75	125				S
Cobalt	64.1	1.0	59.44	2.049	104	75	125				
Copper	125	1.0	59.44	35.93	149	75	125				S
Lead	145	1.0	59.44	9.728	227	75	125				S
Manganese	572	1.0	297.2	235.5	113	75	125				
Molybdenum	61.2	1.0	59.44	0.8118	102	75	125				
Nickel	64.7	1.0	59.44	3.458	103	75	125				
Selenium	61.1	1.0	59.44	0.3987	102	75	125				
Silver	32.1	1.0	29.72	0.2248	107	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34581

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 108** SampType: **Sample Matrix Spike** Lab ID: **H16090351-016AMS** Method: **SW6020**

Analysis Date: **09/29/16 10:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	64.3	1.0	59.44	1.33	106	75	125				
Vanadium	78.9	1.0	59.44	19.42	100	75	125				

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Run ID :Run Order: **ICPMS204-B_160928B: 109** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-016AMSD** Method: **SW6020**

Analysis Date: **09/29/16 10:34** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	53.0	1.0	60.17	0.1937	88	75	125	53.97	1.8	20	
Arsenic	65.1	1.0	60.17	4.979	100	75	125	68.89	5.7	20	
Barium	100	1.0	60.17	47.05	89	75	125	104.2	3.8	20	
Beryllium	30.5	1.0	30.08	0	101	75	125	30.99	1.6	20	
Cadmium	30.0	1.0	30.08	0	100	75	125	30.72	2.5	20	
Chromium	68.5	1.0	60.17	7.518	101	75	125	82.86	19	20	
Cobalt	64.3	1.0	60.17	2.049	103	75	125	64.14	0.3	20	
Copper	77.1	1.0	60.17	35.93	68	75	125	124.8	47	20	SR
Lead	69.3	1.0	60.17	9.728	99	75	125	144.7	71	20	R
Manganese	583	1.0	300.8	235.5	116	75	125	571.6	2.0	20	
Molybdenum	59.8	1.0	60.17	0.8118	98	75	125	61.22	2.4	20	
Nickel	63.8	1.0	60.17	3.458	100	75	125	64.73	1.4	20	
Selenium	62.3	1.0	60.17	0.3987	103	75	125	61.1	2.0	20	
Silver	31.4	1.0	30.08	0.2248	104	75	125	32.05	2.1	20	
Uranium	64.3	1.0	60.17	1.33	105	75	125	64.25	0.1	20	
Vanadium	82.1	1.0	60.17	19.42	104	75	125	78.94	3.9	20	

Associated samples: **H16090351-007A, H16090351-010A, H16090351-013A, H16090351-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34582

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160929B: 47** SampType: **Method Blank** Lab ID: **MB-34582** Method: **SW6010B**

Analysis Date: **09/29/16 12:17** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Boron	ND	0.3									
Copper	ND	0.2									
Iron	6	1									
Manganese	0.05	0.05									
Zinc	ND	0.3									

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICP2-HE_160929B: 48** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34582** Method: **SW6010B**

Analysis Date: **09/29/16 12:20** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	254	5.0	250	0	102	80	120				
Boron	48.8	1.0	50	0	98	80	120				
Copper	49.5	1.0	50	0	99	80	120				
Iron	247	5.0	250	6.133	96	80	120				
Manganese	232	1.0	250	0.05	93	80	120				
Zinc	48.8	1.0	50	0	98	80	120				

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICP2-HE_160929B: 49** SampType: **Laboratory Control Sample** Lab ID: **LCS-34582** Method: **SW6010B**

Analysis Date: **09/29/16 12:24** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10400	5.0	9830	0	106	46.3	130.2				
Boron	114	1.3	129	0	88	59.5	106.2				
Copper	124	1.0	137	0	90	76.6	108.8				
Iron	16400	6.6	16300	6.133	100	51.7	131.9				
Manganese	426	1.0	434	0.05	98	81.1	116.6				
Zinc	239	1.7	231	0	104	75.3	111.7				

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34582

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160929B: 65** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-015APDS** Method: **SW6010B**

Analysis Date: **09/29/16 13:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5260	5.0	1562	3604	106	75	125				
Boron	300	1.6	312.4	0	96	75	125				
Copper	352	1.1	312.4	51.69	96	75	125				
Iron	21800	8.3	1562	19960		75	125				A
Manganese	1730	1.0	1562	253.7	94	75	125				
Zinc	735	2.1	312.4	440.6	94	75	125				

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICP2-HE_160929B: 66** SampType: **Sample Matrix Spike** Lab ID: **H16090351-015AMS** Method: **SW6010B**

Analysis Date: **09/29/16 13:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4830	5.0	301.5	3604		75	125				A
Boron	61.0	1.5	60.3	0	101	75	125				
Copper	115	1.1	60.3	51.69	106	75	125				
Iron	19500	8.1	301.5	19960		75	125				A
Manganese	522	1.0	301.5	253.7	89	75	125				
Zinc	268	2.0	60.3	440.6		75	125				A

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICP2-HE_160929B: 67** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-015AMSD** Method: **SW6010B**

Analysis Date: **09/29/16 13:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4730	5.0	303.3	3604		75	125	4833	2.1	20	A
Boron	60.8	1.6	60.67	0	100	75	125	61.03	0.4	20	
Copper	101	1.1	60.67	51.69	82	75	125	115.4	13	20	
Iron	18700	8.1	303.3	19960		75	125	19540	4.2	20	A
Manganese	535	1.0	303.3	253.7	93	75	125	522.3	2.4	20	
Zinc	176	2.0	60.67	440.6		75	125	267.7	41	20	AR

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34582

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160930B: 33** SampType: **Method Blank** Lab ID: **MB-34582** Method: **SW6010B**

Analysis Date: **09/30/16 11:54** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.8	0.8									
Boron	ND	0.3									
Copper	ND	0.2									
Iron	5	1									
Manganese	0.4	0.05									
Zinc	ND	0.3									

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICP2-HE_160930B: 39** SampType: **Sample Matrix Spike** Lab ID: **H16090351-015AMS** Method: **SW6010B**

Analysis Date: **09/30/16 12:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4870	5.0	301.5	3729		75	125				A
Boron	62.3	1.5	60.3	2.042	100	75	125				
Copper	120	1.1	60.3	54.41	108	75	125				
Iron	19900	8.1	301.5	20890		75	125				A
Manganese	540	1.0	301.5	270.7	89	75	125				
Zinc	253	2.0	60.3	423.3		75	125				A

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICP2-HE_160930B: 40** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-015AMSD** Method: **SW6010B**

Analysis Date: **09/30/16 12:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4800	5.0	303.3	3729		75	125	4875	1.5	20	A
Boron	64.0	1.6	60.67	2.042	102	75	125	62.29	2.7	20	
Copper	105	1.1	60.67	54.41	83	75	125	119.8	13	20	
Iron	19200	8.1	303.3	20890		75	125	19930	3.5	20	A
Manganese	557	1.0	303.3	270.7	95	75	125	539.6	3.3	20	
Zinc	172	2.0	60.67	423.3		75	125	253.2	38	20	AR

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34582

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 114** SampType: **Method Blank** Lab ID: **MB-34582** Method: **SW6020**

Analysis Date: **09/29/16 10:57** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.1	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Cobalt	0.04	0.03									
Copper	ND	0.6									
Lead	ND	0.09									
Manganese	0.4	0.2									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICPMS204-B_160928B: 115** SampType: **Laboratory Control Sample** Lab ID: **LCS-34582** Method: **SW6020**

Analysis Date: **09/29/16 11:00** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	71.1	1.0	240	0	**30**	0	92.9				
Arsenic	170	1.0	196	0.119	**87**	71.4	105.1				
Barium	190	1.0	187	0	**102**	78.6	112.8				
Beryllium	83.5	1.0	83.6	0	**100**	76.2	108				
Cadmium	96.6	1.0	99	0	**98**	73.9	106.1				
Chromium	119	1.0	117	0	**102**	73.5	108.5				
Cobalt	114	1.0	108	0.04084	**105**	74.2	105.6				
Copper	129	1.0	137	0	**94**	76.6	108.8				
Lead	108	1.0	105	0	**103**	74.4	108.6				
Manganese	491	1.0	434	0.355	**113**	81.1	116.6				
Molybdenum	119	1.0	127	0	**94**	66.5	103.1				
Nickel	84.8	1.0	86.2	0	**98**	72.3	105				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34582

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 115** SampType: **Laboratory Control Sample** Lab ID: **LCS-34582** Method: **SW6020**

Analysis Date: **09/29/16 11:00** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	191	1.0	205	0	93	71.2	110.2				
Silver	44.4	1.0	42.1	0	106	70.8	111.9				
Uranium	101	1.0	99.9	0	101	80.1	120.1				
Vanadium	118	1.0	114	0	103	67	107				

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICPMS204-B_160928B: 116** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34582** Method: **SW6020**

Analysis Date: **09/29/16 11:04** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.7	1.0	50	0	99	80	120				
Arsenic	50.0	1.0	50	0.119	100	80	120				
Barium	51.1	1.0	50	0	102	80	120				
Beryllium	26.1	1.0	25	0	105	80	120				
Cadmium	24.8	1.0	25	0	99	80	120				
Chromium	52.5	1.0	50	0	105	80	120				
Cobalt	53.1	1.0	50	0.04084	106	80	120				
Copper	52.6	1.0	50	0	105	80	120				
Lead	51.5	1.0	50	0	103	80	120				
Manganese	264	1.0	250	0.355	106	80	120				
Molybdenum	49.5	1.0	50	0	99	80	120				
Nickel	52.6	1.0	50	0	105	80	120				
Selenium	48.8	1.0	50	0	98	80	120				
Silver	26.2	1.0	25	0	105	80	120				
Uranium	51.3	1.0	50	0	103	80	120				
Vanadium	51.4	1.0	50	0	103	80	120				

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICPMS204-B_160928B: 122** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-015APDS** Method: **SW6020**

Analysis Date: **09/29/16 11:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	601	1.0	606.7	0.2543	99	75	125				
Arsenic	593	1.0	606.7	6.922	97	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34582

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 122** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-015APDS** Method: **SW6020**

Analysis Date: **09/29/16 11:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	670	1.0	606.7	48.02	103	75	125				
Beryllium	291	1.0	303.3	0	96	75	125				
Cadmium	290	1.0	303.3	0.3346	95	75	125				
Chromium	630	1.0	606.7	15.48	101	75	125				
Cobalt	611	1.0	606.7	3.708	100	75	125				
Copper	636	1.0	606.7	52.43	96	75	125				
Lead	655	1.0	606.7	33.63	102	75	125				
Manganese	3320	1.0	3033	264.3	101	75	125				
Molybdenum	608	1.0	606.7	1.685	100	75	125				
Nickel	595	1.0	606.7	4.161	97	75	125				
Selenium	555	1.0	606.7	1.028	91	75	125				
Silver	251	1.0	303.3	0.2217	83	75	125				
Uranium	647	1.0	606.7	2.667	106	75	125				
Vanadium	675	1.0	606.7	59.11	102	75	125				

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICPMS204-B_160928B: 123** SampType: **Sample Matrix Spike** Lab ID: **H16090351-015AMS** Method: **SW6020**

Analysis Date: **09/29/16 11:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.5	1.0	60.3	0.2543	82	75	125				
Arsenic	65.8	1.0	60.3	6.922	98	75	125				
Barium	114	1.0	60.3	48.02	110	75	125				
Beryllium	31.0	1.0	30.15	0	103	75	125				
Cadmium	30.0	1.0	30.15	0.3346	98	75	125				
Chromium	80.3	1.0	60.3	15.48	108	75	125				
Cobalt	65.2	1.0	60.3	3.708	102	75	125				
Copper	114	1.0	60.3	52.43	102	75	125				
Lead	81.1	1.0	60.3	33.63	79	75	125				
Manganese	530	1.0	301.5	264.3	88	75	125				
Molybdenum	62.1	1.0	60.3	1.685	100	75	125				
Nickel	66.5	1.0	60.3	4.161	103	75	125				
Selenium	59.3	1.0	60.3	1.028	97	75	125				
Silver	31.1	1.0	30.15	0.2217	102	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34582

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 123** SampType: **Sample Matrix Spike** Lab ID: **H16090351-015AMS** Method: **SW6020**

Analysis Date: **09/29/16 11:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	67.5	1.0	60.3	2.667	108	75	125				
Vanadium	118	1.0	60.3	59.11	98	75	125				

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Run ID :Run Order: **ICPMS204-B_160928B: 124** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-015AMSD** Method: **SW6020**

Analysis Date: **09/29/16 11:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.9	1.0	60.67	0.2543	83	75	125	49.52	2.7	20	
Arsenic	69.0	1.0	60.67	6.922	102	75	125	65.78	4.7	20	
Barium	109	1.0	60.67	48.02	101	75	125	114.3	4.6	20	
Beryllium	32.0	1.0	30.33	0	105	75	125	30.99	3.1	20	
Cadmium	31.4	1.0	30.33	0.3346	102	75	125	29.97	4.7	20	
Chromium	79.3	1.0	60.67	15.48	105	75	125	80.32	1.3	20	
Cobalt	68.5	1.0	60.67	3.708	107	75	125	65.24	4.9	20	
Copper	101	1.0	60.67	52.43	79	75	125	113.8	12	20	
Lead	81.8	1.0	60.67	33.63	79	75	125	81.1	0.8	20	
Manganese	553	1.0	303.3	264.3	95	75	125	530.3	4.2	20	
Molybdenum	67.0	1.0	60.67	1.685	108	75	125	62.11	7.5	20	
Nickel	67.8	1.0	60.67	4.161	105	75	125	66.51	1.9	20	
Selenium	58.3	1.0	60.67	1.028	94	75	125	59.25	1.7	20	
Silver	32.3	1.0	30.33	0.2217	106	75	125	31.12	3.7	20	
Uranium	66.3	1.0	60.67	2.667	105	75	125	67.53	1.8	20	
Vanadium	121	1.0	60.67	59.11	102	75	125	118.2	2.2	20	

Associated samples: **H16090351-006A, H16090351-009A, H16090351-012A, H16090351-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34583

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160929B: 68** SampType: **Method Blank** Lab ID: **MB-34583** Method: **SW6010B**

Analysis Date: **09/29/16 13:34** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Boron	ND	0.3									
Copper	ND	0.2									
Iron	8	1									
Manganese	ND	0.05									
Zinc	ND	0.3									

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICP2-HE_160929B: 71** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34583** Method: **SW6010B**

Analysis Date: **09/29/16 13:45** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	260	5.0	249	0	**104**	80	120				
Boron	49.9	1.0	49.8	0	**100**	80	120				
Copper	50.9	1.0	49.8	0	**102**	80	120				
Iron	259	5.0	249	7.52	**101**	80	120				
Manganese	253	1.0	249	0	**102**	80	120				
Zinc	50.8	1.0	49.8	0	**102**	80	120				

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICP2-HE_160929B: 72** SampType: **Laboratory Control Sample** Lab ID: **LCS-34583** Method: **SW6010B**

Analysis Date: **09/29/16 13:49** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9940	5.0	9830	0	**101**	46.3	130.2				
Boron	110	1.3	129	0	**85**	59.5	106.2				
Copper	115	1.0	137	0	**84**	76.6	108.8				
Iron	16500	6.7	16300	7.52	**101**	51.7	131.9				
Manganese	393	1.0	434	0	**90**	81.1	116.6				
Zinc	234	1.7	231	0	**101**	75.3	111.7				

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34583

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160929B: 79** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-018APDS** Method: **SW6010B**

Analysis Date: **09/29/16 14:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	24600	9.6	3033	21200		75	125				A
Boron	581	3.1	606.6	9.719	**94**	75	125				
Copper	1360	2.1	606.6	781.6	**96**	75	125				
Iron	42900	16	3033	39830		75	125				A
Manganese	3930	1.0	3033	1095	**93**	75	125				
Zinc	2290	4.1	606.6	1680	**100**	75	125				

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICP2-HE_160930B: 46** SampType: **Method Blank** Lab ID: **MB-34583** Method: **SW6010B**

Analysis Date: **09/30/16 12:42** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Boron	0.3	0.3									
Copper	ND	0.2									
Iron	8	1									
Manganese	0.1	0.05									
Zinc	ND	0.3									

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICP2-HE_160930B: 51** SampType: **Sample Matrix Spike** Lab ID: **H16090351-018AMS** Method: **SW6010B**

Analysis Date: **09/30/16 13:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25900	9.3	591.3	20830		75	125				A
Boron	132	3.0	118.3	11.43	**102**	75	125				
Copper	954	2.1	118.3	799.1		75	125				A
Iron	41700	16	591.3	39420		75	125				A
Manganese	1770	1.0	591.3	1100	**113**	75	125				
Zinc	1720	4.0	118.3	1595		75	125				A

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34583

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160930B: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-018AMSD** Method: **SW6010B**

Analysis Date: **09/30/16 13:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	26500	9.2	584.7	20830		75	125	25900	2.1	20	A
Boron	129	3.0	116.9	11.43	101	75	125	131.7	1.7	20	
Copper	983	2.1	116.9	799.1		75	125	954.2	3.0	20	A
Iron	43400	16	584.7	39420		75	125	41670	4.1	20	A
Manganese	1810	1.0	584.7	1100	122	75	125	1768	2.4	20	
Zinc	1770	3.9	116.9	1595		75	125	1724	2.9	20	A

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34583

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 128** SampType: **Method Blank** Lab ID: **MB-34583** Method: **SW6020**

Analysis Date: **09/29/16 11:43** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.08									
Arsenic	0.08	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Cobalt	0.09	0.03									
Copper	ND	0.6									
Lead	ND	0.09									
Manganese	0.3	0.2									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	0.2	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICPMS204-B_160928B: 129** SampType: **Laboratory Control Sample** Lab ID: **LCS-34583** Method: **SW6020**

Analysis Date: **09/29/16 11:46** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	74.4	1.0	240	0	**31**	0	92.9				
Arsenic	172	1.0	196	0.07972	**88**	71.4	105.1				
Barium	186	1.0	187	0	**99**	78.6	112.8				
Beryllium	85.2	1.0	83.6	0	**102**	76.2	108				
Cadmium	96.3	1.0	99	0	**97**	73.9	106.1				
Chromium	120	1.0	117	0	**102**	73.5	108.5				
Cobalt	113	1.0	108	0.09433	**105**	74.2	105.6				
Copper	128	1.0	137	0	**93**	76.6	108.8				
Lead	106	1.0	105	0	**101**	74.4	108.6				
Manganese	450	1.0	434	0.2919	**104**	81.1	116.6				
Molybdenum	118	1.0	127	0	**93**	66.5	103.1				
Nickel	84.9	1.0	86.2	0	**99**	72.3	105				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34583

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 129** SampType: **Laboratory Control Sample** Lab ID: **LCS-34583** Method: **SW6020**

Analysis Date: **09/29/16 11:46** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	193	1.0	205	0	94	71.2	110.2				
Silver	43.4	1.0	42.1	0.1673	103	70.8	111.9				
Uranium	101	1.0	99.9	0	102	80.1	120.1				
Vanadium	119	1.0	114	0	104	67	107				

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICPMS204-B_160928B: 130** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34583** Method: **SW6020**

Analysis Date: **09/29/16 11:50** Units: **mg/kg** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.7	1.0	49.8	0	102	80	120				
Arsenic	49.7	1.0	49.8	0.07972	100	80	120				
Barium	51.8	1.0	49.8	0	104	80	120				
Beryllium	26.1	1.0	24.9	0	105	80	120				
Cadmium	25.2	1.0	24.9	0	101	80	120				
Chromium	52.1	1.0	49.8	0	105	80	120				
Cobalt	51.9	1.0	49.8	0.09433	104	80	120				
Copper	52.3	1.0	49.8	0	105	80	120				
Lead	51.0	1.0	49.8	0	102	80	120				
Manganese	263	1.0	249	0.2919	105	80	120				
Molybdenum	50.4	1.0	49.8	0	101	80	120				
Nickel	51.8	1.0	49.8	0	104	80	120				
Selenium	49.4	1.0	49.8	0	99	80	120				
Silver	26.5	1.0	24.9	0.1673	106	80	120				
Uranium	51.7	1.0	49.8	0	104	80	120				
Vanadium	51.3	1.0	49.8	0	103	80	120				

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICPMS204-B_160928B: 137** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-018APDS** Method: **SW6020**

Analysis Date: **09/29/16 12:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1150	1.0	1178	2.079	97	75	125				
Arsenic	1200	1.0	1178	98.33	94	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34583

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 137** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090351-018APDS** Method: **SW6020**

Analysis Date: **09/29/16 12:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1490	1.0	1178	317.1	100	75	125				
Beryllium	532	1.0	588.9	0.8296	90	75	125				
Cadmium	554	1.0	588.9	6.365	93	75	125				
Chromium	1210	2.0	1178	46.48	99	75	125				
Cobalt	1150	1.0	1178	9.514	97	75	125				
Copper	1820	1.4	1178	789.6	88	75	125				
Lead	1410	1.0	1178	266.1	98	75	125				
Manganese	6930	1.0	5889	1132	98	75	125				
Molybdenum	1170	1.0	1178	15.74	98	75	125				
Nickel	1140	1.0	1178	20.66	95	75	125				
Selenium	1050	1.0	1178	2.643	89	75	125				
Silver	374	1.0	588.9	6.1	62	75	125				S
Uranium	1230	1.0	1178	7.778	104	75	125				
Vanadium	1250	1.0	1178	85.69	99	75	125				

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICPMS204-B_160928B: 138** SampType: **Sample Matrix Spike** Lab ID: **H16090351-018AMS** Method: **SW6020**

Analysis Date: **09/29/16 12:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	53.8	1.0	118.3	2.079	44	75	125				S
Arsenic	221	1.0	118.3	98.33	103	75	125				
Barium	462	1.0	118.3	317.1	122	75	125				
Beryllium	58.4	1.0	59.13	0.8296	97	75	125				
Cadmium	65.4	1.0	59.13	6.365	100	75	125				
Chromium	176	2.0	118.3	46.48	110	75	125				
Cobalt	133	1.0	118.3	9.514	104	75	125				
Copper	906	1.4	118.3	789.6		75	125				A
Lead	387	1.0	118.3	266.1	103	75	125				
Manganese	1770	1.0	591.3	1132	108	75	125				
Molybdenum	132	1.0	118.3	15.74	98	75	125				
Nickel	145	1.0	118.3	20.66	105	75	125				
Selenium	116	1.0	118.3	2.643	96	75	125				
Silver	68.6	1.0	59.13	6.1	106	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34583

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 138** SampType: **Sample Matrix Spike** Lab ID: **H16090351-018AMS** Method: **SW6020**

Analysis Date: **09/29/16 12:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	130	1.0	118.3	7.778	103	75	125				
Vanadium	213	1.0	118.3	85.69	107	75	125				

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICPMS204-B_160928B: 139** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-018AMSD** Method: **SW6020**

Analysis Date: **09/29/16 12:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.3	1.0	116.9	2.079	42	75	125	53.82	4.7	20	S
Arsenic	224	1.0	116.9	98.33	108	75	125	220.6	1.7	20	
Barium	467	1.0	116.9	317.1	128	75	125	461.7	1.2	20	S
Beryllium	62.6	1.0	58.47	0.8296	106	75	125	58.44	6.8	20	
Cadmium	63.8	1.0	58.47	6.365	98	75	125	65.37	2.4	20	
Chromium	173	2.0	116.9	46.48	108	75	125	176	1.6	20	
Cobalt	130	1.0	116.9	9.514	103	75	125	132.8	1.9	20	
Copper	938	1.4	116.9	789.6		75	125	906.1	3.5	20	A
Lead	389	1.0	116.9	266.1	105	75	125	387.3	0.5	20	
Manganese	1810	1.0	584.7	1132	116	75	125	1770	2.4	20	
Molybdenum	129	1.0	116.9	15.74	97	75	125	131.9	2.3	20	
Nickel	141	1.0	116.9	20.66	103	75	125	145.3	2.7	20	
Selenium	116	1.0	116.9	2.643	97	75	125	116.3	0.6	20	
Silver	66.6	1.0	58.47	6.1	103	75	125	68.56	2.9	20	
Uranium	128	1.0	116.9	7.778	103	75	125	130.1	1.6	20	
Vanadium	217	1.0	116.9	85.69	112	75	125	212.8	1.8	20	

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-017A, H16090351-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 25** SampType: **Method Blank** Lab ID: **MB-34600** Method: **SW6010B**
Analysis Date: **10/03/16 10:28** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.9	0.8									
Cobalt	ND	0.2									
Iron	20	1									
Manganese	0.1	0.05									
Zinc	ND	0.3									

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICP2-HE_161003B: 26** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34600** Method: **SW6010B**
Analysis Date: **10/03/16 10:32** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	222	5.0	247.5	0.871	89	80	120				
Cobalt	43.0	1.0	49.5	0	87	80	120				
Iron	231	5.0	247.5	24.43	84	80	120				
Manganese	213	1.0	247.5	0.1235	86	80	120				
Zinc	42.8	1.0	49.5	0	86	80	120				

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICP2-HE_161003B: 27** SampType: **Laboratory Control Sample** Lab ID: **LCS-34600** Method: **SW6010B**
Analysis Date: **10/03/16 10:36** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11000	5.0	9830	0.871	111	46.3	130.2				
Cobalt	112	1.0	108	0	104	74.2	105.6				
Iron	18100	6.7	16300	24.43	111	51.7	131.9				
Manganese	443	1.0	434	0.1235	102	81.1	116.6				
Zinc	242	1.7	231	0	105	75.3	111.7				

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICP2-HE_161003B: 50** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-063APDS** Method: **SW6010B**
Analysis Date: **10/03/16 12:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	27700	9.4	2975	25750		75	125				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 50** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-063APDS** Method: **SW6010B**

Analysis Date: **10/03/16 12:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	600	2.1	595	12.68	99	75	125				
Iron	27400	16	2975	25640		75	125				A
Manganese	6070	1.0	2975	3365	91	75	125				
Zinc	2220	4.0	595	1695	88	75	125				

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICP2-HE_161003B: 51** SampType: **Sample Matrix Spike** Lab ID: **H16090353-063AMS** Method: **SW6010B**

Analysis Date: **10/03/16 12:03** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	31200	9.0	569.5	25750		75	125				A
Cobalt	113	2.0	113.9	12.68	88	75	125				
Iron	29000	15	569.5	25640		75	125				A
Manganese	4060	1.0	569.5	3365		75	125				A
Zinc	1890	3.8	113.9	1695		75	125				A

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICP2-HE_161003B: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-063AMSD** Method: **SW6010B**

Analysis Date: **10/03/16 12:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	32600	9.1	575.3	25750		75	125	31180	4.3	20	A
Cobalt	134	2.0	115.1	12.68	106	75	125	112.8	17	20	
Iron	30100	15	575.3	25640		75	125	28960	3.9	20	A
Manganese	4320	1.0	575.3	3365		75	125	4055	6.4	20	A
Zinc	1940	3.9	115.1	1695		75	125	1886	3.0	20	A

Associated samples: **H16090351-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 16** SampType: **Method Blank** Lab ID: **MB-34600** Method: **SW6020**

Analysis Date: **10/02/16 19:23** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.08									
Arsenic	ND	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Copper	ND	0.6									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.1									
Silver	ND	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									
Zinc	ND	10									

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICPMS204-B_161002A: 17** SampType: **Laboratory Control Sample** Lab ID: **LCS-34600** Method: **SW6020**

Analysis Date: **10/02/16 19:26** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	70.3	1.0	240	0	**29**	0	92.9				
Arsenic	173	1.0	196	0	**88**	71.4	105.1				
Barium	193	1.0	187	0	**103**	78.6	112.8				
Beryllium	83.7	1.0	83.6	0	**100**	76.2	108				
Boron	115	2.2	129	0	**89**	59.5	106.2				
Cadmium	98.7	1.0	99	0	**100**	73.9	106.1				
Chromium	124	1.0	117	0	**106**	73.5	108.5				
Copper	135	1.0	137	0	**98**	76.6	108.8				
Lead	108	1.0	105	0	**103**	74.4	108.6				
Molybdenum	125	1.0	127	0	**98**	66.5	103.1				
Nickel	89.1	1.0	86.2	0	**103**	72.3	105				
Selenium	190	1.0	205	0	**92**	71.2	110.2				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 17** SampType: **Laboratory Control Sample** Lab ID: **LCS-34600** Method: **SW6020**

Analysis Date: **10/02/16 19:26** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	43.2	1.0	42.1	0	103	70.8	111.9				
Uranium	103	1.0	99.9	0	104	80.1	120.1				
Vanadium	122	1.0	114	0	107	67	107				
Zinc	249	11	231	0	108	75.3	111.7				

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICPMS204-B_161002A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34600** Method: **SW6020**

Analysis Date: **10/02/16 19:29** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.8	1.0	49.5	0	101	80	120				
Arsenic	42.7	1.0	49.5	0	86	80	120				
Barium	42.7	1.0	49.5	0	86	80	120				
Beryllium	21.3	1.0	24.75	0	86	80	120				
Boron	43.2	2.1	49.5	0	87	80	120				
Cadmium	21.0	1.0	24.75	0	85	80	120				
Chromium	44.8	1.0	49.5	0	90	80	120				
Copper	45.2	1.0	49.5	0	91	80	120				
Lead	43.0	1.0	49.5	0	87	80	120				
Molybdenum	49.6	1.0	49.5	0	100	80	120				
Nickel	45.2	1.0	49.5	0	91	80	120				
Selenium	39.7	1.0	49.5	0	80	80	120				
Silver	22.1	1.0	24.75	0	89	80	120				
Uranium	50.8	1.0	49.5	0	103	80	120				
Vanadium	43.6	1.0	49.5	0	88	80	120				
Zinc	42.2	11	49.5	0	85	80	120				

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICPMS204-B_161002A: 45** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-063APDS** Method: **SW6020**

Analysis Date: **10/02/16 20:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1140	1.0	1155	0.6562	99	75	125				
Arsenic	1130	1.0	1155	33.33	95	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 45** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-063APDS** Method: **SW6020**

Analysis Date: **10/02/16 20:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1590	1.0	1155	448.7	98	75	125				
Beryllium	518	1.0	577.7	1.311	89	75	125				
Boron	1060	5.0	1155	13.32	91	75	125				
Cadmium	540	1.0	577.7	8.123	92	75	125				
Chromium	1190	1.9	1155	28.53	101	75	125				
Copper	1640	1.4	1155	590.5	91	75	125				
Lead	1300	1.0	1155	147.8	100	75	125				
Molybdenum	1170	1.0	1155	2.62	101	75	125				
Nickel	1140	1.0	1155	17.09	97	75	125				
Selenium	974	1.0	1155	1.23	84	75	125				
Silver	485	1.0	577.7	2.074	84	75	125				
Uranium	1230	1.0	1155	2.623	106	75	125				
Vanadium	1220	1.0	1155	50.5	101	75	125				
Zinc	2550	26	1155	1717	72	75	125				S

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICPMS204-B_161002A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16090353-063AMS** Method: **SW6020**

Analysis Date: **10/02/16 21:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	42.9	1.0	113.9	0.6562	37	75	125				S
Arsenic	127	1.0	113.9	33.33	83	75	125				
Barium	561	1.0	113.9	448.7	99	75	125				
Beryllium	47.9	1.0	56.95	1.311	82	75	125				
Boron	119	4.9	113.9	13.32	93	75	125				
Cadmium	55.5	1.0	56.95	8.123	83	75	125				
Chromium	133	1.9	113.9	28.53	92	75	125				
Copper	718	1.4	113.9	590.5		75	125				A
Lead	256	1.0	113.9	147.8	95	75	125				
Molybdenum	114	1.0	113.9	2.62	98	75	125				
Nickel	118	1.0	113.9	17.09	89	75	125				
Selenium	88.0	1.0	113.9	1.23	76	75	125				
Silver	54.0	1.0	56.95	2.074	91	75	125				
Uranium	122	1.0	113.9	2.623	105	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16090353-063AMS** Method: **SW6020**

Analysis Date: **10/02/16 21:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	158	1.0	113.9	50.5	95	75	125				
Zinc	1870	26	113.9	1717		75	125				A

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICPMS204-B_161002A: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-063AMSD** Method: **SW6020**

Analysis Date: **10/02/16 21:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	42.0	1.0	115.1	0.6562	36	75	125	42.88	2.0	20	S
Arsenic	150	1.0	115.1	33.33	101	75	125	127.4	16	20	
Barium	612	1.0	115.1	448.7	142	75	125	561.4	8.6	20	S
Beryllium	59.4	1.0	57.53	1.311	101	75	125	47.86	22	20	R
Boron	126	5.0	115.1	13.32	98	75	125	119.2	5.8	20	
Cadmium	65.7	1.0	57.53	8.123	100	75	125	55.52	17	20	
Chromium	153	1.9	115.1	28.53	108	75	125	133.5	13	20	
Copper	739	1.4	115.1	590.5		75	125	717.9	2.9	20	A
Lead	278	1.0	115.1	147.8	113	75	125	255.8	8.4	20	
Molybdenum	114	1.0	115.1	2.62	97	75	125	114.1	0.1	20	
Nickel	136	1.0	115.1	17.09	103	75	125	118.4	14	20	
Selenium	108	1.0	115.1	1.23	93	75	125	87.99	20	20	R
Silver	61.8	1.0	57.53	2.074	104	75	125	54.04	13	20	
Uranium	122	1.0	115.1	2.623	104	75	125	122	0.2	20	
Vanadium	176	1.0	115.1	50.5	109	75	125	158.4	11	20	
Zinc	1920	26	115.1	1717		75	125	1866	2.9	20	A

Associated samples: **H16090351-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R215617

Date: *28-Dec-16*

Run ID :Run Order: **SUB-C215617: 1** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV-9269** Method: **A5310 C**
Analysis Date: **09/25/16 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.96	0.50	5	0	99	90	110	0			

Associated samples: **H16090351-001E, H16090351-002E, H16090351-003E, H16090351-004E**

Run ID :Run Order: **SUB-C215617: 2** SampType: **Method Blank** Lab ID: **MBLK** Method: **A5310 C**
Analysis Date: **09/25/16 13:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.04									

Associated samples: **H16090351-001E, H16090351-002E, H16090351-003E, H16090351-004E**

Run ID :Run Order: **SUB-C215617: 3** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A5310 C**
Analysis Date: **09/25/16 13:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.92	0.50	5	0	98	90	110	0			

Associated samples: **H16090351-001E, H16090351-002E, H16090351-003E, H16090351-004E**

Run ID :Run Order: **SUB-C215617: 4** SampType: **Method Blank** Lab ID: **MB-102744** Method: **A5310 C**
Analysis Date: **09/25/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	0.1	0.04									

Associated samples: **H16090351-001E, H16090351-002E, H16090351-003E, H16090351-004E**

Run ID :Run Order: **SUB-C215617: 5** SampType: **Laboratory Control Sample** Lab ID: **LCS-9269** Method: **A5310 C**
Analysis Date: **09/25/16 20:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.93	0.50	5	0	99	90	110	0			

Associated samples: **H16090351-001E, H16090351-002E, H16090351-003E, H16090351-004E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R215617

Date: *28-Dec-16*

Run ID :Run Order: **SUB-C215617: 24** SampType: **Sample Matrix Spike** Lab ID: **C16090604-002EMS** Method: **A5310 C**
Analysis Date: **09/25/16 14:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	33.7	0.50	20	13.68	**100**	85	115	0			

Associated samples: **H16090351-001E, H16090351-002E, H16090351-003E, H16090351-004E**

Run ID :Run Order: **SUB-C215617: 25** SampType: **Sample Matrix Spike Duplicate** Lab ID: **C16090604-002EMSD** Method: **A5310 C**
Analysis Date: **09/25/16 14:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	34.5	0.50	20	13.68	**104**	85	115	33.66	**2.4**	20	

Associated samples: **H16090351-001E, H16090351-002E, H16090351-003E, H16090351-004E**

Run ID :Run Order: **SUB-C215617: 34** SampType: **Sample Matrix Spike** Lab ID: **H16090353-004E** Method: **A5310 C**
Analysis Date: **09/25/16 17:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	24.0	0.50	20	4.052	**100**	85	115	0			

Associated samples: **H16090351-001E, H16090351-002E, H16090351-003E, H16090351-004E**

Run ID :Run Order: **SUB-C215617: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-004E** Method: **A5310 C**
Analysis Date: **09/25/16 17:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	24.1	0.50	20	4.052	**100**	85	115	24.03	**0.2**	20	

Associated samples: **H16090351-001E, H16090351-002E, H16090351-003E, H16090351-004E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118760

Date: *28-Dec-16*

Run ID :Run Order: **PHSC_101-H_160919A: 53** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **09/19/16 12:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **PHSC_101-H_160919A: 55** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **09/19/16 12:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	610	4.0	600	1.8	102	90	110				

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **PHSC_101-H_160919A: 58** SampType: **Sample Duplicate** Lab ID: **H16090346-001ADUP** Method: **A2320 B**

Analysis Date: **09/19/16 12:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	200	4.0		0				197.5	2.3	10	
Bicarbonate as HCO3	250	4.0		0				240.3	2.3	10	

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **PHSC_101-H_160919A: 98** SampType: **Sample Duplicate** Lab ID: **H16090353-009ADUP** Method: **A2320 B**

Analysis Date: **09/19/16 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	110	4.0		0				112.4	1.2	10	
Bicarbonate as HCO3	140	4.0		0				136.5	1.2	10	

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118771

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/19/16 08:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.795	0.10	0.8	0	99	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Magnesium	39.0	1.0	40	0	97	95	105				
Potassium	40.1	1.0	40	0	100	95	105				
Sodium	40.2	1.0	40	0	100	95	105				

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICP2-HE_160919A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/19/16 09:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00631	0.10		0		0	0				
Calcium	447	1.0	500	0	89	80	120				
Magnesium	485	1.0	500	0	97	80	120				
Potassium	0.0481	1.0		0		0	0				
Sodium	0.0382	1.0		0		0	0				

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICP2-HE_160919A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/19/16 09:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.10	1	0	101	80	120				
Calcium	452	1.0	500	0	90	80	120				
Magnesium	485	1.0	500	0	97	80	120				
Potassium	19.7	1.0	20	0	98	80	120				
Sodium	19.7	1.0	20	0	99	80	120				

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICP2-HE_160919A: 21** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **09/19/16 09:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.003	0.002									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118771

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919A: 21** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **09/19/16 09:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.05	0.03									
Magnesium	0.008	0.003									
Potassium	0.05	0.03									
Sodium	ND	0.02									

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICP2-HE_160919A: 22** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **09/19/16 09:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.993	0.10	1	0.00261	**99**	85	115				
Calcium	48.0	1.0	50	0.04821	**96**	85	115				
Magnesium	47.9	1.0	50	0.00773	**96**	85	115				
Potassium	50.3	1.0	50	0.05339	**101**	85	115				
Sodium	50.5	1.0	50	0	**101**	85	115				

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICP2-HE_160919A: 92** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/19/16 16:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.56	0.10	2.5	0	**102**	90	110				
Calcium	25.5	1.0	25	0	**102**	90	110				
Magnesium	25.3	1.0	25	0	**101**	90	110				
Potassium	24.8	1.0	25	0	**99**	90	110				
Sodium	24.7	1.0	25	0	**99**	90	110				

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICP2-HE_160919A: 99** SampType: **Sample Matrix Spike** Lab ID: **H16090351-001BMS2** Method: **E200.7**

Analysis Date: **09/19/16 17:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.02179	**100**	70	130				
Calcium	85.7	1.0	50	36.67	**98**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118771

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919A: 99** SampType: **Sample Matrix Spike** Lab ID: **H16090351-001BMS2** Method: **E200.7**

Analysis Date: **09/19/16 17:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	59.6	1.0	50	9.097	**101**	70	130				
Potassium	52.9	1.0	50	2.772	**100**	70	130				
Sodium	62.0	1.0	50	12.33	**99**	70	130				

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICP2-HE_160919A: 100** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-001BMSD2** Method: **E200.7**

Analysis Date: **09/19/16 17:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.03	0.050	1	0.02179	**101**	70	130	1.02	**0.9**	20	
Calcium	86.7	1.0	50	36.67	**100**	70	130	85.68	**1.1**	20	
Magnesium	60.1	1.0	50	9.097	**102**	70	130	59.56	**0.9**	20	
Potassium	53.8	1.0	50	2.772	**102**	70	130	52.86	**1.8**	20	
Sodium	63.3	1.0	50	12.33	**102**	70	130	62	**2.0**	20	

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118775

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160919A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **09/19/16 10:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	14.8	0.50	14.2	0	104	90	110				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA203-HE_160919A: 8** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **09/19/16 10:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.04	0.055	1	0	104	90	110				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA203-HE_160919A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E350.1**
Analysis Date: **09/19/16 10:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.107	0.050		0		0	0				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA203-HE_160919A: 95** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **09/19/16 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.538	0.050	0.5	0	108	90	110				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA203-HE_160919A: 98** SampType: **Sample Matrix Spike** Lab ID: **H16090351-001DMS** Method: **E350.1**
Analysis Date: **09/19/16 11:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.02	0.055	1	0	102	80	120				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118775

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160919A: 99** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-001DMSD** Method: **E350.1**

Analysis Date: **09/19/16 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	**101**	80	120	1.024	**1.1**	10	

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118814

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **09/20/16 10:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.0248	0.10		0		0	0				

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **FIA203-HE_160920A: 86** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **09/20/16 11:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.486	0.10	0.5	0	**97**	90	110				

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **FIA203-HE_160920A: 100** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **09/20/16 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.491	0.10	0.5	0	**98**	90	110				

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118826

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/20/16 08:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.787	0.10	0.8	0	98	95	105				
Calcium	39.8	1.0	40	0	99	95	105				
Magnesium	39.6	1.0	40	0	99	95	105				
Potassium	40.9	1.0	40	0	102	95	105				
Sodium	40.9	1.0	40	0	102	95	105				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **09/20/16 08:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.49	0.10	2.5	0	100	95	105				
Calcium	25.0	1.0	25	0	100	95	105				
Magnesium	24.6	1.0	25	0	99	95	105				
Potassium	25.0	1.0	25	0	100	95	105				
Sodium	25.0	1.0	25	0	100	95	105				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/20/16 08:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00705	0.10		0		0	0				
Calcium	463	1.0	500	0	93	80	120				
Magnesium	496	1.0	500	0	99	80	120				
Potassium	0.0308	1.0		0		0	0				
Sodium	0.0215	1.0		0		0	0				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/20/16 08:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.977	0.10	1	0	98	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118826

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/20/16 08:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	459	1.0	500	0	92	80	120				
Magnesium	494	1.0	500	0	99	80	120				
Potassium	19.8	1.0	20	0	99	80	120				
Sodium	19.8	1.0	20	0	99	80	120				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/20/16 11:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	24.1	1.0	25	0	97	90	110				
Magnesium	24.1	1.0	25	0	96	90	110				
Potassium	24.9	1.0	25	0	100	90	110				
Sodium	25.1	1.0	25	0	100	90	110				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Run ID :Run Order: **ICP2-HE_160919C: 74** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/20/16 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.49	0.10	2.5	0	100	90	110				
Calcium	25.5	1.0	25	0	102	90	110				
Magnesium	25.4	1.0	25	0	101	90	110				
Potassium	24.9	1.0	25	0	100	90	110				
Sodium	24.9	1.0	25	0	99	90	110				

Associated samples: **H16090351-001C, H16090351-002C, H16090351-003C, H16090351-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/20/16 10:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.305	0.10	0.3	0	102	90	110				
Antimony	0.0587	0.050	0.06	0	98	90	110				
Arsenic	0.0596	0.0050	0.06	0	99	90	110				
Barium	0.0592	0.10	0.06	0	99	90	110				
Beryllium	0.0308	0.0010	0.03	0	103	90	110				
Cadmium	0.0301	0.0010	0.03	0	100	90	110				
Chromium	0.0594	0.010	0.06	0	99	90	110				
Cobalt	0.0603	0.010	0.06	0	100	90	110				
Copper	0.0616	0.010	0.06	0	103	90	110				
Iron	0.294	0.020	0.3	0	98	90	110				
Lead	0.0583	0.010	0.06	0	97	90	110				
Manganese	0.302	0.010	0.3	0	101	90	110				
Molybdenum	0.0574	0.0050	0.06	0	96	90	110				
Nickel	0.0611	0.010	0.06	0	102	90	110				
Selenium	0.0584	0.0050	0.06	0	97	90	110				
Silver	0.0303	0.0050	0.03	0	101	90	110				
Uranium	0.0578	0.0010	0.06	0	96	90	110				
Vanadium	0.0576	0.10	0.06	0	96	90	110				
Zinc	0.0616	0.010	0.06	0	103	90	110				

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **ICPMS204-B_160920A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/20/16 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	43.5	0.10	40	0	109	70	130				
Antimony	0.000160	0.050		0							
Arsenic	6.80E-05	0.0050		0							
Barium	1.00E-05	0.10		0							
Beryllium	4.50E-05	0.0010		0							
Cadmium	0.00108	0.0010		0							
Chromium	0.00141	0.010		0							
Cobalt	2.60E-05	0.010		0							
Copper	0.000579	0.010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/20/16 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102	0.020	100	0	**102**	70	130				
Lead	0.000255	0.010		0							
Manganese	0.000277	0.010		0							
Molybdenum	0.879	0.0050	0.8	0	**110**	70	130				
Nickel	0.000301	0.010		0							
Selenium	0.000311	0.0050		0							
Silver	0.000112	0.0050		0							
Uranium	9.90E-05	0.0010		0							
Vanadium	-0.000283	0.10		0							
Zinc	0.00146	0.010		0							

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **ICPMS204-B_160920A: 18** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/20/16 11:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0005									
Antimony	ND	3E-05									
Arsenic	ND	6E-05									
Barium	ND	0.0001									
Beryllium	ND	5E-05									
Cadmium	ND	1E-05									
Chromium	ND	3E-05									
Cobalt	ND	2E-05									
Copper	ND	6E-05									
Iron	ND	0.0002									
Lead	ND	5E-06									
Manganese	ND	6E-05									
Molybdenum	4E-05	2E-05									
Nickel	ND	4E-05									
Selenium	ND	0.0003									
Silver	ND	9E-06									
Uranium	ND	6E-06									
Vanadium	ND	0.0001									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 18** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/20/16 11:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	0.0002									

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160920A: 19** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/20/16 11:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0515	0.10	0.05	0	103	85	115				
Antimony	0.0457	0.050	0.05	0	91	85	115				
Arsenic	0.0485	0.0050	0.05	0	97	85	115				
Barium	0.0458	0.10	0.05	0	92	85	115				
Beryllium	0.0478	0.0010	0.05	0	96	85	115				
Cadmium	0.0494	0.0010	0.05	0	99	85	115				
Chromium	0.0488	0.010	0.05	0	98	85	115				
Cobalt	0.0494	0.010	0.05	0	99	85	115				
Copper	0.0503	0.010	0.05	0	101	85	115				
Iron	0.145	0.020	0.15	0	97	85	115				
Lead	0.0487	0.010	0.05	0	97	85	115				
Manganese	0.0503	0.010	0.05	0	101	85	115				
Molybdenum	0.0470	0.0050	0.05	0.0000397	94	85	115				
Nickel	0.0500	0.010	0.05	0	100	85	115				
Selenium	0.0490	0.0050	0.05	0	98	85	115				
Silver	0.0194	0.0050	0.02	0	97	85	115				
Uranium	0.0462	0.0010	0.05	0	92	85	115				
Vanadium	0.0473	0.10	0.05	0	95	85	115				
Zinc	0.0485	0.010	0.05	0	97	85	115				

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160920A: 118** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/20/16 17:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.296	0.10	0.3	0	99	90	110				
Antimony	0.0575	0.050	0.06	0	96	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 118** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/20/16 17:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0611	0.0050	0.06	0	102	90	110				
Barium	0.0587	0.10	0.06	0	98	90	110				
Beryllium	0.0306	0.0010	0.03	0	102	90	110				
Cadmium	0.0304	0.0010	0.03	0	101	90	110				
Chromium	0.0596	0.010	0.06	0	99	90	110				
Cobalt	0.0600	0.010	0.06	0	100	90	110				
Copper	0.0614	0.010	0.06	0	102	90	110				
Iron	0.292	0.020	0.3	0	97	90	110				
Lead	0.0587	0.010	0.06	0	98	90	110				
Manganese	0.300	0.010	0.3	0	100	90	110				
Molybdenum	0.0564	0.0050	0.06	0	94	90	110				
Nickel	0.0604	0.010	0.06	0	101	90	110				
Selenium	0.0614	0.0050	0.06	0	102	90	110				
Silver	0.0300	0.0050	0.03	0	100	90	110				
Uranium	0.0575	0.0010	0.06	0	96	90	110				
Vanadium	0.0584	0.10	0.06	0	97	90	110				
Zinc	0.0606	0.010	0.06	0	101	90	110				

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **ICPMS204-B_160920A: 119** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/20/16 17:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.4	0.10	40	0	106	70	130				
Antimony	0.000134	0.050		0							
Arsenic	9.10E-05	0.0050		0							
Barium	8.00E-05	0.10		0							
Beryllium	1.50E-05	0.0010		0							
Cadmium	0.000710	0.0010		0							
Chromium	0.00129	0.010		0							
Cobalt	2.70E-05	0.010		0							
Copper	0.000546	0.010		0							
Iron	102	0.020	100	0	102	70	130				
Lead	0.000239	0.010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 119** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/20/16 17:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	8.20E-05	0.010		0							
Molybdenum	0.882	0.0050	0.8	0	110	70	130				
Nickel	0.000378	0.010		0							
Selenium	0.000233	0.0050		0							
Silver	6.70E-05	0.0050		0							
Uranium	9.50E-05	0.0010		0							
Vanadium	-0.000378	0.10		0							
Zinc	0.00157	0.010		0							

Associated samples: **H16090351-001B, H16090351-001C, H16090351-002B, H16090351-002C, H16090351-003B, H16090351-003C, H16090351-004B, H16090351-004C**

Run ID :Run Order: **ICPMS204-B_160920A: 198** SampType: **Sample Matrix Spike** Lab ID: **H16090346-005DMS** Method: **E200.8**

Analysis Date: **09/20/16 21:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0482	0.030	0.05	0.00143	94	70	130				
Antimony	0.0478	0.0010	0.05	0.0000533	95	70	130				
Arsenic	0.0531	0.0010	0.05	0.003067	100	70	130				
Barium	0.0632	0.050	0.05	0.01383	99	70	130				
Beryllium	0.0474	0.0010	0.05	0	95	70	130				
Cadmium	0.0470	0.0010	0.05	0.0000276	94	70	130				
Chromium	0.0493	0.0050	0.05	0.0000386	99	70	130				
Cobalt	0.0486	0.0050	0.05	0.0000417	97	70	130				
Copper	0.0489	0.0050	0.05	0.0006575	96	70	130				
Iron	0.146	0.020	0.15	0.002036	96	70	130				
Lead	0.0495	0.0010	0.05	0.0000505	99	70	130				
Manganese	0.0884	0.0010	0.05	0.04114	95	70	130				
Molybdenum	0.0546	0.0010	0.05	0.004923	99	70	130				
Nickel	0.0488	0.0050	0.05	0.0002059	97	70	130				
Selenium	0.0489	0.0010	0.05	0	98	70	130				
Silver	0.0168	0.0010	0.02	0	84	70	130				
Uranium	0.0520	0.00030	0.05	0.001911	100	70	130				
Vanadium	0.0498	0.010	0.05	0	100	70	130				
Zinc	0.0459	0.010	0.05	0.0009491	90	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 198** SampType: **Sample Matrix Spike** Lab ID: **H16090346-005DMS** Method: **E200.8**

Analysis Date: **09/20/16 21:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160920A: 199** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090346-005DMSD** Method: **E200.8**

Analysis Date: **09/20/16 21:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0489	0.030	0.05	0.00143	95	70	130	0.04824	1.3	20	
Antimony	0.0497	0.0010	0.05	0.0000533	99	70	130	0.04776	4.0	20	
Arsenic	0.0537	0.0010	0.05	0.003067	101	70	130	0.05312	1.1	20	
Barium	0.0634	0.050	0.05	0.01383	99	70	130	0.06322	0.3	20	
Beryllium	0.0460	0.0010	0.05	0	92	70	130	0.04741	3.0	20	
Cadmium	0.0475	0.0010	0.05	0.0000276	95	70	130	0.04701	1.0	20	
Chromium	0.0487	0.0050	0.05	0.0000386	97	70	130	0.04932	1.3	20	
Cobalt	0.0488	0.0050	0.05	0.0000417	97	70	130	0.04863	0.3	20	
Copper	0.0491	0.0050	0.05	0.0006575	97	70	130	0.04889	0.4	20	
Iron	0.145	0.020	0.15	0.002036	95	70	130	0.1465	1.2	20	
Lead	0.0491	0.0010	0.05	0.0000505	98	70	130	0.04951	0.8	20	
Manganese	0.0874	0.0010	0.05	0.04114	92	70	130	0.08843	1.2	20	
Molybdenum	0.0552	0.0010	0.05	0.004923	101	70	130	0.05458	1.1	20	
Nickel	0.0483	0.0050	0.05	0.0002059	96	70	130	0.04879	1.1	20	
Selenium	0.0473	0.0010	0.05	0	95	70	130	0.04886	3.2	20	
Silver	0.0172	0.0010	0.02	0	86	70	130	0.01679	2.7	20	
Uranium	0.0515	0.00030	0.05	0.001911	99	70	130	0.05202	0.9	20	
Vanadium	0.0494	0.010	0.05	0	99	70	130	0.04978	0.7	20	
Zinc	0.0467	0.010	0.05	0.0009491	91	70	130	0.04591	1.7	20	

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160920A: 224** SampType: **Sample Matrix Spike** Lab ID: **H16090353-004BMS** Method: **E200.8**

Analysis Date: **09/20/16 23:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0519	0.030	0.05	0.00318	97	70	130				
Antimony	0.0500	0.0010	0.05	0.0004592	99	70	130				
Arsenic	0.0578	0.0010	0.05	0.005257	105	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 224** SampType: **Sample Matrix Spike** Lab ID: **H16090353-004BMS** Method: **E200.8**

Analysis Date: **09/20/16 23:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0922	0.050	0.05	0.03856	107	70	130				
Beryllium	0.0503	0.0010	0.05	0	101	70	130				
Cadmium	0.0504	0.0010	0.05	0.0000669	101	70	130				
Chromium	0.0492	0.0050	0.05	0.0001171	98	70	130				
Cobalt	0.0494	0.0050	0.05	0.000093	99	70	130				
Copper	0.0580	0.0050	0.05	0.00824	99	70	130				
Iron	0.172	0.020	0.15	0.02834	96	70	130				
Lead	0.0495	0.0010	0.05	0.0001859	99	70	130				
Manganese	0.121	0.0010	0.05	0.074	95	70	130				
Molybdenum	0.0539	0.0010	0.05	0.004963	98	70	130				
Nickel	0.0497	0.0050	0.05	0.0006663	98	70	130				
Selenium	0.0532	0.0010	0.05	0	106	70	130				
Silver	0.0183	0.0010	0.02	0	92	70	130				
Uranium	0.0518	0.00030	0.05	0.003566	96	70	130				
Vanadium	0.0511	0.010	0.05	0.00162	99	70	130				
Zinc	0.0805	0.010	0.05	0.02978	102	70	130				

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160920A: 225** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-004BMSD** Method: **E200.8**

Analysis Date: **09/20/16 23:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0511	0.030	0.05	0.00318	96	70	130	0.05186	1.6	20	
Antimony	0.0491	0.0010	0.05	0.0004592	97	70	130	0.04996	1.7	20	
Arsenic	0.0575	0.0010	0.05	0.005257	104	70	130	0.05775	0.5	20	
Barium	0.0881	0.050	0.05	0.03856	99	70	130	0.09224	4.6	20	
Beryllium	0.0495	0.0010	0.05	0	99	70	130	0.05027	1.5	20	
Cadmium	0.0502	0.0010	0.05	0.0000669	100	70	130	0.05042	0.3	20	
Chromium	0.0491	0.0050	0.05	0.0001171	98	70	130	0.0492	0.2	20	
Cobalt	0.0490	0.0050	0.05	0.000093	98	70	130	0.0494	0.7	20	
Copper	0.0573	0.0050	0.05	0.00824	98	70	130	0.05799	1.2	20	
Iron	0.172	0.020	0.15	0.02834	96	70	130	0.172	0.1	20	
Lead	0.0496	0.0010	0.05	0.0001859	99	70	130	0.04954	0.2	20	
Manganese	0.123	0.0010	0.05	0.074	98	70	130	0.1214	1.2	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 225** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-004BMSD** Method: **E200.8**

Analysis Date: **09/20/16 23:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0533	0.0010	0.05	0.004963	**97**	70	130	0.05386	**1.0**	20	
Nickel	0.0500	0.0050	0.05	0.0006663	**99**	70	130	0.04973	**0.5**	20	
Selenium	0.0533	0.0010	0.05	0	**107**	70	130	0.05321	**0.2**	20	
Silver	0.0188	0.0010	0.02	0	**94**	70	130	0.0183	**2.8**	20	
Uranium	0.0519	0.00030	0.05	0.003566	**97**	70	130	0.05178	**0.2**	20	
Vanadium	0.0509	0.010	0.05	0.00162	**99**	70	130	0.05114	**0.5**	20	
Zinc	0.0795	0.010	0.05	0.02978	**100**	70	130	0.08054	**1.3**	20	

Associated samples: **H16090351-001B, H16090351-002B, H16090351-003B, H16090351-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118834

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **09/20/16 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.06	0.010	1	0	106	90	110				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA203-HE_160920C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E353.2**
Analysis Date: **09/20/16 14:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.00695	0.010		0		0	0				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA203-HE_160920C: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **09/20/16 14:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.07	0.011	1	0	107	90	110				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA203-HE_160920C: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **09/20/16 15:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.496	0.010	0.5	0	99	90	110				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA203-HE_160920C: 57** SampType: **Sample Matrix Spike** Lab ID: **H16090346-004CMS** Method: **E353.2**
Analysis Date: **09/20/16 15:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.37	0.011	1	0.2663	110	90	110				

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118834

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920C: 58** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090346-004CMSD** Method: **E353.2**

Analysis Date: **09/20/16 15:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.37	0.011	1	0.2663	**110**	90	110	1.366	**0.1**	20	

Associated samples: **H16090351-001D, H16090351-002D, H16090351-003D, H16090351-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118837

Date: *28-Dec-16*

Run ID :Run Order: **IC102-H_160920A: 11** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **09/20/16 08:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.02	0.01									
Sulfate	ND	0.02									

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **IC102-H_160920A: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **09/20/16 08:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99.4	1.0	100	0	99	90	110				
Sulfate	398	1.0	400	0	100	90	110				

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **IC102-H_160920A: 13** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **09/20/16 08:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	46.5	1.0	50	0.016	93	90	110				
Sulfate	206	1.0	200	0	103	90	110				

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **IC102-H_160920A: 29** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV091916-2** Method: **E300.0**
Analysis Date: **09/20/16 11:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99.7	1.0	100	0	100	90	110				
Sulfate	402	1.0	400	0	100	90	110				

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **IC102-H_160920A: 42** SampType: **Sample Matrix Spike** Lab ID: **H16090351-001AMS** Method: **E300.0**
Analysis Date: **09/20/16 14:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62.3	1.0	50	11.64	101	90	110				
Sulfate	241	1.0	200	31.5	105	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118837

Date: *28-Dec-16*

Run ID :Run Order: **IC102-H_160920A: 42** SampType: **Sample Matrix Spike** Lab ID: **H16090351-001AMS** Method: **E300.0**

Analysis Date: **09/20/16 14:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **IC102-H_160920A: 43** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-001AMSD** Method: **E300.0**

Analysis Date: **09/20/16 14:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62.6	1.0	50	11.64	**102**	90	110	62.25	**0.5**	20	
Sulfate	245	1.0	200	31.5	**107**	90	110	240.9	**1.5**	20	

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **IC102-H_160920A: 44** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV091916-3** Method: **E300.0**

Analysis Date: **09/20/16 14:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	100	1.0	100	0	**100**	90	110				
Sulfate	402	1.0	400	0	**101**	90	110				

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118878

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/21/16 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.298	0.010	0.3	0	**99**	90	110				
Zinc	0.0614	0.010	0.06	0	**102**	90	110				

Associated samples: **H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160921C: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/21/16 10:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	3.00E-05	0.010		0							
Zinc	0.00122	0.010		0							

Associated samples: **H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160921C: 57** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/21/16 16:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.304	0.010	0.3	0	**101**	90	110				
Zinc	0.0614	0.010	0.06	0	**102**	90	110				

Associated samples: **H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160921C: 58** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/21/16 16:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.000273	0.010		0							
Zinc	-6.90E-05	0.010		0							

Associated samples: **H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160921C: 64** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/21/16 16:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0002	6E-05									
Zinc	ND	0.0002									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118878

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 64** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**
Analysis Date: **09/21/16 16:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160921C: 65** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **09/21/16 16:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0498	0.010	0.05	0.00016	**99**	85	115				
Zinc	0.0531	0.010	0.05	0	**106**	85	115				

Associated samples: **H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160921C: 67** SampType: **Sample Matrix Spike** Lab ID: **H16090322-007CMS** Method: **E200.8**
Analysis Date: **09/21/16 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0518	0.0010	0.05	0.001461	**101**	70	130				
Zinc	0.0575	0.010	0.05	0.005448	**104**	70	130				

Associated samples: **H16090351-003B, H16090351-004B**

Run ID :Run Order: **ICPMS204-B_160921C: 68** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090322-007CMSD** Method: **E200.8**
Analysis Date: **09/21/16 16:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0514	0.0010	0.05	0.001461	**100**	70	130	0.0518	**0.8**	20	
Zinc	0.0574	0.010	0.05	0.005448	**104**	70	130	0.05748	**0.1**	20	

Associated samples: **H16090351-003B, H16090351-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118902

Date: *28-Dec-16*

Run ID :Run Order: **FIA202-HE_160922A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **09/22/16 13:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.467	0.010	0.5	0	93	90	110				

Associated samples: **H16090351-001D, H16090351-002D**

Run ID :Run Order: **FIA202-HE_160922A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **09/22/16 13:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00204	0.010		0		0	0				

Associated samples: **H16090351-001D, H16090351-002D**

Run ID :Run Order: **FIA202-HE_160922A: 29** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **09/22/16 13:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.201	0.010	0.2	0	100	90	110				

Associated samples: **H16090351-001D, H16090351-002D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118934

Date: *28-Dec-16*

Run ID :Run Order: **FIA202-HE_160923B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **09/23/16 14:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.458	0.010	0.5	0	92	90	110				

Associated samples: **H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA202-HE_160923B: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **09/23/16 14:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.193	0.010	0.2	0	96	90	110				

Associated samples: **H16090351-003D, H16090351-004D**

Run ID :Run Order: **FIA202-HE_160923B: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **09/23/16 14:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.000720	0.010		0		0	0				

Associated samples: **H16090351-003D, H16090351-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119067

Date: *28-Dec-16*

Run ID :Run Order: **SOIL DRYING OVEN 2_160928A: 2** SampType: **Sample Duplicate** Lab ID: **H16090351-016ADUP** Method: **D2974**

Analysis Date: **09/29/16 08:32** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	17.7	0.20		0				16.73	5.7	20	

Associated samples: **H16090351-006A, H16090351-007A, H16090351-009A, H16090351-010A, H16090351-012A, H16090351-013A, H16090351-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119077

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **09/28/16 10:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0603	0.0010	0.06	0	101	90	110				
Arsenic	0.0602	0.0010	0.06	0	100	90	110				
Barium	0.0602	0.0010	0.06	0	100	90	110				
Beryllium	0.0302	0.0010	0.03	0	101	90	110				
Cadmium	0.0294	0.0010	0.03	0	98	90	110				
Chromium	0.0595	0.0010	0.06	0	99	90	110				
Cobalt	0.0594	0.0010	0.06	0	99	90	110				
Copper	0.0610	0.0010	0.06	0	102	90	110				
Lead	0.0578	0.0010	0.06	0	96	90	110				
Manganese	0.300	0.0010	0.3	0	100	90	110				
Molybdenum	0.0563	0.0010	0.06	0	94	90	110				
Nickel	0.0601	0.0010	0.06	0	100	90	110				
Selenium	0.0609	0.0010	0.06	0	101	90	110				
Silver	0.0296	0.0010	0.03	0	99	90	110				
Uranium	0.0573	0.00030	0.06	0	96	90	110				
Vanadium	0.0579	0.0010	0.06	0	96	90	110				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-015A, H16090351-016A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICPMS204-B_160928B: 84** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **09/28/16 23:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0608	0.0010	0.06	0	101	90	110				
Arsenic	0.0632	0.0010	0.06	0	105	90	110				
Barium	0.0608	0.0010	0.06	0	101	90	110				
Beryllium	0.0315	0.0010	0.03	0	105	90	110				
Cadmium	0.0317	0.0010	0.03	0	106	90	110				
Chromium	0.0615	0.0010	0.06	0	102	90	110				
Cobalt	0.0612	0.0010	0.06	0	102	90	110				
Copper	0.0624	0.0010	0.06	0	104	90	110				
Lead	0.0598	0.0010	0.06	0	100	90	110				
Manganese	0.310	0.0010	0.3	0	103	90	110				
Molybdenum	0.0591	0.0010	0.06	0	98	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119077

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160928B: 84** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **09/28/16 23:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.0620	0.0010	0.06	0	**103**	90	110				
Selenium	0.0650	0.0010	0.06	0	**108**	90	110				
Silver	0.0313	0.0010	0.03	0	**104**	90	110				
Uranium	0.0589	0.00030	0.06	0	**98**	90	110				
Vanadium	0.0596	0.0010	0.06	0	**99**	90	110				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-015A, H16090351-016A, H16090351-017A, H16090351-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119103

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160929B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **09/29/16 08:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.08	0.10	4	0	102	90	110				
Boron	0.791	0.10	0.8	0	99	90	110				
Copper	0.799	0.010	0.8	0	100	90	110				
Iron	3.98	0.030	4	0	99	90	110				
Manganese	3.89	0.010	4	0	97	90	110				
Zinc	0.790	0.010	0.8	0	99	90	110				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-015A, H16090351-016A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICP2-HE_160929B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **09/29/16 09:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	534	0.10	500	0	107	80	120				
Boron	-0.00514	0.10		0		0	0				
Copper	0.00162	0.010		0		0	0				
Iron	189	0.030	200	0	94	80	120				
Manganese	-0.00379	0.010		0		0	0				
Zinc	0.00288	0.010		0		0	0				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-015A, H16090351-016A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **ICP2-HE_160929B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **09/29/16 09:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	526	0.10	500	0	105	80	120				
Boron	0.977	0.10	1	0	98	80	120				
Copper	0.514	0.010	0.5	0	103	80	120				
Iron	186	0.030	200	0	93	80	120				
Manganese	0.466	0.010	0.5	0	93	80	120				
Zinc	0.969	0.010	1	0	97	80	120				

Associated samples: **H16090351-005A, H16090351-006A, H16090351-007A, H16090351-008A, H16090351-009A, H16090351-010A, H16090351-011A, H16090351-012A, H16090351-013A, H16090351-015A, H16090351-016A, H16090351-017A, H16090351-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119137

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160930B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **09/30/16 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	3.87	0.030	4	0	97	90	110				

Associated samples: **H16090351-009A**

Run ID :Run Order: **ICP2-HE_160930B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **09/30/16 10:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	184	0.030	200	0	92	80	120				

Associated samples: **H16090351-009A**

Run ID :Run Order: **ICP2-HE_160930B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **09/30/16 10:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	180	0.030	200	0	90	80	120				

Associated samples: **H16090351-009A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119142

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **10/02/16 19:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0592	0.0010	0.06	0	**99**	90	110				
Arsenic	0.0622	0.0010	0.06	0	**104**	90	110				
Barium	0.0589	0.0010	0.06	0	**98**	90	110				
Beryllium	0.0304	0.0010	0.03	0	**101**	90	110				
Boron	0.0582	0.0011	0.06	0	**97**	90	110				
Cadmium	0.0305	0.0010	0.03	0	**102**	90	110				
Chromium	0.0611	0.0010	0.06	0	**102**	90	110				
Copper	0.0623	0.0010	0.06	0	**104**	90	110				
Lead	0.0588	0.0010	0.06	0	**98**	90	110				
Molybdenum	0.0590	0.0010	0.06	0	**98**	90	110				
Nickel	0.0619	0.0010	0.06	0	**103**	90	110				
Selenium	0.0617	0.0010	0.06	0	**103**	90	110				
Silver	0.0311	0.0010	0.03	0	**104**	90	110				
Uranium	0.0586	0.00030	0.06	0	**98**	90	110				
Vanadium	0.0591	0.0010	0.06	0	**99**	90	110				
Zinc	0.0609	0.0010	0.06	0	**101**	90	110				

Associated samples: **H16090351-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119149

Date: *28-Dec-16*

Run ID :Run Order: **SOIL DRYING OVEN 2_160930B: 9** SampType: **Sample Duplicate** Lab ID: **H16090353-019ADUP** Method: **D2974**

Analysis Date: **10/03/16 10:49** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	20.0	0.20		0				19.26	3.8	20	

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-014A, H16090351-016A, H16090351-017A, H16090351-018A**

Run ID :Run Order: **SOIL DRYING OVEN 2_160930B: 2** SampType: **Sample Duplicate** Lab ID: **H16090353-034ADUP** Method: **D2974**

Analysis Date: **10/03/16 10:49** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	22.2	0.20		0				22.06	0.6	20	

Associated samples: **H16090351-005A, H16090351-008A, H16090351-011A, H16090351-014A, H16090351-016A, H16090351-017A, H16090351-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119179

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **10/03/16 08:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.07	0.10	4	0	102	90	110				
Cobalt	0.778	0.021	0.8	0	97	90	110				
Iron	3.99	0.030	4	0	100	90	110				
Manganese	3.92	0.010	4	0	98	90	110				
Zinc	0.797	0.010	0.8	0	100	90	110				

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICP2-HE_161003B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **10/03/16 09:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528	0.10	500	0	106	80	120				
Cobalt	-0.0315	0.021		0		0	0				
Iron	189	0.030	200	0	94	80	120				
Manganese	-0.00728	0.010		0		0	0				
Zinc	0.00135	0.010		0		0	0				

Associated samples: **H16090351-014A**

Run ID :Run Order: **ICP2-HE_161003B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **10/03/16 09:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	523	0.10	500	0	105	80	120				
Cobalt	0.449	0.021	0.5	0	90	80	120				
Iron	187	0.030	200	0	93	80	120				
Manganese	0.465	0.010	0.5	0	93	80	120				
Zinc	0.968	0.010	1	0	97	80	120				

Associated samples: **H16090351-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16090351
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160919A

Date: *28-Dec-16*

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 1** SampType: **Method Blank** Lab ID: **MB-1_160919A** Method: **A2540 D**

Analysis Date: **09/19/16 11:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_160919A** Method: **A2540 D**

Analysis Date: **09/19/16 11:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	91.0	10	100	0	**91**	80	120				

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 4** SampType: **Sample Duplicate** Lab ID: **H16090346-001ADUP** Method: **A2540 D**

Analysis Date: **09/19/16 11:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	10.8	10		0				9.286		5	

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 1** SampType: **Sample Duplicate** Lab ID: **H16090351-004ADUP** Method: **A2540 D**

Analysis Date: **09/19/16 11:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	1.50	10		0				1.875		5	

Associated samples: **H16090351-001A, H16090351-002A, H16090351-003A, H16090351-004A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

Natural Resource Damage Program H16090351

Login completed by: Tracy L. Lorash
Date Received: 9/16/2016
Reviewed by: BL2000\rwilliams
Received by: TLL
Reviewed Date: 9/30/2016
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	°C See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	Not Applicable ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Collection time on COC does not match collection time on bottles for samples SS-05A, Slag-01 and SS-04. Per Gary, we are to use time from COC.
Sample ID on COC is Field Blank #1 (SS-15G) -ID on bottles does not include parenthesis. Logged in with ID from COC.
Cooler 3 was received at 1.7°C, Cooler 5 at 0.6°C, Sediment box 1 at 11.9°C, Sediment box 2 at 11.6°C. Coolers were received on wet ice with the temperature taken from a temperature blank. Both sediment boxes were not received on ice and the temperature was taken from a client sample. tl 9/16/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: NRDP/DOJ

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Report Mail Address (Required): MT DEQ, P.O. Box 200901-0901, Helena, MT 59620-0901

☐ No Hard Copy Email:

Contact Name: Ben Quinones

Phone/Fax: 444-6593

Cell: email bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

Invoice Contact & Phone: Greg Mullen 444-0228

Purchase Order:

Quote/Bottle Order: 10881/20641

Invoice Address (Required): 1501 E. Lockey, Helena, MT 59620

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Shipped by: Hand delivery

Cooler ID(s): Handy

Receipt Temp: See comments

On Ice: (Y) N

Custody Seal: On Bottle Y (N); On Cooler Y (N)

Intact Y N

Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR Metals (see list)	Diss. Metals (see list)	TPN	NH_3-N, NO_3+NO_2, TP	TSS, VSS	Hardness (CaCO3 & Mg)	Total Alk, HCO_3, SO_4, Cl, K, Na	DOC	Total metals sediment (dry weight, see list)	SEE ATTACHED
1	SS-01	9-15-16	1730	SW, IS	↓	↓	↓	↓	↓	↓	↓	↓	↓	
2	SS-05A	9-15-16	1600	SW, IS	↓	↓	↓	↓	↓	↓	↓	↓	↓	
3	Field Blank #1 (SS-15G)	9-14-16	1300	SW	↓	↓	↓	↓	↓	↓	↓	↓		
4	SS-15G	9-14-16	1330	SW, IS	↓	↓	↓	↓	↓	↓	↓	↓	↓	
5	Sediment duplicate #2 (SS-01)	9-15-16	1730	IS									↓	
6														
7	Slag-01	9-15-16	1630	IS									*	
8	SS-04	9-15-16	1645	IS									*	
9														
10														

Comments: Diss. metals and DOC were field filtered. Lab to sieve sediment samples into 3 size fractions. Report sediment metals as dry weight concentrations. See exception for last 2 samples below.

Sed Box 1 = 11.9
Sed Box 2 = 11.6
C1 = 2.4
C2 = 0.9
C3 = 1.7
C4 = 0.3
C5 = 0.6
TB

* Analyze <0.063 mm size fraction only, and only Cu, As, Cd, Pb, Zn

LABORATORY USE ONLY: H16090351

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Gary L. Ingman	9-16-2016 1050	Gary L Ingman			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Grad	Date/Time: 9/16/16 10:50	Signature:

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

ANALYTICAL SUMMARY REPORT

December 28, 2016

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H16090353 Quote ID: H1088 - Silver Bow Monitoring

Project Name: Silver Bow Creek Monitoring

Energy Laboratories Inc Helena MT received the following 65 samples for MT DEQ-Federal Superfund on 9/16/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16090353-001	SS-06G	09/15/16 14:30	09/16/16	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended Solids, Suspended Volatile
H16090353-002	SS-07	09/15/16 14:00	09/16/16	Aqueous	Same As Above
H16090353-003	SS-08	09/15/16 13:00	09/16/16	Aqueous	Same As Above
H16090353-004	SS-10A	09/15/16 12:30	09/16/16	Aqueous	Same As Above
H16090353-005	Field Blank #2 (SS-10A)	09/15/16 12:30	09/16/16	Aqueous	Same As Above
H16090353-006	SS-10B	09/15/16 11:30	09/16/16	Aqueous	Same As Above
H16090353-007	SS-11C	09/15/16 10:45	09/16/16	Aqueous	Same As Above
H16090353-008	Field Duplicate #2 (SS-11C)	09/15/16 10:45	09/16/16	Aqueous	Same As Above
H16090353-009	SS-11D	09/15/16 9:45	09/16/16	Aqueous	Same As Above
H16090353-010	SS-13	09/14/16 16:30	09/16/16	Aqueous	Same As Above
H16090353-011	SS-14	09/14/16 15:30	09/16/16	Aqueous	Same As Above
H16090353-012	Field Duplicate #1 (SS-14)	09/14/16 15:30	09/16/16	Aqueous	Same As Above
H16090353-013	SS-15A	09/14/16 14:00	09/16/16	Aqueous	Same As Above
H16090353-014	SS-15B	09/14/16 12:30	09/16/16	Aqueous	Same As Above
H16090353-015	SS-16B	09/14/16 11:00	09/16/16	Aqueous	Same As Above
H16090353-016	SS-17D	09/14/16 10:00	09/16/16	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H16090353-017	SS-19	09/14/16 9:00	09/16/16	Aqueous	Same As Above
H16090353-018	SS-06G Sediment Sieve <0.065mm	09/15/16 14:30	09/16/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16090353-019	SS-06G Sediment Sieve 0.065-1mm	09/15/16 14:30	09/16/16	Sediment	Same As Above
H16090353-020	SS-06G Sediment Sieve 1-2mm	09/15/16 14:30	09/16/16	Sediment	Same As Above
H16090353-021	SS-07 Sediment Sieve <0.065mm	09/15/16 14:00	09/16/16	Sediment	Same As Above
H16090353-022	SS-07 Sediment Sieve 0.065-1mm	09/15/16 14:00	09/16/16	Sediment	Same As Above
H16090353-023	SS-07 Sediment Sieve 1-2mm	09/15/16 14:00	09/16/16	Sediment	Same As Above
H16090353-024	SS-08 Sediment Sieve <0.065mm	09/15/16 13:00	09/16/16	Sediment	Same As Above
H16090353-025	SS-08 Sediment Sieve 0.065-1mm	09/15/16 13:00	09/16/16	Sediment	Same As Above
H16090353-026	SS-08 Sediment Sieve 1-2mm	09/15/16 13:00	09/16/16	Sediment	Same As Above
H16090353-027	SS-10A Sediment Sieve <0.065mm	09/15/16 12:30	09/16/16	Sediment	Same As Above
H16090353-028	SS-10A Sediment Sieve 0.065-1mm	09/15/16 12:30	09/16/16	Sediment	Same As Above
H16090353-029	SS-10A Sediment Sieve 1-2mm	09/15/16 12:30	09/16/16	Sediment	Same As Above
H16090353-030	SS-10B Sediment Sieve <0.065mm	09/15/16 11:30	09/16/16	Sediment	Same As Above
H16090353-031	SS-10B Sediment Sieve 0.065-1mm	09/15/16 11:30	09/16/16	Sediment	Same As Above
H16090353-032	SS-10B Sediment Sieve 1-2mm	09/15/16 11:30	09/16/16	Sediment	Same As Above
H16090353-033	SS-11C Sediment Sieve <0.065mm	09/15/16 10:45	09/16/16	Sediment	Same As Above
H16090353-034	SS-11C Sediment Sieve 0.065-1mm	09/15/16 10:45	09/16/16	Sediment	Same As Above
H16090353-035	SS-11C Sediment Sieve 1-2mm	09/15/16 10:45	09/16/16	Sediment	Same As Above
H16090353-036	SS-11D Sediment Sieve <0.065mm	09/15/16 9:45	09/16/16	Sediment	Same As Above
H16090353-037	SS-11D Sediment Sieve 0.065-1mm	09/15/16 9:45	09/16/16	Sediment	Same As Above
H16090353-038	SS-11D Sediment Sieve 1-2mm	09/15/16 9:45	09/16/16	Sediment	Same As Above
H16090353-039	SS-13 Sediment Sieve <0.065mm	09/14/16 16:30	09/16/16	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H16090353-040	SS-13 Sediment Sieve 0.065-1mm	09/14/16 16:30	09/16/16	Sediment	Same As Above
H16090353-041	SS-13 Sediment Sieve 1-2mm	09/14/16 16:30	09/16/16	Sediment	Same As Above
H16090353-042	SS-14 Sediment Sieve <0.065mm	09/14/16 15:30	09/16/16	Sediment	Same As Above
H16090353-043	SS-14 Sediment Sieve 0.065-1mm	09/14/16 15:30	09/16/16	Sediment	Same As Above
H16090353-044	SS-14 Sediment Sieve 1-2mm	09/14/16 15:30	09/16/16	Sediment	Same As Above
H16090353-045	SS-15A Sediment Sieve <0.065mm	09/14/16 14:00	09/16/16	Sediment	Same As Above
H16090353-046	SS-15A Sediment Sieve 0.065-1mm	09/14/16 14:00	09/16/16	Sediment	Same As Above
H16090353-047	SS-15A Sediment Sieve 1-2mm	09/14/16 14:00	09/16/16	Sediment	Same As Above
H16090353-048	SS-15B Sediment Sieve <0.065mm	09/14/16 12:30	09/16/16	Sediment	Same As Above
H16090353-049	SS-15B Sediment Sieve 0.065-1mm	09/14/16 12:30	09/16/16	Sediment	Same As Above
H16090353-050	SS-15B Sediment Sieve 1-2mm	09/14/16 12:30	09/16/16	Sediment	Same As Above
H16090353-051	SS-16B Sediment Sieve <0.065mm	09/14/16 11:00	09/16/16	Sediment	Same As Above
H16090353-052	SS-16B Sediment Sieve 0.065-1mm	09/14/16 11:00	09/16/16	Sediment	Same As Above
H16090353-053	SS-16B Sediment Sieve 1-2mm	09/14/16 11:00	09/16/16	Sediment	Same As Above
H16090353-054	Sediment Duplicate #1 (SS-16B) Sediment Sieve <0.0	09/14/16 11:00	09/16/16	Sediment	Same As Above
H16090353-055	Sediment Duplicate #1 (SS-16B) Sediment Sieve 0.06	09/14/16 11:00	09/16/16	Sediment	Same As Above
H16090353-056	Sediment Duplicate #1 (SS-16B) Sediment Sieve 1-2m	09/14/16 11:00	09/16/16	Sediment	Same As Above
H16090353-057	SS-17D Sediment Sieve <0.065mm	09/14/16 10:00	09/16/16	Sediment	Same As Above
H16090353-058	SS-17D Sediment Sieve 0.065-1mm	09/14/16 10:00	09/16/16	Sediment	Same As Above
H16090353-059	SS-17D Sediment Sieve 1-2mm	09/14/16 10:00	09/16/16	Sediment	Same As Above
H16090353-060	SS-19 Sediment Sieve <0.065mm	09/14/16 9:00	09/16/16	Sediment	Same As Above
H16090353-061	SS-19 Sediment Sieve 0.065-1mm	09/14/16 9:00	09/16/16	Sediment	Same As Above
H16090353-062	SS-19 Sediment Sieve 1-2mm	09/14/16 9:00	09/16/16	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H16090353-063	SS-15A-2 Sediment Sieve <0.065mm	09/14/16 14:30	09/16/16	Sediment	Same As Above
H16090353-064	SS-15A-2 Sediment Sieve 0.065-1mm	09/14/16 14:30	09/16/16	Sediment	Same As Above
H16090353-065	SS-15A-2 Sediment Sieve 1-2mm	09/14/16 14:30	09/16/16	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: Silver Bow Creek Monitoring
Work Order: H16090353

Revised Date: 12/28/16
Report Date: 10/11/16

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

The report was revised due to an error in the (Total/Ortho)phosphorous result(s). Review of the method indicated there was an error in the preparation of the standards used for the analysis. The standard was prepared at 2x the concentration resulting in sample results half of the true value. The report was revised with the concentration re-calculated according to the concentrations used in the calibration curve. A corrective action has been initiated with preventative actions implemented. The revised report replaces your original report as phosphorous was revised. Abc 12/28/16

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16090353-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	09/19/16 11:37 / SR		L24 (14410200)_160919A	16	TSS160919A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	13	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	98	mg/L		4		A2320 B	09/19/16 13:40 / SR		PHSC_101-H_160919A	80	R118760
Bicarbonate as HCO3	120	mg/L		4		A2320 B	09/19/16 13:40 / SR		PHSC_101-H_160919A	80	R118760
Chloride	29	mg/L		1		E300.0	09/20/16 15:50 / SR		IC102-H_160920A	50	R118837
Sulfate	121	mg/L		1		E300.0	09/20/16 15:50 / SR		IC102-H_160920A	50	R118837
Hardness as CaCO3	204	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	19	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.0	mg/L		0.5		A5310 C	09/25/16 15:55 / eli-c		SUB-C215617	30	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 11:57 / cm		FIA203-HE_160919A	103	R118775
Nitrogen, Nitrate+Nitrite as N	1.53	mg/L		0.02		E353.2	09/20/16 15:42 / cm		FIA203-HE_160920C	66	R118834
Nitrogen, Total	1.65	mg/L		0.05		A4500 N-C	09/20/16 12:08 / cm	09/20/16 08:40	FIA203-HE_160920A	107	34493
Phosphorus, Total as P	0.067	mg/L		0.003		E365.1	09/23/16 14:50 / cm	09/23/16 09:22	FIA202-HE_160923B	22	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Arsenic	0.004	mg/L		0.001		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Barium	0.046	mg/L		0.003		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:40 / sld		ICP2-HE_160919A	106	R118771
Cadmium	0.00004	mg/L		0.00003		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Calcium	60	mg/L		1		E200.7	09/19/16 17:40 / sld		ICP2-HE_160919A	106	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Copper	0.003	mg/L		0.001		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Iron	0.05	mg/L		0.02		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16090353-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Magnesium	15	mg/L		1		E200.7	09/19/16 17:40 / sld		ICP2-HE_160919A	106	R118771
Manganese	0.036	mg/L		0.001		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:01 / rgk	09/22/16 22:21	HGCV202-H_160926A	32	34536
Molybdenum	0.007	mg/L		0.005		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Potassium	4	mg/L		1		E200.7	09/19/16 17:40 / sld		ICP2-HE_160919A	106	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Sodium	24	mg/L		1		E200.7	09/19/16 17:40 / sld		ICP2-HE_160919A	106	R118771
Uranium	0.0053	mg/L		0.0002		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
Zinc	ND	mg/L		0.008		E200.8	09/20/16 22:29 / dck		ICPMS204-B_160920A	214	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.095	mg/L		0.009		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Arsenic	0.005	mg/L		0.001		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Barium	0.048	mg/L		0.003		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 12:43 / sld	09/19/16 09:14	ICP2-HE_160919C	80	34478
Cadmium	0.00010	mg/L		0.00003		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Calcium	58	mg/L		1		E200.7	09/20/16 12:43 / sld	09/19/16 09:14	ICP2-HE_160919C	80	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Copper	0.008	mg/L		0.001		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Iron	0.28	mg/L		0.02		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Lead	0.0022	mg/L		0.0003		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Magnesium	15	mg/L		1		E200.7	09/20/16 12:43 / sld	09/19/16 09:14	ICP2-HE_160919C	80	34478
Manganese	0.075	mg/L		0.001		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Mercury	0.000012	mg/L		5E-06		E245.1	09/26/16 13:04 / rgk	09/22/16 22:21	HGCV202-H_160926A	33	34536
Molybdenum	0.007	mg/L		0.005		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16090353-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Potassium	4	mg/L		1		E200.7	09/20/16 12:43 / sld	09/19/16 09:14	ICP2-HE_160919C	80	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Sodium	24	mg/L		1		E200.7	09/20/16 12:43 / sld	09/19/16 09:14	ICP2-HE_160919C	80	34478
Uranium	0.0056	mg/L		0.0002		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478
Zinc	0.019	mg/L		0.008		E200.8	09/20/16 22:32 / dck	09/19/16 09:14	ICPMS204-B_160920A	215	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16090353-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	09/19/16 11:37 / SR		L24 (14410200)_160919A	17	TSS160919A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	14	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	09/19/16 13:46 / SR		PHSC_101-H_160919A	82	R118760
Bicarbonate as HCO3	130	mg/L		4		A2320 B	09/19/16 13:46 / SR		PHSC_101-H_160919A	82	R118760
Chloride	33	mg/L		1		E300.0	09/20/16 16:01 / SR		IC102-H_160920A	51	R118837
Sulfate	98	mg/L		1		E300.0	09/20/16 16:01 / SR		IC102-H_160920A	51	R118837
Hardness as CaCO3	182	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	20	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.1	mg/L		0.5		A5310 C	09/25/16 16:11 / eli-c		SUB-C215617	31	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 11:59 / cm		FIA203-HE_160919A	104	R118775
Nitrogen, Nitrate+Nitrite as N	1.84	mg/L		0.02		E353.2	09/20/16 15:44 / cm		FIA203-HE_160920C	67	R118834
Nitrogen, Total	2.14	mg/L	D	0.06		A4500 N-C	09/20/16 12:49 / cm	09/20/16 08:40	FIA203-HE_160920A	141	34493
Phosphorus, Total as P	0.282	mg/L		0.003		E365.1	09/23/16 14:51 / cm	09/23/16 09:22	FIA202-HE_160923B	23	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Arsenic	0.004	mg/L		0.001		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Barium	0.041	mg/L		0.003		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:43 / sld		ICP2-HE_160919A	107	R118771
Cadmium	0.00005	mg/L		0.00003		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Calcium	53	mg/L		1		E200.7	09/19/16 17:43 / sld		ICP2-HE_160919A	107	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Copper	0.004	mg/L		0.001		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Iron	0.05	mg/L		0.02		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16090353-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Magnesium	13	mg/L		1		E200.7	09/19/16 17:43 / sld		ICP2-HE_160919A	107	R118771
Manganese	0.034	mg/L		0.001		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:07 / rgk	09/22/16 22:21	HGCV202-H_160926A	34	34536
Molybdenum	0.006	mg/L		0.005		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Potassium	7	mg/L		1		E200.7	09/19/16 17:43 / sld		ICP2-HE_160919A	107	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Sodium	30	mg/L		1		E200.7	09/19/16 17:43 / sld		ICP2-HE_160919A	107	R118771
Uranium	0.0040	mg/L		0.0002		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
Zinc	0.043	mg/L		0.008		E200.8	09/20/16 22:35 / dck		ICPMS204-B_160920A	216	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.080	mg/L		0.009		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Arsenic	0.004	mg/L		0.001		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Barium	0.040	mg/L		0.003		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 12:47 / sld	09/19/16 09:14	ICP2-HE_160919C	81	34478
Cadmium	0.00012	mg/L		0.00003		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Calcium	52	mg/L		1		E200.7	09/20/16 12:47 / sld	09/19/16 09:14	ICP2-HE_160919C	81	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Copper	0.008	mg/L		0.001		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Iron	0.22	mg/L		0.02		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Lead	0.0018	mg/L		0.0003		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Magnesium	13	mg/L		1		E200.7	09/20/16 12:47 / sld	09/19/16 09:14	ICP2-HE_160919C	81	34478
Manganese	0.073	mg/L		0.001		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:10 / rgk	09/22/16 22:21	HGCV202-H_160926A	35	34536
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16090353-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Potassium	6	mg/L		1		E200.7	09/20/16 12:47 / sld	09/19/16 09:14	ICP2-HE_160919C	81	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Sodium	30	mg/L		1		E200.7	09/20/16 12:47 / sld	09/19/16 09:14	ICP2-HE_160919C	81	34478
Uranium	0.0042	mg/L		0.0002		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478
Zinc	0.055	mg/L		0.008		E200.8	09/20/16 22:39 / dck	09/19/16 09:14	ICPMS204-B_160920A	217	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16090353-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 13:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	17	mg/L		1		A2540 D	09/19/16 11:38 / SR		L24 (14410200)_160919A	18	TSS160919A
Solids, Volatile Suspended	5	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	15	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	09/19/16 13:51 / SR		PHSC_101-H_160919A	84	R118760
Bicarbonate as HCO3	130	mg/L		4		A2320 B	09/19/16 13:51 / SR		PHSC_101-H_160919A	84	R118760
Chloride	33	mg/L		1		E300.0	09/20/16 16:12 / SR		IC102-H_160920A	52	R118837
Sulfate	102	mg/L		1		E300.0	09/20/16 16:12 / SR		IC102-H_160920A	52	R118837
Hardness as CaCO3	184	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	21	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.4	mg/L		0.5		A5310 C	09/25/16 16:26 / eli-c		SUB-C215617	32	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:00 / cm		FIA203-HE_160919A	105	R118775
Nitrogen, Nitrate+Nitrite as N	1.08	mg/L		0.02		E353.2	09/21/16 08:56 / cm		FIA203-HE_160921A	12	R118851
Nitrogen, Total	1.48	mg/L		0.05		A4500 N-C	09/20/16 12:11 / cm	09/20/16 08:40	FIA203-HE_160920A	109	34493
Phosphorus, Total as P	0.402	mg/L		0.003		E365.1	09/23/16 14:52 / cm	09/23/16 09:22	FIA202-HE_160923B	24	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Arsenic	0.004	mg/L		0.001		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Barium	0.041	mg/L		0.003		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:47 / sld		ICP2-HE_160919A	108	R118771
Cadmium	0.00009	mg/L		0.00003		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Calcium	53	mg/L		1		E200.7	09/19/16 17:47 / sld		ICP2-HE_160919A	108	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Copper	0.005	mg/L		0.001		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Iron	0.05	mg/L		0.02		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16090353-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 13:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Magnesium	13	mg/L		1		E200.7	09/19/16 17:47 / sld		ICP2-HE_160919A	108	R118771
Manganese	0.096	mg/L		0.001		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:12 / rgk	09/22/16 22:21	HGCV202-H_160926A	36	34536
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Potassium	6	mg/L		1		E200.7	09/19/16 17:47 / sld		ICP2-HE_160919A	108	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Sodium	30	mg/L		1		E200.7	09/19/16 17:47 / sld		ICP2-HE_160919A	108	R118771
Uranium	0.0044	mg/L		0.0002		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
Zinc	0.035	mg/L		0.008		E200.8	09/20/16 22:42 / dck		ICPMS204-B_160920A	218	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.280	mg/L		0.009		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Arsenic	0.005	mg/L		0.001		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Barium	0.048	mg/L		0.003		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 12:50 / sld	09/19/16 09:14	ICP2-HE_160919C	82	34478
Cadmium	0.00025	mg/L		0.00003		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Calcium	52	mg/L		1		E200.7	09/20/16 12:50 / sld	09/19/16 09:14	ICP2-HE_160919C	82	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Copper	0.016	mg/L		0.001		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Iron	0.56	mg/L		0.02		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Lead	0.0058	mg/L		0.0003		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Magnesium	13	mg/L		1		E200.7	09/20/16 12:50 / sld	09/19/16 09:14	ICP2-HE_160919C	82	34478
Manganese	0.163	mg/L		0.001		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Mercury	0.000022	mg/L		5E-06		E245.1	09/26/16 13:15 / rgk	09/22/16 22:21	HGCV202-H_160926A	37	34536
Molybdenum	0.006	mg/L		0.005		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16090353-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 13:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Potassium	6	mg/L		1		E200.7	09/20/16 12:50 / sld	09/19/16 09:14	ICP2-HE_160919C	82	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Sodium	30	mg/L		1		E200.7	09/20/16 12:50 / sld	09/19/16 09:14	ICP2-HE_160919C	82	34478
Uranium	0.0047	mg/L		0.0002		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478
Zinc	0.073	mg/L		0.008		E200.8	09/20/16 22:45 / dck	09/19/16 09:14	ICPMS204-B_160920A	219	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16090353-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	9	mg/L		1		A2540 D	09/19/16 11:38 / SR		L24 (14410200)_160919A	19	TSS160919A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	16	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	09/19/16 13:57 / SR		PHSC_101-H_160919A	86	R118760
Bicarbonate as HCO3	130	mg/L		4		A2320 B	09/19/16 13:57 / SR		PHSC_101-H_160919A	86	R118760
Chloride	30	mg/L		1		E300.0	09/20/16 16:23 / SR		IC102-H_160920A	53	R118837
Sulfate	95	mg/L		1		E300.0	09/20/16 16:23 / SR		IC102-H_160920A	53	R118837
Hardness as CaCO3	177	mg/L		1		A2340 B	09/19/16 17:51 / abc		CALC_160921B	608	R118880
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.2	mg/L		0.5		A5310 C	09/25/16 18:06 / eli-c		SUB-C215617	36	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:01 / cm		FIA203-HE_160919A	106	R118775
Nitrogen, Nitrate+Nitrite as N	0.92	mg/L		0.02		E353.2	09/21/16 08:57 / cm		FIA203-HE_160921A	13	R118851
Nitrogen, Total	1.30	mg/L		0.05		A4500 N-C	09/20/16 12:12 / cm	09/20/16 08:40	FIA203-HE_160920A	110	34493
Phosphorus, Total as P	0.505	mg/L		0.003		E365.1	09/23/16 14:53 / cm	09/23/16 09:22	FIA202-HE_160923B	25	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Arsenic	0.005	mg/L		0.001		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Barium	0.039	mg/L		0.003		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:51 / sld		ICP2-HE_160919A	109	R118771
Cadmium	0.00007	mg/L		0.00003		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Calcium	50	mg/L		1		E200.7	09/19/16 17:51 / sld		ICP2-HE_160919A	109	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Copper	0.008	mg/L		0.001		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Iron	0.03	mg/L		0.02		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16090353-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Magnesium	12	mg/L		1		E200.7	09/19/16 17:51 / sld		ICP2-HE_160919A	109	R118771
Manganese	0.074	mg/L		0.001		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:18 / rgk	09/22/16 22:21	HGCV202-H_160926A	38	34536
Molybdenum	ND	mg/L		0.005		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Potassium	6	mg/L		1		E200.7	09/19/16 17:51 / sld		ICP2-HE_160919A	109	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Sodium	30	mg/L		1		E200.7	09/19/16 17:51 / sld		ICP2-HE_160919A	109	R118771
Uranium	0.0036	mg/L		0.0002		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
Zinc	0.030	mg/L		0.008		E200.8	09/20/16 22:59 / dck		ICPMS204-B_160920A	223	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.113	mg/L		0.009		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Antimony	0.0006	mg/L		0.0005		E200.8	09/21/16 17:48 / dck	09/19/16 09:14	ICPMS204-B_160921C	83	34478
Arsenic	0.005	mg/L		0.001		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Barium	0.043	mg/L		0.003		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 12:54 / sld	09/19/16 09:14	ICP2-HE_160919C	83	34478
Cadmium	0.00020	mg/L		0.00003		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Calcium	49	mg/L		1		E200.7	09/20/16 12:54 / sld	09/19/16 09:14	ICP2-HE_160919C	83	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Copper	0.018	mg/L		0.001		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Iron	0.26	mg/L		0.02		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Lead	0.0021	mg/L		0.0003		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Magnesium	12	mg/L		1		E200.7	09/20/16 12:54 / sld	09/19/16 09:14	ICP2-HE_160919C	83	34478
Manganese	0.118	mg/L		0.001		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Mercury	9.3E-06	mg/L		5E-06		E245.1	09/26/16 13:31 / rgk	09/22/16 22:25	HGCV202-H_160926A	43	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16090353-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Potassium	6	mg/L		1		E200.7	09/20/16 12:54 / sld	09/19/16 09:14	ICP2-HE_160919C	83	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Silver	ND	mg/L		0.0002		E200.8	09/21/16 17:48 / dck	09/19/16 09:14	ICPMS204-B_160921C	83	34478
Sodium	30	mg/L		1		E200.7	09/20/16 12:54 / sld	09/19/16 09:14	ICP2-HE_160919C	83	34478
Uranium	0.0038	mg/L		0.0002		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478
Zinc	0.053	mg/L		0.008		E200.8	09/20/16 23:12 / dck	09/19/16 09:14	ICPMS204-B_160920A	227	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 (SS-10A)
Lab ID: H16090353-005
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	09/19/16 11:38 / SR		L24 (14410200)_160919A	20	TSS160919A
Solids, Volatile Suspended	ND	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	17	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	09/19/16 14:02 / SR		PHSC_101-H_160919A	88	R118760
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	09/19/16 14:02 / SR		PHSC_101-H_160919A	88	R118760
Chloride	ND	mg/L		1		E300.0	09/20/16 16:34 / SR		IC102-H_160920A	54	R118837
Sulfate	ND	mg/L		1		E300.0	09/20/16 16:34 / SR		IC102-H_160920A	54	R118837
Hardness as CaCO3	ND	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	22	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	09/25/16 18:26 / eli-c		SUB-C215617	37	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:02 / cm		FIA203-HE_160919A	107	R118775
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	09/21/16 08:58 / cm		FIA203-HE_160921A	14	R118851
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	09/20/16 12:13 / cm	09/20/16 08:40	FIA203-HE_160920A	111	34493
Phosphorus, Total as P	0.008	mg/L		0.003		E365.1	09/23/16 14:54 / cm	09/23/16 09:22	FIA202-HE_160923B	26	34541
-Phosphorous was confirmed by re-analysis.											
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Arsenic	ND	mg/L		0.001		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Barium	0.004	mg/L		0.003		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:55 / sld		ICP2-HE_160919A	110	R118771
Cadmium	ND	mg/L		0.00003		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Calcium	ND	mg/L		1		E200.7	09/19/16 17:55 / sld		ICP2-HE_160919A	110	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Copper	ND	mg/L		0.001		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 (SS-10A)
Lab ID: H16090353-005
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 12:30 **DateReceived:** 09/16/16
Report Date: 10/11/16 **Revised Date:** 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Iron	ND	mg/L		0.02		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Lead	ND	mg/L		0.0003		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Magnesium	ND	mg/L		1		E200.7	09/19/16 17:55 / sld		ICP2-HE_160919A	110	R118771
Manganese	ND	mg/L		0.001		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:39 / rgk	09/22/16 22:25	HGCV202-H_160926A	46	34537
Molybdenum	ND	mg/L		0.005		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Potassium	ND	mg/L		1		E200.7	09/19/16 17:55 / sld		ICP2-HE_160919A	110	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Sodium	ND	mg/L		1		E200.7	09/19/16 17:55 / sld		ICP2-HE_160919A	110	R118771
Uranium	ND	mg/L		0.0002		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:15 / dck		ICPMS204-B_160920A	228	R118827
Zinc	0.016	mg/L		0.008		E200.8	09/21/16 17:52 / dck		ICPMS204-B_160921C	84	R118878
-Barium was confirmed by re-analysis.											
METALS, TOTAL RECOVERABLE											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Arsenic	ND	mg/L		0.001		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Barium	ND	mg/L		0.003		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 12:58 / sld	09/19/16 09:14	ICP2-HE_160919C	84	34478
Cadmium	ND	mg/L		0.00003		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Calcium	ND	mg/L		1		E200.7	09/20/16 12:58 / sld	09/19/16 09:14	ICP2-HE_160919C	84	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Copper	ND	mg/L		0.001		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Iron	ND	mg/L		0.02		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Lead	ND	mg/L		0.0003		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Magnesium	ND	mg/L		1		E200.7	09/20/16 12:58 / sld	09/19/16 09:14	ICP2-HE_160919C	84	34478
Manganese	ND	mg/L		0.001		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:42 / rgk	09/22/16 22:25	HGCV202-H_160926A	47	34537

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 (SS-10A)
Lab ID: H16090353-005
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Molybdenum	ND	mg/L		0.005		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Potassium	ND	mg/L		1		E200.7	09/20/16 12:58 / sld	09/19/16 09:14	ICP2-HE_160919C	84	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Sodium	ND	mg/L		1		E200.7	09/20/16 12:58 / sld	09/19/16 09:14	ICP2-HE_160919C	84	34478
Uranium	ND	mg/L		0.0002		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478
Zinc	ND	mg/L		0.008		E200.8	09/20/16 23:18 / dck	09/19/16 09:14	ICPMS204-B_160920A	229	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16090353-006
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 11:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	09/19/16 11:39 / SR		L24 (14410200)_160919A	21	TSS160919A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	09/20/16 10:55 / SR		MISC WC_160920A	18	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	09/19/16 14:07 / SR		PHSC_101-H_160919A	90	R118760
Bicarbonate as HCO3	130	mg/L		4		A2320 B	09/19/16 14:07 / SR		PHSC_101-H_160919A	90	R118760
Chloride	30	mg/L		1		E300.0	09/20/16 16:45 / SR		IC102-H_160920A	55	R118837
Sulfate	93	mg/L		1		E300.0	09/20/16 16:45 / SR		IC102-H_160920A	55	R118837
Hardness as CaCO3	170	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	23	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.6	mg/L		0.5		A5310 C	09/25/16 18:45 / eli-c		SUB-C215617	38	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:03 / cm		FIA203-HE_160919A	108	R118775
Nitrogen, Nitrate+Nitrite as N	0.94	mg/L		0.02		E353.2	09/21/16 09:02 / cm		FIA203-HE_160921A	17	R118851
Nitrogen, Total	1.33	mg/L		0.05		A4500 N-C	09/20/16 12:14 / cm	09/20/16 08:40	FIA203-HE_160920A	112	34493
Phosphorus, Total as P	0.509	mg/L		0.003		E365.1	09/23/16 14:55 / cm	09/23/16 09:22	FIA202-HE_160923B	27	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Antimony	0.0006	mg/L		0.0005		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Arsenic	0.005	mg/L		0.001		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Barium	0.041	mg/L		0.003		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 17:59 / sld		ICP2-HE_160919A	111	R118771
Cadmium	0.00009	mg/L		0.00003		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Calcium	51	mg/L		1		E200.7	09/19/16 17:59 / sld		ICP2-HE_160919A	111	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Copper	0.009	mg/L		0.001		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Iron	0.03	mg/L		0.02		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16090353-006
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 11:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Magnesium	12	mg/L		1		E200.7	09/19/16 17:59 / sld		ICP2-HE_160919A	111	R118771
Manganese	0.080	mg/L		0.001		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:45 / rgk	09/22/16 22:25	HGCV202-H_160926A	48	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Potassium	7	mg/L		1		E200.7	09/19/16 17:59 / sld		ICP2-HE_160919A	111	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Sodium	30	mg/L		1		E200.7	09/19/16 17:59 / sld		ICP2-HE_160919A	111	R118771
Uranium	0.0034	mg/L		0.0002		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
Zinc	0.038	mg/L		0.008		E200.8	09/20/16 23:22 / dck		ICPMS204-B_160920A	230	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.131	mg/L		0.009		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Antimony	0.0007	mg/L		0.0005		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Arsenic	0.005	mg/L		0.001		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Barium	0.043	mg/L		0.003		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 13:02 / sld	09/19/16 09:14	ICP2-HE_160919C	85	34478
Cadmium	0.00015	mg/L		0.00003		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Calcium	49	mg/L		1		E200.7	09/20/16 13:02 / sld	09/19/16 09:14	ICP2-HE_160919C	85	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Copper	0.018	mg/L		0.001		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Iron	0.27	mg/L		0.02		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Lead	0.0020	mg/L		0.0003		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Magnesium	12	mg/L		1		E200.7	09/20/16 13:02 / sld	09/19/16 09:14	ICP2-HE_160919C	85	34478
Manganese	0.116	mg/L		0.001		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Mercury	9.2E-06	mg/L		5E-06		E245.1	09/26/16 13:48 / rgk	09/22/16 22:25	HGCV202-H_160926A	49	34537
Molybdenum	0.006	mg/L		0.005		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16090353-006
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 11:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Potassium	6	mg/L		1		E200.7	09/20/16 13:02 / sld	09/19/16 09:14	ICP2-HE_160919C	85	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Sodium	29	mg/L		1		E200.7	09/20/16 13:02 / sld	09/19/16 09:14	ICP2-HE_160919C	85	34478
Uranium	0.0036	mg/L		0.0002		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478
Zinc	0.055	mg/L		0.008		E200.8	09/20/16 23:25 / dck	09/19/16 09:14	ICPMS204-B_160920A	231	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16090353-007
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 10:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	09/19/16 11:39 / SR		L24 (14410200)_160919A	22	TSS160919A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	19	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/19/16 14:13 / SR		PHSC_101-H_160919A	92	R118760
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/19/16 14:13 / SR		PHSC_101-H_160919A	92	R118760
Chloride	58	mg/L		1		E300.0	09/20/16 16:56 / SR		IC102-H_160920A	56	R118837
Sulfate	95	mg/L		1		E300.0	09/20/16 16:56 / SR		IC102-H_160920A	56	R118837
Hardness as CaCO3	212	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	24	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.6	mg/L		0.5		A5310 C	09/25/16 19:04 / eli-c		SUB-C215617	39	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:07 / cm		FIA203-HE_160919A	111	R118775
Nitrogen, Nitrate+Nitrite as N	0.96	mg/L		0.02		E353.2	09/21/16 09:03 / cm		FIA203-HE_160921A	18	R118851
Nitrogen, Total	1.29	mg/L		0.05		A4500 N-C	09/20/16 12:16 / cm	09/20/16 08:40	FIA203-HE_160920A	113	34493
Phosphorus, Total as P	0.428	mg/L	D	0.004		E365.1	09/23/16 14:58 / cm	09/23/16 09:22	FIA202-HE_160923B	30	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Antimony	0.0006	mg/L		0.0005		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Arsenic	0.006	mg/L		0.001		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Barium	0.043	mg/L		0.003		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:02 / sld		ICP2-HE_160919A	112	R118771
Cadmium	0.00009	mg/L		0.00003		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Calcium	66	mg/L		1		E200.7	09/19/16 18:02 / sld		ICP2-HE_160919A	112	R118771
Chromium	ND	mg/L		0.01		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Copper	0.008	mg/L		0.001		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Iron	0.03	mg/L		0.02		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16090353-007
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 10:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Magnesium	13	mg/L		1		E200.7	09/19/16 18:02 / sld		ICP2-HE_160919A	112	R118771
Manganese	0.106	mg/L		0.001		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:50 / rgk	09/22/16 22:25	HGCV202-H_160926A	50	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Nickel	ND	mg/L		0.002		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Potassium	7	mg/L		1		E200.7	09/19/16 18:02 / sld		ICP2-HE_160919A	112	R118771
Selenium	ND	mg/L		0.001		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Silver	ND	mg/L		0.0002		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Sodium	33	mg/L		1		E200.7	09/19/16 18:02 / sld		ICP2-HE_160919A	112	R118771
Uranium	0.0042	mg/L		0.0002		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
Zinc	0.046	mg/L		0.008		E200.8	09/21/16 17:55 / dck		ICPMS204-B_160921C	85	R118878
METALS, TOTAL RECOVERABLE											
Aluminum	0.054	mg/L		0.009		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Antimony	0.0005	mg/L		0.0005		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Arsenic	0.006	mg/L		0.001		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Barium	0.046	mg/L		0.003		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 13:13 / sld	09/19/16 09:14	ICP2-HE_160919C	88	34478
Cadmium	0.00022	mg/L		0.00003		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Calcium	64	mg/L		1		E200.7	09/20/16 13:13 / sld	09/19/16 09:14	ICP2-HE_160919C	88	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Copper	0.015	mg/L		0.001		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Iron	0.16	mg/L		0.02		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Lead	0.0013	mg/L		0.0003		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Magnesium	13	mg/L		1		E200.7	09/20/16 13:13 / sld	09/19/16 09:14	ICP2-HE_160919C	88	34478
Manganese	0.150	mg/L		0.001		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Mercury	6.9E-06	mg/L		5E-06		E245.1	09/26/16 13:53 / rgk	09/22/16 22:25	HGCV202-H_160926A	51	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16090353-007
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 10:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Potassium	7	mg/L		1		E200.7	09/20/16 13:13 / sld	09/19/16 09:14	ICP2-HE_160919C	88	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Sodium	33	mg/L		1		E200.7	09/20/16 13:13 / sld	09/19/16 09:14	ICP2-HE_160919C	88	34478
Uranium	0.0045	mg/L		0.0002		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478
Zinc	0.067	mg/L		0.008		E200.8	09/20/16 23:31 / dck	09/19/16 09:14	ICPMS204-B_160920A	233	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #2 (SS-11C)
Lab ID: H16090353-008
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 10:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	09/19/16 11:39 / SR		L24 (14410200)_160919A	23	TSS160919A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	20	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/19/16 14:18 / SR		PHSC_101-H_160919A	94	R118760
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/19/16 14:18 / SR		PHSC_101-H_160919A	94	R118760
Chloride	57	mg/L		1		E300.0	09/20/16 18:03 / SR		IC102-H_160920A	62	R118837
Sulfate	94	mg/L		1		E300.0	09/20/16 18:03 / SR		IC102-H_160920A	62	R118837
Hardness as CaCO3	209	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	25	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.5	mg/L		0.5		A5310 C	09/25/16 19:23 / eli-c		SUB-C215617	40	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:11 / cm		FIA203-HE_160919A	114	R118775
Nitrogen, Nitrate+Nitrite as N	0.96	mg/L		0.02		E353.2	09/21/16 09:04 / cm		FIA203-HE_160921A	19	R118851
Nitrogen, Total	1.28	mg/L		0.05		A4500 N-C	09/20/16 12:17 / cm	09/20/16 08:40	FIA203-HE_160920A	114	34493
Phosphorus, Total as P	0.492	mg/L		0.003		E365.1	09/23/16 15:01 / cm	09/23/16 09:22	FIA202-HE_160923B	33	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Arsenic	0.006	mg/L		0.001		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Barium	0.043	mg/L		0.003		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:06 / sld		ICP2-HE_160919A	113	R118771
Cadmium	0.00013	mg/L		0.00003		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Calcium	65	mg/L		1		E200.7	09/19/16 18:06 / sld		ICP2-HE_160919A	113	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Copper	0.008	mg/L		0.001		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Iron	0.02	mg/L		0.02		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #2 (SS-11C)
Lab ID: H16090353-008
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 10:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Magnesium	13	mg/L		1		E200.7	09/19/16 18:06 / sld		ICP2-HE_160919A	113	R118771
Manganese	0.104	mg/L		0.001		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 13:56 / rgk	09/22/16 22:25	HGCV202-H_160926A	52	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Potassium	7	mg/L		1		E200.7	09/19/16 18:06 / sld		ICP2-HE_160919A	113	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Sodium	33	mg/L		1		E200.7	09/19/16 18:06 / sld		ICP2-HE_160919A	113	R118771
Uranium	0.0043	mg/L		0.0002		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
Zinc	0.047	mg/L		0.008		E200.8	09/20/16 23:45 / dck		ICPMS204-B_160920A	237	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.095	mg/L		0.009		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Arsenic	0.006	mg/L		0.001		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Barium	0.047	mg/L		0.003		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 13:17 / sld	09/19/16 09:14	ICP2-HE_160919C	89	34478
Cadmium	0.00022	mg/L		0.00003		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Calcium	63	mg/L		1		E200.7	09/20/16 13:17 / sld	09/19/16 09:14	ICP2-HE_160919C	89	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Copper	0.015	mg/L		0.001		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Iron	0.20	mg/L		0.02		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Lead	0.0014	mg/L		0.0003		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Magnesium	13	mg/L		1		E200.7	09/20/16 13:17 / sld	09/19/16 09:14	ICP2-HE_160919C	89	34478
Manganese	0.150	mg/L		0.001		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Mercury	6.2E-06	mg/L		5E-06		E245.1	09/26/16 13:59 / rgk	09/22/16 22:25	HGCV202-H_160926A	53	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #2 (SS-11C)
Lab ID: H16090353-008
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 10:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Potassium	7	mg/L		1		E200.7	09/20/16 13:17 / sld	09/19/16 09:14	ICP2-HE_160919C	89	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Sodium	33	mg/L		1		E200.7	09/20/16 13:17 / sld	09/19/16 09:14	ICP2-HE_160919C	89	34478
Uranium	0.0045	mg/L		0.0002		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478
Zinc	0.064	mg/L		0.008		E200.8	09/20/16 23:48 / dck	09/19/16 09:14	ICPMS204-B_160920A	238	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16090353-009
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 09:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	09/19/16 11:39 / SR		L24 (14410200)_160919A	24	TSS160919A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	21	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/19/16 14:24 / SR		PHSC_101-H_160919A	96	R118760
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/19/16 14:24 / SR		PHSC_101-H_160919A	96	R118760
Chloride	56	mg/L		1		E300.0	09/20/16 18:14 / SR		IC102-H_160920A	63	R118837
Sulfate	94	mg/L		1		E300.0	09/20/16 18:14 / SR		IC102-H_160920A	63	R118837
Hardness as CaCO3	205	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	26	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.4	mg/L		0.5		A5310 C	09/25/16 19:42 / eli-c		SUB-C215617	41	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:12 / cm		FIA203-HE_160919A	115	R118775
Nitrogen, Nitrate+Nitrite as N	0.96	mg/L		0.02		E353.2	09/21/16 09:05 / cm		FIA203-HE_160921A	20	R118851
Nitrogen, Total	1.23	mg/L	D	0.06		A4500 N-C	09/20/16 12:36 / cm	09/20/16 08:40	FIA203-HE_160920A	130	34493
Phosphorus, Total as P	0.489	mg/L		0.003		E365.1	09/23/16 15:02 / cm	09/23/16 09:22	FIA202-HE_160923B	34	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Antimony	0.0005	mg/L		0.0005		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Arsenic	0.006	mg/L		0.001		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Barium	0.045	mg/L		0.003		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:28 / sld		ICP2-HE_160919A	119	R118771
Cadmium	0.00013	mg/L		0.00003		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Calcium	63	mg/L		1		E200.7	09/19/16 18:28 / sld		ICP2-HE_160919A	119	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Copper	0.008	mg/L		0.001		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Iron	0.03	mg/L		0.02		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16090353-009
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 09:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Magnesium	13	mg/L		1		E200.7	09/19/16 18:28 / sld		ICP2-HE_160919A	119	R118771
Manganese	0.110	mg/L		0.001		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Mercury	6.4E-06	mg/L		5E-06		E245.1	09/26/16 14:07 / rgk	09/22/16 22:25	HGCV202-H_160926A	56	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Potassium	7	mg/L		1		E200.7	09/19/16 18:28 / sld		ICP2-HE_160919A	119	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Sodium	32	mg/L		1		E200.7	09/19/16 18:28 / sld		ICP2-HE_160919A	119	R118771
Uranium	0.0041	mg/L		0.0002		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
Zinc	0.052	mg/L		0.008		E200.8	09/20/16 23:51 / dck		ICPMS204-B_160920A	239	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.099	mg/L		0.009		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Arsenic	0.006	mg/L		0.001		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Barium	0.046	mg/L		0.003		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 13:20 / sld	09/19/16 09:14	ICP2-HE_160919C	90	34478
Cadmium	0.00021	mg/L		0.00003		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Calcium	61	mg/L		1		E200.7	09/20/16 13:20 / sld	09/19/16 09:14	ICP2-HE_160919C	90	34478
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Copper	0.015	mg/L		0.001		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Iron	0.20	mg/L		0.02		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Lead	0.0014	mg/L		0.0003		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Magnesium	13	mg/L		1		E200.7	09/20/16 13:20 / sld	09/19/16 09:14	ICP2-HE_160919C	90	34478
Manganese	0.150	mg/L		0.001		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 14:10 / rgk	09/22/16 22:25	HGCV202-H_160926A	57	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16090353-009
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 09:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Potassium	7	mg/L		1		E200.7	09/20/16 13:20 / sld	09/19/16 09:14	ICP2-HE_160919C	90	34478
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Sodium	32	mg/L		1		E200.7	09/20/16 13:20 / sld	09/19/16 09:14	ICP2-HE_160919C	90	34478
Uranium	0.0043	mg/L		0.0002		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478
Zinc	0.069	mg/L		0.008		E200.8	09/20/16 23:55 / dck	09/19/16 09:14	ICPMS204-B_160920A	240	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16090353-010
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 16:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	09/19/16 11:40 / SR		L24 (14410200)_160919A	27	TSS160919A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	22	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/20/16 09:43 / SR		PHSC_101-H_160920A	9	R118802
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/16 09:43 / SR		PHSC_101-H_160920A	9	R118802
Chloride	56	mg/L		1		E300.0	09/20/16 18:25 / SR		IC102-H_160920A	64	R118837
Sulfate	105	mg/L		1		E300.0	09/20/16 18:25 / SR		IC102-H_160920A	64	R118837
Hardness as CaCO3	212	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	27	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.9	mg/L		0.5		A5310 C	09/25/16 19:58 / eli-c		SUB-C215617	42	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:13 / cm		FIA203-HE_160919A	116	R118775
Nitrogen, Nitrate+Nitrite as N	0.70	mg/L		0.02		E353.2	09/21/16 09:06 / cm		FIA203-HE_160921A	21	R118851
Nitrogen, Total	0.96	mg/L		0.05		A4500 N-C	09/20/16 12:24 / cm	09/20/16 08:40	FIA203-HE_160920A	120	34493
Phosphorus, Total as P	0.526	mg/L		0.003		E365.1	09/23/16 15:03 / cm	09/23/16 09:22	FIA202-HE_160923B	35	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Arsenic	0.007	mg/L		0.001		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Barium	0.038	mg/L		0.003		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:32 / sld		ICP2-HE_160919A	120	R118771
Cadmium	0.00012	mg/L		0.00003		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Calcium	65	mg/L		1		E200.7	09/19/16 18:32 / sld		ICP2-HE_160919A	120	R118771
Chromium	ND	mg/L		0.01		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Copper	0.008	mg/L		0.001		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Iron	0.03	mg/L		0.02		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16090353-010
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 16:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Magnesium	14	mg/L		1		E200.7	09/19/16 18:32 / sld		ICP2-HE_160919A	120	R118771
Manganese	0.078	mg/L		0.001		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 14:12 / rgk	09/22/16 22:25	HGCV202-H_160926A	58	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Nickel	ND	mg/L		0.002		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Potassium	7	mg/L		1		E200.7	09/19/16 18:32 / sld		ICP2-HE_160919A	120	R118771
Selenium	ND	mg/L		0.001		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Silver	ND	mg/L		0.0002		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Sodium	35	mg/L		1		E200.7	09/19/16 18:32 / sld		ICP2-HE_160919A	120	R118771
Uranium	0.0049	mg/L		0.0002		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
Zinc	0.028	mg/L		0.008		E200.8	09/20/16 23:58 / dck		ICPMS204-B_160920A	241	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.094	mg/L		0.009		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Arsenic	0.006	mg/L		0.001		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Barium	0.039	mg/L		0.003		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 13:24 / sld	09/19/16 09:14	ICP2-HE_160919C	91	34478
Cadmium	0.00022	mg/L		0.00003		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Calcium	63	mg/L		1		E200.7	09/20/16 13:24 / sld	09/19/16 09:14	ICP2-HE_160919C	91	34478
Chromium	ND	mg/L		0.01		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Copper	0.014	mg/L		0.001		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Iron	0.19	mg/L		0.02		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Lead	0.0011	mg/L		0.0003		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Magnesium	13	mg/L		1		E200.7	09/20/16 13:24 / sld	09/19/16 09:14	ICP2-HE_160919C	91	34478
Manganese	0.141	mg/L		0.001		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Mercury	5.3E-06	mg/L		5E-06		E245.1	09/26/16 14:24 / rgk	09/22/16 22:25	HGCV202-H_160926A	62	34537
Molybdenum	0.006	mg/L		0.005		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16090353-010
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 16:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Potassium	7	mg/L		1		E200.7	09/20/16 13:24 / sld	09/19/16 09:14	ICP2-HE_160919C	91	34478
Selenium	ND	mg/L		0.001		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Silver	ND	mg/L		0.0002		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Sodium	35	mg/L		1		E200.7	09/20/16 13:24 / sld	09/19/16 09:14	ICP2-HE_160919C	91	34478
Uranium	0.0052	mg/L		0.0002		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478
Zinc	0.046	mg/L		0.008		E200.8	09/21/16 00:01 / dck	09/19/16 09:14	ICPMS204-B_160920A	242	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16090353-011
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 15:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	09/19/16 11:41 / SR		L24 (14410200)_160919A	29	TSS160919A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	24	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/20/16 09:49 / SR		PHSC_101-H_160920A	11	R118802
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/16 09:49 / SR		PHSC_101-H_160920A	11	R118802
Chloride	57	mg/L		1		E300.0	09/20/16 18:37 / SR		IC102-H_160920A	65	R118837
Sulfate	105	mg/L		1		E300.0	09/20/16 18:37 / SR		IC102-H_160920A	65	R118837
Hardness as CaCO3	217	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	28	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.9	mg/L		0.5		A5310 C	09/25/16 20:13 / eli-c		SUB-C215617	43	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:14 / cm		FIA203-HE_160919A	117	R118775
Nitrogen, Nitrate+Nitrite as N	0.75	mg/L		0.02		E353.2	09/21/16 09:08 / cm		FIA203-HE_160921A	22	R118851
Nitrogen, Total	1.04	mg/L		0.05		A4500 N-C	09/20/16 12:25 / cm	09/20/16 08:40	FIA203-HE_160920A	121	34493
Phosphorus, Total as P	0.502	mg/L		0.003		E365.1	09/23/16 15:04 / cm	09/23/16 09:22	FIA202-HE_160923B	36	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Arsenic	0.007	mg/L		0.001		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Barium	0.039	mg/L		0.003		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:36 / sld		ICP2-HE_160919A	121	R118771
Cadmium	0.00011	mg/L		0.00003		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Calcium	65	mg/L		1		E200.7	09/19/16 18:36 / sld		ICP2-HE_160919A	121	R118771
Chromium	ND	mg/L		0.01		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Copper	0.008	mg/L		0.001		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Iron	0.03	mg/L		0.02		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16090353-011
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 15:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Magnesium	14	mg/L		1		E200.7	09/19/16 18:36 / sld		ICP2-HE_160919A	121	R118771
Manganese	0.086	mg/L		0.001		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 14:27 / rgk	09/22/16 22:25	HGCV202-H_160926A	63	34537
Molybdenum	0.006	mg/L		0.005		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Nickel	ND	mg/L		0.002		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Potassium	7	mg/L		1		E200.7	09/19/16 18:36 / sld		ICP2-HE_160919A	121	R118771
Selenium	ND	mg/L		0.001		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Silver	ND	mg/L		0.0002		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Sodium	34	mg/L		1		E200.7	09/19/16 18:36 / sld		ICP2-HE_160919A	121	R118771
Uranium	0.0049	mg/L		0.0002		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
Zinc	0.028	mg/L		0.008		E200.8	09/21/16 00:18 / dck		ICPMS204-B_160920A	247	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.057	mg/L		0.009		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Arsenic	0.007	mg/L		0.001		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Barium	0.039	mg/L		0.003		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 13:42 / sld	09/19/16 09:14	ICP2-HE_160919C	96	34478
Cadmium	0.00020	mg/L		0.00003		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Calcium	64	mg/L		1		E200.7	09/20/16 13:42 / sld	09/19/16 09:14	ICP2-HE_160919C	96	34478
Chromium	ND	mg/L		0.01		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Copper	0.012	mg/L		0.001		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Iron	0.13	mg/L		0.02		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Lead	0.0008	mg/L		0.0003		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Magnesium	14	mg/L		1		E200.7	09/20/16 13:42 / sld	09/19/16 09:14	ICP2-HE_160919C	96	34478
Manganese	0.115	mg/L		0.001		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Mercury	6.6E-06	mg/L		5E-06		E245.1	09/26/16 14:30 / rgk	09/22/16 22:25	HGCV202-H_160926A	64	34537
Molybdenum	0.006	mg/L		0.005		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16090353-011
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 15:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Potassium	7	mg/L		1		E200.7	09/20/16 13:42 / sld	09/19/16 09:14	ICP2-HE_160919C	96	34478
Selenium	ND	mg/L		0.001		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Silver	ND	mg/L		0.0002		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Sodium	35	mg/L		1		E200.7	09/20/16 13:42 / sld	09/19/16 09:14	ICP2-HE_160919C	96	34478
Uranium	0.0052	mg/L		0.0002		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478
Zinc	0.038	mg/L		0.008		E200.8	09/21/16 00:21 / dck	09/19/16 09:14	ICPMS204-B_160920A	248	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1 (SS-14)
Lab ID: H16090353-012
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 15:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	09/19/16 11:41 / SR		L24 (14410200)_160919A	30	TSS160919A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	1	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/20/16 10:01 / SR		PHSC_101-H_160920A	15	R118802
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/16 10:01 / SR		PHSC_101-H_160920A	15	R118802
Chloride	57	mg/L		1		E300.0	09/20/16 18:48 / SR		IC102-H_160920A	66	R118837
Sulfate	105	mg/L		1		E300.0	09/20/16 18:48 / SR		IC102-H_160920A	66	R118837
Hardness as CaCO3	216	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	29	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.0	mg/L		0.5		A5310 C	09/25/16 20:29 / eli-c		SUB-C215617	44	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:15 / cm		FIA203-HE_160919A	118	R118775
Nitrogen, Nitrate+Nitrite as N	0.73	mg/L		0.02		E353.2	09/21/16 09:09 / cm		FIA203-HE_160921A	23	R118851
Nitrogen, Total	1.04	mg/L		0.05		A4500 N-C	09/20/16 12:26 / cm	09/20/16 08:40	FIA203-HE_160920A	122	34493
Phosphorus, Total as P	0.521	mg/L		0.003		E365.1	09/23/16 15:05 / cm	09/23/16 09:22	FIA202-HE_160923B	37	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Arsenic	0.007	mg/L		0.001		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Barium	0.037	mg/L		0.003		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:39 / sld		ICP2-HE_160919A	122	R118771
Cadmium	0.00012	mg/L		0.00003		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Calcium	64	mg/L		1		E200.7	09/19/16 18:39 / sld		ICP2-HE_160919A	122	R118771
Chromium	ND	mg/L		0.01		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Copper	0.008	mg/L		0.001		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Iron	0.03	mg/L		0.02		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1 (SS-14)
Lab ID: H16090353-012
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 15:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Magnesium	14	mg/L		1		E200.7	09/19/16 18:39 / sld		ICP2-HE_160919A	122	R118771
Manganese	0.086	mg/L		0.001		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 14:32 / rgk	09/22/16 22:25	HGCV202-H_160926A	65	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Nickel	ND	mg/L		0.002		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Potassium	7	mg/L		1		E200.7	09/19/16 18:39 / sld		ICP2-HE_160919A	122	R118771
Selenium	ND	mg/L		0.001		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Silver	ND	mg/L		0.0002		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Sodium	35	mg/L		1		E200.7	09/19/16 18:39 / sld		ICP2-HE_160919A	122	R118771
Uranium	0.0050	mg/L		0.0002		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
Zinc	0.025	mg/L		0.008		E200.8	09/21/16 00:34 / dck		ICPMS204-B_160920A	252	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.077	mg/L		0.009		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Arsenic	0.007	mg/L		0.001		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Barium	0.040	mg/L		0.003		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 13:46 / sld	09/19/16 09:14	ICP2-HE_160919C	97	34478
Cadmium	0.00018	mg/L		0.00003		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Calcium	64	mg/L		1		E200.7	09/20/16 13:46 / sld	09/19/16 09:14	ICP2-HE_160919C	97	34478
Chromium	ND	mg/L		0.01		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Copper	0.012	mg/L		0.001		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Iron	0.15	mg/L		0.02		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Lead	0.0010	mg/L		0.0003		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Magnesium	13	mg/L		1		E200.7	09/20/16 13:46 / sld	09/19/16 09:14	ICP2-HE_160919C	97	34478
Manganese	0.118	mg/L		0.001		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Mercury	5.4E-06	mg/L		5E-06		E245.1	09/26/16 14:35 / rgk	09/22/16 22:25	HGCV202-H_160926A	66	34537
Molybdenum	0.006	mg/L		0.005		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1 (SS-14)
Lab ID: H16090353-012
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 15:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Potassium	7	mg/L		1		E200.7	09/20/16 13:46 / sld	09/19/16 09:14	ICP2-HE_160919C	97	34478
Selenium	ND	mg/L		0.001		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Silver	ND	mg/L		0.0002		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Sodium	35	mg/L		1		E200.7	09/20/16 13:46 / sld	09/19/16 09:14	ICP2-HE_160919C	97	34478
Uranium	0.0053	mg/L		0.0002		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478
Zinc	0.038	mg/L		0.008		E200.8	09/21/16 00:37 / dck	09/19/16 09:14	ICPMS204-B_160920A	253	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16090353-013
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	11	mg/L		1		A2540 D	09/19/16 11:41 / SR		L24 (14410200)_160919A	31	TSS160919A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	2	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/20/16 10:07 / SR		PHSC_101-H_160920A	17	R118802
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/16 10:07 / SR		PHSC_101-H_160920A	17	R118802
Chloride	53	mg/L		1		E300.0	09/20/16 18:59 / SR		IC102-H_160920A	67	R118837
Sulfate	107	mg/L		1		E300.0	09/20/16 18:59 / SR		IC102-H_160920A	67	R118837
Hardness as CaCO3	216	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	30	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.9	mg/L		0.5		A5310 C	09/25/16 22:19 / eli-c		SUB-C215617	46	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:17 / cm		FIA203-HE_160919A	119	R118775
Nitrogen, Nitrate+Nitrite as N	1.06	mg/L		0.02		E353.2	09/20/16 16:04 / cm		FIA203-HE_160920C	84	R118834
Nitrogen, Total	1.29	mg/L		0.05		A4500 N-C	09/20/16 12:28 / cm	09/20/16 08:40	FIA203-HE_160920A	123	34493
Phosphorus, Total as P	0.372	mg/L		0.003		E365.1	09/23/16 15:06 / cm	09/23/16 09:22	FIA202-HE_160923B	38	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Arsenic	0.007	mg/L		0.001		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Barium	0.037	mg/L		0.003		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:43 / sld		ICP2-HE_160919A	123	R118771
Cadmium	0.00009	mg/L		0.00003		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Calcium	63	mg/L		1		E200.7	09/19/16 18:43 / sld		ICP2-HE_160919A	123	R118771
Chromium	ND	mg/L		0.01		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Copper	0.007	mg/L		0.001		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Iron	0.02	mg/L		0.02		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16090353-013
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Magnesium	14	mg/L		1		E200.7	09/19/16 18:43 / sld		ICP2-HE_160919A	123	R118771
Manganese	0.041	mg/L		0.001		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 14:38 / rgk	09/22/16 22:25	HGCV202-H_160926A	67	34537
Molybdenum	0.005	mg/L		0.005		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Nickel	ND	mg/L		0.002		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Potassium	7	mg/L		1		E200.7	09/19/16 18:43 / sld		ICP2-HE_160919A	123	R118771
Selenium	ND	mg/L		0.001		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Silver	ND	mg/L		0.0002		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Sodium	35	mg/L		1		E200.7	09/19/16 18:43 / sld		ICP2-HE_160919A	123	R118771
Uranium	0.0048	mg/L		0.0002		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
Zinc	0.028	mg/L		0.008		E200.8	09/21/16 00:41 / dck		ICPMS204-B_160920A	254	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.210	mg/L		0.009		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Arsenic	0.007	mg/L		0.001		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Barium	0.042	mg/L		0.003		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 13:57 / sld	09/19/16 09:14	ICP2-HE_160919C	100	34478
Cadmium	0.00024	mg/L		0.00003		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Calcium	64	mg/L		1		E200.7	09/20/16 13:57 / sld	09/19/16 09:14	ICP2-HE_160919C	100	34478
Chromium	ND	mg/L		0.01		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Copper	0.018	mg/L		0.001		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Iron	0.30	mg/L		0.02		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Lead	0.0023	mg/L		0.0003		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Magnesium	14	mg/L		1		E200.7	09/20/16 13:57 / sld	09/19/16 09:14	ICP2-HE_160919C	100	34478
Manganese	0.166	mg/L		0.001		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478
Mercury	0.000013	mg/L		5E-06		E245.1	09/26/16 14:40 / rgk	09/22/16 22:25	HGCV202-H_160926A	68	34537
Molybdenum	0.006	mg/L		0.005		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	255	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16090353-013
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	: 255	34478
Potassium	7	mg/L		1		E200.7	09/20/16 13:57 / sld	09/19/16 09:14	ICP2-HE_160919C	: 100	34478
Selenium	ND	mg/L		0.001		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	: 255	34478
Silver	ND	mg/L		0.0002		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	: 255	34478
Sodium	35	mg/L		1		E200.7	09/20/16 13:57 / sld	09/19/16 09:14	ICP2-HE_160919C	: 100	34478
Uranium	0.0052	mg/L		0.0002		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	: 255	34478
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	: 255	34478
Zinc	0.058	mg/L		0.008		E200.8	09/21/16 00:44 / dck	09/19/16 09:14	ICPMS204-B_160920A	: 255	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16090353-014
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	10	mg/L		1		A2540 D	09/19/16 11:41 / SR		L24 (14410200)_160919A	32	TSS160919A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	3	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/20/16 10:13 / SR		PHSC_101-H_160920A	19	R118802
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/16 10:13 / SR		PHSC_101-H_160920A	19	R118802
Chloride	41	mg/L		1		E300.0	09/20/16 19:10 / SR		IC102-H_160920A	68	R118837
Sulfate	91	mg/L		1		E300.0	09/20/16 19:10 / SR		IC102-H_160920A	68	R118837
Hardness as CaCO3	197	mg/L		1		A2340 B	09/19/16 18:47 / abc		CALC_160921B	718	R118880
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.4	mg/L		0.5		A5310 C	09/25/16 22:35 / eli-c		SUB-C215617	47	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:18 / cm		FIA203-HE_160919A	120	R118775
Nitrogen, Nitrate+Nitrite as N	0.76	mg/L		0.02		E353.2	09/20/16 16:08 / cm		FIA203-HE_160920C	87	R118834
Nitrogen, Total	0.94	mg/L		0.05		A4500 N-C	09/20/16 12:29 / cm	09/20/16 08:40	FIA203-HE_160920A	124	34493
Phosphorus, Total as P	0.300	mg/L		0.003		E365.1	09/23/16 15:07 / cm	09/23/16 09:22	FIA202-HE_160923B	39	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Arsenic	0.006	mg/L		0.001		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Barium	0.035	mg/L		0.003		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:47 / sld		ICP2-HE_160919A	124	R118771
Cadmium	0.00007	mg/L		0.00003		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Calcium	59	mg/L		1		E200.7	09/19/16 18:47 / sld		ICP2-HE_160919A	124	R118771
Chromium	ND	mg/L		0.01		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Copper	0.006	mg/L		0.001		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Iron	0.02	mg/L		0.02		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16090353-014
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Magnesium	12	mg/L		1		E200.7	09/19/16 18:47 / sld		ICP2-HE_160919A	124	R118771
Manganese	0.034	mg/L		0.001		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/26/16 14:43 / rgk	09/22/16 22:25	HGCV202-H_160926A	69	34537
Molybdenum	ND	mg/L		0.005		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Nickel	ND	mg/L		0.002		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Potassium	6	mg/L		1		E200.7	09/19/16 18:47 / sld		ICP2-HE_160919A	124	R118771
Selenium	ND	mg/L		0.001		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Silver	ND	mg/L		0.0002		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Sodium	28	mg/L		1		E200.7	09/19/16 18:47 / sld		ICP2-HE_160919A	124	R118771
Uranium	0.0040	mg/L		0.0002		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
Zinc	0.022	mg/L		0.008		E200.8	09/21/16 00:47 / dck		ICPMS204-B_160920A	256	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.178	mg/L		0.009		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Arsenic	0.006	mg/L		0.001		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Barium	0.038	mg/L		0.003		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 14:01 / sld	09/19/16 09:14	ICP2-HE_160919C	101	34478
Cadmium	0.00018	mg/L		0.00003		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Calcium	57	mg/L		1		E200.7	09/20/16 14:01 / sld	09/19/16 09:14	ICP2-HE_160919C	101	34478
Chromium	ND	mg/L		0.01		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Copper	0.015	mg/L		0.001		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Iron	0.25	mg/L		0.02		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Lead	0.0019	mg/L		0.0003		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Magnesium	12	mg/L		1		E200.7	09/20/16 14:01 / sld	09/19/16 09:14	ICP2-HE_160919C	101	34478
Manganese	0.146	mg/L		0.001		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Mercury	0.000011	mg/L		5E-06		E245.1	09/28/16 16:57 / rgk	09/27/16 13:14	HGCV202-H_160928A	27	34573
Molybdenum	ND	mg/L		0.005		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16090353-014
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Potassium	6	mg/L		1		E200.7	09/20/16 14:01 / sld	09/19/16 09:14	ICP2-HE_160919C	101	34478
Selenium	ND	mg/L		0.001		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Silver	ND	mg/L		0.0002		E200.8	09/21/16 17:58 / dck	09/19/16 09:14	ICPMS204-B_160921C	86	34478
Sodium	27	mg/L		1		E200.7	09/20/16 14:01 / sld	09/19/16 09:14	ICP2-HE_160919C	101	34478
Uranium	0.0042	mg/L		0.0002		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478
Zinc	0.049	mg/L		0.008		E200.8	09/21/16 01:00 / dck	09/19/16 09:14	ICPMS204-B_160920A	260	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16090353-015
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 11:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	09/19/16 11:42 / SR		L24 (14410200)_160919A	33	TSS160919A
Solids, Volatile Suspended	3	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	4	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/20/16 10:19 / SR		PHSC_101-H_160920A	21	R118802
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/16 10:19 / SR		PHSC_101-H_160920A	21	R118802
Chloride	43	mg/L		1		E300.0	09/20/16 19:21 / SR		IC102-H_160920A	69	R118837
Sulfate	94	mg/L		1		E300.0	09/20/16 19:21 / SR		IC102-H_160920A	69	R118837
Hardness as CaCO3	198	mg/L		1		A2340 B	09/21/16 10:38 / sld		WATERCALC_160921B	31	R118852
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.3	mg/L		0.5		A5310 C	09/25/16 22:51 / eli-c		SUB-C215617	48	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:19 / cm		FIA203-HE_160919A	121	R118775
Nitrogen, Nitrate+Nitrite as N	0.51	mg/L		0.02		E353.2	09/20/16 16:09 / cm		FIA203-HE_160920C	88	R118834
Nitrogen, Total	0.69	mg/L		0.05		A4500 N-C	09/20/16 12:30 / cm	09/20/16 08:40	FIA203-HE_160920A	125	34493
Phosphorus, Total as P	0.312	mg/L		0.003		E365.1	09/23/16 15:08 / cm	09/23/16 09:22	FIA202-HE_160923B	40	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Arsenic	0.006	mg/L		0.001		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Barium	0.036	mg/L		0.003		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:51 / sld		ICP2-HE_160919A	125	R118771
Cadmium	0.00008	mg/L		0.00003		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Calcium	60	mg/L		1		E200.7	09/19/16 18:51 / sld		ICP2-HE_160919A	125	R118771
Chromium	ND	mg/L		0.01		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Copper	0.005	mg/L		0.001		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Iron	0.02	mg/L		0.02		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16090353-015
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 11:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Magnesium	12	mg/L		1		E200.7	09/19/16 18:51 / sld		ICP2-HE_160919A	125	R118771
Manganese	0.077	mg/L		0.001		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Mercury	ND	mg/L		5E-06		E245.1	09/28/16 17:05 / rgk	09/27/16 13:14	HGCV202-H_160928A	30	34573
Molybdenum	ND	mg/L		0.005		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Nickel	ND	mg/L		0.002		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Potassium	6	mg/L		1		E200.7	09/19/16 18:51 / sld		ICP2-HE_160919A	125	R118771
Selenium	ND	mg/L		0.001		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Silver	ND	mg/L		0.0002		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Sodium	28	mg/L		1		E200.7	09/19/16 18:51 / sld		ICP2-HE_160919A	125	R118771
Uranium	0.0042	mg/L		0.0002		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
Zinc	0.024	mg/L		0.008		E200.8	09/21/16 01:04 / dck		ICPMS204-B_160920A	261	R118827
METALS, TOTAL RECOVERABLE											
Aluminum	0.157	mg/L		0.009		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Arsenic	0.007	mg/L		0.001		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Barium	0.039	mg/L		0.003		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Boron	ND	mg/L		0.1		E200.7	09/20/16 14:05 / sld	09/19/16 09:14	ICP2-HE_160919C	102	34478
Cadmium	0.00023	mg/L		0.00003		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Calcium	59	mg/L		1		E200.7	09/20/16 14:05 / sld	09/19/16 09:14	ICP2-HE_160919C	102	34478
Chromium	ND	mg/L		0.01		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Copper	0.012	mg/L		0.001		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Iron	0.21	mg/L		0.02		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Lead	0.0015	mg/L		0.0003		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Magnesium	12	mg/L		1		E200.7	09/20/16 14:05 / sld	09/19/16 09:14	ICP2-HE_160919C	102	34478
Manganese	0.154	mg/L		0.001		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Mercury	9.2E-06	mg/L		5E-06		E245.1	09/28/16 17:08 / rgk	09/27/16 13:14	HGCV202-H_160928A	31	34573
Molybdenum	ND	mg/L		0.005		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16090353-015
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 11:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Potassium	6	mg/L		1		E200.7	09/20/16 14:05 / sld	09/19/16 09:14	ICP2-HE_160919C	102	34478
Selenium	ND	mg/L		0.001		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Silver	ND	mg/L		0.0002		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Sodium	28	mg/L		1		E200.7	09/20/16 14:05 / sld	09/19/16 09:14	ICP2-HE_160919C	102	34478
Uranium	0.0045	mg/L		0.0002		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478
Zinc	0.040	mg/L		0.008		E200.8	09/21/16 01:07 / dck	09/19/16 09:14	ICPMS204-B_160920A	262	34478

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16090353-016
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 10:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	10	mg/L		1		A2540 D	09/19/16 11:42 / SR		L24 (14410200)_160919A	34	TSS160919A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	5	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/20/16 10:25 / SR		PHSC_101-H_160920A	23	R118802
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/16 10:25 / SR		PHSC_101-H_160920A	23	R118802
Chloride	50	mg/L		1		E300.0	09/20/16 19:32 / SR		IC102-H_160920A	70	R118837
Sulfate	96	mg/L		1		E300.0	09/20/16 19:32 / SR		IC102-H_160920A	70	R118837
Hardness as CaCO3	208	mg/L		1		A2340 B	09/19/16 18:55 / abc		CALC_160921B	740	R118880
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.5	mg/L		0.5		A5310 C	09/25/16 23:06 / eli-c		SUB-C215617	49	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:20 / cm		FIA203-HE_160919A	122	R118775
Nitrogen, Nitrate+Nitrite as N	0.75	mg/L		0.02		E353.2	09/20/16 16:10 / cm		FIA203-HE_160920C	89	R118834
Nitrogen, Total	0.91	mg/L		0.05		A4500 N-C	09/20/16 12:31 / cm	09/20/16 08:40	FIA203-HE_160920A	126	34493
Phosphorus, Total as P	0.291	mg/L		0.003		E365.1	09/23/16 15:09 / cm	09/23/16 09:22	FIA202-HE_160923B	41	34541
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Arsenic	0.008	mg/L		0.001		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Barium	0.034	mg/L		0.003		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:55 / sld		ICP2-HE_160919A	126	R118771
Cadmium	0.00015	mg/L		0.00003		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Calcium	62	mg/L		1		E200.7	09/19/16 18:55 / sld		ICP2-HE_160919A	126	R118771
Chromium	ND	mg/L		0.01		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Copper	0.008	mg/L		0.001		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Iron	ND	mg/L		0.02		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16090353-016
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 10:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Magnesium	13	mg/L		1		E200.7	09/19/16 18:55 / sld		ICP2-HE_160919A	126	R118771
Manganese	0.044	mg/L		0.001		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Mercury	ND	mg/L		5E-06		E245.1	09/28/16 17:10 / rgk	09/27/16 13:14	HGCV202-H_160928A	32	34573
Molybdenum	ND	mg/L		0.005		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Nickel	ND	mg/L		0.002		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Potassium	6	mg/L		1		E200.7	09/19/16 18:55 / sld		ICP2-HE_160919A	126	R118771
Selenium	ND	mg/L		0.001		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Silver	ND	mg/L		0.0002		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Sodium	30	mg/L		1		E200.7	09/19/16 18:55 / sld		ICP2-HE_160919A	126	R118771
Uranium	0.0040	mg/L		0.0002		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
Zinc	0.032	mg/L		0.008		E200.8	09/21/16 18:01 / dck		ICPMS204-B_160921C	87	R118878
METALS, TOTAL RECOVERABLE											
Aluminum	0.233	mg/L		0.009		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Arsenic	0.007	mg/L		0.001		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Barium	0.037	mg/L		0.003		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Boron	ND	mg/L		0.1		E200.7	09/21/16 10:19 / sld	09/20/16 09:10	ICP2-HE_160921A	35	34495
Cadmium	0.00027	mg/L		0.00003		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Calcium	63	mg/L		1		E200.7	09/21/16 10:19 / sld	09/20/16 09:10	ICP2-HE_160921A	35	34495
Chromium	ND	mg/L		0.01		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Copper	0.017	mg/L		0.001		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Iron	0.30	mg/L		0.02		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Lead	0.0023	mg/L		0.0003		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Magnesium	13	mg/L		1		E200.7	09/21/16 10:19 / sld	09/20/16 09:10	ICP2-HE_160921A	35	34495
Manganese	0.161	mg/L		0.001		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Mercury	0.000016	mg/L		5E-06		E245.1	09/28/16 17:13 / rgk	09/27/16 13:14	HGCV202-H_160928A	33	34573
Molybdenum	ND	mg/L		0.005		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16090353-016
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 10:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Potassium	6	mg/L		1		E200.7	09/21/16 10:19 / sld	09/20/16 09:10	ICP2-HE_160921A	35	34495
Selenium	ND	mg/L		0.001		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Silver	ND	mg/L		0.0002		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Sodium	31	mg/L		1		E200.7	09/21/16 10:19 / sld	09/20/16 09:10	ICP2-HE_160921A	35	34495
Uranium	0.0042	mg/L		0.0002		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495
Zinc	0.063	mg/L		0.008		E200.8	09/21/16 18:21 / dck	09/20/16 09:10	ICPMS204-B_160921C	93	34495

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16090353-017
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 09:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	11	mg/L		1		A2540 D	09/19/16 11:42 / SR		L24 (14410200)_160919A	35	TSS160919A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	09/20/16 10:56 / SR		MISC WC_160920A	6	160920A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/20/16 10:30 / SR		PHSC_101-H_160920A	25	R118802
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/16 10:30 / SR		PHSC_101-H_160920A	25	R118802
Chloride	45	mg/L		1		E300.0	09/20/16 19:43 / SR		IC102-H_160920A	71	R118837
Sulfate	96	mg/L		1		E300.0	09/20/16 19:43 / SR		IC102-H_160920A	71	R118837
Hardness as CaCO3	205	mg/L		1		A2340 B	09/19/16 18:58 / abc		CALC_160921B	751	R118880
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	09/25/16 23:22 / eli-c		SUB-C215617	50	C_R215617
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/19/16 12:24 / cm		FIA203-HE_160919A	125	R118775
Nitrogen, Nitrate+Nitrite as N	0.88	mg/L		0.02		E353.2	09/20/16 16:11 / cm		FIA203-HE_160920C	90	R118834
Nitrogen, Total	1.04	mg/L		0.05		A4500 N-C	09/20/16 12:32 / cm	09/20/16 08:40	FIA203-HE_160920A	127	34493
Phosphorus, Total as P	0.279	mg/L		0.003		E365.1	09/26/16 13:55 / cm	09/26/16 12:09	FIA202-HE_160926A	14	34554
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Arsenic	0.008	mg/L		0.001		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Barium	0.036	mg/L		0.003		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Boron	ND	mg/L		0.1		E200.7	09/19/16 18:58 / sld		ICP2-HE_160919A	127	R118771
Cadmium	0.00014	mg/L		0.00003		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Calcium	61	mg/L		1		E200.7	09/19/16 18:58 / sld		ICP2-HE_160919A	127	R118771
Chromium	ND	mg/L		0.01		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Copper	0.007	mg/L		0.001		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Iron	ND	mg/L		0.02		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16090353-017
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 09:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Magnesium	13	mg/L		1		E200.7	09/19/16 18:58 / sld		ICP2-HE_160919A	127	R118771
Manganese	0.047	mg/L		0.001		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Mercury	ND	mg/L		5E-06		E245.1	09/28/16 17:16 / rgk	09/27/16 13:14	HGCV202-H_160928A	34	34573
Molybdenum	ND	mg/L		0.005		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Nickel	ND	mg/L		0.002		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Potassium	5	mg/L		1		E200.7	09/19/16 18:58 / sld		ICP2-HE_160919A	127	R118771
Selenium	ND	mg/L		0.001		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Silver	ND	mg/L		0.0002		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Sodium	30	mg/L		1		E200.7	09/19/16 18:58 / sld		ICP2-HE_160919A	127	R118771
Uranium	0.0044	mg/L		0.0002		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
Zinc	0.038	mg/L		0.008		E200.8	09/21/16 18:44 / dck		ICPMS204-B_160921C	100	R118878
METALS, TOTAL RECOVERABLE											
Aluminum	0.227	mg/L		0.009		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Antimony	ND	mg/L		0.0005		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Arsenic	0.008	mg/L		0.001		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Barium	0.039	mg/L		0.003		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Beryllium	ND	mg/L		0.0008		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Boron	ND	mg/L		0.1		E200.7	09/21/16 10:37 / sld	09/20/16 09:10	ICP2-HE_160921A	40	34495
Cadmium	0.00031	mg/L		0.00003		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Calcium	60	mg/L		1		E200.7	09/21/16 10:37 / sld	09/20/16 09:10	ICP2-HE_160921A	40	34495
Chromium	ND	mg/L		0.01		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Cobalt	ND	mg/L		0.01		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Copper	0.015	mg/L		0.001		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Iron	0.33	mg/L		0.02		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Lead	0.0021	mg/L		0.0003		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Magnesium	12	mg/L		1		E200.7	09/21/16 10:37 / sld	09/20/16 09:10	ICP2-HE_160921A	40	34495
Manganese	0.154	mg/L		0.001		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Mercury	0.000012	mg/L		5E-06		E245.1	09/28/16 17:18 / rgk	09/27/16 13:14	HGCV202-H_160928A	35	34573
Molybdenum	ND	mg/L		0.005		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16090353-017
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 09:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Potassium	6	mg/L		1		E200.7	09/21/16 10:37 / sld	09/20/16 09:10	ICP2-HE_160921A	40	34495
Selenium	ND	mg/L		0.001		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Silver	ND	mg/L		0.0002		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Sodium	30	mg/L		1		E200.7	09/21/16 10:37 / sld	09/20/16 09:10	ICP2-HE_160921A	40	34495
Uranium	0.0046	mg/L		0.0002		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Vanadium	ND	mg/L		0.1		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495
Zinc	0.064	mg/L		0.008		E200.8	09/21/16 18:47 / dck	09/20/16 09:10	ICPMS204-B_160921C	101	34495

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve <0.065mm
Lab ID: H16090353-018
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	74.8	wt%		0.2		D2974	10/04/16 12:43 / rgk		DRYING OVEN 2_161004A	1	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.8	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	30	R119082
3050 EXTRACTABLE METALS											
Aluminum	23100	mg/kg-dry		20		SW6010B	10/03/16 10:43 / sld	09/29/16 12:02	ICP2-HE_161003B	29	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Arsenic	128	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Barium	796	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Boron	18	mg/kg-dry		8		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Cadmium	15.4	mg/kg-dry		0.7		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Chromium	98	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Cobalt	29	mg/kg-dry		5		SW6010B	10/03/16 10:43 / sld	09/29/16 12:02	ICP2-HE_161003B	29	34600
Copper	999	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Iron	44100	mg/kg-dry	D	30		SW6010B	10/03/16 10:43 / sld	09/29/16 12:02	ICP2-HE_161003B	29	34600
Lead	672	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Manganese	15100	mg/kg-dry		5		SW6010B	10/03/16 10:43 / sld	09/29/16 12:02	ICP2-HE_161003B	29	34600
Molybdenum	22	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Nickel	63	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Silver	6	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Uranium	9	mg/kg-dry		5		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Vanadium	112	mg/kg-dry		2		SW6020	10/02/16 19:36 / dck	09/29/16 12:02	ICPMS204-B_161002A	20	34600
Zinc	3330	mg/kg-dry		7		SW6010B	10/03/16 10:43 / sld	09/29/16 12:02	ICP2-HE_161003B	29	34600
METALS, TOTAL											
Mercury	1.0	mg/kg-dry		0.10		SW7471B	10/03/16 10:40 / rgk	09/30/16 12:34	HGCV201-H_161003A	13	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 0.065-1mm
Lab ID: H16090353-019
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.3	wt%		0.2		D2974	10/03/16 10:49 / sld		DRYING OVEN 2_160930B	8	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	28.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	31	R119082
3050 EXTRACTABLE METALS											
Aluminum	3900	mg/kg-dry		5		SW6010B	10/03/16 12:21 / sld	09/29/16 12:06	ICP2-HE_161003B	56	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Arsenic	31	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Barium	117	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Cadmium	1.3	mg/kg-dry		0.2		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Chromium	9	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Cobalt	5	mg/kg-dry		5		SW6010B	10/03/16 12:21 / sld	09/29/16 12:06	ICP2-HE_161003B	56	34601
Copper	78	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Iron	9060	mg/kg-dry	D	8		SW6010B	10/03/16 12:21 / sld	09/29/16 12:06	ICP2-HE_161003B	56	34601
Lead	63	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Manganese	1690	mg/kg-dry		5		SW6010B	10/03/16 12:21 / sld	09/29/16 12:06	ICP2-HE_161003B	56	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Vanadium	19	mg/kg-dry		1		SW6020	10/02/16 21:21 / dck	09/29/16 12:06	ICPMS204-B_161002A	52	34601
Zinc	464	mg/kg-dry		5		SW6010B	10/03/16 12:21 / sld	09/29/16 12:06	ICP2-HE_161003B	56	34601
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/03/16 10:55 / rgk	09/30/16 12:34	HGCV201-H_161003A	19	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 1-2mm
Lab ID: H16090353-020
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	16.3	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 10	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	41.2	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 32	R119082
3050 EXTRACTABLE METALS											
Aluminum	4250	mg/kg-dry		5		SW6010B	10/03/16 14:38 / sld	09/29/16 12:08	ICP2-HE_161003B	: 93	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Arsenic	19	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Barium	114	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Cadmium	0.7	mg/kg-dry		0.2		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Chromium	6	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Copper	90	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Iron	8620	mg/kg-dry	D	8		SW6010B	10/03/16 14:38 / sld	09/29/16 12:08	ICP2-HE_161003B	: 93	34603
Lead	67	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Manganese	1810	mg/kg-dry		5		SW6010B	10/03/16 14:38 / sld	09/29/16 12:08	ICP2-HE_161003B	: 93	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Vanadium	17	mg/kg-dry		1		SW6020	10/02/16 23:16 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 87	34603
Zinc	304	mg/kg-dry		5		SW6010B	10/03/16 14:38 / sld	09/29/16 12:08	ICP2-HE_161003B	: 93	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/03/16 10:57 / rgk	09/30/16 12:34	HGCV201-H_161003A	: 20	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve <0.065mm
Lab ID: H16090353-021
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	67.3	wt%		0.2		D2974	10/04/16 12:43 / rgk		›RYING OVEN 2_161004A	3	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.8	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	33	R119082
3050 EXTRACTABLE METALS											
Aluminum	17000	mg/kg-dry		10		SW6010B	10/03/16 10:46 / sld	09/29/16 12:02	ICP2-HE_161003B	30	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Arsenic	110	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Barium	367	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Boron	14	mg/kg-dry		7		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Cadmium	10.8	mg/kg-dry		0.5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Chromium	49	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Cobalt	16	mg/kg-dry		5		SW6010B	10/03/16 10:46 / sld	09/29/16 12:02	ICP2-HE_161003B	30	34600
Copper	843	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Iron	34900	mg/kg-dry	D	20		SW6010B	10/03/16 10:46 / sld	09/29/16 12:02	ICP2-HE_161003B	30	34600
Lead	458	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Manganese	4890	mg/kg-dry		5		SW6010B	10/03/16 10:46 / sld	09/29/16 12:02	ICP2-HE_161003B	30	34600
Molybdenum	19	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Nickel	25	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Uranium	7	mg/kg-dry		5		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Vanadium	66	mg/kg-dry		1		SW6020	10/02/16 19:39 / dck	09/29/16 12:02	ICPMS204-B_161002A	21	34600
Zinc	2680	mg/kg-dry		5		SW6010B	10/03/16 10:46 / sld	09/29/16 12:02	ICP2-HE_161003B	30	34600
METALS, TOTAL											
Mercury	1.1	mg/kg-dry		0.10		SW7471B	10/03/16 10:59 / rgk	09/30/16 12:34	HGCV201-H_161003A	21	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 0.065-1mm
Lab ID: H16090353-022
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.5	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 11	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	35.9	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 34	R119082
3050 EXTRACTABLE METALS											
Aluminum	5070	mg/kg-dry		5		SW6010B	10/03/16 13:02 / sld	09/29/16 12:06	ICP2-HE_161003B	: 67	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Arsenic	24	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Barium	108	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Cadmium	1.3	mg/kg-dry		0.2		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Chromium	10	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Cobalt	6	mg/kg-dry		5		SW6020	10/06/16 11:26 / dck	10/04/16 16:41	ICPMS204-B_161006A	: 19	34652
Copper	163	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Iron	14100	mg/kg-dry	D	9		SW6010B	10/03/16 13:02 / sld	09/29/16 12:06	ICP2-HE_161003B	: 67	34601
Lead	72	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Manganese	704	mg/kg-dry		5		SW6010B	10/03/16 13:02 / sld	09/29/16 12:06	ICP2-HE_161003B	: 67	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Vanadium	27	mg/kg-dry		1		SW6020	10/02/16 21:24 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 53	34601
Zinc	463	mg/kg-dry		5		SW6010B	10/03/16 13:02 / sld	09/29/16 12:06	ICP2-HE_161003B	: 67	34601
METALS, TOTAL											
Mercury	0.28	mg/kg-dry		0.10		SW7471B	10/03/16 11:01 / rgk	09/30/16 12:34	HGCV201-H_161003A	: 22	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 1-2mm
Lab ID: H16090353-023
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.7	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 12	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	26.0	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 35	R119082
3050 EXTRACTABLE METALS											
Aluminum	3670	mg/kg-dry		5		SW6010B	10/03/16 14:41 / sld	09/29/16 12:08	ICP2-HE_161003B	: 94	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Arsenic	57	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Barium	110	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Boron	6	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Cadmium	0.9	mg/kg-dry		0.2		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Chromium	5	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Copper	144	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Iron	8220	mg/kg-dry	D	8		SW6010B	10/03/16 14:41 / sld	09/29/16 12:08	ICP2-HE_161003B	: 94	34603
Lead	47	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Manganese	687	mg/kg-dry		5		SW6010B	10/03/16 14:41 / sld	09/29/16 12:08	ICP2-HE_161003B	: 94	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Vanadium	16	mg/kg-dry		1		SW6020	10/02/16 23:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 88	34603
Zinc	317	mg/kg-dry		5		SW6010B	10/03/16 14:41 / sld	09/29/16 12:08	ICP2-HE_161003B	: 94	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/03/16 11:03 / rgk	09/30/16 12:34	HGCV201-H_161003A	: 23	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve <0.065mm
Lab ID: H16090353-024
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 13:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	70.9	wt%		0.2		D2974	10/04/16 12:43 / rgk		DRYING OVEN 2_161004A	4	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.1	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	36	R119082
3050 EXTRACTABLE METALS											
Aluminum	20800	mg/kg-dry		10		SW6010B	10/03/16 10:50 / sld	09/29/16 12:02	ICP2-HE_161003B	31	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Arsenic	62	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Barium	409	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Boron	21	mg/kg-dry		7		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Cadmium	11.6	mg/kg-dry		0.6		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Chromium	66	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Cobalt	12	mg/kg-dry		5		SW6010B	10/03/16 10:50 / sld	09/29/16 12:02	ICP2-HE_161003B	31	34600
Copper	853	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Iron	32400	mg/kg-dry	D	20		SW6010B	10/03/16 10:50 / sld	09/29/16 12:02	ICP2-HE_161003B	31	34600
Lead	461	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Manganese	5990	mg/kg-dry		5		SW6010B	10/03/16 10:50 / sld	09/29/16 12:02	ICP2-HE_161003B	31	34600
Molybdenum	12	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Nickel	39	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Silver	8	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Uranium	7	mg/kg-dry		5		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Vanadium	56	mg/kg-dry		1		SW6020	10/02/16 19:43 / dck	09/29/16 12:02	ICPMS204-B_161002A	22	34600
Zinc	2570	mg/kg-dry		6		SW6010B	10/03/16 10:50 / sld	09/29/16 12:02	ICP2-HE_161003B	31	34600
METALS, TOTAL											
Mercury	2.8	mg/kg-dry		0.16		SW7471B	10/03/16 11:56 / rgk	09/30/16 12:34	HGCV201-H_161003A	43	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 0.065-1mm
Lab ID: H16090353-025
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 13:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.9	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 13	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	36.5	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 37	R119082
3050 EXTRACTABLE METALS											
Aluminum	4140	mg/kg-dry		5		SW6010B	10/03/16 13:06 / sld	09/29/16 12:06	ICP2-HE_161003B	: 68	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Arsenic	17	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Barium	64	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Cadmium	2.1	mg/kg-dry		0.2		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Chromium	7	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Cobalt	ND	mg/kg-dry		5		SW6010B	10/03/16 13:06 / sld	09/29/16 12:06	ICP2-HE_161003B	: 68	34601
Copper	147	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Iron	10000	mg/kg-dry	D	8		SW6010B	10/03/16 13:06 / sld	09/29/16 12:06	ICP2-HE_161003B	: 68	34601
Lead	38	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Manganese	405	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Vanadium	24	mg/kg-dry		1		SW6020	10/02/16 21:27 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 54	34601
Zinc	578	mg/kg-dry		5		SW6010B	10/03/16 13:06 / sld	09/29/16 12:06	ICP2-HE_161003B	: 68	34601
METALS, TOTAL											
Mercury	0.34	mg/kg-dry		0.10		SW7471B	10/03/16 11:07 / rgk	09/30/16 12:34	HGCV201-H_161003A	: 25	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 1-2mm
Lab ID: H16090353-026
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 13:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	18.1	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	14	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	36.3	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	38	R119082
3050 EXTRACTABLE METALS											
Aluminum	4470	mg/kg-dry		5		SW6010B	10/03/16 14:45 / sld	09/29/16 12:08	ICP2-HE_161003B	95	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Arsenic	5	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Barium	60	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Cadmium	0.5	mg/kg-dry		0.2		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Chromium	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Copper	47	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Iron	8410	mg/kg-dry	D	8		SW6010B	10/03/16 14:45 / sld	09/29/16 12:08	ICP2-HE_161003B	95	34603
Lead	28	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Manganese	360	mg/kg-dry		5		SW6010B	10/03/16 14:45 / sld	09/29/16 12:08	ICP2-HE_161003B	95	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Vanadium	17	mg/kg-dry		1		SW6020	10/02/16 23:23 / dck	09/29/16 12:08	ICPMS204-B_161002A	89	34603
Zinc	211	mg/kg-dry		5		SW6010B	10/03/16 14:45 / sld	09/29/16 12:08	ICP2-HE_161003B	95	34603
METALS, TOTAL											
Mercury	0.27	mg/kg-dry		0.10		SW7471B	10/03/16 11:08 / rgk	09/30/16 12:34	HGCV201-H_161003A	26	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve <0.065mm
Lab ID: H16090353-027
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	62.4	wt%		0.2		D2974	10/04/16 12:43 / rgk		DRYING OVEN 2_161004A	5	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	17.5	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	39	R119082
3050 EXTRACTABLE METALS											
Aluminum	31400	mg/kg-dry		10		SW6010B	10/03/16 10:54 / sld	09/29/16 12:02	ICP2-HE_161003B	32	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Arsenic	83	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Barium	339	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Boron	11	mg/kg-dry		6		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Cadmium	5.3	mg/kg-dry		0.4		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Chromium	30	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Cobalt	15	mg/kg-dry		5		SW6010B	10/03/16 10:54 / sld	09/29/16 12:02	ICP2-HE_161003B	32	34600
Copper	622	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Iron	34300	mg/kg-dry	D	20		SW6010B	10/03/16 10:54 / sld	09/29/16 12:02	ICP2-HE_161003B	32	34600
Lead	291	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Manganese	1560	mg/kg-dry		5		SW6010B	10/03/16 10:54 / sld	09/29/16 12:02	ICP2-HE_161003B	32	34600
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Nickel	16	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Vanadium	60	mg/kg-dry		1		SW6020	10/02/16 19:46 / dck	09/29/16 12:02	ICPMS204-B_161002A	23	34600
Zinc	1610	mg/kg-dry		5		SW6010B	10/03/16 10:54 / sld	09/29/16 12:02	ICP2-HE_161003B	32	34600
METALS, TOTAL											
Mercury	1.4	mg/kg-dry		0.13		SW7471B	10/03/16 11:58 / rgk	09/30/16 12:34	HGCV201-H_161003A	44	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 0.065-1mm
Lab ID: H16090353-028
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	32.3	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 15	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	47.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 40	R119082
3050 EXTRACTABLE METALS											
Aluminum	11200	mg/kg-dry		6		SW6010B	10/03/16 13:10 / sld	09/29/16 12:06	ICP2-HE_161003B	: 69	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Arsenic	19	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Barium	142	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Cadmium	1.3	mg/kg-dry		0.2		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Chromium	13	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Cobalt	5	mg/kg-dry		5		SW6020	10/06/16 11:29 / dck	10/04/16 16:41	ICPMS204-B_161006A	: 20	34652
Copper	120	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Iron	20800	mg/kg-dry	D	10		SW6010B	10/03/16 13:10 / sld	09/29/16 12:06	ICP2-HE_161003B	: 69	34601
Lead	86	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Manganese	642	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Nickel	5	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Vanadium	51	mg/kg-dry		1		SW6020	10/02/16 21:44 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 59	34601
Zinc	350	mg/kg-dry		5		SW6010B	10/03/16 13:10 / sld	09/29/16 12:06	ICP2-HE_161003B	: 69	34601
METALS, TOTAL											
Mercury	0.37	mg/kg-dry		0.10		SW7471B	10/03/16 11:16 / rgk	09/30/16 12:34	HGCV201-H_161003A	: 30	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 1-2mm
Lab ID: H16090353-029
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	32.6	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	16	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	19.6	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	41	R119082
3050 EXTRACTABLE METALS											
Aluminum	13400	mg/kg-dry		6		SW6010B	10/03/16 14:49 / sld	09/29/16 12:08	ICP2-HE_161003B	96	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Arsenic	12	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Barium	131	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Cadmium	0.6	mg/kg-dry		0.2		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Chromium	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Copper	52	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Iron	11500	mg/kg-dry	D	10		SW6010B	10/03/16 14:49 / sld	09/29/16 12:08	ICP2-HE_161003B	96	34603
Lead	28	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Manganese	519	mg/kg-dry		5		SW6010B	10/03/16 14:49 / sld	09/29/16 12:08	ICP2-HE_161003B	96	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Vanadium	15	mg/kg-dry		1		SW6020	10/02/16 23:26 / dck	09/29/16 12:08	ICPMS204-B_161002A	90	34603
Zinc	169	mg/kg-dry		5		SW6010B	10/03/16 14:49 / sld	09/29/16 12:08	ICP2-HE_161003B	96	34603
METALS, TOTAL											
Mercury	0.11	mg/kg-dry		0.10		SW7471B	10/03/16 11:25 / rgk	09/30/16 12:34	HGCV201-H_161003A	34	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Sieve <0.065mm
Lab ID: H16090353-030
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 11:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	73.1	wt%		0.2		D2974	10/04/16 12:43 / rgk		DRYING OVEN 2_161004A	6	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	7.2	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	42	R119082
3050 EXTRACTABLE METALS											
Aluminum	65800	mg/kg-dry		10		SW6010B	10/03/16 11:05 / sld	09/29/16 12:02	ICP2-HE_161003B	35	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Arsenic	37	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Barium	631	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Boron	10	mg/kg-dry		8		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Cadmium	5.8	mg/kg-dry		0.6		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Chromium	48	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Cobalt	18	mg/kg-dry		5		SW6010B	10/03/16 11:05 / sld	09/29/16 12:02	ICP2-HE_161003B	35	34600
Copper	481	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Iron	52000	mg/kg-dry	D	20		SW6010B	10/03/16 11:05 / sld	09/29/16 12:02	ICP2-HE_161003B	35	34600
Lead	208	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Manganese	2990	mg/kg-dry		5		SW6010B	10/03/16 11:05 / sld	09/29/16 12:02	ICP2-HE_161003B	35	34600
Molybdenum	6	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Nickel	28	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Uranium	5	mg/kg-dry		5		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Vanadium	71	mg/kg-dry		2		SW6020	10/02/16 19:49 / dck	09/29/16 12:02	ICPMS204-B_161002A	24	34600
Zinc	1510	mg/kg-dry		6		SW6010B	10/03/16 11:05 / sld	09/29/16 12:02	ICP2-HE_161003B	35	34600
METALS, TOTAL											
Mercury	0.61	mg/kg-dry		0.10		SW7471B	10/03/16 11:27 / rgk	09/30/16 12:34	HGCV201-H_161003A	35	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Sieve 0.065-1mm
Lab ID: H16090353-031
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 11:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.0	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 17	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	25.3	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 43	R119082
3050 EXTRACTABLE METALS											
Aluminum	5100	mg/kg-dry		5		SW6010B	10/03/16 13:13 / sld	09/29/16 12:06	ICP2-HE_161003B	: 70	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Arsenic	ND	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Barium	57	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Cadmium	1.2	mg/kg-dry		0.2		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Chromium	9	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Cobalt	ND	mg/kg-dry		5		SW6010B	10/03/16 13:13 / sld	09/29/16 12:06	ICP2-HE_161003B	: 70	34601
Copper	49	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Iron	13400	mg/kg-dry	D	9		SW6010B	10/03/16 13:13 / sld	09/29/16 12:06	ICP2-HE_161003B	: 70	34601
Lead	16	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Manganese	237	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Vanadium	37	mg/kg-dry		1		SW6020	10/02/16 21:47 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 60	34601
Zinc	142	mg/kg-dry		5		SW6010B	10/03/16 13:13 / sld	09/29/16 12:06	ICP2-HE_161003B	: 70	34601
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/03/16 11:29 / rgk	09/30/16 12:37	HGCV201-H_161003A	: 36	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Sieve 1-2mm
Lab ID: H16090353-032
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 11:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.8	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	18	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	16.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	44	R119082
3050 EXTRACTABLE METALS											
Aluminum	5860	mg/kg-dry		5		SW6010B	10/03/16 14:52 / sld	09/29/16 12:08	ICP2-HE_161003B	97	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Arsenic	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Barium	61	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Cadmium	0.6	mg/kg-dry		0.2		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Chromium	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Copper	22	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Iron	6230	mg/kg-dry	D	8		SW6010B	10/03/16 14:52 / sld	09/29/16 12:08	ICP2-HE_161003B	97	34603
Lead	7	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Manganese	210	mg/kg-dry		5		SW6010B	10/03/16 14:52 / sld	09/29/16 12:08	ICP2-HE_161003B	97	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Vanadium	12	mg/kg-dry		1		SW6020	10/02/16 23:29 / dck	09/29/16 12:08	ICPMS204-B_161002A	91	34603
Zinc	96	mg/kg-dry		5		SW6010B	10/03/16 14:52 / sld	09/29/16 12:08	ICP2-HE_161003B	97	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/03/16 11:31 / rgk	09/30/16 12:37	HGCV201-H_161003A	37	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve <0.065mm
Lab ID: H16090353-033
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 10:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	72.6	wt%		0.2		D2974	10/04/16 12:43 / rgk		DRYING OVEN 2_161004A	7	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	2.3	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	45	R119082
3050 EXTRACTABLE METALS											
Aluminum	29500	mg/kg-dry		10		SW6010B	10/03/16 11:08 / sld	09/29/16 12:02	ICP2-HE_161003B	36	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Arsenic	45	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Barium	639	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Boron	16	mg/kg-dry		8		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Cadmium	14.8	mg/kg-dry		0.6		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Chromium	63	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Cobalt	25	mg/kg-dry		5		SW6010B	10/03/16 11:08 / sld	09/29/16 12:02	ICP2-HE_161003B	36	34600
Copper	694	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Iron	36200	mg/kg-dry	D	20		SW6010B	10/03/16 11:08 / sld	09/29/16 12:02	ICP2-HE_161003B	36	34600
Lead	254	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Manganese	7440	mg/kg-dry		5		SW6010B	10/03/16 11:08 / sld	09/29/16 12:02	ICP2-HE_161003B	36	34600
Molybdenum	7	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Nickel	39	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Uranium	5	mg/kg-dry		5		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Vanadium	78	mg/kg-dry		1		SW6020	10/02/16 19:52 / dck	09/29/16 12:02	ICPMS204-B_161002A	25	34600
Zinc	2230	mg/kg-dry		6		SW6010B	10/03/16 11:08 / sld	09/29/16 12:02	ICP2-HE_161003B	36	34600
METALS, TOTAL											
Mercury	0.67	mg/kg-dry		0.10		SW7471B	10/03/16 11:33 / rgk	09/30/16 12:37	HGCV201-H_161003A	38	34614

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 0.065-1mm
Lab ID: H16090353-034
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 10:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	22.1	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 19	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	19.0	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 46	R119082
3050 EXTRACTABLE METALS											
Aluminum	4220	mg/kg-dry		5		SW6010B	10/03/16 13:17 / sld	09/29/16 12:06	ICP2-HE_161003B	: 71	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Arsenic	5	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Barium	126	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Cadmium	0.6	mg/kg-dry		0.2		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Chromium	14	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Cobalt	ND	mg/kg-dry		5		SW6020	10/06/16 11:32 / dck	10/04/16 16:41	ICPMS204-B_161006A	: 21	34652
Copper	33	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Iron	19800	mg/kg-dry	D	8		SW6010B	10/03/16 13:17 / sld	09/29/16 12:06	ICP2-HE_161003B	: 71	34601
Lead	14	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Manganese	465	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Nickel	5	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Vanadium	62	mg/kg-dry		1		SW6020	10/02/16 21:50 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 61	34601
Zinc	110	mg/kg-dry		5		SW6010B	10/03/16 13:17 / sld	09/29/16 12:06	ICP2-HE_161003B	: 71	34601
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/05/16 12:04 / rgk	10/03/16 09:11	HGCV201-H_161005B	: 12	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 1-2mm
Lab ID: H16090353-035
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 10:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	18.1	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	21	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	15.9	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	47	R119082
3050 EXTRACTABLE METALS											
Aluminum	5000	mg/kg-dry		5		SW6010B	10/03/16 14:56 / sld	09/29/16 12:08	ICP2-HE_161003B	98	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Arsenic	8	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Barium	138	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Cadmium	0.3	mg/kg-dry		0.2		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Chromium	7	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Copper	32	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Iron	5520	mg/kg-dry	D	8		SW6010B	10/03/16 14:56 / sld	09/29/16 12:08	ICP2-HE_161003B	98	34603
Lead	17	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Manganese	714	mg/kg-dry		5		SW6010B	10/03/16 14:56 / sld	09/29/16 12:08	ICP2-HE_161003B	98	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Vanadium	12	mg/kg-dry		1		SW6020	10/02/16 23:32 / dck	09/29/16 12:08	ICPMS204-B_161002A	92	34603
Zinc	95	mg/kg-dry		5		SW6010B	10/03/16 14:56 / sld	09/29/16 12:08	ICP2-HE_161003B	98	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/05/16 12:17 / rgk	10/03/16 09:11	HGCV201-H_161005B	17	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve <0.065mm
Lab ID: H16090353-036
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 09:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	72.5	wt%		0.2		D2974	10/04/16 12:43 / rgk		DRYING OVEN 2_161004A	8	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.7	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	48	R119082
3050 EXTRACTABLE METALS											
Aluminum	31300	mg/kg-dry		10		SW6010B	10/03/16 11:12 / sld	09/29/16 12:02	ICP2-HE_161003B	37	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Arsenic	28	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Barium	513	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Boron	13	mg/kg-dry		8		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Cadmium	10.3	mg/kg-dry		0.6		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Chromium	47	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Cobalt	18	mg/kg-dry		5		SW6010B	10/03/16 11:12 / sld	09/29/16 12:02	ICP2-HE_161003B	37	34600
Copper	532	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Iron	31000	mg/kg-dry	D	20		SW6010B	10/03/16 11:12 / sld	09/29/16 12:02	ICP2-HE_161003B	37	34600
Lead	189	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Manganese	7210	mg/kg-dry		5		SW6010B	10/03/16 11:12 / sld	09/29/16 12:02	ICP2-HE_161003B	37	34600
Molybdenum	5	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Nickel	27	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Uranium	8	mg/kg-dry		5		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Vanadium	71	mg/kg-dry		1		SW6020	10/02/16 20:09 / dck	09/29/16 12:02	ICPMS204-B_161002A	30	34600
Zinc	1440	mg/kg-dry		6		SW6010B	10/03/16 11:12 / sld	09/29/16 12:02	ICP2-HE_161003B	37	34600
METALS, TOTAL											
Mercury	0.58	mg/kg-dry		0.10		SW7471B	10/05/16 12:19 / rgk	10/03/16 09:11	HGCV201-H_161005B	18	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 0.065-1mm
Lab ID: H16090353-037
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 09:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	22.0	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 22	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	22.8	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 49	R119082
3050 EXTRACTABLE METALS											
Aluminum	5700	mg/kg-dry		5		SW6010B	10/03/16 13:21 / sld	09/29/16 12:06	ICP2-HE_161003B	: 72	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Arsenic	ND	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Barium	119	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Cadmium	0.7	mg/kg-dry		0.2		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Chromium	12	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Cobalt	ND	mg/kg-dry		5		SW6010B	10/03/16 13:21 / sld	09/29/16 12:06	ICP2-HE_161003B	: 72	34601
Copper	26	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Iron	10200	mg/kg-dry	D	8		SW6010B	10/03/16 13:21 / sld	09/29/16 12:06	ICP2-HE_161003B	: 72	34601
Lead	13	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Manganese	579	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Nickel	5	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Vanadium	26	mg/kg-dry		1		SW6020	10/02/16 21:54 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 62	34601
Zinc	104	mg/kg-dry		5		SW6010B	10/03/16 13:21 / sld	09/29/16 12:06	ICP2-HE_161003B	: 72	34601
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/05/16 12:21 / rgk	10/03/16 09:11	HGCV201-H_161005B	: 19	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 1-2mm
Lab ID: H16090353-038
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/15/16 09:45
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.5	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 23	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	23.2	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 50	R119082
3050 EXTRACTABLE METALS											
Aluminum	4750	mg/kg-dry		5		SW6010B	10/03/16 15:00 / sld	09/29/16 12:08	ICP2-HE_161003B	: 99	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Arsenic	ND	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Barium	101	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Cadmium	0.4	mg/kg-dry		0.2		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Chromium	13	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Copper	27	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Iron	7440	mg/kg-dry	D	8		SW6010B	10/03/16 15:00 / sld	09/29/16 12:08	ICP2-HE_161003B	: 99	34603
Lead	10	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Manganese	725	mg/kg-dry		5		SW6010B	10/03/16 15:00 / sld	09/29/16 12:08	ICP2-HE_161003B	: 99	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Nickel	8	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Vanadium	16	mg/kg-dry		1		SW6020	10/02/16 23:36 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 93	34603
Zinc	88	mg/kg-dry		5		SW6010B	10/03/16 15:00 / sld	09/29/16 12:08	ICP2-HE_161003B	: 99	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/05/16 12:23 / rgk	10/03/16 09:11	HGCV201-H_161005B	: 20	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve <0.065mm
Lab ID: H16090353-039
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 16:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	68.6	wt%		0.2		D2974	10/04/16 12:43 / rgk		DRYING OVEN 2_161004A	9	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.7	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	51	R119082
3050 EXTRACTABLE METALS											
Aluminum	21600	mg/kg-dry		10		SW6010B	10/03/16 11:16 / sld	09/29/16 12:02	ICP2-HE_161003B	38	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Arsenic	34	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Barium	312	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Boron	14	mg/kg-dry		7		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Cadmium	10.3	mg/kg-dry		0.5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Chromium	35	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Cobalt	12	mg/kg-dry		5		SW6010B	10/03/16 11:16 / sld	09/29/16 12:02	ICP2-HE_161003B	38	34600
Copper	431	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Iron	22700	mg/kg-dry	D	20		SW6010B	10/03/16 11:16 / sld	09/29/16 12:02	ICP2-HE_161003B	38	34600
Lead	136	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Manganese	2810	mg/kg-dry		5		SW6010B	10/03/16 11:16 / sld	09/29/16 12:02	ICP2-HE_161003B	38	34600
Molybdenum	6	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Nickel	21	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Uranium	7	mg/kg-dry		5		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Vanadium	50	mg/kg-dry		1		SW6020	10/02/16 20:12 / dck	09/29/16 12:02	ICPMS204-B_161002A	31	34600
Zinc	2130	mg/kg-dry		5		SW6010B	10/03/16 11:16 / sld	09/29/16 12:02	ICP2-HE_161003B	38	34600
METALS, TOTAL											
Mercury	0.44	mg/kg-dry		0.10		SW7471B	10/05/16 12:25 / rgk	10/03/16 09:11	HGCV201-H_161005B	21	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 0.065-1mm
Lab ID: H16090353-040
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 16:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	28.4	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 24	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	37.1	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 52	R119082
3050 EXTRACTABLE METALS											
Aluminum	8000	mg/kg-dry		5		SW6010B	10/03/16 13:24 / sld	09/29/16 12:06	ICP2-HE_161003B	: 73	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Arsenic	6	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Barium	194	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Cadmium	1.7	mg/kg-dry		0.2		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Chromium	13	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Cobalt	5	mg/kg-dry		5		SW6010B	10/03/16 13:24 / sld	09/29/16 12:06	ICP2-HE_161003B	: 73	34601
Copper	61	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Iron	12300	mg/kg-dry	D	9		SW6010B	10/03/16 13:24 / sld	09/29/16 12:06	ICP2-HE_161003B	: 73	34601
Lead	18	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Manganese	424	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Nickel	7	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Vanadium	31	mg/kg-dry		1		SW6020	10/02/16 21:57 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 63	34601
Zinc	287	mg/kg-dry		5		SW6010B	10/03/16 13:24 / sld	09/29/16 12:06	ICP2-HE_161003B	: 73	34601
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/05/16 12:27 / rgk	10/03/16 09:11	HGCV201-H_161005B	: 22	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 1-2mm
Lab ID: H16090353-041
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 16:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	23.6	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 25	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	14.5	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 53	R119082
3050 EXTRACTABLE METALS											
Aluminum	5310	mg/kg-dry		5		SW6010B	10/03/16 15:11 / sld	09/29/16 12:08	ICP2-HE_161003B	: 102	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Arsenic	ND	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Barium	120	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Cadmium	0.5	mg/kg-dry		0.2		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Chromium	11	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Copper	17	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Iron	6880	mg/kg-dry	D	9		SW6010B	10/03/16 15:11 / sld	09/29/16 12:08	ICP2-HE_161003B	: 102	34603
Lead	8	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Manganese	348	mg/kg-dry		5		SW6010B	10/03/16 15:11 / sld	09/29/16 12:08	ICP2-HE_161003B	: 102	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Nickel	6	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Vanadium	14	mg/kg-dry		1		SW6020	10/02/16 23:39 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 94	34603
Zinc	127	mg/kg-dry		5		SW6010B	10/03/16 15:11 / sld	09/29/16 12:08	ICP2-HE_161003B	: 102	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/05/16 12:29 / rgk	10/03/16 09:11	HGCV201-H_161005B	: 23	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve <0.065mm
Lab ID: H16090353-042
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 15:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	70.0	wt%		0.2		D2974	10/04/16 12:43 / rgk		RYING OVEN 2_161004A	: 10	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	6.9	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 54	R119082
3050 EXTRACTABLE METALS											
Aluminum	31400	mg/kg-dry		10		SW6010B	10/03/16 11:19 / sld	09/29/16 12:02	ICP2-HE_161003B	: 39	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Arsenic	43	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Barium	512	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Boron	16	mg/kg-dry		7		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Cadmium	11.0	mg/kg-dry		0.5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Chromium	60	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Cobalt	18	mg/kg-dry		5		SW6010B	10/03/16 11:19 / sld	09/29/16 12:02	ICP2-HE_161003B	: 39	34600
Copper	624	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Iron	33900	mg/kg-dry	D	20		SW6010B	10/03/16 11:19 / sld	09/29/16 12:02	ICP2-HE_161003B	: 39	34600
Lead	211	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Manganese	4490	mg/kg-dry		5		SW6010B	10/03/16 11:19 / sld	09/29/16 12:02	ICP2-HE_161003B	: 39	34600
Molybdenum	6	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Nickel	34	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Uranium	6	mg/kg-dry		5		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Vanadium	72	mg/kg-dry		1		SW6020	10/02/16 20:15 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 32	34600
Zinc	2240	mg/kg-dry		5		SW6010B	10/03/16 11:19 / sld	09/29/16 12:02	ICP2-HE_161003B	: 39	34600
METALS, TOTAL											
Mercury	0.57	mg/kg-dry		0.10		SW7471B	10/05/16 12:31 / rgk	10/03/16 09:11	HGCV201-H_161005B	: 24	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 0.065-1mm
Lab ID: H16090353-043
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 15:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.4	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 26	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	28.2	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 55	R119082
3050 EXTRACTABLE METALS											
Aluminum	5840	mg/kg-dry		5		SW6010B	10/03/16 13:28 / sld	09/29/16 12:06	ICP2-HE_161003B	: 74	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Arsenic	7	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Barium	136	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Cadmium	0.9	mg/kg-dry		0.2		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Chromium	13	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Cobalt	ND	mg/kg-dry		5		SW6020	10/06/16 11:36 / dck	10/04/16 16:41	ICPMS204-B_161006A	: 22	34652
Copper	46	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Iron	16400	mg/kg-dry	D	9		SW6010B	10/03/16 13:28 / sld	09/29/16 12:06	ICP2-HE_161003B	: 74	34601
Lead	11	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Manganese	485	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Vanadium	46	mg/kg-dry		1		SW6020	10/02/16 22:00 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 64	34601
Zinc	158	mg/kg-dry		5		SW6010B	10/03/16 13:28 / sld	09/29/16 12:06	ICP2-HE_161003B	: 74	34601
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/05/16 12:33 / rgk	10/03/16 09:11	HGCV201-H_161005B	: 25	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 1-2mm
Lab ID: H16090353-044
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 15:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.3	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	27	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	16.2	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	56	R119082
3050 EXTRACTABLE METALS											
Aluminum	4580	mg/kg-dry		5		SW6010B	10/03/16 15:14 / sld	09/29/16 12:08	ICP2-HE_161003B	103	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Arsenic	10	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Barium	137	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Cadmium	0.4	mg/kg-dry		0.2		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Chromium	12	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Copper	42	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Iron	8670	mg/kg-dry	D	9		SW6010B	10/03/16 15:14 / sld	09/29/16 12:08	ICP2-HE_161003B	103	34603
Lead	13	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Manganese	668	mg/kg-dry		5		SW6010B	10/03/16 15:14 / sld	09/29/16 12:08	ICP2-HE_161003B	103	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Nickel	7	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Vanadium	15	mg/kg-dry		1		SW6020	10/02/16 23:42 / dck	09/29/16 12:08	ICPMS204-B_161002A	95	34603
Zinc	143	mg/kg-dry		5		SW6010B	10/03/16 15:14 / sld	09/29/16 12:08	ICP2-HE_161003B	103	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/04/16 11:03 / rgk	10/03/16 09:11	HGCV201-H_161004A	35	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A Sediment Sieve <0.065mm
Lab ID: H16090353-045
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	68.7	wt%		0.2		D2974	10/04/16 12:43 / rgk		RYING OVEN 2_161004A	: 11	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.7	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 57	R119082
3050 EXTRACTABLE METALS											
Aluminum	28900	mg/kg-dry		10		SW6010B	10/03/16 11:23 / sld	09/29/16 12:02	ICP2-HE_161003B	: 40	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Arsenic	99	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Barium	517	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Boron	14	mg/kg-dry		7		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Cadmium	13.4	mg/kg-dry		0.5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Chromium	44	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Cobalt	17	mg/kg-dry		5		SW6010B	10/03/16 11:23 / sld	09/29/16 12:02	ICP2-HE_161003B	: 40	34600
Copper	1480	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Iron	33900	mg/kg-dry	D	20		SW6010B	10/03/16 11:23 / sld	09/29/16 12:02	ICP2-HE_161003B	: 40	34600
Lead	349	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Manganese	3660	mg/kg-dry		5		SW6010B	10/03/16 11:23 / sld	09/29/16 12:02	ICP2-HE_161003B	: 40	34600
Molybdenum	5	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Nickel	25	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Silver	6	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Vanadium	58	mg/kg-dry		1		SW6020	10/02/16 20:19 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 33	34600
Zinc	2990	mg/kg-dry		5		SW6010B	10/03/16 11:23 / sld	09/29/16 12:02	ICP2-HE_161003B	: 40	34600
METALS, TOTAL											
Mercury	2.1	mg/kg-dry		0.16		SW7471B	10/04/16 11:11 / rgk	10/03/16 09:11	HGCV201-H_161004A	: 39	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A Sediment Sieve 0.065-1mm
Lab ID: H16090353-046
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	30.0	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 28	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	12.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 58	R119082
3050 EXTRACTABLE METALS											
Aluminum	6670	mg/kg-dry		5		SW6010B	10/03/16 13:32 / sld	09/29/16 12:06	ICP2-HE_161003B	: 75	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Arsenic	60	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Barium	157	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Cadmium	3.5	mg/kg-dry		0.2		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Chromium	23	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Cobalt	7	mg/kg-dry		5		SW6010B	10/03/16 13:32 / sld	09/29/16 12:06	ICP2-HE_161003B	: 75	34601
Copper	345	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Iron	36300	mg/kg-dry	D	9		SW6010B	10/03/16 13:32 / sld	09/29/16 12:06	ICP2-HE_161003B	: 75	34601
Lead	145	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Manganese	1330	mg/kg-dry		5		SW6010B	10/03/16 13:32 / sld	09/29/16 12:06	ICP2-HE_161003B	: 75	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Nickel	7	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Vanadium	92	mg/kg-dry		1		SW6020	10/02/16 22:04 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 65	34601
Zinc	1180	mg/kg-dry		5		SW6010B	10/03/16 13:32 / sld	09/29/16 12:06	ICP2-HE_161003B	: 75	34601
METALS, TOTAL											
Mercury	0.55	mg/kg-dry		0.10		SW7471B	10/04/16 11:13 / rgk	10/03/16 09:11	HGCV201-H_161004A	: 40	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A Sediment Sieve 1-2mm
Lab ID: H16090353-047
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 14:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.5	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	29	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	21.0	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	59	R119082
3050 EXTRACTABLE METALS											
Aluminum	5240	mg/kg-dry		5		SW6010B	10/03/16 15:18 / sld	09/29/16 12:08	ICP2-HE_161003B	104	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Arsenic	93	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Barium	99	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Cadmium	3.7	mg/kg-dry		0.2		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Chromium	19	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Copper	399	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Iron	16500	mg/kg-dry	D	8		SW6010B	10/03/16 15:18 / sld	09/29/16 12:08	ICP2-HE_161003B	104	34603
Lead	217	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Manganese	2450	mg/kg-dry		5		SW6010B	10/03/16 15:18 / sld	09/29/16 12:08	ICP2-HE_161003B	104	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Nickel	9	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Silver	11	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Uranium	6	mg/kg-dry		5		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Vanadium	25	mg/kg-dry		1		SW6020	10/02/16 23:46 / dck	09/29/16 12:08	ICPMS204-B_161002A	96	34603
Zinc	1850	mg/kg-dry		5		SW6010B	10/03/16 15:18 / sld	09/29/16 12:08	ICP2-HE_161003B	104	34603
METALS, TOTAL											
Mercury	0.31	mg/kg-dry		0.10		SW7471B	10/04/16 11:15 / rgk	10/03/16 09:11	HGCV201-H_161004A	41	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve <0.065mm
Lab ID: H16090353-048
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	74.0	wt%		0.2		D2974	10/04/16 12:43 / rgk		RYING OVEN 2_161004A	12	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	5.2	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	60	R119082
3050 EXTRACTABLE METALS											
Aluminum	25000	mg/kg-dry		10		SW6010B	10/03/16 11:27 / sld	09/29/16 12:02	ICP2-HE_161003B	41	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Arsenic	135	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Barium	383	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Boron	15	mg/kg-dry		8		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Cadmium	9.8	mg/kg-dry		0.6		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Chromium	58	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Cobalt	13	mg/kg-dry		5		SW6010B	10/03/16 11:27 / sld	09/29/16 12:02	ICP2-HE_161003B	41	34600
Copper	711	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Iron	37700	mg/kg-dry	D	30		SW6010B	10/03/16 11:27 / sld	09/29/16 12:02	ICP2-HE_161003B	41	34600
Lead	284	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Manganese	3000	mg/kg-dry		5		SW6010B	10/03/16 11:27 / sld	09/29/16 12:02	ICP2-HE_161003B	41	34600
Molybdenum	6	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Nickel	35	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Vanadium	58	mg/kg-dry		2		SW6020	10/02/16 20:22 / dck	09/29/16 12:02	ICPMS204-B_161002A	34	34600
Zinc	3130	mg/kg-dry		6		SW6010B	10/03/16 11:27 / sld	09/29/16 12:02	ICP2-HE_161003B	41	34600
METALS, TOTAL											
Mercury	1.1	mg/kg-dry		0.10		SW7471B	10/04/16 11:17 / rgk	10/03/16 09:11	HGCV201-H_161004A	42	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 0.065-1mm
Lab ID: H16090353-049
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	23.2	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 30	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	50.7	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 61	R119082
3050 EXTRACTABLE METALS											
Aluminum	6910	mg/kg-dry		5		SW6010B	10/03/16 13:43 / sld	09/29/16 12:06	ICP2-HE_161003B	: 78	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Arsenic	41	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Barium	112	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Cadmium	0.6	mg/kg-dry		0.2		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Chromium	15	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Cobalt	5	mg/kg-dry		5		SW6010B	10/03/16 13:43 / sld	09/29/16 12:06	ICP2-HE_161003B	: 78	34601
Copper	141	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Iron	15500	mg/kg-dry	D	9		SW6010B	10/03/16 13:43 / sld	09/29/16 12:06	ICP2-HE_161003B	: 78	34601
Lead	29	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Manganese	310	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Nickel	8	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Vanadium	33	mg/kg-dry		1		SW6020	10/02/16 22:07 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 66	34601
Zinc	308	mg/kg-dry		5		SW6010B	10/03/16 13:43 / sld	09/29/16 12:06	ICP2-HE_161003B	: 78	34601
METALS, TOTAL											
Mercury	0.12	mg/kg-dry		0.10		SW7471B	10/04/16 11:19 / rgk	10/03/16 09:11	HGCV201-H_161004A	: 43	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 1-2mm
Lab ID: H16090353-050
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 12:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.6	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	32	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	23.7	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	62	R119082
3050 EXTRACTABLE METALS											
Aluminum	7560	mg/kg-dry		5		SW6010B	10/03/16 15:22 / sld	09/29/16 12:08	ICP2-HE_161003B	105	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Arsenic	21	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Barium	98	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Boron	ND	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Cadmium	0.2	mg/kg-dry		0.2		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Chromium	13	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Copper	51	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Iron	12600	mg/kg-dry	D	8		SW6010B	10/03/16 15:22 / sld	09/29/16 12:08	ICP2-HE_161003B	105	34603
Lead	19	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Manganese	279	mg/kg-dry		5		SW6010B	10/03/16 15:22 / sld	09/29/16 12:08	ICP2-HE_161003B	105	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Nickel	8	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Silver	ND	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Vanadium	21	mg/kg-dry		1		SW6020	10/03/16 00:02 / dck	09/29/16 12:08	ICPMS204-B_161002A	101	34603
Zinc	244	mg/kg-dry		5		SW6010B	10/03/16 15:22 / sld	09/29/16 12:08	ICP2-HE_161003B	105	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/04/16 11:21 / rgk	10/03/16 09:11	HGCV201-H_161004A	44	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Sieve <0.065mm
Lab ID: H16090353-051
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 11:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	73.9	wt%		0.2		D2974	10/04/16 12:43 / rgk		RYING OVEN 2_161004A	: 13	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	7.0	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 63	R119082
3050 EXTRACTABLE METALS											
Aluminum	36200	mg/kg-dry		20		SW6010B	10/03/16 11:30 / sld	09/29/16 12:02	ICP2-HE_161003B	: 42	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Arsenic	54	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Barium	467	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Boron	18	mg/kg-dry		8		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Cadmium	10.8	mg/kg-dry		0.6		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Chromium	51	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Cobalt	17	mg/kg-dry		5		SW6010B	10/03/16 11:30 / sld	09/29/16 12:02	ICP2-HE_161003B	: 42	34600
Copper	741	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Iron	37700	mg/kg-dry	D	30		SW6010B	10/03/16 11:30 / sld	09/29/16 12:02	ICP2-HE_161003B	: 42	34600
Lead	242	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Manganese	4190	mg/kg-dry		5		SW6010B	10/03/16 11:30 / sld	09/29/16 12:02	ICP2-HE_161003B	: 42	34600
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Nickel	29	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Vanadium	80	mg/kg-dry		2		SW6020	10/02/16 20:25 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 35	34600
Zinc	2100	mg/kg-dry		6		SW6010B	10/03/16 11:30 / sld	09/29/16 12:02	ICP2-HE_161003B	: 42	34600
METALS, TOTAL											
Mercury	1.0	mg/kg-dry		0.10		SW7471B	10/04/16 11:23 / rgk	10/03/16 09:11	HGCV201-H_161004A	: 45	34625

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Sieve 0.065-1mm
Lab ID: H16090353-052
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 11:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	26.4	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 33	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	49.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 64	R119082
3050 EXTRACTABLE METALS											
Aluminum	7710	mg/kg-dry		5		SW6010B	10/03/16 13:46 / sld	09/29/16 12:06	ICP2-HE_161003B	: 79	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Arsenic	16	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Barium	148	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Cadmium	1.2	mg/kg-dry		0.2		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Chromium	25	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Cobalt	6	mg/kg-dry		5		SW6020	10/06/16 11:39 / dck	10/04/16 16:41	ICPMS204-B_161006A	: 23	34652
Copper	110	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Iron	36500	mg/kg-dry	D	9		SW6010B	10/03/16 13:46 / sld	09/29/16 12:06	ICP2-HE_161003B	: 79	34601
Lead	53	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Manganese	630	mg/kg-dry		5		SW6010B	10/03/16 13:46 / sld	09/29/16 12:06	ICP2-HE_161003B	: 79	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Nickel	8	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Vanadium	112	mg/kg-dry		1		SW6020	10/02/16 22:10 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 67	34601
Zinc	454	mg/kg-dry		5		SW6010B	10/03/16 13:46 / sld	09/29/16 12:06	ICP2-HE_161003B	: 79	34601
METALS, TOTAL											
Mercury	0.16	mg/kg-dry		0.10		SW7471B	10/04/16 13:20 / rgk	10/03/16 09:16	HGCV201-H_161004A	: 155	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Sieve 1-2mm
Lab ID: H16090353-053
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 11:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.5	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 34	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	16.0	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 65	R119082
3050 EXTRACTABLE METALS											
Aluminum	5740	mg/kg-dry		5		SW6010B	10/03/16 15:25 / sld	09/29/16 12:08	ICP2-HE_161003B	: 106	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Arsenic	14	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Barium	102	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Boron	ND	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Cadmium	0.8	mg/kg-dry		0.2		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Chromium	11	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Copper	101	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Iron	14300	mg/kg-dry	D	8		SW6010B	10/03/16 15:25 / sld	09/29/16 12:08	ICP2-HE_161003B	: 106	34603
Lead	32	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Manganese	536	mg/kg-dry		5		SW6010B	10/03/16 15:25 / sld	09/29/16 12:08	ICP2-HE_161003B	: 106	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Nickel	5	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Silver	ND	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Vanadium	38	mg/kg-dry		1		SW6020	10/03/16 00:05 / dck	09/29/16 12:08	ICPMS204-B_161002A	: 102	34603
Zinc	270	mg/kg-dry		5		SW6010B	10/03/16 15:25 / sld	09/29/16 12:08	ICP2-HE_161003B	: 106	34603
METALS, TOTAL											
Mercury	0.10	mg/kg-dry		0.10		SW7471B	10/04/16 13:22 / rgk	10/03/16 09:16	HGCV201-H_161004A	: 156	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Creek Monitoring
Client Sample ID: Sediment Duplicate #1 (SS-16B) Sediment Sieve <0.0
Collection Date: 09/14/16 11:00
DateReceived: 09/16/16
Lab ID: H16090353-054
Report Date: 10/11/16
Revised Date: 12/28/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	77.1	wt%		0.2		D2974	10/04/16 12:43 / rgk		RYING OVEN 2_161004A	14	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	11.8	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	66	R119082
3050 EXTRACTABLE METALS											
Aluminum	36300	mg/kg-dry		20		SW6010B	10/03/16 11:34 / sld	09/29/16 12:02	ICP2-HE_161003B	43	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Arsenic	52	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Barium	405	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Boron	15	mg/kg-dry		9		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Cadmium	11.3	mg/kg-dry		0.7		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Chromium	56	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Cobalt	24	mg/kg-dry		5		SW6010B	10/03/16 11:34 / sld	09/29/16 12:02	ICP2-HE_161003B	43	34600
Copper	805	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Iron	41600	mg/kg-dry	D	30		SW6010B	10/03/16 11:34 / sld	09/29/16 12:02	ICP2-HE_161003B	43	34600
Lead	326	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Manganese	4000	mg/kg-dry		5		SW6010B	10/03/16 11:34 / sld	09/29/16 12:02	ICP2-HE_161003B	43	34600
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Nickel	34	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Vanadium	88	mg/kg-dry		2		SW6020	10/02/16 20:28 / dck	09/29/16 12:02	ICPMS204-B_161002A	36	34600
Zinc	2190	mg/kg-dry		7		SW6010B	10/03/16 11:34 / sld	09/29/16 12:02	ICP2-HE_161003B	43	34600
METALS, TOTAL											
Mercury	1.1	mg/kg-dry		0.10		SW7471B	10/04/16 13:26 / rgk	10/03/16 09:16	HGCV201-H_161004A	158	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Creek Monitoring
Client Sample ID: Sediment Duplicate #1 (SS-16B) Sediment Sieve 0.06
Collection Date: 09/14/16 11:00
DateReceived: 09/16/16
Lab ID: H16090353-055
Report Date: 10/11/16
Revised Date: 12/28/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.5	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	35	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	52.5	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	67	R119082
3050 EXTRACTABLE METALS											
Aluminum	7270	mg/kg-dry		5		SW6010B	10/03/16 13:50 / sld	09/29/16 12:06	ICP2-HE_161003B	80	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Arsenic	17	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Barium	138	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Cadmium	0.8	mg/kg-dry		0.2		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Chromium	17	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Cobalt	5	mg/kg-dry		5		SW6020	10/06/16 11:42 / dck	10/04/16 16:41	ICPMS204-B_161006A	24	34652
Copper	114	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Iron	23700	mg/kg-dry	D	9		SW6010B	10/03/16 13:50 / sld	09/29/16 12:06	ICP2-HE_161003B	80	34601
Lead	39	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Manganese	518	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Nickel	7	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Vanadium	66	mg/kg-dry		1		SW6020	10/02/16 22:13 / dck	09/29/16 12:06	ICPMS204-B_161002A	68	34601
Zinc	355	mg/kg-dry		5		SW6010B	10/03/16 13:50 / sld	09/29/16 12:06	ICP2-HE_161003B	80	34601
METALS, TOTAL											
Mercury	0.15	mg/kg-dry		0.10		SW7471B	10/04/16 13:34 / rgk	10/03/16 09:16	HGCV201-H_161004A	162	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Creek Monitoring
Client Sample ID: Sediment Duplicate #1 (SS-16B) Sediment Sieve 1-2m
Collection Date: 09/14/16 11:00
DateReceived: 09/16/16
Lab ID: H16090353-056
Report Date: 10/11/16
Revised Date: 12/28/16
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.6	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	36	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	13.9	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	68	R119082
3050 EXTRACTABLE METALS											
Aluminum	5690	mg/kg-dry		5		SW6010B	10/03/16 15:29 / sld	09/29/16 12:08	ICP2-HE_161003B	107	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Arsenic	10	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Barium	100	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Boron	ND	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Cadmium	0.4	mg/kg-dry		0.2		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Chromium	9	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Copper	61	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Iron	11100	mg/kg-dry	D	8		SW6010B	10/03/16 15:29 / sld	09/29/16 12:08	ICP2-HE_161003B	107	34603
Lead	30	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Manganese	423	mg/kg-dry		5		SW6010B	10/03/16 15:29 / sld	09/29/16 12:08	ICP2-HE_161003B	107	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Nickel	5	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Silver	ND	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Vanadium	25	mg/kg-dry		1		SW6020	10/03/16 00:09 / dck	09/29/16 12:08	ICPMS204-B_161002A	103	34603
Zinc	165	mg/kg-dry		5		SW6010B	10/03/16 15:29 / sld	09/29/16 12:08	ICP2-HE_161003B	107	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/04/16 13:36 / rgk	10/03/16 09:16	HGCV201-H_161004A	163	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve <0.065mm
Lab ID: H16090353-057
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 10:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	70.2	wt%		0.2		D2974	10/04/16 12:43 / rgk		RYING OVEN 2_161004A	16	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.2	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	69	R119082
3050 EXTRACTABLE METALS											
Aluminum	29700	mg/kg-dry		10		SW6010B	10/03/16 11:38 / sld	09/29/16 12:02	ICP2-HE_161003B	44	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Arsenic	73	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Barium	341	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Boron	11	mg/kg-dry		7		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Cadmium	12.2	mg/kg-dry		0.5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Chromium	50	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Cobalt	18	mg/kg-dry		5		SW6010B	10/03/16 11:38 / sld	09/29/16 12:02	ICP2-HE_161003B	44	34600
Copper	706	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Iron	35300	mg/kg-dry	D	20		SW6010B	10/03/16 11:38 / sld	09/29/16 12:02	ICP2-HE_161003B	44	34600
Lead	246	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Manganese	2940	mg/kg-dry		5		SW6010B	10/03/16 11:38 / sld	09/29/16 12:02	ICP2-HE_161003B	44	34600
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Nickel	28	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Uranium	6	mg/kg-dry		5		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Vanadium	81	mg/kg-dry		1		SW6020	10/02/16 20:32 / dck	09/29/16 12:02	ICPMS204-B_161002A	37	34600
Zinc	2480	mg/kg-dry		5		SW6010B	10/03/16 11:38 / sld	09/29/16 12:02	ICP2-HE_161003B	44	34600
METALS, TOTAL											
Mercury	1.1	mg/kg-dry		0.10		SW7471B	10/04/16 13:38 / rgk	10/03/16 09:16	HGCV201-H_161004A	164	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 0.065-1mm
Lab ID: H16090353-058
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 10:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.4	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 37	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	52.5	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 70	R119082
3050 EXTRACTABLE METALS											
Aluminum	5240	mg/kg-dry		5		SW6010B	10/03/16 13:54 / sld	09/29/16 12:06	ICP2-HE_161003B	: 81	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Arsenic	13	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Barium	104	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Cadmium	0.9	mg/kg-dry		0.2		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Chromium	15	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Cobalt	ND	mg/kg-dry		5		SW6020	10/06/16 11:46 / dck	10/04/16 16:41	ICPMS204-B_161006A	: 25	34652
Copper	73	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Iron	17500	mg/kg-dry	D	8		SW6010B	10/03/16 13:54 / sld	09/29/16 12:06	ICP2-HE_161003B	: 81	34601
Lead	31	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Manganese	379	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Nickel	6	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Uranium	13	mg/kg-dry		5		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Vanadium	50	mg/kg-dry		1		SW6020	10/02/16 22:30 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 73	34601
Zinc	304	mg/kg-dry		5		SW6010B	10/03/16 13:54 / sld	09/29/16 12:06	ICP2-HE_161003B	: 81	34601
METALS, TOTAL											
Mercury	0.22	mg/kg-dry		0.10		SW7471B	10/04/16 13:40 / rgk	10/03/16 09:16	HGCV201-H_161004A	: 165	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 1-2mm
Lab ID: H16090353-059
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 10:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.7	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	38	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	18.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	71	R119082
3050 EXTRACTABLE METALS											
Aluminum	4360	mg/kg-dry		5		SW6010B	10/03/16 15:33 / sld	09/29/16 12:08	ICP2-HE_161003B	108	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Arsenic	11	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Barium	87	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Boron	ND	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Cadmium	0.7	mg/kg-dry		0.2		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Chromium	7	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Copper	69	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Iron	7960	mg/kg-dry	D	8		SW6010B	10/03/16 15:33 / sld	09/29/16 12:08	ICP2-HE_161003B	108	34603
Lead	26	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Manganese	292	mg/kg-dry		5		SW6010B	10/03/16 15:33 / sld	09/29/16 12:08	ICP2-HE_161003B	108	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Nickel	ND	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Silver	ND	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Vanadium	17	mg/kg-dry		1		SW6020	10/03/16 00:12 / dck	09/29/16 12:08	ICPMS204-B_161002A	104	34603
Zinc	239	mg/kg-dry		5		SW6010B	10/03/16 15:33 / sld	09/29/16 12:08	ICP2-HE_161003B	108	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/04/16 12:12 / rgk	10/03/16 09:16	HGCV201-H_161004A	65	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve <0.065mm
Lab ID: H16090353-060
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 09:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	71.2	wt%		0.2		D2974	10/04/16 12:43 / rgk		RYING OVEN 2_161004A	: 17	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.7	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 72	R119082
3050 EXTRACTABLE METALS											
Aluminum	30300	mg/kg-dry		10		SW6010B	10/03/16 11:49 / sld	09/29/16 12:02	ICP2-HE_161003B	: 47	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Arsenic	117	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Barium	360	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Boron	11	mg/kg-dry		7		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Cadmium	15.0	mg/kg-dry		0.6		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Chromium	87	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Cobalt	26	mg/kg-dry		5		SW6010B	10/03/16 11:49 / sld	09/29/16 12:02	ICP2-HE_161003B	: 47	34600
Copper	979	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Iron	45300	mg/kg-dry	D	20		SW6010B	10/03/16 11:49 / sld	09/29/16 12:02	ICP2-HE_161003B	: 47	34600
Lead	371	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Manganese	3440	mg/kg-dry		5		SW6010B	10/03/16 11:49 / sld	09/29/16 12:02	ICP2-HE_161003B	: 47	34600
Molybdenum	7	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Nickel	50	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Uranium	10	mg/kg-dry		5		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Vanadium	111	mg/kg-dry		1		SW6020	10/02/16 20:35 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 38	34600
Zinc	3140	mg/kg-dry		6		SW6010B	10/03/16 11:49 / sld	09/29/16 12:02	ICP2-HE_161003B	: 47	34600
METALS, TOTAL											
Mercury	1.3	mg/kg-dry		0.10		SW7471B	10/04/16 12:14 / rgk	10/03/16 09:16	HGCV201-H_161004A	: 66	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 0.065-1mm
Lab ID: H16090353-061
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 09:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	18.8	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 39	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	40.0	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 73	R119082
3050 EXTRACTABLE METALS											
Aluminum	4830	mg/kg-dry		5		SW6010B	10/03/16 13:58 / sld	09/29/16 12:06	ICP2-HE_161003B	: 82	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Arsenic	23	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Barium	97	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Cadmium	0.6	mg/kg-dry		0.2		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Chromium	9	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Cobalt	ND	mg/kg-dry		5		SW6010B	10/03/16 13:58 / sld	09/29/16 12:06	ICP2-HE_161003B	: 82	34601
Copper	108	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Iron	11300	mg/kg-dry	D	8		SW6010B	10/03/16 13:58 / sld	09/29/16 12:06	ICP2-HE_161003B	: 82	34601
Lead	38	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Manganese	323	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Nickel	ND	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Vanadium	21	mg/kg-dry		1		SW6020	10/02/16 22:33 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 74	34601
Zinc	284	mg/kg-dry		5		SW6010B	10/03/16 13:58 / sld	09/29/16 12:06	ICP2-HE_161003B	: 82	34601
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/04/16 12:16 / rgk	10/03/16 09:16	HGCV201-H_161004A	: 67	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 1-2mm
Lab ID: H16090353-062
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 09:00
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.6	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	40	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	20.5	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	74	R119082
3050 EXTRACTABLE METALS											
Aluminum	3250	mg/kg-dry		5		SW6010B	10/03/16 15:36 / sld	09/29/16 12:08	ICP2-HE_161003B	109	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Arsenic	15	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Barium	60	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Boron	ND	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Cadmium	0.3	mg/kg-dry		0.2		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Chromium	8	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Copper	64	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Iron	7300	mg/kg-dry	D	8		SW6010B	10/03/16 15:36 / sld	09/29/16 12:08	ICP2-HE_161003B	109	34603
Lead	28	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Manganese	162	mg/kg-dry		5		SW6010B	10/03/16 15:36 / sld	09/29/16 12:08	ICP2-HE_161003B	109	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Nickel	ND	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Silver	ND	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Vanadium	13	mg/kg-dry		1		SW6020	10/03/16 00:15 / dck	09/29/16 12:08	ICPMS204-B_161002A	105	34603
Zinc	120	mg/kg-dry		5		SW6010B	10/03/16 15:36 / sld	09/29/16 12:08	ICP2-HE_161003B	109	34603
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	10/04/16 12:18 / rgk	10/03/16 09:16	HGCV201-H_161004A	68	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve <0.065mm
Lab ID: H16090353-063
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 14:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	57.3	wt%		0.2		D2974	10/04/16 12:43 / rgk		RYING OVEN 2_161004A	: 18	R119193
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.8	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 75	R119082
3050 EXTRACTABLE METALS											
Aluminum	25800	mg/kg-dry		9		SW6010B	10/03/16 11:52 / sld	09/29/16 12:02	ICP2-HE_161003B	: 48	34600
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Arsenic	33	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Barium	449	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Boron	13	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Cadmium	8.1	mg/kg-dry		0.4		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Chromium	29	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Cobalt	13	mg/kg-dry		5		SW6010B	10/03/16 11:52 / sld	09/29/16 12:02	ICP2-HE_161003B	: 48	34600
Copper	590	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Iron	25600	mg/kg-dry	D	20		SW6010B	10/03/16 11:52 / sld	09/29/16 12:02	ICP2-HE_161003B	: 48	34600
Lead	148	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Manganese	3360	mg/kg-dry		5		SW6010B	10/03/16 11:52 / sld	09/29/16 12:02	ICP2-HE_161003B	: 48	34600
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Nickel	17	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Vanadium	50	mg/kg-dry		1		SW6020	10/02/16 20:51 / dck	09/29/16 12:02	ICPMS204-B_161002A	: 43	34600
Zinc	1690	mg/kg-dry		5		SW6010B	10/03/16 11:52 / sld	09/29/16 12:02	ICP2-HE_161003B	: 48	34600
METALS, TOTAL											
Mercury	0.88	mg/kg-dry		0.10		SW7471B	10/04/16 12:26 / rgk	10/03/16 09:16	HGCV201-H_161004A	: 72	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve 0.065-1mm
Lab ID: H16090353-064
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 14:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.0	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	: 41	R119149
SIEVE ANALYSIS											
No. 230 (63 um), Retained	16.9	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	: 76	R119082
3050 EXTRACTABLE METALS											
Aluminum	5670	mg/kg-dry		5		SW6010B	10/03/16 14:01 / sld	09/29/16 12:06	ICP2-HE_161003B	: 83	34601
Antimony	ND	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Arsenic	44	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Barium	131	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Beryllium	ND	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Boron	ND	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Cadmium	1.3	mg/kg-dry		0.2		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Chromium	17	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Cobalt	ND	mg/kg-dry		5		SW6020	10/06/16 11:49 / dck	10/04/16 16:41	ICPMS204-B_161006A	: 26	34652
Copper	201	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Iron	24500	mg/kg-dry	D	9		SW6010B	10/03/16 14:01 / sld	09/29/16 12:06	ICP2-HE_161003B	: 83	34601
Lead	73	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Manganese	654	mg/kg-dry		5		SW6010B	10/03/16 14:01 / sld	09/29/16 12:06	ICP2-HE_161003B	: 83	34601
Molybdenum	ND	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Nickel	6	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Selenium	ND	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Silver	ND	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Uranium	ND	mg/kg-dry		5		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Vanadium	58	mg/kg-dry		1		SW6020	10/02/16 22:37 / dck	09/29/16 12:06	ICPMS204-B_161002A	: 75	34601
Zinc	551	mg/kg-dry		5		SW6010B	10/03/16 14:01 / sld	09/29/16 12:06	ICP2-HE_161003B	: 83	34601
METALS, TOTAL											
Mercury	0.23	mg/kg-dry		0.10		SW7471B	10/04/16 12:28 / rgk	10/03/16 09:16	HGCV201-H_161004A	: 73	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve 1-2mm
Lab ID: H16090353-065
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 09/14/16 14:30
DateReceived: 09/16/16
Report Date: 10/11/16
Revised Date: 12/28/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.7	wt%		0.2		D2974	10/03/16 10:49 / sld		RYING OVEN 2_160930B	43	R119149
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	19.4	wt%-wet		0.1		SSSA 15-2	09/29/16 12:26 / swj		MISC SOILS_160929A	77	R119082
3050 EXTRACTABLE METALS											
Aluminum	5300	mg/kg-dry		5		SW6010B	10/03/16 15:40 / sld	09/29/16 12:08	ICP2-HE_161003B	110	34603
Antimony	ND	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Arsenic	50	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Barium	126	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Beryllium	ND	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Boron	ND	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Cadmium	1.0	mg/kg-dry		0.2		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Chromium	22	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Cobalt	ND	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Copper	226	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Iron	15100	mg/kg-dry	D	8		SW6010B	10/03/16 15:40 / sld	09/29/16 12:08	ICP2-HE_161003B	110	34603
Lead	126	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Manganese	1780	mg/kg-dry		5		SW6010B	10/03/16 15:40 / sld	09/29/16 12:08	ICP2-HE_161003B	110	34603
Molybdenum	ND	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Nickel	11	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Selenium	ND	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Silver	ND	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Uranium	ND	mg/kg-dry		5		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Vanadium	21	mg/kg-dry		1		SW6020	10/03/16 00:19 / dck	09/29/16 12:08	ICPMS204-B_161002A	106	34603
Zinc	262	mg/kg-dry		5		SW6010B	10/03/16 15:40 / sld	09/29/16 12:08	ICP2-HE_161003B	110	34603
METALS, TOTAL											
Mercury	0.12	mg/kg-dry		0.10		SW7471B	10/04/16 12:30 / rgk	10/03/16 09:16	HGCV201-H_161004A	74	34626

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160920A-SLDS-VSS-W

Date: *28-Dec-16*

Run ID :Run Order: **MISC WC_160920A: 7** SampType: **Method Blank** Lab ID: **MBLK1_160920A** Method: **A2540 E**

Analysis Date: **09/20/16 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	ND	1									

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160926sa-hgcv202

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160926A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **09/26/16 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000201	0.00010	0.0002	0	101	90	110				

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B, H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Run ID :Run Order: **HGCV202-H_160926A: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/26/16 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0	101	90	110				

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B, H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Run ID :Run Order: **HGCV202-H_160926A: 39** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/26/16 13:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000202	0.00010	0.0002	0	101	90	110				

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B, H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Run ID :Run Order: **HGCV202-H_160926A: 54** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/26/16 14:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0	101	90	110				

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B, H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160928wa-hgcv202

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160928A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **09/28/16 16:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000205	0.00010	0.0002	0	**102**	90	110				

Associated samples: **H16090353-014C, H16090353-015B, H16090353-015C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161003sa-201

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161003A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **10/03/16 10:24** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	103	90	110				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Run ID :Run Order: **HGCV201-H_161003A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/03/16 10:26** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	101	90	110				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Run ID :Run Order: **HGCV201-H_161003A: 28** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/03/16 11:12** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Run ID :Run Order: **HGCV201-H_161003A: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/03/16 11:39** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161004sa1-201

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161004A: 153** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/04/16 13:16** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0024	0.50	0.0025	0	98	90	110				

Associated samples: **H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161004sa-201

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161004A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **10/04/16 09:51** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	102	90	110				

Associated samples: **H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **HGCV201-H_161004A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/04/16 09:53** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	100	90	110				

Associated samples: **H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **HGCV201-H_161004A: 33** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/04/16 10:59** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **HGCV201-H_161004A: 46** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/04/16 11:25** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161004sa-201

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161004A: 63** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/04/16 12:08** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0024	0.50	0.0025	0	96	90	110				

Associated samples: **H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161005sa-201

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161005B: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **10/05/16 11:42** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0011	0.50	0.001	0	106	90	110				

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A**

Run ID :Run Order: **HGCV201-H_161005B: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/05/16 11:44** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0023	0.50	0.0025	0	92	90	110				

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 59** SampType: **Method Blank** Lab ID: **MB-34478** Method: **E200.7**

Analysis Date: **09/20/16 11:25** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.003									
Calcium	0.06	0.04									
Magnesium	ND	0.01									
Potassium	0.04	0.04									
Sodium	ND	0.02									

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICP2-HE_160919C: 60** SampType: **Laboratory Control Sample** Lab ID: **LCS-34478** Method: **E200.7**

Analysis Date: **09/20/16 11:28** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.500	0.050	0.5	0	100	85	115				
Calcium	24.8	1.0	25	0.05569	99	85	115				
Magnesium	24.8	1.0	25	0	99	85	115				
Potassium	26.0	1.0	25	0.0416	104	85	115				
Sodium	26.1	1.0	25	0	105	85	115				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICP2-HE_160919C: 62** SampType: **Serial Dilution** Lab ID: **H16090340-017CDIL** Method: **E200.7**

Analysis Date: **09/20/16 11:36** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.050		0		0	0	0.01038		10	
Calcium	27.8	1.0		0		0	0	31.32	12	10	R
Magnesium	7.33	1.0		0		0	0	7.945	8.1	10	
Potassium	1.41	1.0		0		0	0	1.312		10	N
Sodium	7.50	1.0		0		0	0	8.678	15	10	R

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 92** SampType: **Serial Dilution** Lab ID: **H16090353-010CDIL** Method: **E200.7**

Analysis Date: **09/20/16 13:28** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0783	0.050		0		0	0	0.07418		10	N
Calcium	62.6	1.0		0		0	0	63.13	0.8	10	
Magnesium	13.4	1.0		0		0	0	13.23	1.4	10	
Potassium	6.70	1.0		0		0	0	6.923	3.2	10	
Sodium	33.8	1.0		0		0	0	34.6	2.4	10	

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICP2-HE_160919C: 93** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-010CPDS** Method: **E200.7**

Analysis Date: **09/20/16 13:32** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.03	0.050	1.03	0.07418	93	70	130				
Calcium	110	1.0	51.5	63.13	90	70	130				
Magnesium	61.1	1.0	51.5	13.23	93	70	130				
Potassium	56.4	1.0	51.5	6.923	96	70	130				
Sodium	84.4	1.0	51.5	34.6	97	70	130				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICP2-HE_160919C: 94** SampType: **Sample Matrix Spike** Lab ID: **H16090353-010CMS3** Method: **E200.7**

Analysis Date: **09/20/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.565	0.050	0.5	0.07418	98	70	130				
Calcium	87.1	1.0	25	63.13	96	70	130				
Magnesium	38.0	1.0	25	13.23	99	70	130				
Potassium	32.1	1.0	25	6.923	101	70	130				
Sodium	59.6	1.0	25	34.6	100	70	130				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 95** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-010CMSD3** Method: **E200.7**

Analysis Date: **09/20/16 13:39** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.577	0.050	0.5	0.07418	**101**	70	130	0.5647	**2.1**	20	
Calcium	87.6	1.0	25	63.13	**98**	70	130	87.14	**0.6**	20	
Magnesium	38.1	1.0	25	13.23	**99**	70	130	37.98	**0.2**	20	
Potassium	32.4	1.0	25	6.923	**102**	70	130	32.07	**0.9**	20	
Sodium	60.1	1.0	25	34.6	**102**	70	130	59.6	**0.8**	20	

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 180** SampType: **Method Blank** Lab ID: **MB-34478** Method: **E200.8**

Analysis Date: **09/20/16 20:37** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	0.0001	7E-05									
Barium	ND	5E-05									
Beryllium	ND	7E-05									
Boron	ND	0.001									
Cadmium	2E-05	1E-05									
Calcium	0.02	0.009									
Chromium	0.0001	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	ND	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	3E-05									
Potassium	ND	0.01									
Selenium	ND	0.0003									
Silver	4E-05	1E-05									
Sodium	ND	0.005									
Uranium	ND	1E-05									
Vanadium	0.0002	0.00010									
Zinc	0.0006	0.0003									

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICPMS204-B_160920A: 181** SampType: **Laboratory Control Sample** Lab ID: **LCS-34478** Method: **E200.8**

Analysis Date: **09/20/16 20:40** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.030	2.5	0	**100**	85	115				
Antimony	0.530	0.0010	0.5	0	**106**	85	115				
Arsenic	0.515	0.0010	0.5	0.0001217	**103**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 181** SampType: **Laboratory Control Sample** Lab ID: **LCS-34478** Method: **E200.8**

Analysis Date: **09/20/16 20:40** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.529	0.050	0.5	0	106	85	115				
Beryllium	0.266	0.0010	0.25	0	107	85	115				
Boron	0.495	0.050	0.5	0	99	85	115				
Cadmium	0.259	0.0010	0.25	0.0000217	104	85	115				
Calcium	27.6	1.0	25	0.01616	110	85	115				
Chromium	0.520	0.0050	0.5	0.0001059	104	85	115				
Cobalt	0.517	0.0050	0.5	0	103	85	115				
Copper	0.516	0.0050	0.5	0	103	85	115				
Iron	2.60	0.020	2.5	0	104	85	115				
Lead	0.524	0.0010	0.5	0	105	85	115				
Magnesium	25.8	1.0	25	0	103	85	115				
Manganese	2.65	0.0010	2.5	0	106	85	115				
Molybdenum	0.521	0.0010	0.5	0	104	85	115				
Nickel	0.513	0.0050	0.5	0	103	85	115				
Potassium	25.5	1.0	25	0	102	85	115				
Selenium	0.501	0.0010	0.5	0	100	85	115				
Silver	0.0520	0.0010	0.05	0.000041	104	85	115				
Sodium	26.1	1.0	25	0	104	85	115				
Uranium	0.570	0.00030	0.5	0	114	85	115				
Vanadium	0.521	0.010	0.5	0.0001625	104	85	115				
Zinc	0.506	0.010	0.5	0.0005938	101	85	115				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICPMS204-B_160920A: 185** SampType: **Sample Matrix Spike** Lab ID: **H16090340-017CMS3** Method: **E200.8**

Analysis Date: **09/20/16 20:53** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.030	2.5	0.0941	97	70	130				
Antimony	0.510	0.0010	0.5	0.000428	102	70	130				
Arsenic	0.508	0.0010	0.5	0.01584	98	70	130				
Barium	0.547	0.050	0.5	0.0375	102	70	130				
Beryllium	0.251	0.0010	0.25	0.0000776	100	70	130				
Boron	0.469	0.050	0.5	0.01231	91	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 185** SampType: **Sample Matrix Spike** Lab ID: **H16090340-017CMS3** Method: **E200.8**

Analysis Date: **09/20/16 20:53** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.244	0.0010	0.25	0.000044	98	70	130				
Calcium	58.2	1.0	25	32.26	104	70	130				
Chromium	0.505	0.0050	0.5	0.0002466	101	70	130				
Cobalt	0.495	0.0050	0.5	0.0000916	99	70	130				
Copper	0.498	0.0050	0.5	0.004411	99	70	130				
Iron	2.65	0.020	2.5	0.1422	100	70	130				
Lead	0.508	0.0010	0.5	0.001263	101	70	130				
Magnesium	32.4	1.0	25	8.505	96	70	130				
Manganese	2.48	0.0010	2.5	0.01596	99	70	130				
Molybdenum	0.510	0.0010	0.5	0.002326	101	70	130				
Nickel	0.492	0.0050	0.5	0.0002752	98	70	130				
Potassium	26.1	1.0	25	1.218	100	70	130				
Selenium	0.464	0.0010	0.5	0	93	70	130				
Silver	0.0494	0.0010	0.05	0.0000779	99	70	130				
Sodium	33.6	1.0	25	8.874	99	70	130				
Uranium	0.559	0.00030	0.5	0.004622	111	70	130				
Vanadium	0.507	0.010	0.5	0.001867	101	70	130				
Zinc	0.468	0.010	0.5	0.004467	93	70	130				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICPMS204-B_160920A: 186** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090340-017CMSD3** Method: **E200.8**

Analysis Date: **09/20/16 20:57** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.64	0.030	2.5	0.0941	102	70	130	2.523	4.7	20	
Antimony	0.532	0.0010	0.5	0.000428	106	70	130	0.5096	4.3	20	
Arsenic	0.529	0.0010	0.5	0.01584	103	70	130	0.5083	4.1	20	
Barium	0.575	0.050	0.5	0.0375	108	70	130	0.5472	5.0	20	
Beryllium	0.257	0.0010	0.25	0.0000776	103	70	130	0.2506	2.6	20	
Boron	0.524	0.050	0.5	0.01231	102	70	130	0.4689	11	20	
Cadmium	0.257	0.0010	0.25	0.000044	103	70	130	0.2444	5.1	20	
Calcium	60.4	1.0	25	32.26	113	70	130	58.18	3.8	20	
Chromium	0.525	0.0050	0.5	0.0002466	105	70	130	0.5048	4.0	20	

Qualifiers:
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R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 186** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090340-017CMSD3** Method: **E200.8**

Analysis Date: **09/20/16 20:57** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.518	0.0050	0.5	0.0000916	104	70	130	0.4951	4.6	20	
Copper	0.519	0.0050	0.5	0.004411	103	70	130	0.4978	4.2	20	
Iron	2.78	0.020	2.5	0.1422	105	70	130	2.65	4.6	20	
Lead	0.528	0.0010	0.5	0.001263	105	70	130	0.5079	3.9	20	
Magnesium	34.0	1.0	25	8.505	102	70	130	32.43	4.6	20	
Manganese	2.64	0.0010	2.5	0.01596	105	70	130	2.485	6.0	20	
Molybdenum	0.534	0.0010	0.5	0.002326	106	70	130	0.5098	4.7	20	
Nickel	0.513	0.0050	0.5	0.0002752	103	70	130	0.4919	4.2	20	
Potassium	27.1	1.0	25	1.218	104	70	130	26.13	3.7	20	
Selenium	0.487	0.0010	0.5	0	97	70	130	0.4641	4.8	20	
Silver	0.0520	0.0010	0.05	0.0000779	104	70	130	0.04943	5.0	20	
Sodium	35.3	1.0	25	8.874	106	70	130	33.57	5.0	20	
Uranium	0.582	0.00030	0.5	0.004622	116	70	130	0.5587	4.2	20	
Vanadium	0.529	0.010	0.5	0.001867	105	70	130	0.5069	4.3	20	
Zinc	0.491	0.010	0.5	0.004467	97	70	130	0.4684	4.6	20	

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICPMS204-B_160920A: 243** SampType: **Sample Matrix Spike** Lab ID: **H16090353-010CMS3** Method: **E200.8**

Analysis Date: **09/21/16 00:04** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.60	0.030	2.5	0.09415	100	70	130				
Antimony	0.524	0.0010	0.5	0.0002604	105	70	130				
Arsenic	0.519	0.0010	0.5	0.006324	103	70	130				
Barium	0.569	0.050	0.5	0.03925	106	70	130				
Beryllium	0.259	0.0010	0.25	0	104	70	130				
Boron	0.558	0.050	0.5	0.07146	97	70	130				
Cadmium	0.250	0.0010	0.25	0.0002209	100	70	130				
Calcium	93.1	1.0	25	63.66	118	70	130				
Chromium	0.523	0.0050	0.5	0.0002331	104	70	130				
Cobalt	0.514	0.0050	0.5	0.0002305	103	70	130				
Copper	0.517	0.0050	0.5	0.01354	101	70	130				
Iron	2.80	0.020	2.5	0.1853	105	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 243** SampType: **Sample Matrix Spike** Lab ID: **H16090353-010CMS3** Method: **E200.8**

Analysis Date: **09/21/16 00:04** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.525	0.0010	0.5	0.001141	105	70	130				
Magnesium	38.5	1.0	25	13.57	100	70	130				
Manganese	2.81	0.0010	2.5	0.1407	107	70	130				
Molybdenum	0.530	0.0010	0.5	0.005584	105	70	130				
Nickel	0.507	0.0050	0.5	0.0008992	101	70	130				
Potassium	32.4	1.0	25	6.433	104	70	130				
Selenium	0.484	0.0010	0.5	0	97	70	130				
Silver	0.0499	0.0010	0.05	0	100	70	130				
Sodium	60.1	1.0	25	34.46	103	70	130				
Uranium	0.591	0.00030	0.5	0.005197	117	70	130				
Vanadium	0.530	0.010	0.5	0.003069	105	70	130				
Zinc	0.517	0.010	0.5	0.04624	94	70	130				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICPMS204-B_160920A: 244** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-010CMSD3** Method: **E200.8**

Analysis Date: **09/21/16 00:08** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.61	0.030	2.5	0.09415	101	70	130	2.605	0.1	20	
Antimony	0.510	0.0010	0.5	0.0002604	102	70	130	0.5245	2.9	20	
Arsenic	0.499	0.0010	0.5	0.006324	99	70	130	0.5189	3.9	20	
Barium	0.567	0.050	0.5	0.03925	106	70	130	0.5687	0.2	20	
Beryllium	0.249	0.0010	0.25	0	100	70	130	0.2594	4.1	20	
Boron	0.562	0.050	0.5	0.07146	98	70	130	0.558	0.7	20	
Cadmium	0.243	0.0010	0.25	0.0002209	97	70	130	0.25	2.8	20	
Calcium	93.3	1.0	25	63.66	119	70	130	93.08	0.3	20	
Chromium	0.523	0.0050	0.5	0.0002331	105	70	130	0.5226	0.1	20	
Cobalt	0.515	0.0050	0.5	0.0002305	103	70	130	0.5141	0.2	20	
Copper	0.516	0.0050	0.5	0.01354	101	70	130	0.5173	0.2	20	
Iron	2.82	0.020	2.5	0.1853	105	70	130	2.801	0.6	20	
Lead	0.525	0.0010	0.5	0.001141	105	70	130	0.5255	0.1	20	
Magnesium	38.3	1.0	25	13.57	99	70	130	38.48	0.4	20	
Manganese	2.80	0.0010	2.5	0.1407	106	70	130	2.811	0.5	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 244** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-010CMSD3** Method: **E200.8**

Analysis Date: **09/21/16 00:08** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.528	0.0010	0.5	0.005584	104	70	130	0.5299	0.4	20	
Nickel	0.506	0.0050	0.5	0.0008992	101	70	130	0.5069	0.2	20	
Potassium	32.3	1.0	25	6.433	104	70	130	32.44	0.4	20	
Selenium	0.456	0.0010	0.5	0	91	70	130	0.4841	6.0	20	
Silver	0.0497	0.0010	0.05	0	99	70	130	0.04991	0.5	20	
Sodium	60.2	1.0	25	34.46	103	70	130	60.11	0.1	20	
Uranium	0.588	0.00030	0.5	0.005197	117	70	130	0.5912	0.6	20	
Vanadium	0.530	0.010	0.5	0.003069	105	70	130	0.5303	0.1	20	
Zinc	0.499	0.010	0.5	0.04624	91	70	130	0.5173	3.6	20	

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICPMS204-B_160921C: 82** SampType: **Method Blank** Lab ID: **MB-34478** Method: **E200.8**

Analysis Date: **09/21/16 17:45** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	6E-05	6E-05									
Arsenic	0.0001	7E-05									
Barium	0.0001	5E-05									
Beryllium	ND	7E-05									
Boron	0.002	0.001									
Cadmium	ND	1E-05									
Calcium	0.02	0.009									
Chromium	0.0001	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	ND	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	3E-05									
Potassium	ND	0.01									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34478

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 82** SampType: **Method Blank** Lab ID: **MB-34478** Method: **E200.8**

Analysis Date: **09/21/16 17:45** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.0003									
Silver	3E-05	1E-05									
Sodium	ND	0.005									
Uranium	ND	1E-05									
Vanadium	0.0002	0.00010									
Zinc	ND	0.0003									

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34493

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920A: 101** SampType: **Laboratory Control Sample** Lab ID: **LCS-34493** Method: **A4500 N-C**
Analysis Date: **09/20/16 12:01** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	12.4	0.30	13.7	0.02586	90	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **FIA203-HE_160920A: 102** SampType: **Method Blank** Lab ID: **MB-34493** Method: **A4500 N-C**
Analysis Date: **09/20/16 12:02** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.03	0.007									

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **FIA203-HE_160920A: 104** SampType: **Sample Matrix Spike** Lab ID: **H16090351-003AMS** Method: **A4500 N-C**
Analysis Date: **09/20/16 12:05** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.938	0.10	1	0	94	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **FIA203-HE_160920A: 105** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-003AMSD** Method: **A4500 N-C**
Analysis Date: **09/20/16 12:06** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.931	0.10	1	0	93	90	110	0.9381	0.7	20	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **FIA203-HE_160920A: 131** SampType: **Sample Matrix Spike** Lab ID: **H16090353-009AMS** Method: **A4500 N-C**
Analysis Date: **09/20/16 12:37** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	2.14	0.10	1	1.225	92	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34493

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920A: 131** SampType: **Sample Matrix Spike** Lab ID: **H16090353-009AMS** Method: **A4500 N-C**

Analysis Date: **09/20/16 12:37** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **FIA203-HE_160920A: 132** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-009AMSD** Method: **A4500 N-C**

Analysis Date: **09/20/16 12:38** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	2.15	0.10	1	1.225	**93**	90	110	2.144	**0.5**	20	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34495

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160921A: 33** SampType: **Method Blank** Lab ID: **MB-34495** Method: **E200.7**
Analysis Date: **09/21/16 10:11** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.004	0.003									
Calcium	ND	0.04									
Magnesium	0.01	0.01									
Potassium	ND	0.04									
Sodium	ND	0.02									

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICP2-HE_160921A: 34** SampType: **Laboratory Control Sample** Lab ID: **LCS-34495** Method: **E200.7**
Analysis Date: **09/21/16 10:15** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.533	0.050	0.5	0.0037	106	85	115				
Calcium	26.8	1.0	25	0	107	85	115				
Magnesium	26.7	1.0	25	0.01185	107	85	115				
Potassium	27.7	1.0	25	0	111	85	115				
Sodium	27.5	1.0	25	0	110	85	115				

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICP2-HE_160921A: 36** SampType: **Serial Dilution** Lab ID: **H16090353-016CDIL** Method: **E200.7**
Analysis Date: **09/21/16 10:22** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0860	0.050		0		0	0	0.06632		10	N
Calcium	60.0	1.0		0		0	0	63.21	5.2	10	
Magnesium	12.7	1.0		0		0	0	12.91	1.7	10	
Potassium	5.53	1.0		0		0	0	5.866	6.0	10	
Sodium	28.8	1.0		0		0	0	31	7.2	10	

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICP2-HE_160921A: 38** SampType: **Sample Matrix Spike** Lab ID: **H16090353-016CMS3** Method: **E200.7**
Analysis Date: **09/21/16 10:30** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.582	0.050	0.5	0.06632	103	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34495

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160921A: 38** SampType: **Sample Matrix Spike** Lab ID: **H16090353-016CMS3** Method: **E200.7**

Analysis Date: **09/21/16 10:30** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	88.8	1.0	25	63.21	102	70	130				
Magnesium	38.8	1.0	25	12.91	103	70	130				
Potassium	33.4	1.0	25	5.866	110	70	130				
Sodium	58.8	1.0	25	31	111	70	130				

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICP2-HE_160921A: 39** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-016CMSD3** Method: **E200.7**

Analysis Date: **09/21/16 10:33** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.582	0.050	0.5	0.06632	103	70	130	0.5821	0.0	20	
Calcium	87.7	1.0	25	63.21	98	70	130	88.79	1.2	20	
Magnesium	38.5	1.0	25	12.91	102	70	130	38.78	0.6	20	
Potassium	33.7	1.0	25	5.866	111	70	130	33.4	0.9	20	
Sodium	59.0	1.0	25	31	112	70	130	58.76	0.4	20	

Associated samples: **H16090353-016C, H16090353-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34495

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 89** SampType: **Method Blank** Lab ID: **MB-34495** Method: **E200.8**

Analysis Date: **09/21/16 18:08** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	6E-05									
Arsenic	9E-05	7E-05									
Barium	0.0002	5E-05									
Beryllium	ND	7E-05									
Boron	0.002	0.001									
Cadmium	ND	1E-05									
Calcium	ND	0.009									
Chromium	5E-05	4E-05									
Cobalt	ND	3E-05									
Copper	ND	5E-05									
Iron	ND	0.002									
Lead	ND	2E-05									
Magnesium	ND	0.002									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	3E-05									
Potassium	ND	0.01									
Selenium	ND	0.0003									
Silver	2E-05	1E-05									
Sodium	0.03	0.005									
Uranium	ND	1E-05									
Vanadium	0.0002	0.00010									
Zinc	ND	0.0003									

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICPMS204-B_160921C: 90** SampType: **Laboratory Control Sample** Lab ID: **LCS-34495** Method: **E200.8**

Analysis Date: **09/21/16 18:11** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.57	0.030	2.5	0	**103**	85	115				
Antimony	0.516	0.0010	0.5	0	**103**	85	115				
Arsenic	0.517	0.0010	0.5	0.0000883	**103**	85	115				
Barium	0.537	0.050	0.5	0.0001554	**107**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34495

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 90** SampType: **Laboratory Control Sample** Lab ID: **LCS-34495** Method: **E200.8**

Analysis Date: **09/21/16 18:11** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.260	0.0010	0.25	0	104	85	115				
Boron	0.528	0.050	0.5	0.001728	105	85	115				
Cadmium	0.262	0.0010	0.25	0	105	85	115				
Calcium	28.2	1.0	25	0	113	85	115				
Chromium	0.526	0.0050	0.5	0.0000457	105	85	115				
Cobalt	0.523	0.0050	0.5	0	105	85	115				
Copper	0.519	0.0050	0.5	0	104	85	115				
Iron	2.64	0.020	2.5	0	106	85	115				
Lead	0.532	0.0010	0.5	0	106	85	115				
Magnesium	26.3	1.0	25	0	105	85	115				
Manganese	2.66	0.0010	2.5	0	107	85	115				
Molybdenum	0.511	0.0010	0.5	0	102	85	115				
Nickel	0.524	0.0050	0.5	0	105	85	115				
Potassium	26.3	1.0	25	0	105	85	115				
Selenium	0.517	0.0010	0.5	0	103	85	115				
Silver	0.0513	0.0010	0.05	0.0000185	103	85	115				
Sodium	26.6	1.0	25	0.02691	106	85	115				
Uranium	0.576	0.00030	0.5	0	115	85	115				
Vanadium	0.524	0.010	0.5	0.0001571	105	85	115				
Zinc	0.526	0.010	0.5	0	105	85	115				

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICPMS204-B_160921C: 94** SampType: **Sample Matrix Spike** Lab ID: **H16090353-016CMS3** Method: **E200.8**

Analysis Date: **09/21/16 18:24** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.83	0.030	2.5	0.2326	104	70	130				
Antimony	0.513	0.0010	0.5	0.0003633	103	70	130				
Arsenic	0.519	0.0010	0.5	0.007498	102	70	130				
Barium	0.561	0.050	0.5	0.03664	105	70	130				
Beryllium	0.253	0.0010	0.25	0	101	70	130				
Boron	0.576	0.050	0.5	0.06915	101	70	130				
Cadmium	0.248	0.0010	0.25	0.0002732	99	70	130				
Calcium	91.9	1.0	25	64.65	109	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34495

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 94** SampType: **Sample Matrix Spike** Lab ID: **H16090353-016CMS3** Method: **E200.8**

Analysis Date: **09/21/16 18:24** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.523	0.0050	0.5	0.0003493	105	70	130				
Cobalt	0.515	0.0050	0.5	0.0006314	103	70	130				
Copper	0.519	0.0050	0.5	0.01676	100	70	130				
Iron	2.91	0.020	2.5	0.2977	105	70	130				
Lead	0.528	0.0010	0.5	0.002254	105	70	130				
Magnesium	37.9	1.0	25	13.22	99	70	130				
Manganese	2.86	0.0010	2.5	0.161	108	70	130				
Molybdenum	0.517	0.0010	0.5	0.004721	102	70	130				
Nickel	0.510	0.0050	0.5	0.001006	102	70	130				
Potassium	31.2	1.0	25	5.373	103	70	130				
Selenium	0.489	0.0010	0.5	0	98	70	130				
Silver	0.0494	0.0010	0.05	0.0001441	99	70	130				
Sodium	55.0	1.0	25	30.35	99	70	130				
Uranium	0.588	0.00030	0.5	0.004226	117	70	130				
Vanadium	0.528	0.010	0.5	0.003158	105	70	130				
Zinc	0.549	0.010	0.5	0.06322	97	70	130				

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICPMS204-B_160921C: 95** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-016CMSD3** Method: **E200.8**

Analysis Date: **09/21/16 18:28** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.84	0.030	2.5	0.2326	104	70	130	2.831	0.5	20	
Antimony	0.516	0.0010	0.5	0.0003633	103	70	130	0.513	0.6	20	
Arsenic	0.520	0.0010	0.5	0.007498	103	70	130	0.5189	0.3	20	
Barium	0.566	0.050	0.5	0.03664	106	70	130	0.5612	0.9	20	
Beryllium	0.250	0.0010	0.25	0	100	70	130	0.2527	1.2	20	
Boron	0.596	0.050	0.5	0.06915	105	70	130	0.5761	3.3	20	
Cadmium	0.250	0.0010	0.25	0.0002732	100	70	130	0.2483	0.6	20	
Calcium	91.7	1.0	25	64.65	108	70	130	91.93	0.2	20	
Chromium	0.526	0.0050	0.5	0.0003493	105	70	130	0.5234	0.4	20	
Cobalt	0.518	0.0050	0.5	0.0006314	103	70	130	0.5155	0.4	20	
Copper	0.522	0.0050	0.5	0.01676	101	70	130	0.519	0.5	20	
Iron	2.92	0.020	2.5	0.2977	105	70	130	2.911	0.5	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34495

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 95** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-016CMSD3** Method: **E200.8**

Analysis Date: **09/21/16 18:28** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.528	0.0010	0.5	0.002254	**105**	70	130	0.5284	**0.0**	20	
Magnesium	38.1	1.0	25	13.22	**99**	70	130	37.87	**0.6**	20	
Manganese	2.83	0.0010	2.5	0.161	**107**	70	130	2.856	**1.1**	20	
Molybdenum	0.524	0.0010	0.5	0.004721	**104**	70	130	0.5169	**1.4**	20	
Nickel	0.509	0.0050	0.5	0.001006	**102**	70	130	0.5096	**0.1**	20	
Potassium	31.2	1.0	25	5.373	**103**	70	130	31.24	**0.0**	20	
Selenium	0.492	0.0010	0.5	0	**98**	70	130	0.489	**0.6**	20	
Silver	0.0491	0.0010	0.05	0.0001441	**98**	70	130	0.04943	**0.7**	20	
Sodium	55.7	1.0	25	30.35	**101**	70	130	55.05	**1.1**	20	
Uranium	0.586	0.00030	0.5	0.004226	**116**	70	130	0.5879	**0.2**	20	
Vanadium	0.530	0.010	0.5	0.003158	**105**	70	130	0.5284	**0.3**	20	
Zinc	0.547	0.010	0.5	0.06322	**97**	70	130	0.5487	**0.3**	20	

Associated samples: **H16090353-016C, H16090353-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34536

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160926A: 11** SampType: **Method Blank** Lab ID: **MB-34536** Method: **E245.1**
Analysis Date: **09/26/16 12:04** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B**

Run ID :Run Order: **HGCV202-H_160926A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-34536** Method: **E245.1**
Analysis Date: **09/26/16 12:07** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000158	0.00010	0.00015	0	105	90	110				

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B**

Run ID :Run Order: **HGCV202-H_160926A: 29** SampType: **Sample Matrix Spike** Lab ID: **H16090351-004CMS** Method: **E245.1**
Analysis Date: **09/26/16 12:53** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.000002	106	70	130				

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B**

Run ID :Run Order: **HGCV202-H_160926A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-004CMSD** Method: **E245.1**
Analysis Date: **09/26/16 12:56** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.000002	102	70	130	0.0001607	3.6	20	

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34537

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160926A: 41** SampType: **Method Blank** Lab ID: **MB-34537** Method: **E245.1**

Analysis Date: **09/26/16 13:26** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Run ID :Run Order: **HGCV202-H_160926A: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-34537** Method: **E245.1**

Analysis Date: **09/26/16 13:29** Units: **mg/L** **Prep Info:** Prep Date: **9/22/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000156	0.00010	0.00015	0	**104**	90	110				

Associated samples: **H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Run ID :Run Order: **HGCV202-H_160926A: 44** SampType: **Sample Matrix Spike** Lab ID: **H16090353-004CMS** Method: **E245.1**

Analysis Date: **09/26/16 13:34** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00017	0.00010	0.00015	0.00000926	**108**	70	130				

Associated samples: **H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Run ID :Run Order: **HGCV202-H_160926A: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-004CMSD** Method: **E245.1**

Analysis Date: **09/26/16 13:37** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00017	0.00010	0.00015	0.00000926	**108**	70	130	0.000172	**0.3**	20	

Associated samples: **H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34537

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160926A: 60** SampType: **Sample Matrix Spike** Lab ID: **H16090353-010BMS** Method: **E245.1**

Analysis Date: **09/26/16 14:18** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000162	0.00010	0.00015	0.00000168	**107**	70	130				

Associated samples: **H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Run ID :Run Order: **HGCV202-H_160926A: 61** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-010BMSD** Method: **E245.1**

Analysis Date: **09/26/16 14:20** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000164	5.0E-06	0.00015	0.00000168	**108**	70	130	0.0001625	**1.0**	20	

Associated samples: **H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007B, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34541

Date: *28-Dec-16*

Run ID :Run Order: **FIA202-HE_160923B: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-34541** Method: **E365.1**
Analysis Date: **09/23/16 14:39** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.777	0.010	0.8	0	97	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Run ID :Run Order: **FIA202-HE_160923B: 13** SampType: **Method Blank** Lab ID: **MB-34541** Method: **E365.1**
Analysis Date: **09/23/16 14:41** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.002									

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Run ID :Run Order: **FIA202-HE_160923B: 19** SampType: **Sample Matrix Spike** Lab ID: **H16090351-003DMS** Method: **E365.1**
Analysis Date: **09/23/16 14:47** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.420	0.010	0.4	0	105	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Run ID :Run Order: **FIA202-HE_160923B: 20** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-003DMSD** Method: **E365.1**
Analysis Date: **09/23/16 14:48** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.414	0.010	0.4	0	103	90	110	0.42	1.5	20	

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Run ID :Run Order: **FIA202-HE_160923B: 31** SampType: **Sample Matrix Spike** Lab ID: **H16090353-007DMS** Method: **E365.1**
Analysis Date: **09/23/16 14:59** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	1.28	0.010	0.8	0.4282	106	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34541

Date: *28-Dec-16*

Run ID :Run Order: **FIA202-HE_160923B: 31** SampType: **Sample Matrix Spike** Lab ID: **H16090353-007DMS** Method: **E365.1**

Analysis Date: **09/23/16 14:59** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Run ID :Run Order: **FIA202-HE_160923B: 32** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-007DMSD** Method: **E365.1**

Analysis Date: **09/23/16 15:00** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	1.29	0.010	0.8	0.4282	**108**	90	110	1.28	**1.1**	20	

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34554

Date: *28-Dec-16*

Run ID :Run Order: **FIA202-HE_160926A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-34554** Method: **E365.1**
Analysis Date: **09/26/16 13:53** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.809	0.010	0.8	0	101	90	110				

Associated samples: **H16090353-017D**

Run ID :Run Order: **FIA202-HE_160926A: 13** SampType: **Method Blank** Lab ID: **MB-34554** Method: **E365.1**
Analysis Date: **09/26/16 13:54** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.002									

Associated samples: **H16090353-017D**

Run ID :Run Order: **FIA202-HE_160926A: 15** SampType: **Sample Matrix Spike** Lab ID: **H16090353-017DMS** Method: **E365.1**
Analysis Date: **09/26/16 13:56** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.748	0.010	0.4	0.2795	117	90	110				S

Associated samples: **H16090353-017D**

Run ID :Run Order: **FIA202-HE_160926A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-017DMSD** Method: **E365.1**
Analysis Date: **09/26/16 13:57** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.727	0.010	0.4	0.2795	112	90	110	0.7482	2.9	20	S

Associated samples: **H16090353-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34573

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160928A: 24** SampType: **Method Blank** Lab ID: **MB-34518** Method: **E245.1**
Analysis Date: **09/28/16 16:49** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16090353-014C, H16090353-015B, H16090353-015C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Run ID :Run Order: **HGCV202-H_160928A: 26** SampType: **Laboratory Control Sample** Lab ID: **LCS-34573** Method: **E245.1**
Analysis Date: **09/28/16 16:54** Units: **mg/L** **Prep Info:** Prep Date: **9/27/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000155	0.00010	0.00015	0	104	90	110				

Associated samples: **H16090353-014C, H16090353-015B, H16090353-015C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Run ID :Run Order: **HGCV202-H_160928A: 28** SampType: **Sample Matrix Spike** Lab ID: **H16090353-014CMS** Method: **E245.1**
Analysis Date: **09/28/16 17:00** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00017	0.00010	0.00015	0.00001142	107	70	130				

Associated samples: **H16090353-014C, H16090353-015B, H16090353-015C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Run ID :Run Order: **HGCV202-H_160928A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-014CMSD** Method: **E245.1**
Analysis Date: **09/28/16 17:02** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00017	0.00010	0.00015	0.00001142	105	70	130	0.000172	1.6	20	

Associated samples: **H16090353-014C, H16090353-015B, H16090353-015C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Run ID :Run Order: **HGCV202-H_160928A: 42** SampType: **Sample Matrix Spike** Lab ID: **H16090368-003CMS** Method: **E245.1**
Analysis Date: **09/28/16 17:37** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000160	0.00010	0.00015	0	107	70	130				

Associated samples: **H16090353-014C, H16090353-015B, H16090353-015C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34573

Date: *28-Dec-16*

Run ID :Run Order: **HGCV202-H_160928A: 43** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090368-003CMSD** Method: **E245.1**

Analysis Date: **09/28/16 17:39** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000160	0.00010	0.00015	0	**106**	70	130	0.0001598	**0.1**	20	

Associated samples: **H16090353-014C, H16090353-015B, H16090353-015C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 25** SampType: **Method Blank** Lab ID: **MB-34600** Method: **SW6010B**

Analysis Date: **10/03/16 10:28** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.9	0.8									
Cobalt	ND	0.2									
Iron	20	1									
Manganese	0.1	0.05									
Zinc	ND	0.3									

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **ICP2-HE_161003B: 26** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34600** Method: **SW6010B**

Analysis Date: **10/03/16 10:32** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	222	5.0	247.5	0.871	**89**	80	120				
Cobalt	43.0	1.0	49.5	0	**87**	80	120				
Iron	231	5.0	247.5	24.43	**84**	80	120				
Manganese	213	1.0	247.5	0.1235	**86**	80	120				
Zinc	42.8	1.0	49.5	0	**86**	80	120				

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **ICP2-HE_161003B: 27** SampType: **Laboratory Control Sample** Lab ID: **LCS-34600** Method: **SW6010B**

Analysis Date: **10/03/16 10:36** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11000	5.0	9830	0.871	**111**	46.3	130.2				
Cobalt	112	1.0	108	0	**104**	74.2	105.6				
Iron	18100	6.7	16300	24.43	**111**	51.7	131.9				
Manganese	443	1.0	434	0.1235	**102**	81.1	116.6				
Zinc	242	1.7	231	0	**105**	75.3	111.7				

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 50** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-063APDS** Method: **SW6010B**

Analysis Date: **10/03/16 12:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	27700	9.4	2975	25750		75	125				A
Cobalt	600	2.1	595	12.68	99	75	125				
Iron	27400	16	2975	25640		75	125				A
Manganese	6070	1.0	2975	3365	91	75	125				
Zinc	2220	4.0	595	1695	88	75	125				

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **ICP2-HE_161003B: 51** SampType: **Sample Matrix Spike** Lab ID: **H16090353-063AMS** Method: **SW6010B**

Analysis Date: **10/03/16 12:03** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	31200	9.0	569.5	25750		75	125				A
Cobalt	113	2.0	113.9	12.68	88	75	125				
Iron	29000	15	569.5	25640		75	125				A
Manganese	4060	1.0	569.5	3365		75	125				A
Zinc	1890	3.8	113.9	1695		75	125				A

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **ICP2-HE_161003B: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-063AMSD** Method: **SW6010B**

Analysis Date: **10/03/16 12:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	32600	9.1	575.3	25750		75	125	31180	4.3	20	A
Cobalt	134	2.0	115.1	12.68	106	75	125	112.8	17	20	
Iron	30100	15	575.3	25640		75	125	28960	3.9	20	A
Manganese	4320	1.0	575.3	3365		75	125	4055	6.4	20	A
Zinc	1940	3.9	115.1	1695		75	125	1886	3.0	20	A

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 16** SampType: **Method Blank** Lab ID: **MB-34600** Method: **SW6020**

Analysis Date: **10/02/16 19:23** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.08									
Arsenic	ND	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Copper	ND	0.6									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.1									
Silver	ND	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **ICPMS204-B_161002A: 17** SampType: **Laboratory Control Sample** Lab ID: **LCS-34600** Method: **SW6020**

Analysis Date: **10/02/16 19:26** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	70.3	1.0	240	0	**29**	0	92.9				
Arsenic	173	1.0	196	0	**88**	71.4	105.1				
Barium	193	1.0	187	0	**103**	78.6	112.8				
Beryllium	83.7	1.0	83.6	0	**100**	76.2	108				
Boron	115	2.2	129	0	**89**	59.5	106.2				
Cadmium	98.7	1.0	99	0	**100**	73.9	106.1				
Chromium	124	1.0	117	0	**106**	73.5	108.5				
Copper	135	1.0	137	0	**98**	76.6	108.8				
Lead	108	1.0	105	0	**103**	74.4	108.6				
Molybdenum	125	1.0	127	0	**98**	66.5	103.1				
Nickel	89.1	1.0	86.2	0	**103**	72.3	105				
Selenium	190	1.0	205	0	**92**	71.2	110.2				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 17** SampType: **Laboratory Control Sample** Lab ID: **LCS-34600** Method: **SW6020**

Analysis Date: **10/02/16 19:26** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	43.2	1.0	42.1	0	103	70.8	111.9				
Uranium	103	1.0	99.9	0	104	80.1	120.1				
Vanadium	122	1.0	114	0	107	67	107				

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **ICPMS204-B_161002A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34600** Method: **SW6020**

Analysis Date: **10/02/16 19:29** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.8	1.0	49.5	0	101	80	120				
Arsenic	42.7	1.0	49.5	0	86	80	120				
Barium	42.7	1.0	49.5	0	86	80	120				
Beryllium	21.3	1.0	24.75	0	86	80	120				
Boron	43.2	2.1	49.5	0	87	80	120				
Cadmium	21.0	1.0	24.75	0	85	80	120				
Chromium	44.8	1.0	49.5	0	90	80	120				
Copper	45.2	1.0	49.5	0	91	80	120				
Lead	43.0	1.0	49.5	0	87	80	120				
Molybdenum	49.6	1.0	49.5	0	100	80	120				
Nickel	45.2	1.0	49.5	0	91	80	120				
Selenium	39.7	1.0	49.5	0	80	80	120				
Silver	22.1	1.0	24.75	0	89	80	120				
Uranium	50.8	1.0	49.5	0	103	80	120				
Vanadium	43.6	1.0	49.5	0	88	80	120				

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **ICPMS204-B_161002A: 45** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-063APDS** Method: **SW6020**

Analysis Date: **10/02/16 20:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1140	1.0	1155	0.6562	99	75	125				
Arsenic	1130	1.0	1155	33.33	95	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 45** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-063APDS** Method: **SW6020**

Analysis Date: **10/02/16 20:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1590	1.0	1155	448.7	98	75	125				
Beryllium	518	1.0	577.7	1.311	89	75	125				
Boron	1060	5.0	1155	13.32	91	75	125				
Cadmium	540	1.0	577.7	8.123	92	75	125				
Chromium	1190	1.9	1155	28.53	101	75	125				
Copper	1640	1.4	1155	590.5	91	75	125				
Lead	1300	1.0	1155	147.8	100	75	125				
Molybdenum	1170	1.0	1155	2.62	101	75	125				
Nickel	1140	1.0	1155	17.09	97	75	125				
Selenium	974	1.0	1155	1.23	84	75	125				
Silver	485	1.0	577.7	2.074	84	75	125				
Uranium	1230	1.0	1155	2.623	106	75	125				
Vanadium	1220	1.0	1155	50.5	101	75	125				

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **ICPMS204-B_161002A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16090353-063AMS** Method: **SW6020**

Analysis Date: **10/02/16 21:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	42.9	1.0	113.9	0.6562	37	75	125				S
Arsenic	127	1.0	113.9	33.33	83	75	125				
Barium	561	1.0	113.9	448.7	99	75	125				
Beryllium	47.9	1.0	56.95	1.311	82	75	125				
Boron	119	4.9	113.9	13.32	93	75	125				
Cadmium	55.5	1.0	56.95	8.123	83	75	125				
Chromium	133	1.9	113.9	28.53	92	75	125				
Copper	718	1.4	113.9	590.5		75	125				A
Lead	256	1.0	113.9	147.8	95	75	125				
Molybdenum	114	1.0	113.9	2.62	98	75	125				
Nickel	118	1.0	113.9	17.09	89	75	125				
Selenium	88.0	1.0	113.9	1.23	76	75	125				
Silver	54.0	1.0	56.95	2.074	91	75	125				
Uranium	122	1.0	113.9	2.623	105	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34600

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16090353-063AMS** Method: **SW6020**

Analysis Date: **10/02/16 21:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	158	1.0	113.9	50.5	95	75	125				

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **ICPMS204-B_161002A: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-063AMSD** Method: **SW6020**

Analysis Date: **10/02/16 21:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 15	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	42.0	1.0	115.1	0.6562	36	75	125	42.88	2.0	20	S
Arsenic	150	1.0	115.1	33.33	101	75	125	127.4	16	20	
Barium	612	1.0	115.1	448.7	142	75	125	561.4	8.6	20	S
Beryllium	59.4	1.0	57.53	1.311	101	75	125	47.86	22	20	R
Boron	126	5.0	115.1	13.32	98	75	125	119.2	5.8	20	
Cadmium	65.7	1.0	57.53	8.123	100	75	125	55.52	17	20	
Chromium	153	1.9	115.1	28.53	108	75	125	133.5	13	20	
Copper	739	1.4	115.1	590.5		75	125	717.9	2.9	20	A
Lead	278	1.0	115.1	147.8	113	75	125	255.8	8.4	20	
Molybdenum	114	1.0	115.1	2.62	97	75	125	114.1	0.1	20	
Nickel	136	1.0	115.1	17.09	103	75	125	118.4	14	20	
Selenium	108	1.0	115.1	1.23	93	75	125	87.99	20	20	R
Silver	61.8	1.0	57.53	2.074	104	75	125	54.04	13	20	
Uranium	122	1.0	115.1	2.623	104	75	125	122	0.2	20	
Vanadium	176	1.0	115.1	50.5	109	75	125	158.4	11	20	

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34601

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 53** SampType: **Method Blank** Lab ID: **MB-34601** Method: **SW6010B**

Analysis Date: **10/03/16 12:10** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1	0.8									
Cobalt	ND	0.2									
Iron	9	1									
Manganese	0.2	0.04									
Zinc	ND	0.3									

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

Run ID :Run Order: **ICP2-HE_161003B: 54** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34601** Method: **SW6010B**

Analysis Date: **10/03/16 12:14** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	263	5.0	249.5	1.412	105	80	120				
Cobalt	52.8	1.0	49.9	0	106	80	120				
Iron	275	5.0	249.5	8.823	107	80	120				
Manganese	256	1.0	249.5	0.1668	103	80	120				
Zinc	50.2	1.0	49.9	0	101	80	120				

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

Run ID :Run Order: **ICP2-HE_161003B: 55** SampType: **Laboratory Control Sample** Lab ID: **LCS-34601** Method: **SW6010B**

Analysis Date: **10/03/16 12:18** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10300	5.0	9830	1.412	105	46.3	130.2				
Cobalt	113	1.0	108	0	105	74.2	105.6				
Iron	17900	6.7	16300	8.823	110	51.7	131.9				
Manganese	424	1.0	434	0.1668	98	81.1	116.6				
Zinc	241	1.7	231	0	104	75.3	111.7				

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34601

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 85** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-064APDS** Method: **SW6010B**

Analysis Date: **10/03/16 14:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7440	5.3	1675	5669	106	75	125				
Cobalt	306	1.2	334.9	6.971	89	75	125				
Iron	26100	8.9	1675	24530		75	125				A
Manganese	2180	1.0	1675	653.7	91	75	125				
Zinc	861	2.3	334.9	551	93	75	125				

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

Run ID :Run Order: **ICP2-HE_161003B: 86** SampType: **Sample Matrix Spike** Lab ID: **H16090353-064AMS** Method: **SW6010B**

Analysis Date: **10/03/16 14:12** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7310	5.1	324.2	5669		75	125				A
Cobalt	66.0	1.2	64.83	6.971	91	75	125				
Iron	26800	8.7	324.2	24530		75	125				A
Manganese	1210	1.0	324.2	653.7	173	75	125				S
Zinc	974	2.2	64.83	551		75	125				A

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_161003B: 87** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-064AMSD** Method: **SW6010B**

Analysis Date: **10/03/16 14:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6190	5.1	325.2	5669		75	125	7309	17	20	A
Cobalt	61.6	1.2	65.03	6.971	84	75	125	66	6.8	20	
Iron	19100	8.7	325.2	24530		75	125	26780	33	20	AR
Manganese	1020	1.0	325.2	653.7	114	75	125	1213	17	20	
Zinc	637	2.2	65.03	551		75	125	973.7	42	20	AR

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34601

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 49** SampType: **Method Blank** Lab ID: **MB-34601** Method: **SW6020**

Analysis Date: **10/02/16 21:11** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.1	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Copper	ND	0.6									
Lead	0.1	0.09									
Manganese	ND	0.2									
Molybdenum	ND	0.09									
Nickel	0.1	0.1									
Selenium	ND	0.1									
Silver	0.3	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

Run ID :Run Order: **ICPMS204-B_161002A: 50** SampType: **Laboratory Control Sample** Lab ID: **LCS-34601** Method: **SW6020**

Analysis Date: **10/02/16 21:14** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	71.1	1.0	240	0	**30**	0	92.9				
Arsenic	173	1.0	196	0.1038	**88**	71.4	105.1				
Barium	189	1.0	187	0	**101**	78.6	112.8				
Beryllium	84.1	1.0	83.6	0	**101**	76.2	108				
Boron	115	2.2	129	0	**89**	59.5	106.2				
Cadmium	95.8	1.0	99	0	**97**	73.9	106.1				
Chromium	120	1.0	117	0	**103**	73.5	108.5				
Copper	131	1.0	137	0	**96**	76.6	108.8				
Lead	105	1.0	105	0.1101	**100**	74.4	108.6				
Manganese	455	1.0	434	0	**105**	81.1	116.6				
Molybdenum	118	1.0	127	0	**93**	66.5	103.1				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34601

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 50** SampType: **Laboratory Control Sample** Lab ID: **LCS-34601** Method: **SW6020**

Analysis Date: **10/02/16 21:14** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	86.8	1.0	86.2	0.1071	101	72.3	105				
Selenium	186	1.0	205	0	91	71.2	110.2				
Silver	42.1	1.0	42.1	0.3328	99	70.8	111.9				
Uranium	101	1.0	99.9	0	101	80.1	120.1				
Vanadium	119	1.0	114	0	104	67	107				

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

Run ID :Run Order: **ICPMS204-B_161002A: 51** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34601** Method: **SW6020**

Analysis Date: **10/02/16 21:18** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.4	1.0	49.9	0	101	80	120				
Arsenic	49.5	1.0	49.9	0.1038	99	80	120				
Barium	51.5	1.0	49.9	0	103	80	120				
Beryllium	26.1	1.0	24.95	0	105	80	120				
Boron	53.0	2.2	49.9	0	106	80	120				
Cadmium	25.0	1.0	24.95	0	100	80	120				
Chromium	52.4	1.0	49.9	0	105	80	120				
Copper	52.7	1.0	49.9	0	106	80	120				
Lead	51.1	1.0	49.9	0.1101	102	80	120				
Manganese	265	1.0	249.5	0	106	80	120				
Molybdenum	50.4	1.0	49.9	0	101	80	120				
Nickel	52.8	1.0	49.9	0.1071	106	80	120				
Selenium	46.3	1.0	49.9	0	93	80	120				
Silver	26.2	1.0	24.95	0.3328	104	80	120				
Uranium	51.5	1.0	49.9	0	103	80	120				
Vanadium	51.1	1.0	49.9	0	103	80	120				

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34601

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 78** SampType: **Sample Matrix Spike** Lab ID: **H16090353-064AMS** Method: **SW6020**

Analysis Date: **10/02/16 22:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.7	1.0	64.81	1.11	72	75	125				S
Arsenic	122	1.0	64.81	44.29	119	75	125				
Barium	242	1.0	64.81	131	171	75	125				S
Beryllium	32.8	1.0	32.41	0.2847	100	75	125				
Boron	64.0	2.8	64.81	0	99	75	125				
Cadmium	33.4	1.0	32.41	1.349	99	75	125				
Chromium	85.9	1.1	64.81	16.72	107	75	125				
Copper	355	1.0	64.81	201.3	237	75	125				S
Lead	181	1.0	64.81	73.2	166	75	125				S
Manganese	1340	1.0	324.1	721.6	190	75	125				SE
Molybdenum	67.9	1.0	64.81	2.905	100	75	125				
Nickel	73.2	1.0	64.81	6.11	103	75	125				
Selenium	57.8	1.0	64.81	0.3157	89	75	125				
Silver	35.4	1.0	32.41	1.383	105	75	125				
Uranium	69.6	1.0	64.81	4.825	100	75	125				
Vanadium	130	1.0	64.81	58.14	112	75	125				

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

Run ID :Run Order: **ICPMS204-B_161002A: 79** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-064AMSD** Method: **SW6020**

Analysis Date: **10/02/16 22:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.0	1.0	65.01	1.11	71	75	125	47.74	1.5	20	S
Arsenic	136	1.0	65.01	44.29	141	75	125	121.5	11	20	S
Barium	186	1.0	65.01	131	84	75	125	241.9	26	20	R
Beryllium	33.7	1.0	32.51	0.2847	103	75	125	32.82	2.5	20	
Boron	67.8	2.8	65.01	0	104	75	125	63.97	5.8	20	
Cadmium	34.0	1.0	32.51	1.349	100	75	125	33.41	1.7	20	
Chromium	82.2	1.1	65.01	16.72	101	75	125	85.9	4.4	20	
Copper	261	1.0	65.01	201.3	92	75	125	354.6	30	20	R
Lead	135	1.0	65.01	73.2	95	75	125	180.7	29	20	R
Manganese	1200	1.0	325.1	721.6	148	75	125	1337	11	20	SE
Molybdenum	64.9	1.0	65.01	2.905	95	75	125	67.93	4.5	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34601

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 79** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-064AMSD** Method: **SW6020**

Analysis Date: **10/02/16 22:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	73.5	1.0	65.01	6.11	**104**	75	125	73.18	**0.5**	20	
Selenium	60.6	1.0	65.01	0.3157	**93**	75	125	57.79	**4.7**	20	
Silver	34.9	1.0	32.51	1.383	**103**	75	125	35.39	**1.4**	20	
Uranium	72.2	1.0	65.01	4.825	**104**	75	125	69.55	**3.7**	20	
Vanadium	114	1.0	65.01	58.14	**87**	75	125	130.4	**13**	20	

Associated samples: **H16090353-019A, H16090353-022A, H16090353-025A, H16090353-028A, H16090353-031A, H16090353-034A, H16090353-037A, H16090353-040A, H16090353-043A, H16090353-046A, H16090353-049A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-061A, H16090353-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34603

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 90** SampType: **Method Blank** Lab ID: **MB-34603** Method: **SW6010B**
Analysis Date: **10/03/16 14:27** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Iron	10	1									
Manganese	0.06	0.05									
Zinc	ND	0.3									

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Run ID :Run Order: **ICP2-HE_161003B: 91** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34603** Method: **SW6010B**
Analysis Date: **10/03/16 14:31** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	251	5.0	248	0	101	80	120				
Iron	253	5.0	248	12.07	97	80	120				
Manganese	236	1.0	248	0.05506	95	80	120				
Zinc	48.3	1.0	49.6	0	97	80	120				

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Run ID :Run Order: **ICP2-HE_161003B: 92** SampType: **Laboratory Control Sample** Lab ID: **LCS-34603** Method: **SW6010B**
Analysis Date: **10/03/16 14:34** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9660	5.0	9830	0	98	46.3	130.2				
Iron	15600	6.6	16300	12.07	96	51.7	131.9				
Manganese	430	1.0	434	0.05506	99	81.1	116.6				
Zinc	228	1.7	231	0	99	75.3	111.7				

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Run ID :Run Order: **ICP2-HE_161003B: 114** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-065APDS** Method: **SW6010B**
Analysis Date: **10/03/16 15:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6880	5.1	1607	5299	99	75	125				
Iron	16700	8.6	1607	15120		75	125				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34603

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 114** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-065APDS** Method: **SW6010B**

Analysis Date: **10/03/16 15:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	3220	1.0	1607	1781	90	75	125				
Zinc	567	2.2	321.3	262.1	95	75	125				

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Run ID :Run Order: **ICP2-HE_161003B: 115** SampType: **Sample Matrix Spike** Lab ID: **H16090353-065AMS** Method: **SW6010B**

Analysis Date: **10/03/16 15:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6500	5.0	312	5299		75	125				A
Iron	16300	8.3	312	15120		75	125				A
Manganese	1030	1.0	312	1781		75	125				A
Zinc	451	2.1	62.4	262.1		75	125				A

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_161003B: 116** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-065AMSD** Method: **SW6010B**

Analysis Date: **10/03/16 16:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6520	5.0	312.3	5299		75	125	6503	0.2	20	A
Iron	11800	8.4	312.3	15120		75	125	16320	32	20	AR
Manganese	895	1.0	312.3	1781		75	125	1028	14	20	A
Zinc	298	2.1	62.46	262.1		75	125	450.6	41	20	AR

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34603

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 81** SampType: **Method Blank** Lab ID: **MB-34603** Method: **SW6020**

Analysis Date: **10/02/16 22:56** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.08									
Arsenic	0.08	0.05									
Barium	ND	0.4									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Cobalt	ND	0.03									
Copper	ND	0.6									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.1									
Silver	0.09	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Run ID :Run Order: **ICPMS204-B_161002A: 82** SampType: **Laboratory Control Sample** Lab ID: **LCS-34603** Method: **SW6020**

Analysis Date: **10/02/16 23:00** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	57.9	1.0	240	0	**24**	0	92.9				
Arsenic	167	1.0	196	0.07738	**85**	71.4	105.1				
Barium	183	1.0	187	0	**98**	78.6	112.8				
Beryllium	79.7	1.0	83.6	0	**95**	76.2	108				
Boron	117	2.1	129	0	**91**	59.5	106.2				
Cadmium	92.8	1.0	99	0	**94**	73.9	106.1				
Chromium	116	1.0	117	0	**99**	73.5	108.5				
Cobalt	112	1.0	108	0	**104**	74.2	105.6				
Copper	129	1.0	137	0	**94**	76.6	108.8				
Lead	103	1.0	105	0	**98**	74.4	108.6				
Molybdenum	116	1.0	127	0	**91**	66.5	103.1				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34603

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 82** SampType: **Laboratory Control Sample** Lab ID: **LCS-34603** Method: **SW6020**

Analysis Date: **10/02/16 23:00** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	84.8	1.0	86.2	0	98	72.3	105				
Selenium	182	1.0	205	0	89	71.2	110.2				
Silver	41.3	1.0	42.1	0.08978	98	70.8	111.9				
Uranium	99.2	1.0	99.9	0	99	80.1	120.1				
Vanadium	113	1.0	114	0	99	67	107				

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Run ID :Run Order: **ICPMS204-B_161002A: 83** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34603** Method: **SW6020**

Analysis Date: **10/02/16 23:03** Units: **mg/kg** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.1	1.0	49.6	0	101	80	120				
Arsenic	48.4	1.0	49.6	0.07738	97	80	120				
Barium	49.8	1.0	49.6	0	100	80	120				
Beryllium	24.3	1.0	24.8	0	98	80	120				
Boron	52.8	2.1	49.6	0	106	80	120				
Cadmium	24.0	1.0	24.8	0	97	80	120				
Chromium	51.9	1.0	49.6	0	105	80	120				
Cobalt	51.6	1.0	49.6	0	104	80	120				
Copper	51.6	1.0	49.6	0	104	80	120				
Lead	50.3	1.0	49.6	0	101	80	120				
Molybdenum	49.4	1.0	49.6	0	100	80	120				
Nickel	51.6	1.0	49.6	0	104	80	120				
Selenium	45.1	1.0	49.6	0	91	80	120				
Silver	25.2	1.0	24.8	0.08978	101	80	120				
Uranium	51.4	1.0	49.6	0	104	80	120				
Vanadium	50.6	1.0	49.6	0	102	80	120				

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34603

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 108** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-065APDS** Method: **SW6020**

Analysis Date: **10/03/16 00:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	616	1.0	624	0.7856	99	75	125				
Arsenic	648	1.0	624	50.07	96	75	125				
Barium	750	1.0	624	126	100	75	125				
Beryllium	286	1.0	312	0.358	92	75	125				
Boron	596	2.7	624	0	96	75	125				
Cadmium	290	1.0	312	0.9603	93	75	125				
Chromium	656	1.0	624	22.05	102	75	125				
Cobalt	624	1.0	624	4.935	99	75	125				
Copper	809	1.0	624	225.7	93	75	125				
Lead	755	1.0	624	126.3	101	75	125				
Molybdenum	627	1.0	624	0.8361	100	75	125				
Nickel	619	1.0	624	10.79	97	75	125				
Selenium	523	1.0	624	0.3054	84	75	125				
Silver	176	1.0	312	2.03	56	75	125				S
Uranium	668	1.0	624	3.698	106	75	125				
Vanadium	658	1.0	624	20.63	102	75	125				

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Run ID :Run Order: **ICPMS204-B_161002A: 109** SampType: **Sample Matrix Spike** Lab ID: **H16090353-065AMS** Method: **SW6020**

Analysis Date: **10/03/16 00:28** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.5	1.0	62.4	0.7856	80	75	125				
Arsenic	120	1.0	62.4	50.07	113	75	125				
Barium	186	1.0	62.4	126	96	75	125				
Beryllium	25.2	1.0	31.2	0.358	80	75	125				
Boron	57.3	2.7	62.4	0	92	75	125				
Cadmium	25.6	1.0	31.2	0.9603	79	75	125				
Chromium	65.3	1.0	62.4	22.05	69	75	125				S
Cobalt	57.7	1.0	62.4	4.935	85	75	125				
Copper	392	1.0	62.4	225.7	266	75	125				S
Lead	138	1.0	62.4	126.3	19	75	125				S
Molybdenum	63.6	1.0	62.4	0.8361	101	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34603

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 109** SampType: **Sample Matrix Spike** Lab ID: **H16090353-065AMS** Method: **SW6020**

Analysis Date: **10/03/16 00:28** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	59.4	1.0	62.4	10.79	78	75	125				
Selenium	47.1	1.0	62.4	0.3054	75	75	125				
Silver	27.3	1.0	31.2	2.03	81	75	125				
Uranium	67.3	1.0	62.4	3.698	102	75	125				
Vanadium	69.8	1.0	62.4	20.63	79	75	125				

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Run ID :Run Order: **ICPMS204-B_161002A: 110** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-065AMSD** Method: **SW6020**

Analysis Date: **10/03/16 00:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	45.0	1.0	62.46	0.7856	71	75	125	50.52	12	20	S
Arsenic	98.7	1.0	62.46	50.07	78	75	125	120.4	20	20	
Barium	215	1.0	62.46	126	142	75	125	185.8	14	20	S
Beryllium	32.1	1.0	31.23	0.358	102	75	125	25.22	24	20	R
Boron	65.0	2.7	62.46	0	104	75	125	57.26	13	20	
Cadmium	30.6	1.0	31.23	0.9603	95	75	125	25.63	18	20	
Chromium	80.2	1.0	62.46	22.05	93	75	125	65.33	20	20	R
Cobalt	66.7	1.0	62.46	4.935	99	75	125	57.74	14	20	
Copper	188	1.0	62.46	225.7	-60	75	125	391.6	70	20	SR
Lead	121	1.0	62.46	126.3	-8	75	125	138.1	13	20	S
Molybdenum	62.5	1.0	62.46	0.8361	99	75	125	63.65	1.8	20	
Nickel	70.7	1.0	62.46	10.79	96	75	125	59.42	17	20	
Selenium	56.4	1.0	62.46	0.3054	90	75	125	47.06	18	20	
Silver	31.2	1.0	31.23	2.03	93	75	125	27.29	13	20	
Uranium	68.0	1.0	62.46	3.698	103	75	125	67.33	0.9	20	
Vanadium	80.3	1.0	62.46	20.63	96	75	125	69.76	14	20	

Associated samples: **H16090353-020A, H16090353-023A, H16090353-026A, H16090353-029A, H16090353-032A, H16090353-035A, H16090353-038A, H16090353-041A, H16090353-044A, H16090353-047A, H16090353-050A, H16090353-053A, H16090353-056A, H16090353-059A, H16090353-062A, H16090353-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34614

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161003A: 10** SampType: **Method Blank** Lab ID: **MB-34614** Method: **SW7471B**
Analysis Date: **10/03/16 10:34** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.001	0.001									

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Run ID :Run Order: **HGCV201-H_161003A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-34614** Method: **SW7471B**
Analysis Date: **10/03/16 10:36** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.6	0.50	5	0.001389	112	71	126.4				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Run ID :Run Order: **HGCV201-H_161003A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34614** Method: **SW7471B**
Analysis Date: **10/03/16 10:38** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.198	0.001389	100	80	120				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Run ID :Run Order: **HGCV201-H_161003A: 17** SampType: **Sample Matrix Spike** Lab ID: **H16090353-018AMS** Method: **SW7471B**
Analysis Date: **10/03/16 10:51** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.50	0.50	0.192	0.2622	121	80	120				S

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Run ID :Run Order: **HGCV201-H_161003A: 18** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-018AMSD** Method: **SW7471B**
Analysis Date: **10/03/16 10:53** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.46	0.50	0.192	0.2622	105	80	120	0.4954		20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34614

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161003A: 18** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-018AMSD** Method: **SW7471B**

Analysis Date: **10/03/16 10:53** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Run ID :Run Order: **HGCV201-H_161003A: 45** SampType: **Sample Matrix Spike** Lab ID: **H16090353-028AMS** Method: **SW7471B**

Analysis Date: **10/03/16 12:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.60	0.50	0.2749	0.3727	**82**	80	120				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Run ID :Run Order: **HGCV201-H_161003A: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-028AMSD** Method: **SW7471B**

Analysis Date: **10/03/16 12:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.60	0.50	0.2749	0.3727	**81**	80	120	0.5976	**0.2**	20	

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34625

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161004A: 10** SampType: **Method Blank** Lab ID: **MB-34625** Method: **SW7471B**
Analysis Date: **10/04/16 10:08** Units: **mg/kg** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.002	0.001									

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A**

Run ID :Run Order: **HGCV201-H_161004A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-34625** Method: **SW7471B**
Analysis Date: **10/04/16 10:10** Units: **mg/kg** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.3	0.50	5	0.002241	107	71	126.4				

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A**

Run ID :Run Order: **HGCV201-H_161004A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34625** Method: **SW7471B**
Analysis Date: **10/04/16 10:12** Units: **mg/kg** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.198	0.002241	101	80	120				

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A**

Run ID :Run Order: **HGCV201-H_161004A: 37** SampType: **Sample Matrix Spike** Lab ID: **H16090353-044AMS** Method: **SW7471B**
Analysis Date: **10/04/16 11:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.32	0.50	0.2457	0.02849	118	80	120				

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34625

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161004A: 38** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-044AMSD** Method: **SW7471B**
Analysis Date: **10/04/16 11:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.26	0.50	0.2431	0.02849	96	80	120	0.3187		20	

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A**

Run ID :Run Order: **HGCV201-H_161005B: 11** SampType: **Method Blank** Lab ID: **MB-34625** Method: **SW7471B**
Analysis Date: **10/05/16 12:02** Units: **mg/kg** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.003	0.001									

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A**

Run ID :Run Order: **HGCV201-H_161005B: 14** SampType: **Sample Matrix Spike** Lab ID: **H16090353-034AMS** Method: **SW7471B**
Analysis Date: **10/05/16 12:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.32	0.50	0.2493	0.03257	116	80	120				

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A**

Run ID :Run Order: **HGCV201-H_161005B: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-034AMSD** Method: **SW7471B**
Analysis Date: **10/05/16 12:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.35	0.50	0.2468	0.03257	129	80	120	0.3229		20	S

Associated samples: **H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34626

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161004A: 48** SampType: **Method Blank** Lab ID: **MB-34626** Method: **SW7471B**
Analysis Date: **10/04/16 11:34** Units: **mg/kg** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.002	0.001									

Associated samples: **H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **HGCV201-H_161004A: 49** SampType: **Laboratory Control Sample** Lab ID: **LCS-34626** Method: **SW7471B**
Analysis Date: **10/04/16 11:36** Units: **mg/kg** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	6.0	0.50	5	0.002477	119	71	126.4				

Associated samples: **H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **HGCV201-H_161004A: 54** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34626** Method: **SW7471B**
Analysis Date: **10/04/16 11:51** Units: **mg/kg** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.2	0.002477	97	80	120				

Associated samples: **H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **HGCV201-H_161004A: 70** SampType: **Sample Matrix Spike** Lab ID: **H16090353-062AMS** Method: **SW7471B**
Analysis Date: **10/04/16 12:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.50	0.2365	0.03659	100	80	120				

Associated samples: **H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **HGCV201-H_161004A: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-062AMSD** Method: **SW7471B**
Analysis Date: **10/04/16 12:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.50	0.2365	0.03659	100	80	120	0.2739		20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34626

Date: *28-Dec-16*

Run ID :Run Order: **HGCV201-H_161004A: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-062AMSD** Method: **SW7471B**

Analysis Date: **10/04/16 12:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **HGCV201-H_161004A: 160** SampType: **Sample Matrix Spike** Lab ID: **H16090353-054AMS** Method: **SW7471B**

Analysis Date: **10/04/16 13:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.0	0.50	0.8286	1.147	**105**	80	120				

Associated samples: **H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **HGCV201-H_161004A: 161** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-054AMSD** Method: **SW7471B**

Analysis Date: **10/04/16 13:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/3/2016** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.0	0.50	0.8286	1.147	**105**	80	120	2.021	**0.3**	20	

Associated samples: **H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34652

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161006A: 16** SampType: **Method Blank** Lab ID: **MB-34652** Method: **SW6020**
Analysis Date: **10/06/16 11:15** Units: **mg/kg** **Prep Info:** Prep Date: **10/4/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	ND	0.03									

Associated samples: **H16090353-022A, H16090353-028A, H16090353-034A, H16090353-043A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-064A**

Run ID :Run Order: **ICPMS204-B_161006A: 17** SampType: **Laboratory Control Sample** Lab ID: **LCS-34652** Method: **SW6020**
Analysis Date: **10/06/16 11:18** Units: **mg/kg** **Prep Info:** Prep Date: **10/4/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	114	1.0	108	0	105	74.2	105.6				

Associated samples: **H16090353-022A, H16090353-028A, H16090353-034A, H16090353-043A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-064A**

Run ID :Run Order: **ICPMS204-B_161006A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-34652** Method: **SW6020**
Analysis Date: **10/06/16 11:22** Units: **mg/kg** **Prep Info:** Prep Date: **10/4/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	53.4	1.0	50	0	107	80	120				

Associated samples: **H16090353-022A, H16090353-028A, H16090353-034A, H16090353-043A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-064A**

Run ID :Run Order: **ICPMS204-B_161006A: 27** SampType: **Serial Dilution** Lab ID: **H16090353-064ADIL** Method: **SW6020**
Analysis Date: **10/06/16 11:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/4/2016** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	4.68	1.0		0		0	0	4.951	5.5	10	

Associated samples: **H16090353-022A, H16090353-028A, H16090353-034A, H16090353-043A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-064A**

Run ID :Run Order: **ICPMS204-B_161006A: 28** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16090353-064APDS** Method: **SW6020**
Analysis Date: **10/06/16 11:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/4/2016** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	632	1.0	633	4.951	99	75	125				

Associated samples: **H16090353-022A, H16090353-028A, H16090353-034A, H16090353-043A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34652

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161006A: 29** SampType: **Sample Matrix Spike** Lab ID: **H16090353-064AMS** Method: **SW6020**

Analysis Date: **10/06/16 11:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/4/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	71.9	1.0	63.43	4.951	**106**	75	125				

Associated samples: **H16090353-022A, H16090353-028A, H16090353-034A, H16090353-043A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-064A**

Run ID :Run Order: **ICPMS204-B_161006A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-064AMSD** Method: **SW6020**

Analysis Date: **10/06/16 12:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/4/2016** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	71.7	1.0	63.5	4.951	**105**	75	125	71.93	**0.4**	20	

Associated samples: **H16090353-022A, H16090353-028A, H16090353-034A, H16090353-043A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R215617

Date: *28-Dec-16*

Run ID :Run Order: **SUB-C215617: 1** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV-9269** Method: **A5310 C**

Analysis Date: **09/25/16 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.96	0.50	5	0	99	90	110	0			

Associated samples: **H16090353-001E, H16090353-002E, H16090353-003E, H16090353-004E, H16090353-005E, H16090353-006E, H16090353-007E, H16090353-008E, H16090353-009E, H16090353-010E, H16090353-011E, H16090353-012E, H16090353-013E, H16090353-014E, H16090353-015E, H16090353-016E, H16090353-017E**

Run ID :Run Order: **SUB-C215617: 2** SampType: **Method Blank** Lab ID: **MBLK** Method: **A5310 C**

Analysis Date: **09/25/16 13:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.04									

Associated samples: **H16090353-001E, H16090353-002E, H16090353-003E, H16090353-004E, H16090353-005E, H16090353-006E, H16090353-007E, H16090353-008E, H16090353-009E, H16090353-010E, H16090353-011E, H16090353-012E, H16090353-013E, H16090353-014E, H16090353-015E, H16090353-016E, H16090353-017E**

Run ID :Run Order: **SUB-C215617: 3** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A5310 C**

Analysis Date: **09/25/16 13:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.92	0.50	5	0	98	90	110	0			

Associated samples: **H16090353-001E, H16090353-002E, H16090353-003E, H16090353-004E, H16090353-005E, H16090353-006E, H16090353-007E, H16090353-008E, H16090353-009E, H16090353-010E, H16090353-011E, H16090353-012E, H16090353-013E, H16090353-014E, H16090353-015E, H16090353-016E, H16090353-017E**

Run ID :Run Order: **SUB-C215617: 4** SampType: **Method Blank** Lab ID: **MB-102744** Method: **A5310 C**

Analysis Date: **09/25/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	0.1	0.04									

Associated samples: **H16090353-001E, H16090353-002E, H16090353-003E, H16090353-004E, H16090353-005E, H16090353-006E, H16090353-007E, H16090353-008E, H16090353-009E, H16090353-010E, H16090353-011E, H16090353-012E, H16090353-013E, H16090353-014E, H16090353-015E, H16090353-016E, H16090353-017E**

Run ID :Run Order: **SUB-C215617: 5** SampType: **Laboratory Control Sample** Lab ID: **LCS-9269** Method: **A5310 C**

Analysis Date: **09/25/16 20:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.93	0.50	5	0	99	90	110	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R215617

Date: *28-Dec-16*

Run ID :Run Order: **SUB-C215617: 5** SampType: **Laboratory Control Sample** Lab ID: **LCS-9269** Method: **A5310 C**
Analysis Date: **09/25/16 20:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-001E, H16090353-002E, H16090353-003E, H16090353-004E, H16090353-005E, H16090353-006E, H16090353-007E, H16090353-008E, H16090353-009E, H16090353-010E, H16090353-011E, H16090353-012E, H16090353-013E, H16090353-014E, H16090353-015E, H16090353-016E, H16090353-017E**

Run ID :Run Order: **SUB-C215617: 6** SampType: **Sample Matrix Spike** Lab ID: **H16090353-013E** Method: **A5310 C**
Analysis Date: **09/25/16 21:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	23.0	0.50	20	2.79	101	85	115	0			

Associated samples: **H16090353-001E, H16090353-002E, H16090353-003E, H16090353-004E, H16090353-005E, H16090353-006E, H16090353-007E, H16090353-008E, H16090353-009E, H16090353-010E, H16090353-011E, H16090353-012E, H16090353-013E, H16090353-014E, H16090353-015E, H16090353-016E, H16090353-017E**

Run ID :Run Order: **SUB-C215617: 7** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-013E** Method: **A5310 C**
Analysis Date: **09/25/16 22:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	23.2	0.50	20	2.79	102	85	115	23	0.7	20	

Associated samples: **H16090353-001E, H16090353-002E, H16090353-003E, H16090353-004E, H16090353-005E, H16090353-006E, H16090353-007E, H16090353-008E, H16090353-009E, H16090353-010E, H16090353-011E, H16090353-012E, H16090353-013E, H16090353-014E, H16090353-015E, H16090353-016E, H16090353-017E**

Run ID :Run Order: **SUB-C215617: 34** SampType: **Sample Matrix Spike** Lab ID: **H16090353-004E** Method: **A5310 C**
Analysis Date: **09/25/16 17:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	24.0	0.50	20	4.052	100	85	115	0			

Associated samples: **H16090353-001E, H16090353-002E, H16090353-003E, H16090353-004E, H16090353-005E, H16090353-006E, H16090353-007E, H16090353-008E, H16090353-009E, H16090353-010E, H16090353-011E, H16090353-012E, H16090353-013E, H16090353-014E, H16090353-015E, H16090353-016E, H16090353-017E**

Run ID :Run Order: **SUB-C215617: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-004E** Method: **A5310 C**
Analysis Date: **09/25/16 17:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	24.1	0.50	20	4.052	100	85	115	24.03	0.2	20	

Associated samples: **H16090353-001E, H16090353-002E, H16090353-003E, H16090353-004E, H16090353-005E, H16090353-006E, H16090353-007E, H16090353-008E, H16090353-009E, H16090353-010E, H16090353-011E, H16090353-012E, H16090353-013E, H16090353-014E, H16090353-015E, H16090353-016E, H16090353-017E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118760

Date: *28-Dec-16*

Run ID :Run Order: **PHSC_101-H_160919A: 53** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **09/19/16 12:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A**

Run ID :Run Order: **PHSC_101-H_160919A: 55** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **09/19/16 12:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	610	4.0	600	1.8	102	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A**

Run ID :Run Order: **PHSC_101-H_160919A: 58** SampType: **Sample Duplicate** Lab ID: **H16090346-001ADUP** Method: **A2320 B**

Analysis Date: **09/19/16 12:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	200	4.0		0				197.5	2.3	10	
Bicarbonate as HCO3	250	4.0		0				240.3	2.3	10	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A**

Run ID :Run Order: **PHSC_101-H_160919A: 98** SampType: **Sample Duplicate** Lab ID: **H16090353-009ADUP** Method: **A2320 B**

Analysis Date: **09/19/16 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	110	4.0		0				112.4	1.2	10	
Bicarbonate as HCO3	140	4.0		0				136.5	1.2	10	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118771

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/19/16 08:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.795	0.10	0.8	0	99	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Magnesium	39.0	1.0	40	0	97	95	105				
Potassium	40.1	1.0	40	0	100	95	105				
Sodium	40.2	1.0	40	0	100	95	105				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICP2-HE_160919A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/19/16 09:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00631	0.10		0		0	0				
Calcium	447	1.0	500	0	89	80	120				
Magnesium	485	1.0	500	0	97	80	120				
Potassium	0.0481	1.0		0		0	0				
Sodium	0.0382	1.0		0		0	0				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICP2-HE_160919A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/19/16 09:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.10	1	0	101	80	120				
Calcium	452	1.0	500	0	90	80	120				
Magnesium	485	1.0	500	0	97	80	120				
Potassium	19.7	1.0	20	0	98	80	120				
Sodium	19.7	1.0	20	0	99	80	120				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118771

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919A: 21** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **09/19/16 09:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.003	0.002									
Calcium	0.05	0.03									
Magnesium	0.008	0.003									
Potassium	0.05	0.03									
Sodium	ND	0.02									

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICP2-HE_160919A: 22** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **09/19/16 09:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.993	0.10	1	0.00261	**99**	85	115				
Calcium	48.0	1.0	50	0.04821	**96**	85	115				
Magnesium	47.9	1.0	50	0.00773	**96**	85	115				
Potassium	50.3	1.0	50	0.05339	**101**	85	115				
Sodium	50.5	1.0	50	0	**101**	85	115				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICP2-HE_160919A: 99** SampType: **Sample Matrix Spike** Lab ID: **H16090351-001BMS2** Method: **E200.7**

Analysis Date: **09/19/16 17:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.02179	**100**	70	130				
Calcium	85.7	1.0	50	36.67	**98**	70	130				
Magnesium	59.6	1.0	50	9.097	**101**	70	130				
Potassium	52.9	1.0	50	2.772	**100**	70	130				
Sodium	62.0	1.0	50	12.33	**99**	70	130				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118771

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919A: 100** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-001BMSD2** Method: **E200.7**

Analysis Date: **09/19/16 17:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.03	0.050	1	0.02179	101	70	130	1.02	0.9	20	
Calcium	86.7	1.0	50	36.67	100	70	130	85.68	1.1	20	
Magnesium	60.1	1.0	50	9.097	102	70	130	59.56	0.9	20	
Potassium	53.8	1.0	50	2.772	102	70	130	52.86	1.8	20	
Sodium	63.3	1.0	50	12.33	102	70	130	62	2.0	20	

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICP2-HE_160919A: 104** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/19/16 17:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.61	0.10	2.5	0	104	90	110				
Calcium	25.9	1.0	25	0	104	90	110				
Magnesium	25.6	1.0	25	0	102	90	110				
Potassium	25.1	1.0	25	0	100	90	110				
Sodium	25.0	1.0	25	0	100	90	110				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICP2-HE_160919A: 115** SampType: **Sample Matrix Spike** Lab ID: **H16090353-008BMS2** Method: **E200.7**

Analysis Date: **09/19/16 18:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.08	0.050	1	0.07195	101	70	130				
Calcium	115	1.0	50	64.87	100	70	130				
Magnesium	64.4	1.0	50	13.29	102	70	130				
Potassium	59.3	1.0	50	6.731	105	70	130				
Sodium	86.0	1.0	50	32.89	106	70	130				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118771

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919A: 116** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/19/16 18:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.51	0.10	2.5	0	100	90	110				
Calcium	25.6	1.0	25	0	102	90	110				
Magnesium	25.5	1.0	25	0	102	90	110				
Potassium	25.1	1.0	25	0	100	90	110				
Sodium	24.9	1.0	25	0	100	90	110				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICP2-HE_160919A: 118** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-008BMSD2** Method: **E200.7**

Analysis Date: **09/19/16 18:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.07	0.050	1	0.07195	100	70	130	1.078	0.5	20	
Calcium	112	1.0	50	64.87	94	70	130	115	2.7	20	
Magnesium	62.3	1.0	50	13.29	98	70	130	64.44	3.3	20	
Potassium	56.8	1.0	50	6.731	100	70	130	59.34	4.3	20	
Sodium	82.8	1.0	50	32.89	100	70	130	86.01	3.8	20	

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICP2-HE_160919A: 131** SampType: **Sample Matrix Spike** Lab ID: **H16090353-017BMS2** Method: **E200.7**

Analysis Date: **09/19/16 19:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.06	0.050	1	0.06322	99	70	130				
Calcium	108	1.0	50	61.31	94	70	130				
Magnesium	61.1	1.0	50	12.6	97	70	130				
Potassium	55.6	1.0	50	5.416	100	70	130				
Sodium	80.5	1.0	50	30.15	101	70	130				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118771

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919A: 132** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-017BMSD2** Method: **E200.7**

Analysis Date: **09/19/16 19:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.06322	**98**	70	130	1.057	**1.0**	20	
Calcium	109	1.0	50	61.31	**95**	70	130	108.2	**0.8**	20	
Magnesium	61.8	1.0	50	12.6	**98**	70	130	61.08	**1.1**	20	
Potassium	56.0	1.0	50	5.416	**101**	70	130	55.57	**0.7**	20	
Sodium	81.1	1.0	50	30.15	**102**	70	130	80.51	**0.7**	20	

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-007B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B, H16090353-016B, H16090353-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118775

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160919A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**

Analysis Date: **09/19/16 10:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	14.8	0.50	14.2	0	104	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 8** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**

Analysis Date: **09/19/16 10:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.04	0.055	1	0	104	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E350.1**

Analysis Date: **09/19/16 10:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.107	0.050		0		0	0				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 95** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **09/19/16 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.538	0.050	0.5	0	108	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 98** SampType: **Sample Matrix Spike** Lab ID: **H16090351-001DMS** Method: **E350.1**

Analysis Date: **09/19/16 11:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.02	0.055	1	0	102	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118775

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160919A: 98** SampType: **Sample Matrix Spike** Lab ID: **H16090351-001DMS** Method: **E350.1**

Analysis Date: **09/19/16 11:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 99** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090351-001DMSD** Method: **E350.1**

Analysis Date: **09/19/16 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	101	80	120	1.024	1.1	10	

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 109** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **09/19/16 12:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.518	0.050	0.5	0	104	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 112** SampType: **Sample Matrix Spike** Lab ID: **H16090353-007DMS** Method: **E350.1**

Analysis Date: **09/19/16 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	101	80	120				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 113** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-007DMSD** Method: **E350.1**

Analysis Date: **09/19/16 12:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.04	0.055	1	0	104	80	120	1.008	2.8	10	

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118775

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160919A: 123** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **09/19/16 12:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.526	0.050	0.5	0	**105**	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 126** SampType: **Sample Matrix Spike** Lab ID: **H16090353-017DMS** Method: **E350.1**

Analysis Date: **09/19/16 12:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	**101**	80	120				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160919A: 127** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-017DMSD** Method: **E350.1**

Analysis Date: **09/19/16 12:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	**101**	80	120	1.006	**0.7**	10	

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118802

Date: *28-Dec-16*

Run ID :Run Order: **PHSC_101-H_160920A: 6** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**
Analysis Date: **09/20/16 09:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **PHSC_101-H_160920A: 8** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**
Analysis Date: **09/20/16 09:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	1.84	**99**	90	110				

Associated samples: **H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **PHSC_101-H_160920A: 13** SampType: **Sample Duplicate** Lab ID: **H16090353-011ADUP** Method: **A2320 B**
Analysis Date: **09/20/16 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	120	4.0		0				117	**1.6**	10	
Bicarbonate as HCO3	140	4.0		0				137.4	**1.6**	10	

Associated samples: **H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **PHSC_101-H_160920A: 33** SampType: **Sample Duplicate** Lab ID: **H16090368-003ADUP** Method: **A2320 B**
Analysis Date: **09/20/16 10:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	170	4.0		0				173.2	**0.1**	10	
Bicarbonate as HCO3	210	4.0		0				210.6	**0.1**	10	

Associated samples: **H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118814

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **09/20/16 10:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.0248	0.10		0		0	0				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **FIA203-HE_160920A: 100** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **09/20/16 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.491	0.10	0.5	0	98	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **FIA203-HE_160920A: 116** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **09/20/16 12:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.481	0.10	0.5	0	96	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **FIA203-HE_160920A: 134** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **09/20/16 12:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.484	0.10	0.5	0	97	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118826

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/20/16 08:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.787	0.10	0.8	0	98	95	105				
Calcium	39.8	1.0	40	0	99	95	105				
Magnesium	39.6	1.0	40	0	99	95	105				
Potassium	40.9	1.0	40	0	102	95	105				
Sodium	40.9	1.0	40	0	102	95	105				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICP2-HE_160919C: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **09/20/16 08:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.49	0.10	2.5	0	100	95	105				
Calcium	25.0	1.0	25	0	100	95	105				
Magnesium	24.6	1.0	25	0	99	95	105				
Potassium	25.0	1.0	25	0	100	95	105				
Sodium	25.0	1.0	25	0	100	95	105				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICP2-HE_160919C: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/20/16 08:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00705	0.10		0		0	0				
Calcium	463	1.0	500	0	93	80	120				
Magnesium	496	1.0	500	0	99	80	120				
Potassium	0.0308	1.0		0		0	0				
Sodium	0.0215	1.0		0		0	0				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118826

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/20/16 08:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.977	0.10	1	0	98	80	120				
Calcium	459	1.0	500	0	92	80	120				
Magnesium	494	1.0	500	0	99	80	120				
Potassium	19.8	1.0	20	0	99	80	120				
Sodium	19.8	1.0	20	0	99	80	120				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICP2-HE_160919C: 74** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/20/16 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.49	0.10	2.5	0	100	90	110				
Calcium	25.5	1.0	25	0	102	90	110				
Magnesium	25.4	1.0	25	0	101	90	110				
Potassium	24.9	1.0	25	0	100	90	110				
Sodium	24.9	1.0	25	0	99	90	110				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Run ID :Run Order: **ICP2-HE_160919C: 86** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/20/16 13:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	98	90	110				
Calcium	24.7	1.0	25	0	99	90	110				
Magnesium	24.2	1.0	25	0	97	90	110				
Potassium	24.6	1.0	25	0	98	90	110				
Sodium	24.7	1.0	25	0	99	90	110				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118826

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160919C: 98** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/20/16 13:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.44	0.10	2.5	0	**98**	90	110				
Calcium	24.4	1.0	25	0	**98**	90	110				
Magnesium	24.0	1.0	25	0	**96**	90	110				
Potassium	24.4	1.0	25	0	**98**	90	110				
Sodium	24.5	1.0	25	0	**98**	90	110				

Associated samples: **H16090353-001C, H16090353-002C, H16090353-003C, H16090353-004C, H16090353-005C, H16090353-006C, H16090353-007C, H16090353-008C, H16090353-009C, H16090353-010C, H16090353-011C, H16090353-012C, H16090353-013C, H16090353-014C, H16090353-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/20/16 10:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.305	0.10	0.3	0	102	90	110				
Antimony	0.0587	0.050	0.06	0	98	90	110				
Arsenic	0.0596	0.0050	0.06	0	99	90	110				
Barium	0.0592	0.10	0.06	0	99	90	110				
Beryllium	0.0308	0.0010	0.03	0	103	90	110				
Cadmium	0.0301	0.0010	0.03	0	100	90	110				
Chromium	0.0594	0.010	0.06	0	99	90	110				
Cobalt	0.0603	0.010	0.06	0	100	90	110				
Copper	0.0616	0.010	0.06	0	103	90	110				
Iron	0.294	0.020	0.3	0	98	90	110				
Lead	0.0583	0.010	0.06	0	97	90	110				
Manganese	0.302	0.010	0.3	0	101	90	110				
Molybdenum	0.0574	0.0050	0.06	0	96	90	110				
Nickel	0.0611	0.010	0.06	0	102	90	110				
Selenium	0.0584	0.0050	0.06	0	97	90	110				
Silver	0.0303	0.0050	0.03	0	101	90	110				
Uranium	0.0578	0.0010	0.06	0	96	90	110				
Vanadium	0.0576	0.10	0.06	0	96	90	110				
Zinc	0.0616	0.010	0.06	0	103	90	110				

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B, H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B, H16090353-014C, H16090353-015B, H16090353-015C**

Run ID :Run Order: **ICPMS204-B_160920A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/20/16 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	43.5	0.10	40	0	109	70	130				
Antimony	0.000160	0.050		0							
Arsenic	6.80E-05	0.0050		0							
Barium	1.00E-05	0.10		0							
Beryllium	4.50E-05	0.0010		0							
Cadmium	0.00108	0.0010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/20/16 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.00141	0.010		0							
Cobalt	2.60E-05	0.010		0							
Copper	0.000579	0.010		0							
Iron	102	0.020	100	0	**102**	70	130				
Lead	0.000255	0.010		0							
Manganese	0.000277	0.010		0							
Molybdenum	0.879	0.0050	0.8	0	**110**	70	130				
Nickel	0.000301	0.010		0							
Selenium	0.000311	0.0050		0							
Silver	0.000112	0.0050		0							
Uranium	9.90E-05	0.0010		0							
Vanadium	-0.000283	0.10		0							
Zinc	0.00146	0.010		0							

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B, H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B, H16090353-014C, H16090353-015B, H16090353-015C**

Run ID :Run Order: **ICPMS204-B_160920A: 18** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/20/16 11:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0005									
Antimony	ND	3E-05									
Arsenic	ND	6E-05									
Barium	ND	0.0001									
Beryllium	ND	5E-05									
Cadmium	ND	1E-05									
Chromium	ND	3E-05									
Cobalt	ND	2E-05									
Copper	ND	6E-05									
Iron	ND	0.0002									
Lead	ND	5E-06									
Manganese	ND	6E-05									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 18** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/20/16 11:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	4E-05	2E-05									
Nickel	ND	4E-05									
Selenium	ND	0.0003									
Silver	ND	9E-06									
Uranium	ND	6E-06									
Vanadium	ND	0.0001									
Zinc	ND	0.0002									

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B**

Run ID :Run Order: **ICPMS204-B_160920A: 19** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/20/16 11:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0515	0.10	0.05	0	**103**	85	115				
Antimony	0.0457	0.050	0.05	0	**91**	85	115				
Arsenic	0.0485	0.0050	0.05	0	**97**	85	115				
Barium	0.0458	0.10	0.05	0	**92**	85	115				
Beryllium	0.0478	0.0010	0.05	0	**96**	85	115				
Cadmium	0.0494	0.0010	0.05	0	**99**	85	115				
Chromium	0.0488	0.010	0.05	0	**98**	85	115				
Cobalt	0.0494	0.010	0.05	0	**99**	85	115				
Copper	0.0503	0.010	0.05	0	**101**	85	115				
Iron	0.145	0.020	0.15	0	**97**	85	115				
Lead	0.0487	0.010	0.05	0	**97**	85	115				
Manganese	0.0503	0.010	0.05	0	**101**	85	115				
Molybdenum	0.0470	0.0050	0.05	0.0000397	**94**	85	115				
Nickel	0.0500	0.010	0.05	0	**100**	85	115				
Selenium	0.0490	0.0050	0.05	0	**98**	85	115				
Silver	0.0194	0.0050	0.02	0	**97**	85	115				
Uranium	0.0462	0.0010	0.05	0	**92**	85	115				
Vanadium	0.0473	0.10	0.05	0	**95**	85	115				
Zinc	0.0485	0.010	0.05	0	**97**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 19** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/20/16 11:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B**

Run ID :Run Order: **ICPMS204-B_160920A: 118** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/20/16 17:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.296	0.10	0.3	0	99	90	110				
Antimony	0.0575	0.050	0.06	0	96	90	110				
Arsenic	0.0611	0.0050	0.06	0	102	90	110				
Barium	0.0587	0.10	0.06	0	98	90	110				
Beryllium	0.0306	0.0010	0.03	0	102	90	110				
Cadmium	0.0304	0.0010	0.03	0	101	90	110				
Chromium	0.0596	0.010	0.06	0	99	90	110				
Cobalt	0.0600	0.010	0.06	0	100	90	110				
Copper	0.0614	0.010	0.06	0	102	90	110				
Iron	0.292	0.020	0.3	0	97	90	110				
Lead	0.0587	0.010	0.06	0	98	90	110				
Manganese	0.300	0.010	0.3	0	100	90	110				
Molybdenum	0.0564	0.0050	0.06	0	94	90	110				
Nickel	0.0604	0.010	0.06	0	101	90	110				
Selenium	0.0614	0.0050	0.06	0	102	90	110				
Silver	0.0300	0.0050	0.03	0	100	90	110				
Uranium	0.0575	0.0010	0.06	0	96	90	110				
Vanadium	0.0584	0.10	0.06	0	97	90	110				
Zinc	0.0606	0.010	0.06	0	101	90	110				

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B, H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B, H16090353-014C, H16090353-015B, H16090353-015C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 119** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/20/16 17:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.4	0.10	40	0	**106**	70	130				
Antimony	0.000134	0.050		0							
Arsenic	9.10E-05	0.0050		0							
Barium	8.00E-05	0.10		0							
Beryllium	1.50E-05	0.0010		0							
Cadmium	0.000710	0.0010		0							
Chromium	0.00129	0.010		0							
Cobalt	2.70E-05	0.010		0							
Copper	0.000546	0.010		0							
Iron	102	0.020	100	0	**102**	70	130				
Lead	0.000239	0.010		0							
Manganese	8.20E-05	0.010		0							
Molybdenum	0.882	0.0050	0.8	0	**110**	70	130				
Nickel	0.000378	0.010		0							
Selenium	0.000233	0.0050		0							
Silver	6.70E-05	0.0050		0							
Uranium	9.50E-05	0.0010		0							
Vanadium	-0.000378	0.10		0							
Zinc	0.00157	0.010		0							

Associated samples: **H16090353-001B, H16090353-001C, H16090353-002B, H16090353-002C, H16090353-003B, H16090353-003C, H16090353-004B, H16090353-004C, H16090353-005B, H16090353-005C, H16090353-006B, H16090353-006C, H16090353-007C, H16090353-008B, H16090353-008C, H16090353-009B, H16090353-009C, H16090353-010B, H16090353-010C, H16090353-011B, H16090353-011C, H16090353-012B, H16090353-012C, H16090353-013B, H16090353-013C, H16090353-014B, H16090353-014C, H16090353-015B, H16090353-015C**

Run ID :Run Order: **ICPMS204-B_160920A: 224** SampType: **Sample Matrix Spike** Lab ID: **H16090353-004BMS** Method: **E200.8**

Analysis Date: **09/20/16 23:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0519	0.030	0.05	0.00318	**97**	70	130				
Antimony	0.0500	0.0010	0.05	0.0004592	**99**	70	130				
Arsenic	0.0578	0.0010	0.05	0.005257	**105**	70	130				
Barium	0.0922	0.050	0.05	0.03856	**107**	70	130				
Beryllium	0.0503	0.0010	0.05	0	**101**	70	130				
Cadmium	0.0504	0.0010	0.05	0.0000669	**101**	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 224** SampType: **Sample Matrix Spike** Lab ID: **H16090353-004BMS** Method: **E200.8**

Analysis Date: **09/20/16 23:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0492	0.0050	0.05	0.0001171	98	70	130				
Cobalt	0.0494	0.0050	0.05	0.000093	99	70	130				
Copper	0.0580	0.0050	0.05	0.00824	99	70	130				
Iron	0.172	0.020	0.15	0.02834	96	70	130				
Lead	0.0495	0.0010	0.05	0.0001859	99	70	130				
Manganese	0.121	0.0010	0.05	0.074	95	70	130				
Molybdenum	0.0539	0.0010	0.05	0.004963	98	70	130				
Nickel	0.0497	0.0050	0.05	0.0006663	98	70	130				
Selenium	0.0532	0.0010	0.05	0	106	70	130				
Silver	0.0183	0.0010	0.02	0	92	70	130				
Uranium	0.0518	0.00030	0.05	0.003566	96	70	130				
Vanadium	0.0511	0.010	0.05	0.00162	99	70	130				
Zinc	0.0805	0.010	0.05	0.02978	102	70	130				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B**

Run ID :Run Order: **ICPMS204-B_160920A: 225** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-004BMSD** Method: **E200.8**

Analysis Date: **09/20/16 23:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0511	0.030	0.05	0.00318	96	70	130	0.05186	1.6	20	
Antimony	0.0491	0.0010	0.05	0.0004592	97	70	130	0.04996	1.7	20	
Arsenic	0.0575	0.0010	0.05	0.005257	104	70	130	0.05775	0.5	20	
Barium	0.0881	0.050	0.05	0.03856	99	70	130	0.09224	4.6	20	
Beryllium	0.0495	0.0010	0.05	0	99	70	130	0.05027	1.5	20	
Cadmium	0.0502	0.0010	0.05	0.0000669	100	70	130	0.05042	0.3	20	
Chromium	0.0491	0.0050	0.05	0.0001171	98	70	130	0.0492	0.2	20	
Cobalt	0.0490	0.0050	0.05	0.000093	98	70	130	0.0494	0.7	20	
Copper	0.0573	0.0050	0.05	0.00824	98	70	130	0.05799	1.2	20	
Iron	0.172	0.020	0.15	0.02834	96	70	130	0.172	0.1	20	
Lead	0.0496	0.0010	0.05	0.0001859	99	70	130	0.04954	0.2	20	
Manganese	0.123	0.0010	0.05	0.074	98	70	130	0.1214	1.2	20	
Molybdenum	0.0533	0.0010	0.05	0.004963	97	70	130	0.05386	1.0	20	
Nickel	0.0500	0.0050	0.05	0.0006663	99	70	130	0.04973	0.5	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 225** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-004BMSD** Method: **E200.8**

Analysis Date: **09/20/16 23:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0533	0.0010	0.05	0	**107**	70	130	0.05321	**0.2**	20	
Silver	0.0188	0.0010	0.02	0	**94**	70	130	0.0183	**2.8**	20	
Uranium	0.0519	0.00030	0.05	0.003566	**97**	70	130	0.05178	**0.2**	20	
Vanadium	0.0509	0.010	0.05	0.00162	**99**	70	130	0.05114	**0.5**	20	
Zinc	0.0795	0.010	0.05	0.02978	**100**	70	130	0.08054	**1.3**	20	

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B**

Run ID :Run Order: **ICPMS204-B_160920A: 257** SampType: **Sample Matrix Spike** Lab ID: **H16090353-014BMS** Method: **E200.8**

Analysis Date: **09/21/16 00:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0491	0.030	0.05	0.0008981	**96**	70	130				
Antimony	0.0490	0.0010	0.05	0.0002259	**98**	70	130				
Arsenic	0.0572	0.0010	0.05	0.00605	**102**	70	130				
Barium	0.0861	0.050	0.05	0.03521	**102**	70	130				
Beryllium	0.0505	0.0010	0.05	0	**101**	70	130				
Cadmium	0.0502	0.0010	0.05	0.0000684	**100**	70	130				
Chromium	0.0486	0.0050	0.05	0	**97**	70	130				
Cobalt	0.0494	0.0050	0.05	0.0004002	**98**	70	130				
Copper	0.0548	0.0050	0.05	0.006162	**97**	70	130				
Iron	0.163	0.020	0.15	0.02247	**94**	70	130				
Lead	0.0494	0.0010	0.05	0.0001619	**98**	70	130				
Manganese	0.0826	0.0010	0.05	0.03404	**97**	70	130				
Molybdenum	0.0520	0.0010	0.05	0.004408	**95**	70	130				
Nickel	0.0488	0.0050	0.05	0.0006522	**96**	70	130				
Selenium	0.0492	0.0010	0.05	0.0004612	**97**	70	130				
Silver	0.0184	0.0010	0.02	0	**92**	70	130				
Uranium	0.0519	0.00030	0.05	0.004045	**96**	70	130				
Vanadium	0.0500	0.010	0.05	0.001552	**97**	70	130				
Zinc	0.0708	0.010	0.05	0.02237	**97**	70	130				

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118827

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160920A: 258** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-014BMSD** Method: **E200.8**

Analysis Date: **09/21/16 00:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0505	0.030	0.05	0.0008981	99	70	130	0.04906	2.9	20	
Antimony	0.0496	0.0010	0.05	0.0002259	99	70	130	0.04904	1.2	20	
Arsenic	0.0569	0.0010	0.05	0.00605	102	70	130	0.0572	0.6	20	
Barium	0.0824	0.050	0.05	0.03521	94	70	130	0.08614	4.4	20	
Beryllium	0.0487	0.0010	0.05	0	97	70	130	0.05049	3.6	20	
Cadmium	0.0506	0.0010	0.05	0.0000684	101	70	130	0.05025	0.8	20	
Chromium	0.0487	0.0050	0.05	0	97	70	130	0.04859	0.3	20	
Cobalt	0.0492	0.0050	0.05	0.0004002	98	70	130	0.04941	0.4	20	
Copper	0.0552	0.0050	0.05	0.006162	98	70	130	0.05479	0.8	20	
Iron	0.165	0.020	0.15	0.02247	95	70	130	0.163	1.5	20	
Lead	0.0501	0.0010	0.05	0.0001619	100	70	130	0.04939	1.5	20	
Manganese	0.0817	0.0010	0.05	0.03404	95	70	130	0.08258	1.0	20	
Molybdenum	0.0540	0.0010	0.05	0.004408	99	70	130	0.05196	3.8	20	
Nickel	0.0493	0.0050	0.05	0.0006522	97	70	130	0.04885	0.9	20	
Selenium	0.0524	0.0010	0.05	0.0004612	104	70	130	0.04921	6.2	20	
Silver	0.0189	0.0010	0.02	0	95	70	130	0.01843	2.8	20	
Uranium	0.0529	0.00030	0.05	0.004045	98	70	130	0.05195	1.8	20	
Vanadium	0.0501	0.010	0.05	0.001552	97	70	130	0.04995	0.3	20	
Zinc	0.0730	0.010	0.05	0.02237	101	70	130	0.07083	3.1	20	

Associated samples: **H16090353-001B, H16090353-002B, H16090353-003B, H16090353-004B, H16090353-005B, H16090353-006B, H16090353-008B, H16090353-009B, H16090353-010B, H16090353-011B, H16090353-012B, H16090353-013B, H16090353-014B, H16090353-015B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118834

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **09/20/16 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.06	0.010	1	0	106	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160920C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E353.2**
Analysis Date: **09/20/16 14:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.00695	0.010		0		0	0				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160920C: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **09/20/16 14:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.07	0.011	1	0	107	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160920C: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **09/20/16 15:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.496	0.010	0.5	0	99	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160920C: 69** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **09/20/16 15:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.508	0.010	0.5	0	102	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118834

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160920C: 83** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **09/20/16 16:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.507	0.010	0.5	0	101	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160920C: 85** SampType: **Sample Matrix Spike** Lab ID: **H16090353-013DMS** Method: **E353.2**

Analysis Date: **09/20/16 16:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.15	0.011	1	1.059	109	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Run ID :Run Order: **FIA203-HE_160920C: 86** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-013DMSD** Method: **E353.2**

Analysis Date: **09/20/16 16:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.17	0.011	1	1.059	111	90	110	2.146	0.9	20	S

Associated samples: **H16090353-001D, H16090353-002D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D, H16090353-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118837

Date: *28-Dec-16*

Run ID :Run Order: **IC102-H_160920A: 11** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**

Analysis Date: **09/20/16 08:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.02	0.01									
Sulfate	ND	0.02									

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **IC102-H_160920A: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**

Analysis Date: **09/20/16 08:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99.4	1.0	100	0	99	90	110				
Sulfate	398	1.0	400	0	100	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **IC102-H_160920A: 13** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**

Analysis Date: **09/20/16 08:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	46.5	1.0	50	0.016	93	90	110				
Sulfate	206	1.0	200	0	103	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **IC102-H_160920A: 44** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV091916-3** Method: **E300.0**

Analysis Date: **09/20/16 14:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	100	1.0	100	0	100	90	110				
Sulfate	402	1.0	400	0	101	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118837

Date: *28-Dec-16*

Run ID :Run Order: **IC102-H_160920A: 57** SampType: **Sample Matrix Spike** Lab ID: **H16090353-007AMS** Method: **E300.0**

Analysis Date: **09/20/16 17:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	109	1.0	50	57.52	103	90	110				
Sulfate	301	1.0	200	95.19	103	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **IC102-H_160920A: 58** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-007AMSD** Method: **E300.0**

Analysis Date: **09/20/16 17:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	109	1.0	50	57.52	103	90	110	108.9	0.2	20	
Sulfate	305	1.0	200	95.19	105	90	110	301	1.4	20	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **IC102-H_160920A: 59** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV091916-4** Method: **E300.0**

Analysis Date: **09/20/16 17:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	404	1.0	400	0	101	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **IC102-H_160920A: 72** SampType: **Sample Matrix Spike** Lab ID: **H16090353-017AMS** Method: **E300.0**

Analysis Date: **09/20/16 19:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	96.5	1.0	50	44.67	104	90	110				
Sulfate	305	1.0	200	96.28	104	90	110				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118837

Date: *28-Dec-16*

Run ID :Run Order: **IC102-H_160920A: 73** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-017AMSD** Method: **E300.0**

Analysis Date: **09/20/16 20:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	95.8	1.0	50	44.67	**102**	90	110	96.52	**0.8**	20	
Sulfate	304	1.0	200	96.28	**104**	90	110	305	**0.2**	20	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118851

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160921A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**

Analysis Date: **09/21/16 08:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.04	0.010	1	0	104	90	110				

Associated samples: **H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D**

Run ID :Run Order: **FIA203-HE_160921A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E353.2**

Analysis Date: **09/21/16 08:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.00258	0.010		0		0	0				

Associated samples: **H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D**

Run ID :Run Order: **FIA203-HE_160921A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**

Analysis Date: **09/21/16 08:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.06	0.011	1	0	106	90	110				

Associated samples: **H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D**

Run ID :Run Order: **FIA203-HE_160921A: 15** SampType: **Sample Matrix Spike** Lab ID: **H16090353-005DMS** Method: **E353.2**

Analysis Date: **09/21/16 08:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.04	0.011	1	0	104	90	110				

Associated samples: **H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D**

Run ID :Run Order: **FIA203-HE_160921A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-005DMSD** Method: **E353.2**

Analysis Date: **09/21/16 09:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.04	0.011	1	0	104	90	110	1.042	0.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118851

Date: *28-Dec-16*

Run ID :Run Order: **FIA203-HE_160921A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090353-005DMSD** Method: **E353.2**

Analysis Date: **09/21/16 09:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D**

Run ID :Run Order: **FIA203-HE_160921A: 27** SampType: **Sample Matrix Spike** Lab ID: **H16090369-003DMS** Method: **E353.2**

Analysis Date: **09/21/16 09:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.24	0.011	1	0.215	**103**	90	110				

Associated samples: **H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D**

Run ID :Run Order: **FIA203-HE_160921A: 28** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090369-003DMSD** Method: **E353.2**

Analysis Date: **09/21/16 09:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.25	0.011	1	0.215	**104**	90	110	1.244	**0.7**	20	

Associated samples: **H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118858

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160921A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/21/16 08:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.798	0.10	0.8	0	100	95	105				
Calcium	40.0	1.0	40	0	100	95	105				
Magnesium	40.1	1.0	40	0	100	95	105				
Potassium	40.6	1.0	40	0	101	95	105				
Sodium	40.7	1.0	40	0	102	95	105				

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICP2-HE_160921A: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **09/21/16 08:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.51	0.10	2.5	0	100	95	105				
Calcium	25.2	1.0	25	0	101	95	105				
Magnesium	25.0	1.0	25	0	100	95	105				
Potassium	25.7	1.0	25	0	103	95	105				
Sodium	25.7	1.0	25	0	103	95	105				

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICP2-HE_160921A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/21/16 09:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00414	0.10		0		0	0				
Calcium	470	1.0	500	0	94	80	120				
Magnesium	505	1.0	500	0	101	80	120				
Potassium	0.0273	1.0		0		0	0				
Sodium	0.0215	1.0		0		0	0				

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICP2-HE_160921A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/21/16 09:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.984	0.10	1	0	98	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118858

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_160921A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/21/16 09:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	465	1.0	500	0	**93**	80	120				
Magnesium	500	1.0	500	0	**100**	80	120				
Potassium	19.9	1.0	20	0	**100**	80	120				
Sodium	19.9	1.0	20	0	**99**	80	120				

Associated samples: **H16090353-016C, H16090353-017C**

Run ID :Run Order: **ICP2-HE_160921A: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/21/16 10:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.53	0.10	2.5	0	**101**	90	110				
Calcium	24.9	1.0	25	0	**100**	90	110				
Magnesium	24.7	1.0	25	0	**99**	90	110				
Potassium	25.1	1.0	25	0	**101**	90	110				
Sodium	25.1	1.0	25	0	**100**	90	110				

Associated samples: **H16090353-016C, H16090353-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118878

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/21/16 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.310	0.10	0.3	0	104	90	110				
Antimony	0.0571	0.050	0.06	0	95	90	110				
Arsenic	0.0587	0.0050	0.06	0	98	90	110				
Barium	0.0588	0.10	0.06	0	98	90	110				
Beryllium	0.0302	0.0010	0.03	0	101	90	110				
Cadmium	0.0293	0.0010	0.03	0	98	90	110				
Chromium	0.0588	0.010	0.06	0	98	90	110				
Cobalt	0.0598	0.010	0.06	0	100	90	110				
Copper	0.0604	0.010	0.06	0	101	90	110				
Iron	0.293	0.020	0.3	0	98	90	110				
Lead	0.0577	0.010	0.06	0	96	90	110				
Manganese	0.298	0.010	0.3	0	99	90	110				
Molybdenum	0.0556	0.0050	0.06	0	93	90	110				
Nickel	0.0608	0.010	0.06	0	101	90	110				
Selenium	0.0588	0.0050	0.06	0	98	90	110				
Silver	0.0299	0.0050	0.03	0	100	90	110				
Uranium	0.0566	0.0010	0.06	0	94	90	110				
Vanadium	0.0574	0.10	0.06	0	96	90	110				
Zinc	0.0614	0.010	0.06	0	102	90	110				

Associated samples: **H16090353-004C, H16090353-005B, H16090353-007B, H16090353-014C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Run ID :Run Order: **ICPMS204-B_160921C: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/21/16 10:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.5	0.10	40	0	114	70	130				
Antimony	0.000185	0.050		0							
Arsenic	0.000116	0.0050		0							
Barium	-5.60E-05	0.10		0							
Beryllium	1.90E-05	0.0010		0							
Cadmium	0.00106	0.0010		0							
Chromium	0.00135	0.010		0							
Cobalt	-1.40E-05	0.010		0							
Copper	0.000560	0.010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118878

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/21/16 10:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	103	0.020	100	0	103	70	130				
Lead	0.000242	0.010		0							
Manganese	3.00E-05	0.010		0							
Molybdenum	0.885	0.0050	0.8	0	111	70	130				
Nickel	0.000354	0.010		0							
Selenium	0.000119	0.0050		0							
Silver	0.000115	0.0050		0							
Uranium	0.000115	0.0010		0							
Vanadium	-0.000297	0.10		0							
Zinc	0.00122	0.010		0							

Associated samples: **H16090353-004C, H16090353-005B, H16090353-007B, H16090353-014C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Run ID :Run Order: **ICPMS204-B_160921C: 57** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/21/16 16:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.301	0.10	0.3	0	100	90	110				
Antimony	0.0560	0.050	0.06	0	93	90	110				
Arsenic	0.0612	0.0050	0.06	0	102	90	110				
Barium	0.0596	0.10	0.06	0	99	90	110				
Beryllium	0.0317	0.0010	0.03	0	106	90	110				
Cadmium	0.0296	0.0010	0.03	0	99	90	110				
Chromium	0.0601	0.010	0.06	0	100	90	110				
Cobalt	0.0604	0.010	0.06	0	101	90	110				
Copper	0.0615	0.010	0.06	0	103	90	110				
Iron	0.298	0.020	0.3	0	99	90	110				
Lead	0.0584	0.010	0.06	0	97	90	110				
Manganese	0.304	0.010	0.3	0	101	90	110				
Molybdenum	0.0563	0.0050	0.06	0	94	90	110				
Nickel	0.0619	0.010	0.06	0	103	90	110				
Selenium	0.0631	0.0050	0.06	0	105	90	110				
Silver	0.0299	0.0050	0.03	0	100	90	110				
Uranium	0.0579	0.0010	0.06	0	96	90	110				
Vanadium	0.0592	0.10	0.06	0	99	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118878

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 57** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/21/16 16:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0614	0.010	0.06	0	102	90	110				

Associated samples: **H16090353-004C, H16090353-005B, H16090353-007B, H16090353-014C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Run ID :Run Order: **ICPMS204-B_160921C: 58** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/21/16 16:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	43.8	0.10	40	0	110	70	130				
Antimony	0.000116	0.050		0							
Arsenic	0.000137	0.0050		0							
Barium	0.000240	0.10		0							
Beryllium	7.80E-05	0.0010		0							
Cadmium	0.00106	0.0010		0							
Chromium	0.00130	0.010		0							
Cobalt	5.40E-05	0.010		0							
Copper	0.000586	0.010		0							
Iron	103	0.020	100	0	103	70	130				
Lead	0.000212	0.010		0							
Manganese	0.000273	0.010		0							
Molybdenum	0.883	0.0050	0.8	0	110	70	130				
Nickel	0.000381	0.010		0							
Selenium	0.000228	0.0050		0							
Silver	9.70E-05	0.0050		0							
Uranium	8.90E-05	0.0010		0							
Vanadium	-0.000269	0.10		0							
Zinc	-6.90E-05	0.010		0							

Associated samples: **H16090353-004C, H16090353-005B, H16090353-007B, H16090353-014C, H16090353-016B, H16090353-016C, H16090353-017B, H16090353-017C**

Run ID :Run Order: **ICPMS204-B_160921C: 64** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/21/16 16:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0005	0.0005									
Antimony	ND	3E-05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118878

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 64** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/21/16 16:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	6E-05									
Barium	0.0001	0.0001									
Beryllium	ND	5E-05									
Cadmium	ND	1E-05									
Chromium	ND	3E-05									
Cobalt	ND	2E-05									
Copper	ND	6E-05									
Iron	0.0003	0.0002									
Lead	ND	5E-06									
Manganese	0.0002	6E-05									
Molybdenum	4E-05	2E-05									
Nickel	ND	4E-05									
Selenium	ND	0.0003									
Silver	ND	9E-06									
Uranium	ND	6E-06									
Vanadium	ND	0.0001									
Zinc	ND	0.0002									

Associated samples: **H16090353-005B, H16090353-007B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICPMS204-B_160921C: 65** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/21/16 16:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0528	0.10	0.05	0.0005019	**105**	85	115				
Antimony	0.0465	0.050	0.05	0	**93**	85	115				
Arsenic	0.0508	0.0050	0.05	0	**102**	85	115				
Barium	0.0495	0.10	0.05	0.0001209	**99**	85	115				
Beryllium	0.0492	0.0010	0.05	0	**98**	85	115				
Cadmium	0.0512	0.0010	0.05	0	**102**	85	115				
Chromium	0.0484	0.010	0.05	0	**97**	85	115				
Cobalt	0.0495	0.010	0.05	0	**99**	85	115				
Copper	0.0502	0.010	0.05	0	**100**	85	115				
Iron	0.142	0.020	0.15	0.0003034	**94**	85	115				
Lead	0.0484	0.010	0.05	0	**97**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118878

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 65** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/21/16 16:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0498	0.010	0.05	0.00016	99	85	115				
Molybdenum	0.0460	0.0050	0.05	0.0000442	92	85	115				
Nickel	0.0504	0.010	0.05	0	101	85	115				
Selenium	0.0534	0.0050	0.05	0	107	85	115				
Silver	0.0194	0.0050	0.02	0	97	85	115				
Uranium	0.0442	0.0010	0.05	0	88	85	115				
Vanadium	0.0479	0.10	0.05	0	96	85	115				
Zinc	0.0531	0.010	0.05	0	106	85	115				

Associated samples: **H16090353-005B, H16090353-007B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICPMS204-B_160921C: 67** SampType: **Sample Matrix Spike** Lab ID: **H16090322-007CMS** Method: **E200.8**

Analysis Date: **09/21/16 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0957	0.030	0.05	0.04961	92	70	130				
Antimony	0.0474	0.0010	0.05	0.0003333	94	70	130				
Arsenic	0.0590	0.0010	0.05	0.007376	103	70	130				
Barium	0.106	0.050	0.05	0.05553	101	70	130				
Beryllium	0.0484	0.0010	0.05	0	97	70	130				
Cadmium	0.0500	0.0010	0.05	0.0000441	100	70	130				
Chromium	0.0496	0.0050	0.05	0.000259	99	70	130				
Cobalt	0.0489	0.0050	0.05	0.0001545	97	70	130				
Copper	0.0525	0.0050	0.05	0.003468	98	70	130				
Iron	0.194	0.020	0.15	0.05374	93	70	130				
Lead	0.0485	0.0010	0.05	0.0000361	97	70	130				
Manganese	0.0518	0.0010	0.05	0.001461	101	70	130				
Molybdenum	0.0487	0.0010	0.05	0.001132	95	70	130				
Nickel	0.0503	0.0050	0.05	0.000847	99	70	130				
Selenium	0.0526	0.0010	0.05	0.000374	105	70	130				
Silver	0.0188	0.0010	0.02	0.0000291	94	70	130				
Uranium	0.0501	0.00030	0.05	0.002913	94	70	130				
Vanadium	0.0493	0.010	0.05	0.0001746	98	70	130				
Zinc	0.0575	0.010	0.05	0.005448	104	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118878

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_160921C: 67** SampType: **Sample Matrix Spike** Lab ID: **H16090322-007CMS** Method: **E200.8**

Analysis Date: **09/21/16 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-005B, H16090353-007B, H16090353-016B, H16090353-017B**

Run ID :Run Order: **ICPMS204-B_160921C: 68** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090322-007CMSD** Method: **E200.8**

Analysis Date: **09/21/16 16:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0922	0.030	0.05	0.04961	85	70	130	0.09575	3.8	20	
Antimony	0.0474	0.0010	0.05	0.0003333	94	70	130	0.04738	0.0	20	
Arsenic	0.0585	0.0010	0.05	0.007376	102	70	130	0.05897	0.8	20	
Barium	0.107	0.050	0.05	0.05553	103	70	130	0.1059	0.8	20	
Beryllium	0.0486	0.0010	0.05	0	97	70	130	0.04839	0.5	20	
Cadmium	0.0502	0.0010	0.05	0.0000441	100	70	130	0.05003	0.3	20	
Chromium	0.0490	0.0050	0.05	0.000259	98	70	130	0.04959	1.1	20	
Cobalt	0.0490	0.0050	0.05	0.0001545	98	70	130	0.04886	0.3	20	
Copper	0.0530	0.0050	0.05	0.003468	99	70	130	0.05254	0.8	20	
Iron	0.196	0.020	0.15	0.05374	95	70	130	0.1935	1.0	20	
Lead	0.0488	0.0010	0.05	0.0000361	98	70	130	0.04854	0.6	20	
Manganese	0.0514	0.0010	0.05	0.001461	100	70	130	0.0518	0.8	20	
Molybdenum	0.0492	0.0010	0.05	0.001132	96	70	130	0.04869	1.0	20	
Nickel	0.0494	0.0050	0.05	0.000847	97	70	130	0.05028	1.8	20	
Selenium	0.0530	0.0010	0.05	0.000374	105	70	130	0.05264	0.7	20	
Silver	0.0191	0.0010	0.02	0.0000291	95	70	130	0.01884	1.4	20	
Uranium	0.0510	0.00030	0.05	0.002913	96	70	130	0.05013	1.6	20	
Vanadium	0.0491	0.010	0.05	0.0001746	98	70	130	0.04931	0.4	20	
Zinc	0.0574	0.010	0.05	0.005448	104	70	130	0.05748	0.1	20	

Associated samples: **H16090353-005B, H16090353-007B, H16090353-016B, H16090353-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118934

Date: *28-Dec-16*

Run ID :Run Order: **FIA202-HE_160923B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **09/23/16 14:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.458	0.010	0.5	0	92	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Run ID :Run Order: **FIA202-HE_160923B: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **09/23/16 14:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.193	0.010	0.2	0	96	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Run ID :Run Order: **FIA202-HE_160923B: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **09/23/16 14:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.000720	0.010		0		0	0				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Run ID :Run Order: **FIA202-HE_160923B: 29** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **09/23/16 14:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.192	0.010	0.2	0	96	90	110				

Associated samples: **H16090353-001D, H16090353-002D, H16090353-003D, H16090353-004D, H16090353-005D, H16090353-006D, H16090353-007D, H16090353-008D, H16090353-009D, H16090353-010D, H16090353-011D, H16090353-012D, H16090353-013D, H16090353-014D, H16090353-015D, H16090353-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118963

Date: *28-Dec-16*

Run ID :Run Order: **FIA202-HE_160926A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **09/26/16 13:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.471	0.010	0.5	0	94	90	110				

Associated samples: **H16090353-017D**

Run ID :Run Order: **FIA202-HE_160926A: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **09/26/16 13:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.198	0.010	0.2	0	99	90	110				

Associated samples: **H16090353-017D**

Run ID :Run Order: **FIA202-HE_160926A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **09/26/16 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-4.44E-07	0.010		0		0	0				

Associated samples: **H16090353-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119142

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161002A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **10/02/16 19:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0592	0.0010	0.06	0	**99**	90	110				
Arsenic	0.0622	0.0010	0.06	0	**104**	90	110				
Barium	0.0589	0.0010	0.06	0	**98**	90	110				
Beryllium	0.0304	0.0010	0.03	0	**101**	90	110				
Boron	0.0582	0.0011	0.06	0	**97**	90	110				
Cadmium	0.0305	0.0010	0.03	0	**102**	90	110				
Chromium	0.0611	0.0010	0.06	0	**102**	90	110				
Cobalt	0.0613	0.0010	0.06	0	**102**	90	110				
Copper	0.0623	0.0010	0.06	0	**104**	90	110				
Lead	0.0588	0.0010	0.06	0	**98**	90	110				
Manganese	0.308	0.0010	0.3	0	**103**	90	110				
Molybdenum	0.0590	0.0010	0.06	0	**98**	90	110				
Nickel	0.0619	0.0010	0.06	0	**103**	90	110				
Selenium	0.0617	0.0010	0.06	0	**103**	90	110				
Silver	0.0311	0.0010	0.03	0	**104**	90	110				
Uranium	0.0586	0.00030	0.06	0	**98**	90	110				
Vanadium	0.0591	0.0010	0.06	0	**99**	90	110				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A, H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119149

Date: *28-Dec-16*

Run ID :Run Order: **SOIL DRYING OVEN 2_160930B: 9** SampType: **Sample Duplicate** Lab ID: **H16090353-019ADUP** Method: **D2974**

Analysis Date: **10/03/16 10:49** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	20.0	0.20		0				19.26	3.8	20	

Associated samples: **H16090353-019A, H16090353-020A, H16090353-022A, H16090353-023A, H16090353-025A, H16090353-026A, H16090353-028A, H16090353-029A, H16090353-031A, H16090353-032A, H16090353-034A, H16090353-035A, H16090353-037A, H16090353-038A, H16090353-040A, H16090353-041A, H16090353-043A, H16090353-044A, H16090353-046A, H16090353-047A, H16090353-049A, H16090353-050A, H16090353-052A, H16090353-053A, H16090353-055A, H16090353-056A, H16090353-058A, H16090353-059A, H16090353-061A, H16090353-062A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **SOIL DRYING OVEN 2_160930B: 2** SampType: **Sample Duplicate** Lab ID: **H16090353-034ADUP** Method: **D2974**

Analysis Date: **10/03/16 10:49** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	22.2	0.20		0				22.06	0.6	20	

Associated samples: **H16090353-019A, H16090353-020A, H16090353-022A, H16090353-023A, H16090353-025A, H16090353-026A, H16090353-028A, H16090353-029A, H16090353-031A, H16090353-032A, H16090353-034A, H16090353-035A, H16090353-037A, H16090353-038A, H16090353-040A, H16090353-041A, H16090353-043A, H16090353-044A, H16090353-046A, H16090353-047A, H16090353-049A, H16090353-050A, H16090353-052A, H16090353-053A, H16090353-055A, H16090353-056A, H16090353-058A, H16090353-059A, H16090353-061A, H16090353-062A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **SOIL DRYING OVEN 2_160930B: 3** SampType: **Sample Duplicate** Lab ID: **H16090353-049ADUP** Method: **D2974**

Analysis Date: **10/03/16 10:49** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	21.8	0.20		0				23.19	6.4	20	

Associated samples: **H16090353-019A, H16090353-020A, H16090353-022A, H16090353-023A, H16090353-025A, H16090353-026A, H16090353-028A, H16090353-029A, H16090353-031A, H16090353-032A, H16090353-034A, H16090353-035A, H16090353-037A, H16090353-038A, H16090353-040A, H16090353-041A, H16090353-043A, H16090353-044A, H16090353-046A, H16090353-047A, H16090353-049A, H16090353-050A, H16090353-052A, H16090353-053A, H16090353-055A, H16090353-056A, H16090353-058A, H16090353-059A, H16090353-061A, H16090353-062A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **SOIL DRYING OVEN 2_160930B: 4** SampType: **Sample Duplicate** Lab ID: **H16090353-064ADUP** Method: **D2974**

Analysis Date: **10/03/16 10:49** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	24.0	0.20		0				24.01	0.1	20	

Associated samples: **H16090353-019A, H16090353-020A, H16090353-022A, H16090353-023A, H16090353-025A, H16090353-026A, H16090353-028A, H16090353-029A, H16090353-031A, H16090353-032A, H16090353-034A, H16090353-035A, H16090353-037A, H16090353-038A, H16090353-040A, H16090353-041A, H16090353-043A, H16090353-044A, H16090353-046A, H16090353-047A, H16090353-049A, H16090353-050A, H16090353-052A, H16090353-053A, H16090353-055A, H16090353-056A, H16090353-058A, H16090353-059A, H16090353-061A, H16090353-062A, H16090353-064A, H16090353-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119179

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **10/03/16 08:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.07	0.10	4	0	102	90	110				
Cobalt	0.778	0.021	0.8	0	97	90	110				
Iron	3.99	0.030	4	0	100	90	110				
Manganese	3.92	0.010	4	0	98	90	110				
Zinc	0.797	0.010	0.8	0	100	90	110				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A, H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **ICP2-HE_161003B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **10/03/16 09:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528	0.10	500	0	106	80	120				
Cobalt	-0.0315	0.021		0		0	0				
Iron	189	0.030	200	0	94	80	120				
Manganese	-0.00728	0.010		0		0	0				
Zinc	0.00135	0.010		0		0	0				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A, H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Run ID :Run Order: **ICP2-HE_161003B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **10/03/16 09:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	523	0.10	500	0	105	80	120				
Cobalt	0.449	0.021	0.5	0	90	80	120				
Iron	187	0.030	200	0	93	80	120				
Manganese	0.465	0.010	0.5	0	93	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119179

Date: *28-Dec-16*

Run ID :Run Order: **ICP2-HE_161003B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **10/03/16 09:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.968	0.010	1	0	97	80	120				

Associated samples: **H16090353-018A, H16090353-019A, H16090353-020A, H16090353-021A, H16090353-022A, H16090353-023A, H16090353-024A, H16090353-025A, H16090353-026A, H16090353-027A, H16090353-028A, H16090353-029A, H16090353-030A, H16090353-031A, H16090353-032A, H16090353-033A, H16090353-034A, H16090353-035A, H16090353-036A, H16090353-037A, H16090353-038A, H16090353-039A, H16090353-040A, H16090353-041A, H16090353-042A, H16090353-043A, H16090353-044A, H16090353-045A, H16090353-046A, H16090353-047A, H16090353-048A, H16090353-049A, H16090353-050A, H16090353-051A, H16090353-052A, H16090353-053A, H16090353-054A, H16090353-055A, H16090353-056A, H16090353-057A, H16090353-058A, H16090353-059A, H16090353-060A, H16090353-061A, H16090353-062A, H16090353-063A, H16090353-064A, H16090353-065A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119193

Date: *28-Dec-16*

Run ID :Run Order: **SOIL DRYING OVEN 2_161004A: 2** SampType: **Sample Duplicate** Lab ID: **H16090353-018ADUP** Method: **D2974**

Analysis Date: **10/04/16 12:43** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	67.1	0.20		0				74.85	11	20	

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Run ID :Run Order: **SOIL DRYING OVEN 2_161004A: 1** SampType: **Sample Duplicate** Lab ID: **H16090353-054ADUP** Method: **D2974**

Analysis Date: **10/04/16 12:43** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	72.4	0.20		0				77.07	6.2	20	

Associated samples: **H16090353-018A, H16090353-021A, H16090353-024A, H16090353-027A, H16090353-030A, H16090353-033A, H16090353-036A, H16090353-039A, H16090353-042A, H16090353-045A, H16090353-048A, H16090353-051A, H16090353-054A, H16090353-057A, H16090353-060A, H16090353-063A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119285

Date: *28-Dec-16*

Run ID :Run Order: **ICPMS204-B_161006A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **10/06/16 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0624	0.0010	0.06	0	104	90	110				

Associated samples: **H16090353-022A, H16090353-028A, H16090353-034A, H16090353-043A, H16090353-052A, H16090353-055A, H16090353-058A, H16090353-064A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160919A

Date: *28-Dec-16*

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 1** SampType: **Method Blank** Lab ID: **MB-1_160919A** Method: **A2540 D**

Analysis Date: **09/19/16 11:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_160919A** Method: **A2540 D**

Analysis Date: **09/19/16 11:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	91.0	10	100	0	**91**	80	120				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 4** SampType: **Sample Duplicate** Lab ID: **H16090346-001ADUP** Method: **A2540 D**

Analysis Date: **09/19/16 11:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	10.8	10		0				9.286		5	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 1** SampType: **Sample Duplicate** Lab ID: **H16090351-004ADUP** Method: **A2540 D**

Analysis Date: **09/19/16 11:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	1.50	10		0				1.875		5	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 2** SampType: **Method Blank** Lab ID: **MB-25_160919A** Method: **A2540 D**

Analysis Date: **09/19/16 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	0.2	0.1									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090353
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS160919A

Date: *28-Dec-16*

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 2** SampType: **Method Blank** Lab ID: **MB-25_160919A** Method: **A2540 D**

Analysis Date: **09/19/16 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-26_160919A** Method: **A2540 D**

Analysis Date: **09/19/16 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	90.0	10	100	0.2	**90**	80	120				

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 2** SampType: **Sample Duplicate** Lab ID: **H16090353-010ADUP** Method: **A2540 D**

Analysis Date: **09/19/16 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	7.29	10		0				7.429		5	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Run ID :Run Order: **ACCU-124 (14410200)_160919A: 3** SampType: **Sample Duplicate** Lab ID: **H16090353-017ADUP** Method: **A2540 D**

Analysis Date: **09/19/16 16:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	10.6	10		0				10.57	**0.0**	5	

Associated samples: **H16090353-001A, H16090353-002A, H16090353-003A, H16090353-004A, H16090353-005A, H16090353-006A, H16090353-007A, H16090353-008A, H16090353-009A, H16090353-010A, H16090353-011A, H16090353-012A, H16090353-013A, H16090353-014A, H16090353-015A, H16090353-016A, H16090353-017A**

Qualifiers:
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J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund H16090353

Login completed by: Tracy L. Lorash
Date Received: 9/16/2016
Reviewed by: BL2000\rwilliams
Received by: TLL
Reviewed Date: 9/27/2016
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	°C See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	Not Applicable ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

No collection time on SS-19 sediment jar. Logged in with time from COC.
Sediment box 1 was received at 11.9°C, Cooler 1 at 2.4°C, Cooler 2 at 0.9°C, Cooler 3 at 1.7°C, Cooler 4 at 0.3°C, Cooler 5 at 0.6°C. Sediment box temperature was taken from a client sample and not received on ice, cooler temperatures were taken from a temperature blank and samples were received on wet ice. tl 9/17/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Report Mail Address (Required): P.O. Box 200901-0901, Helena, MT 59620-0901

Contact Name: Ben Quinones

Phone/Fax: 444-6593

Cell: email bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

☐ No Hard Copy Email:

Invoice Contact & Phone: Same as above

Purchase Order:

Quote/Bottle Order: 1088/20644

Invoice Address (Required): Same as above

☐ No Hard Copy Email:

Special Report/Formats:
☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Standard Turnaround (TAT)

RUSH: Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: Diss. metals and DOC were field filtered. Lab to sieve sediment metals into 3 size fractions. Report sediment results as dry weight concentrations

Shipped by: Hand delivery

Cooler ID(s): 9

Receipt Temp: See comments

On Ice: Y N

Custody Seal: On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

LABORATORY USE ONLY: H16090353

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O DW; Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water)	TR Metals (See list)	Diss. Metals (See list)	TPN	NH3-N, NO3+NO2, TP	TSS, VSS	Hardness (TR Ca & Mg)	Total Alk, HCO3, SO4, Cl, K, Na	DOC	Total Metals, sediment (See list, dry weight conc's)	SEE ATTACHED		
C2	1 SS-06G	9-15-16	1430	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓			Sed Box 1 = 11.9
C4	2 SS-07	9-15-16	1400	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓			Sed Box 2 = 11.6
C2	3 SS-08	9-15-16	1300	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓			C1 = 2.4
C4	4 SS-10A	9-15-16	1230	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓			C2 = 0.9
C4	5 Field Blank #2 (SS-10A)	9-15-16	1230	8W	↓	↓	↓	↓	↓	↓	↓	↓	↓			C3 = 1.7 TR
C4	6 SS-10B	9-15-16	1130	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓			C4 = 0.3
C2	7 SS-11C	9-15-16	1045	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓			C5 = 0.6
C2	8 Field duplicate #2 (SS-11C)	9-15-16	1045	8W	↓	↓	↓	↓	↓	↓	↓	↓	↓			
C5	9 SS-11D	9-15-16	0945	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓			
C1	10 SS-13	9-14-16	1630	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓			

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Gary L. Ingman	9-16-2016 1050	Gary L Ingman			

Received by Laboratory: Tracy Carroll 9/16/16 10:50 Tracy Carroll

Sample Disposal: Return to Client: ____ Lab Disposal: ____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

Chain of Custody and Analytical Request Record

ENERGY LABORATORIES

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Report Mail Address (Required): P.O. Box 200901-0901, Helena, MT 59620-0901

☐ No Hard Copy Email:

Invoice Address (Required): Same as above

☐ No Hard Copy Email:

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Contact Name: Ben Quinones

Phone/Fax: 444-6593

Cell: email bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

Invoice Contact & Phone: Same as above

Purchase Order:

Quote/Bottle Order: 10881/20641

Special Report/Formats:

☐ DW ☐ POTW/WWTP ☐ State: ☐ Other:

☐ EDD/EDT (Electronic Data) Format: ☐ LEVEL IV ☐ NELAC

Standard Turnaround (TAT) — RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: Diss. metals and DOC were field filtered. Lab to sieve sediment metals into 3 size fractions. Report sediment results as dry weight concentrations.

Shipped by: Hand delivery

Cooler ID(s): 4

Receipt Temp: See comments

On Ice: Y N

Custody Seal: On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

LABORATORY USE ONLY: H16090353

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O DW; Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water)	TR Metals (See list)	Diss. Metals (See list)	TPN	NH_3-N, NO_3+NO_2, TP	TSS, VSS	Hardness (CaCO3 EMA)	Total Alk, HCO_3, SO_4, Cl, K, Na	Total Metals, Sediment (Dry weight, See list)	SEE ATTACHED	Results
C1	1 SS-14	9-14-16	1530	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓		
C1	2 Field duplicate #1 (SS-14)	9-14-16	1530	8W										
C1	3 SS-15A	9-14-16	1400	8W, 1S										
C1	4 SS-15B	9-14-16	1230	8W, 1S										
C3	5 SS-16B	9-14-16	1100	8W, 1S										
b1	6 Sediment duplicate #1 (SS-16B)	9-14-16	1100	1S										
C3	7 SS-17D	9-14-16	1000	8W, 1S										
C3	8 SS-19	9-14-16	0900	8W, 1S										
b1	9 SS-15A-2	9-14-16	1430	1S										
	10													

Sed Box 1 = 11.9
Sed Box 2 = 11.6
C1 = 2.4
C2 = 0.9
C3 = 1.7
C4 = 0.3
C5 = 0.6
} TB

Custody Record MUST be Signed

Relinquished by (print): Gary L. Ingman — Date/Time: 9-16-2016 1050 — Signature: Gary L Ingman

Relinquished by (print): — Date/Time: — Signature:

Received by (print): — Date/Time: — Signature:

Received by (print): — Date/Time: — Signature:

Received by Laboratory: Tracy Lovell — Date/Time: 9/16/16 10:50 — Signature: Tracy Lovell

Sample Disposal: Return to Client: ____ Lab Disposal: ____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be [illegible]

ANALYTICAL SUMMARY REPORT

October 17, 2016

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H16090457 Quote ID: H1088 - Silver Bow Monitoring

Project Name: SSTOU Groundwater/Vadose

Energy Laboratories Inc Helena MT received the following 46 samples for MT DEQ-Federal Superfund on 9/21/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16090457-001	GW-MC-SS	09/19/16 17:30	09/21/16	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16090457-002	GW-FM-ES	09/19/16 16:30	09/21/16	Groundwater	Same As Above
H16090457-003	GW-ST-BG	09/19/16 13:40	09/21/16	Groundwater	Same As Above
H16090457-004	GW-MC-NS	09/19/16 17:00	09/21/16	Groundwater	Same As Above
H16090457-005	GW-MC-NS-Field Blank	09/19/16 15:15	09/21/16	Groundwater	Same As Above
H16090457-006	GW-CR-BG	09/19/16 15:30	09/21/16	Groundwater	Same As Above
H16090457-007	GW-FR-BG	09/19/16 11:00	09/21/16	Groundwater	Same As Above
H16090457-008	GW-CR-WS	09/19/16 15:15	09/21/16	Groundwater	Same As Above
H16090457-009	GW-FR-WS	09/19/16 10:45	09/21/16	Groundwater	Same As Above
H16090457-010	GW-FR-ES	09/19/16 10:45	09/21/16	Groundwater	Same As Above
H16090457-011	GW-FM-BG	09/19/16 15:45	09/21/16	Groundwater	Same As Above
H16090457-012	GW-ST-ES	09/19/16 12:30	09/21/16	Groundwater	Same As Above
H16090457-013	GW-CR-ES	09/19/16 14:50	09/21/16	Groundwater	Same As Above
H16090457-014	GW-MC-BG	09/19/16 15:45	09/21/16	Groundwater	Same As Above
H16090457-015	GW-ST-WS	09/19/16 12:30	09/21/16	Groundwater	Same As Above
H16090457-016	GW-FM-ES	09/19/16 16:15	09/21/16	Groundwater	Same As Above
H16090457-017	GW-ST-WS-Field Dup	09/19/16 12:30	09/21/16	Groundwater	Same As Above
H16090457-018	GW-1010R	09/20/16 15:00	09/21/16	Groundwater	Same As Above
H16090457-019	GW-RK-BG	09/20/16 11:40	09/21/16	Groundwater	Same As Above
H16090457-020	GW-1010R Field Dup	09/20/16 15:05	09/21/16	Groundwater	Same As Above
H16090457-021	P-37A	09/20/16 9:20	09/21/16	Groundwater	Same As Above
H16090457-022	GW-1004A	09/20/16 10:00	09/21/16	Groundwater	Same As Above
H16090457-023	GW-1003R	09/20/16 11:00	09/21/16	Groundwater	Same As Above

ANALYTICAL SUMMARY REPORT

H16090457-024	MW-2A	09/20/16 16:30	09/21/16	Groundwater	Same As Above
H16090457-025	P-39R	09/20/16 8:55	09/21/16	Groundwater	Same As Above
H16090457-026	GW-WG-NS	09/20/16 13:45	09/21/16	Groundwater	Same As Above
H16090457-027	MW-10	09/20/16 13:20	09/21/16	Groundwater	Same As Above
H16090457-028	GW-WG-SS-Field Blank	09/20/16 14:30	09/21/16	Groundwater	Same As Above
H16090457-029	P-114	09/20/16 10:00	09/21/16	Groundwater	Same As Above
H16090457-030	GW-WG-SS	09/20/16 14:15	09/21/16	Groundwater	Same As Above
H16090457-031	P-58A	09/20/16 10:30	09/21/16	Groundwater	Same As Above
H16090457-032	MW-01	09/20/16 12:20	09/21/16	Groundwater	Same As Above
H16090457-033	LYS-01	09/20/16 8:50	09/21/16	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16090457-034	LYS-02	09/20/16 8:35	09/21/16	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16090457-035	LYS-03	09/20/16 9:20	09/21/16	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16090457-036	LYS-04	09/20/16 8:20	09/21/16	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16090457-037	LYS-05	09/20/16 8:00	09/21/16	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16090457-038	LYS-06	09/20/16 9:00	09/21/16	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA

ANALYTICAL SUMMARY REPORT

H16090457-039	LYS-07	09/20/16 8:45	09/21/16	Groundwater	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16090457-040	MW-2B	09/21/16 7:10	09/21/16	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness as CaCO3 Anions by Ion Chromatography Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H16090457-041	MW-2C	09/21/16 7:50	09/21/16	Groundwater	Same As Above
H16090457-042	MW-2C-Dup	09/21/16 7:52	09/21/16	Groundwater	Same As Above
H16090457-043	MW-2D	09/21/16 8:40	09/21/16	Groundwater	Same As Above
H16090457-044	LYP-07	09/21/16 9:40	09/21/16	Groundwater	Same As Above
H16090457-045	LYP-07 Blank	09/21/16 9:30	09/21/16	Groundwater	Same As Above
H16090457-046	GW-1056	09/21/16 10:30	09/21/16	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: SSTOU Groundwater/Vadose
Work Order: H16090457

Report Date: 10/17/16

CASE NARRATIVE

Prep Comments for Sample H16090457-005B, Test PRP-FILT-W: The prep hold time was exceeded by 8.87 days.
Prep Comments for Sample H16090457-045B, Test PRP-FILT-W: The prep hold time was exceeded by 7.11 days.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-MC-SS
Lab ID: H16090457-001
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 17:30
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	97	mg/L		4		A2320 B	09/22/16 16:48 / SR		PHSC_101-H_160922A	152	R118886
Bicarbonate as HCO3	120	mg/L		4		A2320 B	09/22/16 16:48 / SR		PHSC_101-H_160922A	152	R118886
Chloride	56	mg/L		1		E300.0	09/23/16 17:51 / SR		IC102-H_160923A	50	R118951
Sulfate	107	mg/L		1		E300.0	09/23/16 17:51 / SR		IC102-H_160923A	50	R118951
Hardness as CaCO3	172	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	1	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Arsenic	0.001	mg/L		0.001		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Barium	0.045	mg/L		0.003		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 18:29 / sld	09/26/16 10:56	ICP2-HE_160927B	119	R119028
Cadmium	0.00715	mg/L		0.00003		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Calcium	48	mg/L		1		E200.7	09/27/16 18:29 / sld	09/26/16 10:56	ICP2-HE_160927B	119	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Copper	0.029	mg/L		0.001		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 18:29 / sld	09/26/16 10:56	ICP2-HE_160927B	119	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Magnesium	13	mg/L		1		E200.7	09/27/16 18:29 / sld	09/26/16 10:56	ICP2-HE_160927B	119	R119028
Manganese	4.70	mg/L		0.001		E200.7	09/27/16 18:29 / sld	09/26/16 10:56	ICP2-HE_160927B	119	R119028
Mercury	7.8E-06	mg/L		5E-06		E245.1	09/28/16 18:43 / rgk	09/28/16 10:04	HGCV202-H_160928A	65	34586
Molybdenum	0.035	mg/L		0.005		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Nickel	0.013	mg/L		0.002		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Potassium	6	mg/L		1		E200.7	09/27/16 18:29 / sld	09/26/16 10:56	ICP2-HE_160927B	119	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Sodium	34	mg/L		1		E200.7	09/27/16 18:29 / sld	09/26/16 10:56	ICP2-HE_160927B	119	R119028
Uranium	0.0017	mg/L		0.0002		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 00:11 / dck	09/26/16 10:56	ICPMS204-B_160928A	76	R119044
Zinc	3.16	mg/L		0.008		E200.7	09/27/16 18:29 / sld	09/26/16 10:56	ICP2-HE_160927B	119	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FM-ES
Lab ID: H16090457-002
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 16:30
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	09/22/16 17:02 / SR		PHSC_101-H_160922A	156	R118886
Bicarbonate as HCO3	150	mg/L		4		A2320 B	09/22/16 17:02 / SR		PHSC_101-H_160922A	156	R118886
Chloride	39	mg/L		1		E300.0	09/23/16 20:36 / SR		IC102-H_160923A	56	R118951
Sulfate	85	mg/L		1		E300.0	09/23/16 20:36 / SR		IC102-H_160923A	56	R118951
Hardness as CaCO3	185	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	2	R119127
METALS, DISSOLVED											
Aluminum	0.185	mg/L		0.009		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Antimony	0.0006	mg/L		0.0005		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Arsenic	0.002	mg/L		0.001		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Barium	0.147	mg/L		0.003		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 18:51 / sld	09/26/16 10:56	ICP2-HE_160927B	125	R119028
Cadmium	0.00003	mg/L		0.00003		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Calcium	55	mg/L		1		E200.7	09/27/16 18:51 / sld	09/26/16 10:56	ICP2-HE_160927B	125	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Copper	0.002	mg/L		0.001		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Iron	0.26	mg/L		0.02		E200.7	09/27/16 18:51 / sld	09/26/16 10:56	ICP2-HE_160927B	125	R119028
Lead	0.0009	mg/L		0.0003		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Magnesium	11	mg/L		1		E200.7	09/27/16 18:51 / sld	09/26/16 10:56	ICP2-HE_160927B	125	R119028
Manganese	2.24	mg/L		0.001		E200.7	09/27/16 18:51 / sld	09/26/16 10:56	ICP2-HE_160927B	125	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/28/16 18:46 / rgk	09/28/16 10:04	HGCV202-H_160928A	66	34586
Molybdenum	0.008	mg/L		0.005		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Nickel	0.002	mg/L		0.002		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Potassium	5	mg/L		1		E200.7	09/27/16 18:51 / sld	09/26/16 10:56	ICP2-HE_160927B	125	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Sodium	25	mg/L		1		E200.7	09/27/16 18:51 / sld	09/26/16 10:56	ICP2-HE_160927B	125	R119028
Uranium	0.0057	mg/L		0.0002		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044
Zinc	0.078	mg/L		0.008		E200.8	09/29/16 00:14 / dck	09/26/16 10:56	ICPMS204-B_160928A	77	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-ST-BG
Lab ID: H16090457-003
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 13:40
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	16	mg/L		4		A2320 B	09/22/16 17:10 / SR		PHSC_101-H_160922A	158	R118886
Bicarbonate as HCO3	19	mg/L		4		A2320 B	09/22/16 17:10 / SR		PHSC_101-H_160922A	158	R118886
Chloride	50	mg/L		1		E300.0	09/23/16 20:48 / SR		IC102-H_160923A	57	R118951
Sulfate	220	mg/L		1		E300.0	09/23/16 20:48 / SR		IC102-H_160923A	57	R118951
Hardness as CaCO3	233	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	3	R119127
METALS, DISSOLVED											
Aluminum	0.044	mg/L		0.009		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Arsenic	0.002	mg/L		0.001		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Barium	0.024	mg/L		0.003		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 18:55 / sld	09/26/16 10:56	ICP2-HE_160927B	126	R119028
Cadmium	0.00146	mg/L		0.00003		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Calcium	68	mg/L		1		E200.7	09/27/16 18:55 / sld	09/26/16 10:56	ICP2-HE_160927B	126	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 18:55 / sld	09/26/16 10:56	ICP2-HE_160927B	126	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Magnesium	16	mg/L		1		E200.7	09/27/16 18:55 / sld	09/26/16 10:56	ICP2-HE_160927B	126	R119028
Manganese	0.402	mg/L		0.001		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Mercury	ND	mg/L		5E-06		E245.1	09/28/16 18:48 / rgk	09/28/16 10:04	HGCV202-H_160928A	67	34586
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Nickel	0.023	mg/L		0.002		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Potassium	4	mg/L		1		E200.7	09/27/16 18:55 / sld	09/26/16 10:56	ICP2-HE_160927B	126	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Sodium	23	mg/L		1		E200.7	09/27/16 18:55 / sld	09/26/16 10:56	ICP2-HE_160927B	126	R119028
Uranium	ND	mg/L		0.0002		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 00:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	78	R119044
Zinc	0.868	mg/L		0.008		E200.7	09/27/16 18:55 / sld	09/26/16 10:56	ICP2-HE_160927B	126	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-MC-NS
Lab ID: H16090457-004
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 17:00
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	55	mg/L		4		A2320 B	09/22/16 17:16 / SR		PHSC_101-H_160922A	160	R118886
Bicarbonate as HCO3	66	mg/L		4		A2320 B	09/22/16 17:16 / SR		PHSC_101-H_160922A	160	R118886
Chloride	56	mg/L		1		E300.0	09/24/16 00:36 / SR		IC102-H_160923A	58	R118951
Sulfate	125	mg/L		1		E300.0	09/24/16 00:36 / SR		IC102-H_160923A	58	R118951
Hardness as CaCO3	135	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	4	R119127
METALS, DISSOLVED											
Aluminum	0.018	mg/L		0.009		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Arsenic	0.001	mg/L		0.001		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Barium	0.036	mg/L		0.003		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 18:58 / sld	09/26/16 10:56	ICP2-HE_160927B	127	R119028
Cadmium	0.0280	mg/L		0.00003		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Calcium	38	mg/L		1		E200.7	09/27/16 18:58 / sld	09/26/16 10:56	ICP2-HE_160927B	127	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Cobalt	0.01	mg/L		0.01		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Copper	0.234	mg/L		0.001		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 18:58 / sld	09/26/16 10:56	ICP2-HE_160927B	127	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Magnesium	10	mg/L		1		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Manganese	5.42	mg/L		0.001		E200.7	09/27/16 18:58 / sld	09/26/16 10:56	ICP2-HE_160927B	127	R119028
Mercury	0.0000110	mg/L		5E-06		E245.1	09/30/16 11:26 / rgk	09/28/16 11:36	HGCV202-H_160930A	14	34587
Molybdenum	0.007	mg/L		0.005		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Nickel	0.015	mg/L		0.002		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Potassium	6	mg/L		1		E200.7	09/27/16 18:58 / sld	09/26/16 10:56	ICP2-HE_160927B	127	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Sodium	33	mg/L		1		E200.7	09/27/16 18:58 / sld	09/26/16 10:56	ICP2-HE_160927B	127	R119028
Uranium	0.0040	mg/L		0.0002		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 00:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	79	R119044
Zinc	7.14	mg/L		0.008		E200.7	09/27/16 18:58 / sld	09/26/16 10:56	ICP2-HE_160927B	127	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-MC-NS-Field Blank
Lab ID: H16090457-005
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 15:15
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	09/22/16 17:23 / SR		PHSC_101-H_160922A	162	R118886
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	09/22/16 17:23 / SR		PHSC_101-H_160922A	162	R118886
Chloride	ND	mg/L		1		E300.0	09/24/16 00:47 / SR		IC102-H_160923A	59	R118951
Sulfate	ND	mg/L		1		E300.0	09/24/16 00:47 / SR		IC102-H_160923A	59	R118951
Hardness as CaCO3	ND	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	1	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Arsenic	ND	mg/L		0.001		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Barium	ND	mg/L		0.003		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 19:02 / sld	09/26/16 10:56	ICP2-HE_160927B	128	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Calcium	ND	mg/L		1		E200.7	09/27/16 19:02 / sld	09/26/16 10:56	ICP2-HE_160927B	128	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:02 / sld	09/26/16 10:56	ICP2-HE_160927B	128	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Magnesium	ND	mg/L		1		E200.7	09/27/16 19:02 / sld	09/26/16 10:56	ICP2-HE_160927B	128	R119028
Manganese	ND	mg/L		0.001		E200.8	10/12/16 13:13 / dck	10/12/16 12:09	ICPMS204-B_161012A	59	R119413
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 11:29 / rgk	09/28/16 11:36	HGCV202-H_160930A	15	34587
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Potassium	ND	mg/L		1		E200.7	09/27/16 19:02 / sld	09/26/16 10:56	ICP2-HE_160927B	128	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Sodium	ND	mg/L		1		E200.7	09/27/16 19:02 / sld	09/26/16 10:56	ICP2-HE_160927B	128	R119028
Uranium	ND	mg/L		0.0002		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 00:34 / dck	09/26/16 10:56	ICPMS204-B_160928A	83	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-CR-BG
Lab ID: H16090457-006
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 15:30
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	09/22/16 17:29 / SR		PHSC_101-H_160922A	164	R118886
Bicarbonate as HCO3	200	mg/L		4		A2320 B	09/22/16 17:29 / SR		PHSC_101-H_160922A	164	R118886
Chloride	22	mg/L		1		E300.0	09/24/16 00:58 / SR		IC102-H_160923A	60	R118951
Sulfate	141	mg/L		1		E300.0	09/24/16 00:58 / SR		IC102-H_160923A	60	R118951
Hardness as CaCO3	53	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	5	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Antimony	0.0017	mg/L		0.0005		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Arsenic	0.038	mg/L		0.001		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Barium	0.015	mg/L		0.003		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Boron	0.2	mg/L		0.1		E200.7	09/27/16 19:06 / sld	09/26/16 10:56	ICP2-HE_160927B	129	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Calcium	17	mg/L		1		E200.7	09/27/16 19:06 / sld	09/26/16 10:56	ICP2-HE_160927B	129	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Copper	0.002	mg/L		0.001		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:06 / sld	09/26/16 10:56	ICP2-HE_160927B	129	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Magnesium	3	mg/L		1		E200.7	09/27/16 19:06 / sld	09/26/16 10:56	ICP2-HE_160927B	129	R119028
Manganese	0.032	mg/L		0.001		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Mercury	7.9E-06	mg/L		5E-06		E245.1	09/30/16 11:37 / rgk	09/28/16 11:36	HGCV202-H_160930A	18	34587
Molybdenum	0.025	mg/L		0.005		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Potassium	4	mg/L		1		E200.7	09/27/16 19:06 / sld	09/26/16 10:56	ICP2-HE_160927B	129	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Sodium	125	mg/L		1		E200.7	09/27/16 19:06 / sld	09/26/16 10:56	ICP2-HE_160927B	129	R119028
Uranium	0.0034	mg/L		0.0002		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 00:37 / dck	09/26/16 10:56	ICPMS204-B_160928A	84	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FR-BG
Lab ID: H16090457-007
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 11:00 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	230	mg/L		4		A2320 B	09/22/16 17:37 / SR		PHSC_101-H_160922A	166	R118886
Bicarbonate as HCO3	280	mg/L		4		A2320 B	09/22/16 17:37 / SR		PHSC_101-H_160922A	166	R118886
Chloride	ND	mg/L		1		E300.0	09/24/16 01:09 / SR		IC102-H_160923A	61	R118951
Sulfate	21	mg/L		1		E300.0	09/24/16 01:09 / SR		IC102-H_160923A	61	R118951
Hardness as CaCO3	117	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	2	R119136
METALS, DISSOLVED											
Aluminum	0.139	mg/L		0.009		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Antimony	0.0011	mg/L		0.0005		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Arsenic	0.010	mg/L		0.001		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Barium	0.032	mg/L		0.003		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 19:10 / sld	09/26/16 10:56	ICP2-HE_160927B	130	R119028
Cadmium	0.00005	mg/L		0.00003		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Calcium	35	mg/L		1		E200.7	09/27/16 19:10 / sld	09/26/16 10:56	ICP2-HE_160927B	130	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Copper	0.003	mg/L		0.001		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Iron	0.07	mg/L		0.02		E200.7	09/27/16 19:10 / sld	09/26/16 10:56	ICP2-HE_160927B	130	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Magnesium	7	mg/L		1		E200.7	09/27/16 19:10 / sld	09/26/16 10:56	ICP2-HE_160927B	130	R119028
Manganese	0.009	mg/L		0.001		E200.8	09/30/16 10:56 / dck	09/26/16 10:56	ICPMS204-B_160930B	24	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 11:40 / rgk	09/28/16 11:36	HGCV202-H_160930A	19	34587
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Potassium	1	mg/L		1		E200.7	09/27/16 19:10 / sld	09/26/16 10:56	ICP2-HE_160927B	130	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Sodium	8	mg/L		1		E200.7	09/27/16 19:10 / sld	09/26/16 10:56	ICP2-HE_160927B	130	R119028
Uranium	0.0050	mg/L		0.0002		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 00:41 / dck	09/26/16 10:56	ICPMS204-B_160928A	85	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-CR-WS
Lab ID: H16090457-008
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 15:15
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/22/16 18:05 / SR		PHSC_101-H_160922A	168	R118886
Bicarbonate as HCO3	150	mg/L		4		A2320 B	09/22/16 18:05 / SR		PHSC_101-H_160922A	168	R118886
Chloride	46	mg/L		1		E300.0	09/24/16 01:20 / SR		IC102-H_160923A	62	R118951
Sulfate	104	mg/L		1		E300.0	09/24/16 01:20 / SR		IC102-H_160923A	62	R118951
Hardness as CaCO3	142	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	6	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Antimony	0.0006	mg/L		0.0005		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Arsenic	0.005	mg/L		0.001		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Barium	0.044	mg/L		0.003		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Boron	0.1	mg/L		0.1		E200.7	09/27/16 19:14 / sld	09/26/16 10:56	ICP2-HE_160927B	131	R119028
Cadmium	0.0336	mg/L		0.00003		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Calcium	45	mg/L		1		E200.7	09/27/16 19:14 / sld	09/26/16 10:56	ICP2-HE_160927B	131	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Copper	0.054	mg/L		0.001		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:14 / sld	09/26/16 10:56	ICP2-HE_160927B	131	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Magnesium	7	mg/L		1		E200.7	09/27/16 19:14 / sld	09/26/16 10:56	ICP2-HE_160927B	131	R119028
Manganese	2.03	mg/L		0.001		E200.7	09/27/16 19:14 / sld	09/26/16 10:56	ICP2-HE_160927B	131	R119028
Mercury	8.0E-06	mg/L		5E-06		E245.1	09/30/16 11:43 / rgk	09/28/16 11:36	HGCV202-H_160930A	20	34587
Molybdenum	0.015	mg/L		0.005		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Nickel	0.002	mg/L		0.002		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Potassium	5	mg/L		1		E200.7	09/27/16 19:14 / sld	09/26/16 10:56	ICP2-HE_160927B	131	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Sodium	56	mg/L		1		E200.7	09/27/16 19:14 / sld	09/26/16 10:56	ICP2-HE_160927B	131	R119028
Uranium	0.0051	mg/L		0.0002		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 00:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	86	R119044
Zinc	0.298	mg/L		0.008		E200.7	09/27/16 19:14 / sld	09/26/16 10:56	ICP2-HE_160927B	131	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FR-WS
Lab ID: H16090457-009
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 10:45
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	220	mg/L		4		A2320 B	09/22/16 18:12 / SR		PHSC_101-H_160922A	170	R118886
Bicarbonate as HCO3	270	mg/L		4		A2320 B	09/22/16 18:12 / SR		PHSC_101-H_160922A	170	R118886
Chloride	ND	mg/L		1		E300.0	09/24/16 01:31 / SR		IC102-H_160923A	63	R118951
Sulfate	24	mg/L		1		E300.0	09/24/16 01:31 / SR		IC102-H_160923A	63	R118951
Hardness as CaCO3	135	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	7	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Antimony	0.0028	mg/L		0.0005		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Arsenic	0.009	mg/L		0.001		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Barium	0.056	mg/L		0.003		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 19:17 / sld	09/26/16 10:56	ICP2-HE_160927B	132	R119028
Cadmium	0.00008	mg/L		0.00003		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Calcium	41	mg/L		1		E200.7	09/27/16 19:17 / sld	09/26/16 10:56	ICP2-HE_160927B	132	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Copper	0.002	mg/L		0.001		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:17 / sld	09/26/16 10:56	ICP2-HE_160927B	132	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Magnesium	8	mg/L		1		E200.7	09/27/16 19:17 / sld	09/26/16 10:56	ICP2-HE_160927B	132	R119028
Manganese	0.141	mg/L		0.001		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 11:46 / rgk	09/28/16 11:36	HGCV202-H_160930A	21	34587
Molybdenum	0.007	mg/L		0.005		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Potassium	2	mg/L		1		E200.7	09/27/16 19:17 / sld	09/26/16 10:56	ICP2-HE_160927B	132	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Sodium	8	mg/L		1		E200.7	09/27/16 19:17 / sld	09/26/16 10:56	ICP2-HE_160927B	132	R119028
Uranium	0.0232	mg/L		0.0002		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 00:57 / dck	09/26/16 10:56	ICPMS204-B_160928A	90	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FR-ES
Lab ID: H16090457-010
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 10:45
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	09/22/16 18:32 / SR		PHSC_101-H_160922A	172	R118886
Bicarbonate as HCO3	160	mg/L		4		A2320 B	09/22/16 18:32 / SR		PHSC_101-H_160922A	172	R118886
Chloride	11	mg/L		1		E300.0	09/24/16 01:42 / SR		IC102-H_160923A	64	R118951
Sulfate	188	mg/L		1		E300.0	09/24/16 01:42 / SR		IC102-H_160923A	64	R118951
Hardness as CaCO3	276	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	8	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Antimony	0.0005	mg/L		0.0005		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Arsenic	0.001	mg/L		0.001		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Barium	0.052	mg/L		0.003		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 19:21 / sld	09/26/16 10:56	ICP2-HE_160927B	133	R119028
Cadmium	0.00007	mg/L		0.00003		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Calcium	83	mg/L		1		E200.7	09/27/16 19:21 / sld	09/26/16 10:56	ICP2-HE_160927B	133	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Copper	0.001	mg/L		0.001		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:21 / sld	09/26/16 10:56	ICP2-HE_160927B	133	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Magnesium	17	mg/L		1		E200.7	09/27/16 19:21 / sld	09/26/16 10:56	ICP2-HE_160927B	133	R119028
Manganese	0.195	mg/L		0.001		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 11:48 / rgk	09/28/16 11:36	HGCV202-H_160930A	22	34587
Molybdenum	0.007	mg/L		0.005		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Potassium	3	mg/L		1		E200.7	09/27/16 19:21 / sld	09/26/16 10:56	ICP2-HE_160927B	133	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Sodium	16	mg/L		1		E200.7	09/27/16 19:21 / sld	09/26/16 10:56	ICP2-HE_160927B	133	R119028
Uranium	0.0133	mg/L		0.0002		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 01:01 / dck	09/26/16 10:56	ICPMS204-B_160928A	91	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FM-BG
Lab ID: H16090457-011
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 15:45
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	47	mg/L		4		A2320 B	09/22/16 18:40 / SR		PHSC_101-H_160922A	174	R118886
Bicarbonate as HCO3	57	mg/L		4		A2320 B	09/22/16 18:40 / SR		PHSC_101-H_160922A	174	R118886
Chloride	25	mg/L		1		E300.0	09/24/16 01:54 / SR		IC102-H_160923A	65	R118951
Sulfate	119	mg/L		1		E300.0	09/24/16 01:54 / SR		IC102-H_160923A	65	R118951
Hardness as CaCO3	130	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	9	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Arsenic	0.001	mg/L		0.001		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Barium	0.043	mg/L		0.003		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 19:25 / sld	09/26/16 10:56	ICP2-HE_160927B	134	R119028
Cadmium	0.00032	mg/L		0.00003		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Calcium	39	mg/L		1		E200.7	09/27/16 19:25 / sld	09/26/16 10:56	ICP2-HE_160927B	134	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:25 / sld	09/26/16 10:56	ICP2-HE_160927B	134	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Magnesium	8	mg/L		1		E200.7	09/27/16 19:25 / sld	09/26/16 10:56	ICP2-HE_160927B	134	R119028
Manganese	0.290	mg/L		0.001		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Mercury	8.8E-06	mg/L		5E-06		E245.1	09/30/16 11:51 / rgk	09/28/16 11:36	HGCV202-H_160930A	23	34587
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Nickel	0.005	mg/L		0.002		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Potassium	6	mg/L		1		E200.7	09/27/16 19:25 / sld	09/26/16 10:56	ICP2-HE_160927B	134	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Sodium	25	mg/L		1		E200.7	09/27/16 19:25 / sld	09/26/16 10:56	ICP2-HE_160927B	134	R119028
Uranium	0.0003	mg/L		0.0002		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 01:04 / dck	09/26/16 10:56	ICPMS204-B_160928A	92	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-ST-ES
Lab ID: H16090457-012
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 12:30 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	4	mg/L		4		A2320 B	09/22/16 18:47 / SR		PHSC_101-H_160922A	176	R118886
Bicarbonate as HCO3	5	mg/L		4		A2320 B	09/22/16 18:47 / SR		PHSC_101-H_160922A	176	R118886
Chloride	40	mg/L		1		E300.0	09/24/16 09:09 / SR		IC102-H_160923A	71	R118951
Sulfate	97	mg/L		1		E300.0	09/24/16 09:09 / SR		IC102-H_160923A	71	R118951
Hardness as CaCO3	90	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	10	R119127
METALS, DISSOLVED											
Aluminum	0.388	mg/L		0.009		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Arsenic	ND	mg/L		0.001		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Barium	0.027	mg/L		0.003		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Beryllium	0.0010	mg/L		0.0008		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 19:47 / sld	09/26/16 10:56	ICP2-HE_160927B	140	R119028
Cadmium	0.0212	mg/L		0.00003		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Calcium	29	mg/L		1		E200.7	09/27/16 19:47 / sld	09/26/16 10:56	ICP2-HE_160927B	140	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Copper	1.14	mg/L	D	0.004		E200.7	09/27/16 19:47 / sld	09/26/16 10:56	ICP2-HE_160927B	140	R119028
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:47 / sld	09/26/16 10:56	ICP2-HE_160927B	140	R119028
Lead	0.0011	mg/L		0.0003		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Magnesium	4	mg/L		1		E200.7	09/27/16 19:47 / sld	09/26/16 10:56	ICP2-HE_160927B	140	R119028
Manganese	1.20	mg/L		0.001		E200.7	09/27/16 19:47 / sld	09/26/16 10:56	ICP2-HE_160927B	140	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 11:54 / rgk	09/28/16 11:36	HGCV202-H_160930A	24	34587
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Nickel	0.009	mg/L		0.002		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Potassium	4	mg/L		1		E200.7	09/27/16 19:47 / sld	09/26/16 10:56	ICP2-HE_160927B	140	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Sodium	20	mg/L		1		E200.7	09/27/16 19:47 / sld	09/26/16 10:56	ICP2-HE_160927B	140	R119028
Uranium	0.0017	mg/L		0.0002		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:17 / dck	09/26/16 10:56	ICPMS204-B_160928A	96	R119044
Zinc	2.94	mg/L		0.008		E200.7	09/27/16 19:47 / sld	09/26/16 10:56	ICP2-HE_160927B	140	R119028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-CR-ES
Lab ID: H16090457-013
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 14:50
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	90	mg/L		4		A2320 B	09/22/16 18:53 / SR		PHSC_101-H_160922A	178	R118886
Bicarbonate as HCO3	110	mg/L		4		A2320 B	09/22/16 18:53 / SR		PHSC_101-H_160922A	178	R118886
Chloride	48	mg/L		1		E300.0	09/24/16 09:20 / SR		IC102-H_160923A	72	R118951
Sulfate	117	mg/L		1		E300.0	09/24/16 09:20 / SR		IC102-H_160923A	72	R118951
Hardness as CaCO3	147	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	3	R119136
METALS, DISSOLVED											
Aluminum	0.020	mg/L		0.009		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Arsenic	ND	mg/L		0.001		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Barium	0.022	mg/L		0.003		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 19:51 / sld	09/26/16 10:56	ICP2-HE_160927B	141	R119028
Cadmium	0.00208	mg/L		0.00003		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Calcium	45	mg/L		1		E200.7	09/27/16 19:51 / sld	09/26/16 10:56	ICP2-HE_160927B	141	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Copper	0.003	mg/L		0.001		E200.8	09/30/16 16:01 / dck	09/26/16 10:56	ICPMS204-B_160930B	96	R119130
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:51 / sld	09/26/16 10:56	ICP2-HE_160927B	141	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Magnesium	9	mg/L		1		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Manganese	0.012	mg/L		0.001		E200.8	09/30/16 16:01 / dck	09/26/16 10:56	ICPMS204-B_160930B	96	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 11:57 / rgk	09/28/16 11:36	HGCV202-H_160930A	25	34587
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Nickel	0.003	mg/L		0.002		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Potassium	3	mg/L		1		E200.7	09/27/16 19:51 / sld	09/26/16 10:56	ICP2-HE_160927B	141	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Sodium	51	mg/L		1		E200.7	09/27/16 19:51 / sld	09/26/16 10:56	ICP2-HE_160927B	141	R119028
Uranium	0.0012	mg/L		0.0002		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:21 / dck	09/26/16 10:56	ICPMS204-B_160928A	97	R119044
Zinc	0.455	mg/L		0.008		E200.7	09/27/16 19:51 / sld	09/26/16 10:56	ICP2-HE_160927B	141	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-MC-BG
Lab ID: H16090457-014
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 15:45
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	270	mg/L		4		A2320 B	09/22/16 19:00 / SR		PHSC_101-H_160922A	180	R118886
Bicarbonate as HCO3	330	mg/L		4		A2320 B	09/22/16 19:00 / SR		PHSC_101-H_160922A	180	R118886
Chloride	78	mg/L		1		E300.0	09/24/16 09:31 / SR		IC102-H_160923A	73	R118951
Sulfate	273	mg/L		1		E300.0	09/24/16 09:31 / SR		IC102-H_160923A	73	R118951
Hardness as CaCO3	124	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	4	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Arsenic	0.036	mg/L		0.001		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Barium	0.028	mg/L		0.003		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 19:54 / sld	09/26/16 10:56	ICP2-HE_160927B	142	R119028
Cadmium	0.00004	mg/L		0.00003		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Calcium	36	mg/L		1		E200.7	09/27/16 19:54 / sld	09/26/16 10:56	ICP2-HE_160927B	142	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:54 / sld	09/26/16 10:56	ICP2-HE_160927B	142	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Magnesium	8	mg/L		1		E200.7	09/27/16 19:54 / sld	09/26/16 10:56	ICP2-HE_160927B	142	R119028
Manganese	0.003	mg/L		0.001		E200.8	09/30/16 11:09 / dck	09/26/16 10:56	ICPMS204-B_160930B	28	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:05 / rgk	09/28/16 11:36	HGCV202-H_160930A	28	34587
Molybdenum	0.050	mg/L		0.005		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Potassium	5	mg/L		1		E200.7	09/27/16 19:54 / sld	09/26/16 10:56	ICP2-HE_160927B	142	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Sodium	225	mg/L		1		E200.7	09/27/16 19:54 / sld	09/26/16 10:56	ICP2-HE_160927B	142	R119028
Uranium	0.0034	mg/L		0.0002		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 01:24 / dck	09/26/16 10:56	ICPMS204-B_160928A	98	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-ST-WS
Lab ID: H16090457-015
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 12:30
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	24	mg/L		4		A2320 B	09/22/16 19:07 / SR		PHSC_101-H_160922A	182	R118886
Bicarbonate as HCO3	28	mg/L		4		A2320 B	09/22/16 19:07 / SR		PHSC_101-H_160922A	182	R118886
Chloride	42	mg/L		1		E300.0	09/24/16 09:43 / SR		IC102-H_160923A	74	R118951
Sulfate	100	mg/L		1		E300.0	09/24/16 09:43 / SR		IC102-H_160923A	74	R118951
Hardness as CaCO3	109	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	11	R119127
METALS, DISSOLVED											
Aluminum	0.133	mg/L		0.009		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Arsenic	0.002	mg/L		0.001		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Barium	0.031	mg/L		0.003		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 19:58 / sld	09/26/16 10:56	ICP2-HE_160927B	143	R119028
Cadmium	0.0271	mg/L		0.00003		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Calcium	33	mg/L		1		E200.7	09/27/16 19:58 / sld	09/26/16 10:56	ICP2-HE_160927B	143	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Cobalt	0.01	mg/L		0.01		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Copper	0.153	mg/L		0.001		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 19:58 / sld	09/26/16 10:56	ICP2-HE_160927B	143	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Magnesium	7	mg/L		1		E200.7	09/27/16 19:58 / sld	09/26/16 10:56	ICP2-HE_160927B	143	R119028
Manganese	2.20	mg/L		0.001		E200.7	09/27/16 19:58 / sld	09/26/16 10:56	ICP2-HE_160927B	143	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:14 / rgk	09/28/16 11:36	HGCV202-H_160930A	31	34587
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Nickel	0.016	mg/L		0.002		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Potassium	5	mg/L		1		E200.7	09/27/16 19:58 / sld	09/26/16 10:56	ICP2-HE_160927B	143	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Sodium	22	mg/L		1		E200.7	09/27/16 19:58 / sld	09/26/16 10:56	ICP2-HE_160927B	143	R119028
Uranium	0.0007	mg/L		0.0002		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:27 / dck	09/26/16 10:56	ICPMS204-B_160928A	99	R119044
Zinc	3.92	mg/L		0.008		E200.7	09/27/16 19:58 / sld	09/26/16 10:56	ICP2-HE_160927B	143	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FM-ES
Lab ID: H16090457-016
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 16:15
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/22/16 19:13 / SR		PHSC_101-H_160922A	184	R118886
Bicarbonate as HCO3	130	mg/L		4		A2320 B	09/22/16 19:13 / SR		PHSC_101-H_160922A	184	R118886
Chloride	44	mg/L		1		E300.0	09/24/16 09:54 / SR		IC102-H_160923A	75	R118951
Sulfate	87	mg/L		1		E300.0	09/24/16 09:54 / SR		IC102-H_160923A	75	R118951
Hardness as CaCO3	175	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	12	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Arsenic	0.002	mg/L		0.001		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Barium	0.046	mg/L		0.003		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 20:02 / sld	09/26/16 10:56	ICP2-HE_160927B	144	R119028
Cadmium	0.00021	mg/L		0.00003		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Calcium	53	mg/L		1		E200.7	09/27/16 20:02 / sld	09/26/16 10:56	ICP2-HE_160927B	144	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Copper	0.002	mg/L		0.001		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Iron	ND	mg/L		0.02		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Magnesium	10	mg/L		1		E200.7	09/27/16 20:02 / sld	09/26/16 10:56	ICP2-HE_160927B	144	R119028
Manganese	1.17	mg/L		0.001		E200.7	09/27/16 20:02 / sld	09/26/16 10:56	ICP2-HE_160927B	144	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:16 / rgk	09/28/16 11:36	HGCV202-H_160930A	32	34587
Molybdenum	0.006	mg/L		0.005		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Nickel	0.002	mg/L		0.002		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Potassium	5	mg/L		1		E200.7	09/27/16 20:02 / sld	09/26/16 10:56	ICP2-HE_160927B	144	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Sodium	28	mg/L		1		E200.7	09/27/16 20:02 / sld	09/26/16 10:56	ICP2-HE_160927B	144	R119028
Uranium	0.0014	mg/L		0.0002		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:31 / dck	09/26/16 10:56	ICPMS204-B_160928A	100	R119044
Zinc	0.333	mg/L		0.008		E200.7	09/27/16 20:02 / sld	09/26/16 10:56	ICP2-HE_160927B	144	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-ST-WS-Field Dup
Lab ID: H16090457-017
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/19/16 12:30
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	23	mg/L		4		A2320 B	09/22/16 19:21 / SR		PHSC_101-H_160922A	186	R118886
Bicarbonate as HCO3	28	mg/L		4		A2320 B	09/22/16 19:21 / SR		PHSC_101-H_160922A	186	R118886
Chloride	43	mg/L		1		E300.0	09/24/16 10:05 / SR		IC102-H_160923A	76	R118951
Sulfate	101	mg/L		1		E300.0	09/24/16 10:05 / SR		IC102-H_160923A	76	R118951
Hardness as CaCO3	109	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	13	R119127
METALS, DISSOLVED											
Aluminum	0.116	mg/L		0.009		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Arsenic	0.001	mg/L		0.001		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Barium	0.029	mg/L		0.003		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 20:06 / sld	09/26/16 10:56	ICP2-HE_160927B	145	R119028
Cadmium	0.0267	mg/L		0.00003		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Calcium	33	mg/L		1		E200.7	09/27/16 20:06 / sld	09/26/16 10:56	ICP2-HE_160927B	145	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Cobalt	0.01	mg/L		0.01		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Copper	0.162	mg/L		0.001		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 20:06 / sld	09/26/16 10:56	ICP2-HE_160927B	145	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Magnesium	7	mg/L		1		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Manganese	2.20	mg/L		0.001		E200.7	09/27/16 20:06 / sld	09/26/16 10:56	ICP2-HE_160927B	145	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:19 / rgk	09/28/16 11:36	HGCV202-H_160930A	33	34587
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Nickel	0.035	mg/L		0.002		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Potassium	5	mg/L		1		E200.7	09/27/16 20:06 / sld	09/26/16 10:56	ICP2-HE_160927B	145	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Sodium	23	mg/L		1		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Uranium	0.0002	mg/L		0.0002		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:44 / dck	09/26/16 10:56	ICPMS204-B_160928A	104	R119044
Zinc	3.93	mg/L		0.008		E200.7	09/27/16 20:06 / sld	09/26/16 10:56	ICP2-HE_160927B	145	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-1010R
Lab ID: H16090457-018
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 15:00 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	280	mg/L		4		A2320 B	09/22/16 19:27 / SR		PHSC_101-H_160922A	188	R118886
Bicarbonate as HCO3	340	mg/L		4		A2320 B	09/22/16 19:27 / SR		PHSC_101-H_160922A	188	R118886
Chloride	21	mg/L		1		E300.0	09/24/16 10:16 / SR		IC102-H_160923A	77	R118951
Sulfate	357	mg/L		1		E300.0	09/24/16 10:16 / SR		IC102-H_160923A	77	R118951
Hardness as CaCO3	329	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	5	R119136
METALS, DISSOLVED											
Aluminum	0.013	mg/L		0.009		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Arsenic	0.002	mg/L		0.001		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Barium	0.026	mg/L		0.003		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Boron	0.1	mg/L		0.1		E200.7	09/27/16 20:10 / sld	09/26/16 10:56	ICP2-HE_160927B	146	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Calcium	100	mg/L		1		E200.7	09/27/16 20:10 / sld	09/26/16 10:56	ICP2-HE_160927B	146	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Iron	ND	mg/L		0.02		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Magnesium	19	mg/L		1		E200.7	09/27/16 20:10 / sld	09/26/16 10:56	ICP2-HE_160927B	146	R119028
Manganese	0.001	mg/L		0.001		E200.8	09/30/16 11:12 / dck	09/26/16 10:56	ICPMS204-B_160930B	29	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:22 / rgk	09/28/16 11:36	HGCV202-H_160930A	34	34587
Molybdenum	0.010	mg/L		0.005		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Potassium	6	mg/L		1		E200.7	09/27/16 20:10 / sld	09/26/16 10:56	ICP2-HE_160927B	146	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Sodium	138	mg/L		1		E200.7	09/27/16 20:10 / sld	09/26/16 10:56	ICP2-HE_160927B	146	R119028
Uranium	0.0968	mg/L		0.0002		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 01:47 / dck	09/26/16 10:56	ICPMS204-B_160928A	105	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-RK-BG
Lab ID: H16090457-019
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 11:40
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	09/22/16 19:35 / SR		PHSC_101-H_160922A	190	R118886
Bicarbonate as HCO3	170	mg/L		4		A2320 B	09/22/16 19:35 / SR		PHSC_101-H_160922A	190	R118886
Chloride	32	mg/L		1		E300.0	09/24/16 10:27 / SR		IC102-H_160923A	78	R118951
Sulfate	110	mg/L		1		E300.0	09/24/16 10:27 / SR		IC102-H_160923A	78	R118951
Hardness as CaCO3	194	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	6	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Arsenic	0.006	mg/L		0.001		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Barium	0.071	mg/L		0.003		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 20:21 / sld	09/26/16 10:56	ICP2-HE_160927B	149	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Calcium	56	mg/L		1		E200.7	09/27/16 20:21 / sld	09/26/16 10:56	ICP2-HE_160927B	149	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 20:21 / sld	09/26/16 10:56	ICP2-HE_160927B	149	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Magnesium	13	mg/L		1		E200.7	09/27/16 20:21 / sld	09/26/16 10:56	ICP2-HE_160927B	149	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 11:15 / dck	09/26/16 10:56	ICPMS204-B_160930B	30	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:25 / rgk	09/28/16 11:36	HGCV202-H_160930A	35	34587
Molybdenum	0.012	mg/L		0.005		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Potassium	5	mg/L		1		E200.7	09/27/16 20:21 / sld	09/26/16 10:56	ICP2-HE_160927B	149	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Sodium	36	mg/L		1		E200.7	09/27/16 20:21 / sld	09/26/16 10:56	ICP2-HE_160927B	149	R119028
Uranium	0.0069	mg/L		0.0002		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 01:51 / dck	09/26/16 10:56	ICPMS204-B_160928A	106	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-1010R Field Dup
Lab ID: H16090457-020
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 15:05
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	280	mg/L		4		A2320 B	09/22/16 19:43 / SR		PHSC_101-H_160922A	192	R118886
Bicarbonate as HCO3	340	mg/L		4		A2320 B	09/22/16 19:43 / SR		PHSC_101-H_160922A	192	R118886
Chloride	21	mg/L		1		E300.0	09/24/16 12:06 / SR		IC102-H_160923A	79	R118951
Sulfate	358	mg/L		1		E300.0	09/24/16 12:06 / SR		IC102-H_160923A	79	R118951
Hardness as CaCO3	327	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	7	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Arsenic	0.002	mg/L		0.001		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Barium	0.025	mg/L		0.003		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Boron	0.1	mg/L		0.1		E200.7	09/27/16 20:24 / sld	09/26/16 10:56	ICP2-HE_160927B	150	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Calcium	99	mg/L		1		E200.7	09/27/16 20:24 / sld	09/26/16 10:56	ICP2-HE_160927B	150	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 20:24 / sld	09/26/16 10:56	ICP2-HE_160927B	150	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Magnesium	19	mg/L		1		E200.7	09/27/16 20:24 / sld	09/26/16 10:56	ICP2-HE_160927B	150	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 11:18 / dck	09/26/16 10:56	ICPMS204-B_160930B	31	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:28 / rgk	09/28/16 11:36	HGCV202-H_160930A	36	34587
Molybdenum	0.010	mg/L		0.005		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Potassium	6	mg/L		1		E200.7	09/27/16 20:24 / sld	09/26/16 10:56	ICP2-HE_160927B	150	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Sodium	137	mg/L		1		E200.7	09/27/16 20:24 / sld	09/26/16 10:56	ICP2-HE_160927B	150	R119028
Uranium	0.0954	mg/L		0.0002		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 01:54 / dck	09/26/16 10:56	ICPMS204-B_160928A	107	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: P-37A
Lab ID: H16090457-021
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 09:20 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	09/22/16 20:15 / SR		PHSC_101-H_160922A	199	R118886
Bicarbonate as HCO3	190	mg/L		4		A2320 B	09/22/16 20:15 / SR		PHSC_101-H_160922A	199	R118886
Chloride	142	mg/L		1		E300.0	09/24/16 12:17 / SR		IC102-H_160923A	80	R118951
Sulfate	357	mg/L		1		E300.0	09/24/16 12:17 / SR		IC102-H_160923A	80	R118951
Hardness as CaCO3	439	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	14	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Arsenic	0.002	mg/L		0.001		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Barium	0.061	mg/L		0.003		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 20:32 / sld	09/26/16 14:08	ICP2-HE_160927B	152	R119028
Cadmium	0.0110	mg/L		0.00003		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Calcium	139	mg/L		1		E200.7	09/27/16 20:32 / sld	09/26/16 14:08	ICP2-HE_160927B	152	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Copper	0.024	mg/L		0.001		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 20:32 / sld	09/26/16 14:08	ICP2-HE_160927B	152	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Magnesium	24	mg/L		1		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Manganese	5.51	mg/L		0.001		E200.7	09/27/16 20:32 / sld	09/26/16 14:08	ICP2-HE_160927B	152	R119028
Mercury	0.0000142	mg/L		5E-06		E245.1	09/30/16 12:33 / rgk	09/28/16 11:36	HGCV202-H_160930A	38	34587
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Nickel	0.004	mg/L		0.002		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Potassium	9	mg/L		1		E200.7	09/27/16 20:32 / sld	09/26/16 14:08	ICP2-HE_160927B	152	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Sodium	90	mg/L		1		E200.7	09/27/16 20:32 / sld	09/26/16 14:08	ICP2-HE_160927B	152	R119028
Uranium	0.0041	mg/L		0.0002		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:04 / dck	09/26/16 14:08	ICPMS204-B_160928A	110	R119044
Zinc	0.519	mg/L		0.008		E200.7	09/27/16 20:32 / sld	09/26/16 14:08	ICP2-HE_160927B	152	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-1004A
Lab ID: H16090457-022
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 10:00
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	8	mg/L		4		A2320 B	09/22/16 20:23 / SR		PHSC_101-H_160922A	201	R118886
Bicarbonate as HCO3	9	mg/L		4		A2320 B	09/22/16 20:23 / SR		PHSC_101-H_160922A	201	R118886
Chloride	60	mg/L		1		E300.0	09/24/16 13:24 / SR		IC102-H_160923A	86	R118951
Sulfate	603	mg/L		1		E300.0	09/24/16 13:24 / SR		IC102-H_160923A	86	R118951
Hardness as CaCO3	349	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	15	R119127
METALS, DISSOLVED											
Aluminum	0.230	mg/L		0.009		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Arsenic	ND	mg/L		0.001		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Barium	0.015	mg/L		0.003		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 20:46 / sld	09/26/16 14:08	ICP2-HE_160927B	156	R119028
Cadmium	0.00089	mg/L		0.00003		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Calcium	77	mg/L		1		E200.7	09/27/16 20:46 / sld	09/26/16 14:08	ICP2-HE_160927B	156	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Cobalt	0.06	mg/L		0.01		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Copper	0.026	mg/L		0.001		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Iron	49.4	mg/L		0.02		E200.7	09/27/16 20:46 / sld	09/26/16 14:08	ICP2-HE_160927B	156	R119028
Lead	0.0062	mg/L		0.0003		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Magnesium	38	mg/L		1		E200.7	09/27/16 20:46 / sld	09/26/16 14:08	ICP2-HE_160927B	156	R119028
Manganese	27.3	mg/L		0.001		E200.7	09/27/16 20:46 / sld	09/26/16 14:08	ICP2-HE_160927B	156	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:36 / rgk	09/28/16 11:36	HGCV202-H_160930A	39	34587
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Nickel	0.020	mg/L		0.002		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Potassium	7	mg/L		1		E200.7	09/27/16 20:46 / sld	09/26/16 14:08	ICP2-HE_160927B	156	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Sodium	46	mg/L		1		E200.7	09/27/16 20:46 / sld	09/26/16 14:08	ICP2-HE_160927B	156	R119028
Uranium	ND	mg/L		0.0002		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	114	R119044
Zinc	7.03	mg/L		0.008		E200.7	09/27/16 20:46 / sld	09/26/16 14:08	ICP2-HE_160927B	156	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-1003R
Lab ID: H16090457-023
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 11:00 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/22/16 20:35 / SR		PHSC_101-H_160922A	205	R118886
Bicarbonate as HCO3	150	mg/L		4		A2320 B	09/22/16 20:35 / SR		PHSC_101-H_160922A	205	R118886
Chloride	12	mg/L		1		E300.0	09/24/16 13:35 / SR		IC102-H_160923A	87	R118951
Sulfate	54	mg/L		1		E300.0	09/24/16 13:35 / SR		IC102-H_160923A	87	R118951
Hardness as CaCO3	111	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	8	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Arsenic	0.011	mg/L		0.001		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Barium	0.041	mg/L		0.003		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 20:50 / sld	09/26/16 14:08	ICP2-HE_160927B	157	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Calcium	33	mg/L		1		E200.7	09/27/16 20:50 / sld	09/26/16 14:08	ICP2-HE_160927B	157	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 20:50 / sld	09/26/16 14:08	ICP2-HE_160927B	157	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Magnesium	7	mg/L		1		E200.7	09/27/16 20:50 / sld	09/26/16 14:08	ICP2-HE_160927B	157	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 11:35 / dck	09/26/16 14:08	ICPMS204-B_160930B	36	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:39 / rgk	09/28/16 11:36	HGCV202-H_160930A	40	34587
Molybdenum	0.012	mg/L		0.005		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Potassium	6	mg/L		1		E200.7	09/27/16 20:50 / sld	09/26/16 14:08	ICP2-HE_160927B	157	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Sodium	30	mg/L		1		E200.7	09/27/16 20:50 / sld	09/26/16 14:08	ICP2-HE_160927B	157	R119028
Uranium	0.0031	mg/L		0.0002		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 02:20 / dck	09/26/16 14:08	ICPMS204-B_160928A	115	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2A
Lab ID: H16090457-024
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 16:30
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/22/16 20:42 / SR		PHSC_101-H_160922A	207	R118886
Bicarbonate as HCO3	150	mg/L		4		A2320 B	09/22/16 20:42 / SR		PHSC_101-H_160922A	207	R118886
Chloride	4	mg/L		1		E300.0	09/24/16 13:46 / SR		IC102-H_160923A	88	R118951
Sulfate	217	mg/L		1		E300.0	09/24/16 13:46 / SR		IC102-H_160923A	88	R118951
Hardness as CaCO3	266	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	9	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Arsenic	0.011	mg/L		0.001		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Barium	0.012	mg/L		0.003		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 20:54 / sld	09/26/16 14:08	ICP2-HE_160927B	158	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Calcium	86	mg/L		1		E200.7	09/27/16 20:54 / sld	09/26/16 14:08	ICP2-HE_160927B	158	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 20:54 / sld	09/26/16 14:08	ICP2-HE_160927B	158	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Magnesium	14	mg/L		1		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Manganese	0.001	mg/L		0.001		E200.8	09/30/16 11:38 / dck	09/26/16 14:08	ICPMS204-B_160930B	37	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 12:56 / rgk	09/28/16 11:38	HGCV202-H_160930A	46	34588
Molybdenum	0.008	mg/L		0.005		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Potassium	4	mg/L		1		E200.7	09/27/16 20:54 / sld	09/26/16 14:08	ICP2-HE_160927B	158	R119028
Selenium	0.010	mg/L		0.001		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Sodium	27	mg/L		1		E200.7	09/27/16 20:54 / sld	09/26/16 14:08	ICP2-HE_160927B	158	R119028
Uranium	0.0434	mg/L		0.0002		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 02:34 / dck	09/26/16 14:08	ICPMS204-B_160928A	119	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: P-39R
Lab ID: H16090457-025
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 08:55 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	320	mg/L		4		A2320 B	09/22/16 20:48 / SR		PHSC_101-H_160922A	209	R118886
Bicarbonate as HCO3	390	mg/L		4		A2320 B	09/22/16 20:48 / SR		PHSC_101-H_160922A	209	R118886
Chloride	58	mg/L		1		E300.0	09/24/16 13:57 / SR		IC102-H_160923A	89	R118951
Sulfate	280	mg/L		1		E300.0	09/24/16 13:57 / SR		IC102-H_160923A	89	R118951
Hardness as CaCO3	526	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	10	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Arsenic	0.014	mg/L		0.001		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Barium	0.115	mg/L		0.003		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Boron	0.4	mg/L		0.1		E200.7	09/27/16 21:35 / sld	09/26/16 14:08	ICP2-HE_160927B	169	R119028
Cadmium	0.00008	mg/L		0.00003		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Calcium	163	mg/L		1		E200.7	09/27/16 21:35 / sld	09/26/16 14:08	ICP2-HE_160927B	169	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Copper	0.031	mg/L		0.001		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 21:35 / sld	09/26/16 14:08	ICP2-HE_160927B	169	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Magnesium	29	mg/L		1		E200.7	09/27/16 21:35 / sld	09/26/16 14:08	ICP2-HE_160927B	169	R119028
Manganese	0.003	mg/L		0.001		E200.8	09/30/16 11:41 / dck	09/26/16 14:08	ICPMS204-B_160930B	38	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:04 / rgk	09/28/16 11:38	HGCV202-H_160930A	49	34588
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Potassium	13	mg/L		1		E200.7	09/27/16 21:35 / sld	09/26/16 14:08	ICP2-HE_160927B	169	R119028
Selenium	0.002	mg/L		0.001		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Sodium	85	mg/L		1		E200.7	09/27/16 21:35 / sld	09/26/16 14:08	ICP2-HE_160927B	169	R119028
Uranium	0.0762	mg/L		0.0002		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 02:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	120	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-WG-NS
Lab ID: H16090457-026
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 13:45 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	10/04/16 11:47 / SR		PHSC_101-H_161004A	31	R119178
Bicarbonate as HCO3	250	mg/L		4		A2320 B	10/04/16 11:47 / SR		PHSC_101-H_161004A	31	R119178
Chloride	34	mg/L		1		E300.0	09/24/16 14:09 / SR		IC102-H_160923A	90	R118951
Sulfate	372	mg/L		1		E300.0	09/24/16 14:09 / SR		IC102-H_160923A	90	R118951
Hardness as CaCO3	406	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	16	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Antimony	0.0011	mg/L		0.0005		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Arsenic	0.005	mg/L		0.001		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Barium	0.047	mg/L		0.003		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Boron	0.1	mg/L		0.1		E200.7	09/27/16 21:39 / sld	09/26/16 14:08	ICP2-HE_160927B	170	R119028
Cadmium	0.00008	mg/L		0.00003		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Calcium	127	mg/L		1		E200.7	09/27/16 21:39 / sld	09/26/16 14:08	ICP2-HE_160927B	170	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Iron	ND	mg/L		0.02		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Magnesium	21	mg/L		1		E200.7	09/27/16 21:39 / sld	09/26/16 14:08	ICP2-HE_160927B	170	R119028
Manganese	4.04	mg/L		0.001		E200.7	09/27/16 21:39 / sld	09/26/16 14:08	ICP2-HE_160927B	170	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:07 / rgk	09/28/16 11:38	HGCV202-H_160930A	50	34588
Molybdenum	0.018	mg/L		0.005		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Nickel	0.003	mg/L		0.002		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Potassium	8	mg/L		1		E200.7	09/27/16 21:39 / sld	09/26/16 14:08	ICP2-HE_160927B	170	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Sodium	76	mg/L		1		E200.7	09/27/16 21:39 / sld	09/26/16 14:08	ICP2-HE_160927B	170	R119028
Uranium	0.0372	mg/L		0.0002		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:40 / dck	09/26/16 14:08	ICPMS204-B_160928A	121	R119044
Zinc	0.806	mg/L		0.008		E200.7	09/27/16 21:39 / sld	09/26/16 14:08	ICP2-HE_160927B	170	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-10
Lab ID: H16090457-027
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 13:20
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	17	mg/L		4		A2320 B	09/22/16 21:10 / SR		PHSC_101-H_160922A	213	R118886
Bicarbonate as HCO3	21	mg/L		4		A2320 B	09/22/16 21:10 / SR		PHSC_101-H_160922A	213	R118886
Chloride	41	mg/L		1		E300.0	09/24/16 14:20 / SR		IC102-H_160923A	91	R118951
Sulfate	156	mg/L		1		E300.0	09/24/16 14:20 / SR		IC102-H_160923A	91	R118951
Hardness as CaCO3	128	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	17	R119127
METALS, DISSOLVED											
Aluminum	0.203	mg/L		0.009		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Arsenic	ND	mg/L		0.001		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Barium	0.021	mg/L		0.003		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 21:43 / sld	09/26/16 14:08	ICP2-HE_160927B	171	R119028
Cadmium	0.00363	mg/L		0.00003		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Calcium	36	mg/L		1		E200.7	09/27/16 21:43 / sld	09/26/16 14:08	ICP2-HE_160927B	171	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Cobalt	0.02	mg/L		0.01		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Copper	0.128	mg/L		0.001		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 21:43 / sld	09/26/16 14:08	ICP2-HE_160927B	171	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Magnesium	9	mg/L		1		E200.7	09/27/16 21:43 / sld	09/26/16 14:08	ICP2-HE_160927B	171	R119028
Manganese	5.90	mg/L		0.001		E200.7	09/27/16 21:43 / sld	09/26/16 14:08	ICP2-HE_160927B	171	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:10 / rgk	09/28/16 11:38	HGCV202-H_160930A	51	34588
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Nickel	0.008	mg/L		0.002		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Potassium	5	mg/L		1		E200.7	09/27/16 21:43 / sld	09/26/16 14:08	ICP2-HE_160927B	171	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Sodium	26	mg/L		1		E200.7	09/27/16 21:43 / sld	09/26/16 14:08	ICP2-HE_160927B	171	R119028
Uranium	0.0004	mg/L		0.0002		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:44 / dck	09/26/16 14:08	ICPMS204-B_160928A	122	R119044
Zinc	3.61	mg/L		0.008		E200.7	09/27/16 21:43 / sld	09/26/16 14:08	ICP2-HE_160927B	171	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-WG-SS-Field Blank
Lab ID: H16090457-028
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 14:30
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	09/22/16 21:16 / SR		PHSC_101-H_160922A	215	R118886
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	09/22/16 21:16 / SR		PHSC_101-H_160922A	215	R118886
Chloride	ND	mg/L		1		E300.0	09/24/16 14:31 / SR		IC102-H_160923A	92	R118951
Sulfate	ND	mg/L		1		E300.0	09/24/16 14:31 / SR		IC102-H_160923A	92	R118951
Hardness as CaCO3	ND	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	11	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Arsenic	ND	mg/L		0.001		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Barium	ND	mg/L		0.003		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 21:46 / sld	09/26/16 14:08	ICP2-HE_160927B	172	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Calcium	ND	mg/L		1		E200.7	09/27/16 21:46 / sld	09/26/16 14:08	ICP2-HE_160927B	172	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 21:46 / sld	09/26/16 14:08	ICP2-HE_160927B	172	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Magnesium	ND	mg/L		1		E200.7	09/27/16 21:46 / sld	09/26/16 14:08	ICP2-HE_160927B	172	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 11:45 / dck	09/26/16 14:08	ICPMS204-B_160930B	39	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:13 / rgk	09/28/16 11:38	HGCV202-H_160930A	52	34588
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Potassium	ND	mg/L		1		E200.7	09/27/16 21:46 / sld	09/26/16 14:08	ICP2-HE_160927B	172	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Sodium	ND	mg/L		1		E200.7	09/27/16 21:46 / sld	09/26/16 14:08	ICP2-HE_160927B	172	R119028
Uranium	ND	mg/L		0.0002		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 02:47 / dck	09/26/16 14:08	ICPMS204-B_160928A	123	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: P-114
Lab ID: H16090457-029
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 10:00 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	09/22/16 21:22 / SR		PHSC_101-H_160922A	217	R118886
Bicarbonate as HCO3	240	mg/L		4		A2320 B	09/22/16 21:22 / SR		PHSC_101-H_160922A	217	R118886
Chloride	35	mg/L		1		E300.0	09/24/16 14:42 / SR		IC102-H_160923A	93	R118951
Sulfate	144	mg/L		1		E300.0	09/24/16 14:42 / SR		IC102-H_160923A	93	R118951
Hardness as CaCO3	170	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	12	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Arsenic	0.003	mg/L		0.001		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Barium	0.021	mg/L		0.003		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 21:50 / sld	09/26/16 14:08	ICP2-HE_160927B	173	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Calcium	58	mg/L		1		E200.7	09/27/16 21:50 / sld	09/26/16 14:08	ICP2-HE_160927B	173	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 21:50 / sld	09/26/16 14:08	ICP2-HE_160927B	173	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Magnesium	6	mg/L		1		E200.7	09/27/16 21:50 / sld	09/26/16 14:08	ICP2-HE_160927B	173	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 11:58 / dck	09/26/16 14:08	ICPMS204-B_160930B	43	R119130
Mercury	0.0000164	mg/L		5E-06		E245.1	09/30/16 13:15 / rgk	09/28/16 11:38	HGCV202-H_160930A	53	34588
Molybdenum	0.007	mg/L		0.005		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Potassium	4	mg/L		1		E200.7	09/27/16 21:50 / sld	09/26/16 14:08	ICP2-HE_160927B	173	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Sodium	95	mg/L		1		E200.7	09/27/16 21:50 / sld	09/26/16 14:08	ICP2-HE_160927B	173	R119028
Uranium	0.0029	mg/L		0.0002		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 02:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	124	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-WG-SS
Lab ID: H16090457-030
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 14:15
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	330	mg/L		4		A2320 B	09/22/16 21:29 / SR		PHSC_101-H_160922A	219	R118886
Bicarbonate as HCO3	410	mg/L		4		A2320 B	09/22/16 21:29 / SR		PHSC_101-H_160922A	219	R118886
Chloride	26	mg/L		1		E300.0	09/24/16 14:53 / SR		IC102-H_160923A	94	R118951
Sulfate	179	mg/L		1		E300.0	09/24/16 14:53 / SR		IC102-H_160923A	94	R118951
Hardness as CaCO3	182	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	18	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Antimony	0.0074	mg/L		0.0005		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Arsenic	0.009	mg/L		0.001		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Barium	0.021	mg/L		0.003		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Boron	0.2	mg/L		0.1		E200.7	09/27/16 21:54 / sld	09/26/16 14:08	ICP2-HE_160927B	174	R119028
Cadmium	0.00021	mg/L		0.00003		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Calcium	59	mg/L		1		E200.7	09/27/16 21:54 / sld	09/26/16 14:08	ICP2-HE_160927B	174	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 21:54 / sld	09/26/16 14:08	ICP2-HE_160927B	174	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Magnesium	8	mg/L		1		E200.7	09/27/16 21:54 / sld	09/26/16 14:08	ICP2-HE_160927B	174	R119028
Manganese	0.993	mg/L		0.001		E200.7	09/27/16 21:54 / sld	09/26/16 14:08	ICP2-HE_160927B	174	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:18 / rgk	09/28/16 11:38	HGCV202-H_160930A	54	34588
Molybdenum	0.063	mg/L		0.005		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Nickel	0.009	mg/L		0.002		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Potassium	9	mg/L		1		E200.7	09/27/16 21:54 / sld	09/26/16 14:08	ICP2-HE_160927B	174	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Sodium	74	mg/L		1		E200.7	09/27/16 21:54 / sld	09/26/16 14:08	ICP2-HE_160927B	174	R119028
Uranium	0.0266	mg/L		0.0002		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 02:54 / dck	09/26/16 14:08	ICPMS204-B_160928A	125	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: P-58A
Lab ID: H16090457-031
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 10:30 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	15	mg/L		4		A2320 B	09/22/16 22:14 / SR		PHSC_101-H_160922A	221	R118886
Bicarbonate as HCO3	18	mg/L		4		A2320 B	09/22/16 22:14 / SR		PHSC_101-H_160922A	221	R118886
Chloride	54	mg/L		1		E300.0	09/24/16 15:04 / SR		IC102-H_160923A	95	R118951
Sulfate	282	mg/L		1		E300.0	09/24/16 15:04 / SR		IC102-H_160923A	95	R118951
Hardness as CaCO3	223	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	19	R119127
METALS, DISSOLVED											
Aluminum	0.804	mg/L		0.009		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Arsenic	ND	mg/L		0.001		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Barium	0.035	mg/L		0.003		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 21:58 / sld	09/26/16 14:08	ICP2-HE_160927B	175	R119028
Cadmium	0.00680	mg/L		0.00003		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Calcium	67	mg/L		1		E200.7	09/27/16 21:58 / sld	09/26/16 14:08	ICP2-HE_160927B	175	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Cobalt	0.03	mg/L		0.01		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Copper	0.594	mg/L		0.001		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Iron	3.13	mg/L		0.02		E200.7	09/27/16 21:58 / sld	09/26/16 14:08	ICP2-HE_160927B	175	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Magnesium	14	mg/L		1		E200.7	09/27/16 21:58 / sld	09/26/16 14:08	ICP2-HE_160927B	175	R119028
Manganese	9.63	mg/L		0.001		E200.7	09/27/16 21:58 / sld	09/26/16 14:08	ICP2-HE_160927B	175	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:21 / rgk	09/28/16 11:38	HGCV202-H_160930A	55	34588
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Nickel	0.012	mg/L		0.002		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Potassium	8	mg/L		1		E200.7	09/27/16 21:58 / sld	09/26/16 14:08	ICP2-HE_160927B	175	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Sodium	33	mg/L		1		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Uranium	0.0006	mg/L		0.0002		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 02:57 / dck	09/26/16 14:08	ICPMS204-B_160928A	126	R119044
Zinc	5.37	mg/L		0.008		E200.7	09/27/16 21:58 / sld	09/26/16 14:08	ICP2-HE_160927B	175	R119028

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-01
Lab ID: H16090457-032
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 12:20
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	180	mg/L		4		A2320 B	09/22/16 22:21 / SR		PHSC_101-H_160922A	223	R118886
Bicarbonate as HCO3	220	mg/L		4		A2320 B	09/22/16 22:21 / SR		PHSC_101-H_160922A	223	R118886
Chloride	18	mg/L		1		E300.0	09/24/16 16:11 / SR		IC102-H_160923A	101	R118951
Sulfate	191	mg/L		1		E300.0	09/24/16 16:11 / SR		IC102-H_160923A	101	R118951
Hardness as CaCO3	327	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	13	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Arsenic	0.012	mg/L		0.001		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Barium	0.023	mg/L		0.003		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Boron	0.1	mg/L		0.1		E200.7	09/27/16 22:19 / sld	09/26/16 14:08	ICP2-HE_160927B	181	R119028
Cadmium	0.00082	mg/L		0.00003		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Calcium	101	mg/L		1		E200.7	09/27/16 22:19 / sld	09/26/16 14:08	ICP2-HE_160927B	181	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Copper	0.071	mg/L		0.001		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 22:19 / sld	09/26/16 14:08	ICP2-HE_160927B	181	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Magnesium	18	mg/L		1		E200.7	09/27/16 22:19 / sld	09/26/16 14:08	ICP2-HE_160927B	181	R119028
Manganese	0.274	mg/L		0.001		E200.8	09/30/16 12:01 / dck	09/26/16 14:08	ICPMS204-B_160930B	44	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:24 / rgk	09/28/16 11:38	HGCV202-H_160930A	56	34588
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Potassium	7	mg/L		1		E200.7	09/27/16 22:19 / sld	09/26/16 14:08	ICP2-HE_160927B	181	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Sodium	25	mg/L		1		E200.7	09/27/16 22:19 / sld	09/26/16 14:08	ICP2-HE_160927B	181	R119028
Uranium	0.0091	mg/L		0.0002		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044
Zinc	0.132	mg/L		0.008		E200.8	09/29/16 03:17 / dck	09/26/16 14:08	ICPMS204-B_160928A	132	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-01
Lab ID: H16090457-033
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 08:50
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	190	mg/L		4		A2320 B	09/27/16 10:26 / SR		PHSC_101-H_160927A	14	R118981
Bicarbonate as HCO3	230	mg/L		4		A2320 B	09/27/16 10:26 / SR		PHSC_101-H_160927A	14	R118981
Chloride	27	mg/L		1		E300.0	09/24/16 16:22 / SR		IC102-H_160923A	102	R118951
Sulfate	259	mg/L		1		E300.0	09/24/16 16:22 / SR		IC102-H_160923A	102	R118951
Hardness as CaCO3	391	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	14	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Arsenic	0.004	mg/L		0.001		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Barium	0.048	mg/L		0.003		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 23:27 / sld	09/26/16 16:27	ICP2-HE_160927B	199	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Calcium	117	mg/L		1		E200.7	09/27/16 23:27 / sld	09/26/16 16:27	ICP2-HE_160927B	199	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Copper	0.001	mg/L		0.001		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 23:27 / sld	09/26/16 16:27	ICP2-HE_160927B	199	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Magnesium	24	mg/L		1		E200.7	09/27/16 23:27 / sld	09/26/16 16:27	ICP2-HE_160927B	199	R119028
Manganese	0.001	mg/L		0.001		E200.8	09/30/16 12:18 / dck	09/30/16 09:46	ICPMS204-B_160930B	49	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:32 / rgk	09/28/16 11:38	HGCV202-H_160930A	59	34588
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Potassium	3	mg/L		1		E200.7	09/27/16 23:27 / sld	09/26/16 16:27	ICP2-HE_160927B	199	R119028
Selenium	0.006	mg/L		0.001		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Sodium	37	mg/L		1		E200.7	09/27/16 23:27 / sld	09/26/16 16:27	ICP2-HE_160927B	199	R119028
Uranium	0.114	mg/L		0.0002		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044
Zinc	0.008	mg/L		0.008		E200.8	09/29/16 03:27 / dck	09/26/16 16:27	ICPMS204-B_160928A	135	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-02
Lab ID: H16090457-034
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 08:35
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	930	mg/L		4		A2320 B	09/22/16 22:29 / SR		PHSC_101-H_160922A	225	R118886
Bicarbonate as HCO3	1100	mg/L		4		A2320 B	09/22/16 22:29 / SR		PHSC_101-H_160922A	225	R118886
Chloride	137	mg/L		1		E300.0	09/24/16 16:33 / SR		IC102-H_160923A	103	R118951
Sulfate	9970	mg/L	D	5		E300.0	09/24/16 16:33 / SR		IC102-H_160923A	103	R118951
Hardness as CaCO3	2740	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	15	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Antimony	0.0009	mg/L		0.0005		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Arsenic	0.041	mg/L		0.001		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Barium	0.019	mg/L		0.003		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Boron	0.7	mg/L		0.1		E200.7	09/27/16 22:23 / sld	09/26/16 14:08	ICP2-HE_160927B	182	R119028
Cadmium	0.00014	mg/L		0.00003		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Calcium	503	mg/L		1		E200.7	09/27/16 22:23 / sld	09/26/16 14:08	ICP2-HE_160927B	182	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Copper	0.011	mg/L		0.001		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 22:23 / sld	09/26/16 14:08	ICP2-HE_160927B	182	R119028
Lead	ND	mg/L		0.0003		E200.8	09/30/16 16:04 / dck	09/26/16 14:08	ICPMS204-B_160930B	97	R119130
Magnesium	361	mg/L		1		E200.7	09/27/16 22:23 / sld	09/26/16 14:08	ICP2-HE_160927B	182	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 12:21 / dck	09/26/16 14:08	ICPMS204-B_160930B	50	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:35 / rgk	09/28/16 11:38	HGCV202-H_160930A	60	34588
Molybdenum	0.076	mg/L		0.005		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Potassium	4	mg/L		1		E200.7	09/27/16 22:23 / sld	09/26/16 14:08	ICP2-HE_160927B	182	R119028
Selenium	0.066	mg/L		0.001		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Sodium	3600	mg/L	D	2		E200.7	09/27/16 22:23 / sld	09/26/16 14:08	ICP2-HE_160927B	182	R119028
Uranium	2.37	mg/L		0.0002		E200.8	09/30/16 16:04 / dck	09/26/16 14:08	ICPMS204-B_160930B	97	R119130
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 03:30 / dck	09/26/16 14:08	ICPMS204-B_160928A	136	R119044

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-03
Lab ID: H16090457-035
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 09:20
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	260	mg/L		4		A2320 B	09/27/16 10:34 / SR		PHSC_101-H_160927A	16	R118981
Bicarbonate as HCO3	300	mg/L		4		A2320 B	09/27/16 10:34 / SR		PHSC_101-H_160927A	16	R118981
Chloride	ND	mg/L		1		E300.0	09/24/16 16:44 / SR		IC102-H_160923A	104	R118951
Sulfate	220	mg/L		1		E300.0	09/24/16 16:44 / SR		IC102-H_160923A	104	R118951
Hardness as CaCO3	282	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	16	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Antimony	0.0009	mg/L		0.0005		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Arsenic	0.142	mg/L		0.001		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Barium	0.059	mg/L		0.003		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Boron	0.2	mg/L		0.1		E200.7	09/27/16 23:31 / sld	09/26/16 16:27	ICP2-HE_160927B	200	R119028
Cadmium	0.00005	mg/L		0.00003		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Calcium	83	mg/L		1		E200.7	09/27/16 23:31 / sld	09/26/16 16:27	ICP2-HE_160927B	200	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Copper	0.002	mg/L		0.001		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 23:31 / sld	09/26/16 16:27	ICP2-HE_160927B	200	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Magnesium	18	mg/L		1		E200.7	09/27/16 23:31 / sld	09/26/16 16:27	ICP2-HE_160927B	200	R119028
Manganese	0.004	mg/L		0.001		E200.8	09/30/16 12:24 / dck	09/26/16 16:27	ICPMS204-B_160930B	51	R119130
Mercury	ND	mg/L	D	6E-06		E245.1	09/30/16 13:44 / rgk	09/28/16 11:38	HGCV202-H_160930A	63	34588
Molybdenum	0.038	mg/L		0.005		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Potassium	3	mg/L		1		E200.7	09/27/16 23:31 / sld	09/26/16 16:27	ICP2-HE_160927B	200	R119028
Selenium	0.002	mg/L		0.001		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Sodium	80	mg/L		1		E200.7	09/27/16 23:31 / sld	09/26/16 16:27	ICP2-HE_160927B	200	R119028
Uranium	0.0108	mg/L		0.0002		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 03:34 / dck	09/26/16 16:27	ICPMS204-B_160928A	137	R119044

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-04
Lab ID: H16090457-036
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 08:20
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	260	mg/L		4		A2320 B	09/22/16 22:39 / SR		PHSC_101-H_160922A	227	R118886
Bicarbonate as HCO3	310	mg/L		4		A2320 B	09/22/16 22:39 / SR		PHSC_101-H_160922A	227	R118886
Chloride	4	mg/L		1		E300.0	09/24/16 16:55 / SR		IC102-H_160923A	105	R118951
Sulfate	518	mg/L		1		E300.0	09/24/16 16:55 / SR		IC102-H_160923A	105	R118951
Hardness as CaCO3	468	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	17	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Antimony	0.0018	mg/L		0.0005		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Arsenic	0.071	mg/L		0.001		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Barium	0.077	mg/L		0.003		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Boron	0.1	mg/L		0.1		E200.7	09/27/16 22:27 / sld	09/26/16 14:08	ICP2-HE_160927B	183	R119028
Cadmium	0.00009	mg/L		0.00003		E200.8	09/30/16 12:27 / dck	09/26/16 14:08	ICPMS204-B_160930B	52	R119130
Calcium	121	mg/L		1		E200.7	09/27/16 22:27 / sld	09/26/16 14:08	ICP2-HE_160927B	183	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Copper	0.010	mg/L		0.001		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 22:27 / sld	09/26/16 14:08	ICP2-HE_160927B	183	R119028
Lead	0.0003	mg/L		0.0003		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Magnesium	40	mg/L		1		E200.7	09/27/16 22:27 / sld	09/26/16 14:08	ICP2-HE_160927B	183	R119028
Manganese	0.003	mg/L		0.001		E200.8	09/30/16 12:27 / dck	09/26/16 14:08	ICPMS204-B_160930B	52	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:47 / rgk	09/28/16 11:38	HGCV202-H_160930A	64	34588
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Potassium	14	mg/L		1		E200.7	09/27/16 22:27 / sld	09/26/16 14:08	ICP2-HE_160927B	183	R119028
Selenium	0.002	mg/L		0.001		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Sodium	161	mg/L		1		E200.7	09/27/16 22:27 / sld	09/26/16 14:08	ICP2-HE_160927B	183	R119028
Uranium	0.0277	mg/L		0.0002		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044
Zinc	0.111	mg/L		0.008		E200.8	09/29/16 03:37 / dck	09/26/16 14:08	ICPMS204-B_160928A	138	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-05
Lab ID: H16090457-037
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 08:00
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	270	mg/L		4		A2320 B	09/27/16 10:42 / SR		PHSC_101-H_160927A	18	R118981
Bicarbonate as HCO3	330	mg/L		4		A2320 B	09/27/16 10:42 / SR		PHSC_101-H_160927A	18	R118981
Chloride	4	mg/L		1		E300.0	09/24/16 17:29 / SR		IC102-H_160923A	106	R118951
Sulfate	3710	mg/L		1		E300.0	09/24/16 17:29 / SR		IC102-H_160923A	106	R118951
Hardness as CaCO3	1690	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	18	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Antimony	0.0014	mg/L		0.0005		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Arsenic	0.019	mg/L		0.001		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Barium	0.016	mg/L		0.003		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Boron	2.2	mg/L		0.1		E200.7	09/27/16 23:35 / sld	09/26/16 16:27	ICP2-HE_160927B	201	R119028
Cadmium	0.00018	mg/L		0.00003		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Calcium	459	mg/L		1		E200.7	09/27/16 23:35 / sld	09/26/16 16:27	ICP2-HE_160927B	201	R119028
Chromium	0.01	mg/L		0.01		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Copper	0.012	mg/L		0.001		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 23:35 / sld	09/26/16 16:27	ICP2-HE_160927B	201	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Magnesium	132	mg/L		1		E200.7	09/27/16 23:35 / sld	09/26/16 16:27	ICP2-HE_160927B	201	R119028
Manganese	0.003	mg/L		0.001		E200.8	09/30/16 12:31 / dck	09/30/16 09:46	ICPMS204-B_160930B	53	R119130
Mercury	5.6E-06	mg/L		5E-06		E245.1	09/30/16 13:49 / rgk	09/28/16 11:38	HGCV202-H_160930A	65	34588
Molybdenum	0.026	mg/L		0.005		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Potassium	22	mg/L		1		E200.7	09/27/16 23:35 / sld	09/26/16 16:27	ICP2-HE_160927B	201	R119028
Selenium	0.009	mg/L		0.001		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Sodium	1050	mg/L		1		E200.7	09/27/16 23:35 / sld	09/26/16 16:27	ICP2-HE_160927B	201	R119028
Uranium	1.82	mg/L		0.0002		E200.8	09/30/16 18:03 / dck	09/26/16 16:27	ICPMS204-B_160930B	123	R119130
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044
Zinc	0.016	mg/L		0.008		E200.8	09/29/16 03:40 / dck	09/26/16 16:27	ICPMS204-B_160928A	139	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-06
Lab ID: H16090457-038
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 09:00
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	88	mg/L		4		A2320 B	09/22/16 22:45 / SR		PHSC_101-H_160922A	229	R118886
Bicarbonate as HCO3	110	mg/L		4		A2320 B	09/22/16 22:45 / SR		PHSC_101-H_160922A	229	R118886
Chloride	27	mg/L		1		E300.0	09/26/16 15:42 / SR		IC103-H_160926A	25	R118991
Sulfate	811	mg/L		1		E300.0	09/26/16 15:42 / SR		IC103-H_160926A	25	R118991
Hardness as CaCO3	437	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	19	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Arsenic	0.003	mg/L		0.001		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Barium	0.013	mg/L		0.003		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Boron	0.3	mg/L		0.1		E200.7	09/27/16 22:31 / sld	09/26/16 14:08	ICP2-HE_160927B	184	R119028
Cadmium	0.00004	mg/L		0.00003		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Calcium	131	mg/L		1		E200.7	09/27/16 22:31 / sld	09/26/16 14:08	ICP2-HE_160927B	184	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Copper	0.018	mg/L		0.001		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 22:31 / sld	09/26/16 14:08	ICP2-HE_160927B	184	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Magnesium	26	mg/L		1		E200.7	09/27/16 22:31 / sld	09/26/16 14:08	ICP2-HE_160927B	184	R119028
Manganese	0.011	mg/L		0.001		E200.8	09/30/16 12:34 / dck	09/26/16 14:08	ICPMS204-B_160930B	54	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:52 / rgk	09/28/16 11:38	HGCV202-H_160930A	66	34588
Molybdenum	0.024	mg/L		0.005		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Potassium	ND	mg/L		1		E200.7	09/27/16 22:31 / sld	09/26/16 14:08	ICP2-HE_160927B	184	R119028
Selenium	0.001	mg/L		0.001		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Sodium	208	mg/L		1		E200.7	09/27/16 22:31 / sld	09/26/16 14:08	ICP2-HE_160927B	184	R119028
Uranium	0.0079	mg/L		0.0002		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044
Zinc	0.041	mg/L		0.008		E200.8	09/29/16 03:43 / dck	09/26/16 14:08	ICPMS204-B_160928A	140	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-07
Lab ID: H16090457-039
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/20/16 08:45
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Chloride	89	mg/L		1		E300.0	09/26/16 15:53 / SR		IC103-H_160926A	26	R118991
Sulfate	2710	mg/L		1		E300.0	09/26/16 15:53 / SR		IC103-H_160926A	26	R118991
Hardness as CaCO3	1060	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	20	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Arsenic	0.007	mg/L		0.001		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Barium	0.007	mg/L		0.003		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Boron	0.3	mg/L		0.1		E200.7	09/27/16 23:46 / sld	09/26/16 16:27	ICP2-HE_160927B	204	R119028
Cadmium	0.00012	mg/L		0.00003		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Calcium	304	mg/L		1		E200.7	09/27/16 23:46 / sld	09/26/16 16:27	ICP2-HE_160927B	204	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Copper	0.004	mg/L		0.001		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 23:46 / sld	09/26/16 16:27	ICP2-HE_160927B	204	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Magnesium	74	mg/L		1		E200.7	09/27/16 23:46 / sld	09/26/16 16:27	ICP2-HE_160927B	204	R119028
Manganese	0.002	mg/L		0.001		E200.8	09/30/16 12:37 / dck	09/26/16 16:27	ICPMS204-B_160930B	55	R119130
Mercury	6.7E-06	mg/L		5E-06		E245.1	09/30/16 13:55 / rgk	09/28/16 11:38	HGCV202-H_160930A	67	34588
Molybdenum	0.122	mg/L		0.005		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Potassium	10	mg/L		1		E200.7	09/27/16 23:46 / sld	09/26/16 16:27	ICP2-HE_160927B	204	R119028
Selenium	0.004	mg/L		0.001		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Sodium	729	mg/L		1		E200.7	09/27/16 23:46 / sld	09/26/16 16:27	ICP2-HE_160927B	204	R119028
Uranium	0.319	mg/L		0.0002		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 03:47 / dck	09/26/16 16:27	ICPMS204-B_160928A	141	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2B
Lab ID: H16090457-040
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/21/16 07:10
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	94	mg/L		4		A2320 B	09/22/16 22:51 / SR		PHSC_101-H_160922A	231	R118886
Bicarbonate as HCO3	110	mg/L		4		A2320 B	09/22/16 22:51 / SR		PHSC_101-H_160922A	231	R118886
Chloride	26	mg/L		1		E300.0	09/24/16 18:02 / SR		IC102-H_160923A	107	R118951
Sulfate	164	mg/L		1		E300.0	09/24/16 18:02 / SR		IC102-H_160923A	107	R118951
Hardness as CaCO3	233	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	21	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Arsenic	0.010	mg/L		0.001		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Barium	0.033	mg/L		0.003		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 22:35 / sld	09/26/16 14:08	ICP2-HE_160927B	185	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Calcium	66	mg/L		1		E200.7	09/27/16 22:35 / sld	09/26/16 14:08	ICP2-HE_160927B	185	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Copper	0.001	mg/L		0.001		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 22:35 / sld	09/26/16 14:08	ICP2-HE_160927B	185	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Magnesium	16	mg/L		1		E200.7	09/27/16 22:35 / sld	09/26/16 14:08	ICP2-HE_160927B	185	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 12:40 / dck	09/26/16 14:08	ICPMS204-B_160930B	56	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 13:58 / rgk	09/28/16 11:38	HGCV202-H_160930A	68	34588
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Potassium	4	mg/L		1		E200.7	09/27/16 22:35 / sld	09/26/16 14:08	ICP2-HE_160927B	185	R119028
Selenium	0.002	mg/L		0.001		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Sodium	25	mg/L		1		E200.7	09/27/16 22:35 / sld	09/26/16 14:08	ICP2-HE_160927B	185	R119028
Uranium	0.0063	mg/L		0.0002		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 03:50 / dck	09/26/16 14:08	ICPMS204-B_160928A	142	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2C
Lab ID: H16090457-041
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/21/16 07:50
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/22/16 22:58 / SR		PHSC_101-H_160922A	233	R118886
Bicarbonate as HCO3	130	mg/L		4		A2320 B	09/22/16 22:58 / SR		PHSC_101-H_160922A	233	R118886
Chloride	25	mg/L		1		E300.0	09/24/16 18:13 / SR		IC102-H_160923A	108	R118951
Sulfate	185	mg/L		1		E300.0	09/24/16 18:13 / SR		IC102-H_160923A	108	R118951
Hardness as CaCO3	254	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	22	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Arsenic	0.007	mg/L		0.001		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Barium	0.021	mg/L		0.003		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 22:43 / sld	09/26/16 15:59	ICP2-HE_160927B	187	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Calcium	74	mg/L		1		E200.7	09/27/16 22:43 / sld	09/26/16 15:59	ICP2-HE_160927B	187	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 22:43 / sld	09/26/16 15:59	ICP2-HE_160927B	187	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Magnesium	17	mg/L		1		E200.7	09/27/16 22:43 / sld	09/26/16 15:59	ICP2-HE_160927B	187	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 16:14 / dck	09/26/16 15:59	ICPMS204-B_160930B	100	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 14:15 / rgk	09/29/16 21:47	HGCV202-H_160930A	74	34607
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Potassium	3	mg/L		1		E200.7	09/27/16 22:43 / sld	09/26/16 15:59	ICP2-HE_160927B	187	R119028
Selenium	0.002	mg/L		0.001		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Sodium	32	mg/L		1		E200.7	09/27/16 22:43 / sld	09/26/16 15:59	ICP2-HE_160927B	187	R119028
Uranium	0.0085	mg/L		0.0002		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 04:06 / dck	09/26/16 15:59	ICPMS204-B_160928A	147	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2C-Dup
Lab ID: H16090457-042
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/21/16 07:52 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/22/16 23:06 / SR		PHSC_101-H_160922A	235	R118886
Bicarbonate as HCO3	130	mg/L		4		A2320 B	09/22/16 23:06 / SR		PHSC_101-H_160922A	235	R118886
Chloride	25	mg/L		1		E300.0	09/25/16 07:49 / SR		IC102-H_160923A	114	R118951
Sulfate	182	mg/L		1		E300.0	09/25/16 07:49 / SR		IC102-H_160923A	114	R118951
Hardness as CaCO3	253	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	23	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Arsenic	0.007	mg/L		0.001		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Barium	0.023	mg/L		0.003		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 22:46 / sld	09/26/16 15:59	ICP2-HE_160927B	188	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Calcium	74	mg/L		1		E200.7	09/27/16 22:46 / sld	09/26/16 15:59	ICP2-HE_160927B	188	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 22:46 / sld	09/26/16 15:59	ICP2-HE_160927B	188	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Magnesium	16	mg/L		1		E200.7	09/27/16 22:46 / sld	09/26/16 15:59	ICP2-HE_160927B	188	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 16:17 / dck	09/26/16 15:59	ICPMS204-B_160930B	101	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 14:17 / rgk	09/29/16 21:47	HGCV202-H_160930A	75	34607
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Potassium	3	mg/L		1		E200.7	09/27/16 22:46 / sld	09/26/16 15:59	ICP2-HE_160927B	188	R119028
Selenium	0.002	mg/L		0.001		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Sodium	31	mg/L		1		E200.7	09/27/16 22:46 / sld	09/26/16 15:59	ICP2-HE_160927B	188	R119028
Uranium	0.0085	mg/L		0.0002		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 04:19 / dck	09/26/16 15:59	ICPMS204-B_160928A	151	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2D
Lab ID: H16090457-043
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/21/16 08:40 **DateReceived:** 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	09/22/16 23:13 / SR		PHSC_101-H_160922A	237	R118886
Bicarbonate as HCO3	190	mg/L		4		A2320 B	09/22/16 23:13 / SR		PHSC_101-H_160922A	237	R118886
Chloride	26	mg/L		1		E300.0	09/25/16 08:00 / SR		IC102-H_160923A	115	R118951
Sulfate	197	mg/L		1		E300.0	09/25/16 08:00 / SR		IC102-H_160923A	115	R118951
Hardness as CaCO3	317	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	24	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Arsenic	0.007	mg/L		0.001		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Barium	0.045	mg/L		0.003		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 22:50 / sld	09/26/16 15:59	ICP2-HE_160927B	189	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Calcium	94	mg/L		1		E200.7	09/27/16 22:50 / sld	09/26/16 15:59	ICP2-HE_160927B	189	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 22:50 / sld	09/26/16 15:59	ICP2-HE_160927B	189	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Magnesium	20	mg/L		1		E200.7	09/27/16 22:50 / sld	09/26/16 15:59	ICP2-HE_160927B	189	R119028
Manganese	ND	mg/L		0.001		E200.8	09/30/16 16:21 / dck	09/26/16 15:59	ICPMS204-B_160930B	102	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 14:26 / rgk	09/29/16 21:47	HGCV202-H_160930A	78	34607
Molybdenum	0.005	mg/L		0.005		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Potassium	4	mg/L		1		E200.7	09/27/16 22:50 / sld	09/26/16 15:59	ICP2-HE_160927B	189	R119028
Selenium	0.004	mg/L		0.001		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Sodium	27	mg/L		1		E200.7	09/27/16 22:50 / sld	09/26/16 15:59	ICP2-HE_160927B	189	R119028
Uranium	0.0533	mg/L		0.0002		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 04:23 / dck	09/26/16 15:59	ICPMS204-B_160928A	152	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYP-07
Lab ID: H16090457-044
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/21/16 09:40
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	270	mg/L		4		A2320 B	09/22/16 23:26 / SR		PHSC_101-H_160922A	241	R118886
Bicarbonate as HCO3	330	mg/L		4		A2320 B	09/22/16 23:26 / SR		PHSC_101-H_160922A	241	R118886
Chloride	29	mg/L		1		E300.0	09/25/16 10:25 / SR		IC102-H_160923A	116	R118951
Sulfate	100	mg/L		1		E300.0	09/25/16 10:25 / SR		IC102-H_160923A	116	R118951
Hardness as CaCO3	316	mg/L		1		A2340 B	09/30/16 14:49 / sld		WATERCALC_160930A	20	R119127
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Antimony	0.0031	mg/L		0.0005		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Arsenic	0.007	mg/L		0.001		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Barium	0.074	mg/L		0.003		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 23:01 / sld	09/26/16 15:59	ICP2-HE_160927B	192	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Calcium	97	mg/L		1		E200.7	09/27/16 23:01 / sld	09/26/16 15:59	ICP2-HE_160927B	192	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Iron	0.06	mg/L		0.02		E200.7	09/27/16 23:01 / sld	09/26/16 15:59	ICP2-HE_160927B	192	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Magnesium	18	mg/L		1		E200.7	09/27/16 23:01 / sld	09/26/16 15:59	ICP2-HE_160927B	192	R119028
Manganese	1.09	mg/L		0.001		E200.7	09/27/16 23:01 / sld	09/26/16 15:59	ICP2-HE_160927B	192	R119028
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 14:29 / rgk	09/29/16 15:47	HGCV202-H_160930A	79	34607
Molybdenum	0.023	mg/L		0.005		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Nickel	0.006	mg/L		0.002		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Potassium	8	mg/L		1		E200.7	09/27/16 23:01 / sld	09/26/16 15:59	ICP2-HE_160927B	192	R119028
Selenium	0.001	mg/L		0.001		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Sodium	34	mg/L		1		E200.7	09/27/16 23:01 / sld	09/26/16 15:59	ICP2-HE_160927B	192	R119028
Uranium	0.135	mg/L		0.0002		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 04:26 / dck	09/26/16 15:59	ICPMS204-B_160928A	153	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYP-07 Blank
Lab ID: H16090457-045
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/21/16 09:30
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	09/23/16 09:51 / SR		PHSC_101-H_160923A	9	R118922
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	09/23/16 09:51 / SR		PHSC_101-H_160923A	9	R118922
Chloride	ND	mg/L		1		E300.0	09/25/16 10:36 / SR		IC102-H_160923A	117	R118951
Sulfate	ND	mg/L		1		E300.0	09/25/16 10:36 / SR		IC102-H_160923A	117	R118951
Hardness as CaCO3	ND	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	25	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Arsenic	ND	mg/L		0.001		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Barium	ND	mg/L		0.003		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 23:05 / sld	09/26/16 15:59	ICP2-HE_160927B	193	R119028
Cadmium	ND	mg/L		0.00003		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Calcium	ND	mg/L		1		E200.7	09/27/16 23:05 / sld	09/26/16 15:59	ICP2-HE_160927B	193	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 23:05 / sld	09/26/16 15:59	ICP2-HE_160927B	193	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Magnesium	ND	mg/L		1		E200.7	09/27/16 23:05 / sld	09/26/16 15:59	ICP2-HE_160927B	193	R119028
Manganese	ND	mg/L		0.001		E200.8	10/12/16 13:16 / dck	09/26/16 15:59	ICPMS204-B_161012A	60	R119413
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 14:32 / rgk	09/29/16 15:47	HGCV202-H_160930A	80	34607
Molybdenum	ND	mg/L		0.005		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Potassium	ND	mg/L		1		E200.7	09/27/16 23:05 / sld	09/26/16 15:59	ICP2-HE_160927B	193	R119028
Selenium	ND	mg/L		0.001		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Sodium	ND	mg/L		1		E200.7	09/27/16 23:05 / sld	09/26/16 15:59	ICP2-HE_160927B	193	R119028
Uranium	ND	mg/L		0.0002		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 04:29 / dck	09/26/16 15:59	ICPMS204-B_160928A	154	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-1056
Lab ID: H16090457-046
Matrix: Groundwater

Project: SSTOU Groundwater/Vadose
Collection Date: 09/21/16 10:30
DateReceived: 09/21/16
Report Date: 10/17/16

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	09/23/16 09:57 / SR		PHSC_101-H_160923A	11	R118922
Bicarbonate as HCO3	150	mg/L		4		A2320 B	09/23/16 09:57 / SR		PHSC_101-H_160923A	11	R118922
Chloride	19	mg/L		1		E300.0	09/25/16 10:47 / SR		IC102-H_160923A	118	R118951
Sulfate	190	mg/L		1		E300.0	09/25/16 10:47 / SR		IC102-H_160923A	118	R118951
Hardness as CaCO3	263	mg/L		1		A2340 B	10/03/16 07:37 / sld		WATERCALC_161003A	26	R119136
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Antimony	ND	mg/L		0.0005		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Arsenic	0.008	mg/L		0.001		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Barium	0.031	mg/L		0.003		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Beryllium	ND	mg/L		0.0008		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Boron	ND	mg/L		0.1		E200.7	09/27/16 23:20 / sld	09/26/16 15:59	ICP2-HE_160927B	197	R119028
Cadmium	0.00018	mg/L		0.00003		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Calcium	79	mg/L		1		E200.7	09/27/16 23:20 / sld	09/26/16 15:59	ICP2-HE_160927B	197	R119028
Chromium	ND	mg/L		0.01		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Cobalt	ND	mg/L		0.01		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Copper	ND	mg/L		0.001		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Iron	ND	mg/L		0.02		E200.7	09/27/16 23:20 / sld	09/26/16 15:59	ICP2-HE_160927B	197	R119028
Lead	ND	mg/L		0.0003		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Magnesium	16	mg/L		1		E200.7	09/27/16 23:20 / sld	09/26/16 15:59	ICP2-HE_160927B	197	R119028
Manganese	0.002	mg/L		0.001		E200.8	09/30/16 16:27 / dck	09/26/16 15:59	ICPMS204-B_160930B	104	R119130
Mercury	ND	mg/L		5E-06		E245.1	09/30/16 14:34 / rgk	09/29/16 15:47	HGCV202-H_160930A	81	34607
Molybdenum	0.009	mg/L		0.005		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Nickel	ND	mg/L		0.002		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Potassium	3	mg/L		1		E200.7	09/27/16 23:20 / sld	09/26/16 15:59	ICP2-HE_160927B	197	R119028
Selenium	0.005	mg/L		0.001		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Silver	ND	mg/L		0.0002		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Sodium	27	mg/L		1		E200.7	09/27/16 23:20 / sld	09/26/16 15:59	ICP2-HE_160927B	197	R119028
Uranium	0.0387	mg/L		0.0002		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Vanadium	ND	mg/L		0.1		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044
Zinc	ND	mg/L		0.008		E200.8	09/29/16 04:32 / dck	09/26/16 15:59	ICPMS204-B_160928A	155	R119044

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160928wa-hgcv202

Date: *17-Oct-16*

Run ID :Run Order: **HGCV202-H_160928A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **09/28/16 16:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000205	0.00010	0.0002	0	102	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B**

Run ID :Run Order: **HGCV202-H_160928A: 54** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/28/16 18:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000213	0.00010	0.0002	0	107	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160930wa-hgcv202

Date: *17-Oct-16*

Run ID :Run Order: **HGCV202-H_160930A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **09/30/16 10:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000207	0.00010	0.0002	0	104	90	110				

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **HGCV202-H_160930A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **09/30/16 10:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000202	0.00010	0.0002	0	101	90	110				

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **HGCV202-H_160930A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/30/16 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000209	0.00010	0.0002	0	104	90	110				

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **HGCV202-H_160930A: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/30/16 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000213	0.00010	0.0002	0	107	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 160930wa-hgcv202

Date: *17-Oct-16*

Run ID :Run Order: **HGCV202-H_160930A: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/30/16 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **HGCV202-H_160930A: 57** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/30/16 13:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000214	0.00010	0.0002	0	107	90	110				

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **HGCV202-H_160930A: 69** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/30/16 14:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000213	0.00010	0.0002	0	107	90	110				

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34586

Date: *17-Oct-16*

Run ID :Run Order: **HGCV202-H_160928A: 56** SampType: **Method Blank** Lab ID: **MB-34551** Method: **E245.1**
Analysis Date: **09/28/16 18:19** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B**

Run ID :Run Order: **HGCV202-H_160928A: 58** SampType: **Laboratory Control Sample** Lab ID: **LCS-34586** Method: **E245.1**
Analysis Date: **09/28/16 18:25** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000161	0.00010	0.00015	0	**108**	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B**

Run ID :Run Order: **HGCV202-H_160928A: 62** SampType: **Sample Matrix Spike** Lab ID: **H16090440-003BMS** Method: **E245.1**
Analysis Date: **09/28/16 18:35** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000161	0.00010	0.00015	0.00000274	**105**	70	130				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B**

Run ID :Run Order: **HGCV202-H_160928A: 63** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090440-003BMSD** Method: **E245.1**
Analysis Date: **09/28/16 18:38** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000162	0.00010	0.00015	0.00000274	**106**	70	130	0.0001608	**0.5**	20	

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34587

Date: *17-Oct-16*

Run ID :Run Order: **HGCV202-H_160930A: 11** SampType: **Method Blank** Lab ID: **MB-34587** Method: **E245.1**

Analysis Date: **09/30/16 11:18** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B**

Run ID :Run Order: **HGCV202-H_160930A: 13** SampType: **Laboratory Control Sample** Lab ID: **LCS-34587** Method: **E245.1**

Analysis Date: **09/30/16 11:23** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000163	0.00010	0.00015	0.0000016	107	90	110				

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B**

Run ID :Run Order: **HGCV202-H_160930A: 16** SampType: **Sample Matrix Spike** Lab ID: **H16090457-005BMS** Method: **E245.1**

Analysis Date: **09/30/16 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000161	0.00010	0.00015	0	108	70	130				

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B**

Run ID :Run Order: **HGCV202-H_160930A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-005BMSD** Method: **E245.1**

Analysis Date: **09/30/16 11:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000153	0.00010	0.00015	0	102	70	130	0.0001615	5.7	20	

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34587

Date: *17-Oct-16*

Run ID :Run Order: **HGCV202-H_160930A: 29** SampType: **Sample Matrix Spike** Lab ID: **H16090457-014BMS** Method: **E245.1**

Analysis Date: **09/30/16 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000160	0.00010	0.00015	0.00000104	**106**	70	130				

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B**

Run ID :Run Order: **HGCV202-H_160930A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-014BMSD** Method: **E245.1**

Analysis Date: **09/30/16 12:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000162	0.00010	0.00015	0.00000104	**107**	70	130	0.0001595	**1.4**	20	

Associated samples: **H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34588

Date: *17-Oct-16*

Run ID :Run Order: **HGCV202-H_160930A: 43** SampType: **Method Blank** Lab ID: **MB-34588** Method: **E245.1**
Analysis Date: **09/30/16 12:47** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B**

Run ID :Run Order: **HGCV202-H_160930A: 45** SampType: **Laboratory Control Sample** Lab ID: **LCS-34588** Method: **E245.1**
Analysis Date: **09/30/16 12:53** Units: **mg/L** **Prep Info:** Prep Date: **9/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000160	0.00010	0.00015	0	106	90	110				

Associated samples: **H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B**

Run ID :Run Order: **HGCV202-H_160930A: 47** SampType: **Sample Matrix Spike** Lab ID: **H16090457-024BMS** Method: **E245.1**
Analysis Date: **09/30/16 12:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000171	0.00010	0.00015	0.00000115	113	70	130				

Associated samples: **H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B**

Run ID :Run Order: **HGCV202-H_160930A: 48** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-024BMSD** Method: **E245.1**
Analysis Date: **09/30/16 13:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000157	0.00010	0.00015	0.00000115	104	70	130	0.0001706	8.1	20	

Associated samples: **H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B**

Run ID :Run Order: **HGCV202-H_160930A: 61** SampType: **Sample Matrix Spike** Lab ID: **H16090457-034BMS** Method: **E245.1**
Analysis Date: **09/30/16 13:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000150	0.00010	0.00015	0.00000373	97	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34588

Date: *17-Oct-16*

Run ID :Run Order: **HGCV202-H_160930A: 61** SampType: **Sample Matrix Spike** Lab ID: **H16090457-034BMS** Method: **E245.1**

Analysis Date: **09/30/16 13:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B**

Run ID :Run Order: **HGCV202-H_160930A: 62** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-034BMSD** Method: **E245.1**

Analysis Date: **09/30/16 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000150	0.00010	0.00015	0.00000373	**98**	70	130	0.0001495	**0.6**	20	

Associated samples: **H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 34607

Date: *17-Oct-16*

Run ID :Run Order: **HGCV202-H_160930A: 71** SampType: **Method Blank** Lab ID: **MB-34607** Method: **E245.1**
Analysis Date: **09/30/16 14:06** Units: **mg/L** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **HGCV202-H_160930A: 73** SampType: **Laboratory Control Sample** Lab ID: **LCS-34607** Method: **E245.1**
Analysis Date: **09/30/16 14:12** Units: **mg/L** **Prep Info:** Prep Date: **9/29/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000155	0.00010	0.00015	0	**103**	90	110				

Associated samples: **H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **HGCV202-H_160930A: 76** SampType: **Sample Matrix Spike** Lab ID: **H16090457-042BMS** Method: **E245.1**
Analysis Date: **09/30/16 14:20** Units: **mg/L** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000169	0.00010	0.00015	0.00000093	**112**	70	130				

Associated samples: **H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **HGCV202-H_160930A: 77** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-042BMSD** Method: **E245.1**
Analysis Date: **09/30/16 14:23** Units: **mg/L** **Prep Info:** Prep Date: **9/30/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000165	0.00010	0.00015	0.00000093	**109**	70	130	0.0001686	**2.3**	20	

Associated samples: **H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118886

Date: *17-Oct-16*

Run ID :Run Order: **PHSC_101-H_160922A: 149** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **09/22/16 16:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-034A, H16090457-036A, H16090457-038A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A**

Run ID :Run Order: **PHSC_101-H_160922A: 151** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **09/22/16 16:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	1.8	**99**	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-034A, H16090457-036A, H16090457-038A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A**

Run ID :Run Order: **PHSC_101-H_160922A: 154** SampType: **Sample Duplicate** Lab ID: **H16090457-001ADUP** Method: **A2320 B**

Analysis Date: **09/22/16 16:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	98	4.0		0				97.25	**0.7**	10	
Bicarbonate as HCO3	120	4.0		0				118	**0.7**	10	

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-034A, H16090457-036A, H16090457-038A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A**

Run ID :Run Order: **PHSC_101-H_160922A: 194** SampType: **Sample Duplicate** Lab ID: **H16090457-020ADUP** Method: **A2320 B**

Analysis Date: **09/22/16 19:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	280	4.0		0				276.8	**1.1**	10	
Bicarbonate as HCO3	340	4.0		0				337	**1.1**	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118886

Date: *17-Oct-16*

Run ID :Run Order: **PHSC_101-H_160922A: 194** SampType: **Sample Duplicate** Lab ID: **H16090457-020ADUP** Method: **A2320 B**

Analysis Date: **09/22/16 19:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-034A, H16090457-036A, H16090457-038A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A**

Run ID :Run Order: **PHSC_101-H_160922A: 196** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **09/22/16 19:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-034A, H16090457-036A, H16090457-038A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A**

Run ID :Run Order: **PHSC_101-H_160922A: 198** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **09/22/16 20:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	1.64	**99**	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-034A, H16090457-036A, H16090457-038A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A**

Run ID :Run Order: **PHSC_101-H_160922A: 203** SampType: **Sample Duplicate** Lab ID: **H16090457-022ADUP** Method: **A2320 B**

Analysis Date: **09/22/16 20:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	7.6	4.0		0				7.5	**0.7**	10	
Bicarbonate as HCO3	8.6	4.0		0				8.54	**0.7**	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118886

Date: *17-Oct-16*

Run ID :Run Order: **PHSC_101-H_160922A: 203** SampType: **Sample Duplicate** Lab ID: **H16090457-022ADUP** Method: **A2320 B**

Analysis Date: **09/22/16 20:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-034A, H16090457-036A, H16090457-038A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A**

Run ID :Run Order: **PHSC_101-H_160922A: 239** SampType: **Sample Duplicate** Lab ID: **H16090457-043ADUP** Method: **A2320 B**

Analysis Date: **09/22/16 23:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	160	4.0		0				155.2	**1.1**	10	
Bicarbonate as HCO3	190	4.0		0				188.7	**1.1**	10	

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-034A, H16090457-036A, H16090457-038A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118922

Date: *17-Oct-16*

Run ID :Run Order: **PHSC_101-H_160923A: 6** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **09/23/16 09:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16090457-045A, H16090457-046A**

Run ID :Run Order: **PHSC_101-H_160923A: 8** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **09/23/16 09:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	1.84	99	90	110				

Associated samples: **H16090457-045A, H16090457-046A**

Run ID :Run Order: **PHSC_101-H_160923A: 21** SampType: **Sample Duplicate** Lab ID: **H16090477-004ADUP** Method: **A2320 B**

Analysis Date: **09/23/16 10:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	49	4.0		0				47.5	2.2	10	
Bicarbonate as HCO3	59	4.0		0				57.34	2.2	10	

Associated samples: **H16090457-045A, H16090457-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118951

Date: *17-Oct-16*

Run ID :Run Order: **IC102-H_160923A: 35** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**

Analysis Date: **09/23/16 14:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.01									
Sulfate	ND	0.02									

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 36** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**

Analysis Date: **09/23/16 15:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	91.5	1.0	100	0	92	90	110				
Sulfate	370	1.0	400	0	93	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 37** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**

Analysis Date: **09/23/16 15:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	45.5	1.0	50	0	91	90	110				
Sulfate	201	1.0	200	0	101	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118951

Date: *17-Oct-16*

Run ID :Run Order: **IC102-H_160923A: 38** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **09/23/16 15:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	93.7	1.0	100	0	94	90	110				
Sulfate	376	1.0	400	0	94	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 51** SampType: **Sample Matrix Spike** Lab ID: **H16090457-001AMS** Method: **E300.0**

Analysis Date: **09/23/16 19:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	107	1.0	50	56.41	101	90	110				
Sulfate	309	1.0	200	106.8	101	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-001AMSD** Method: **E300.0**

Analysis Date: **09/23/16 19:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	106	1.0	50	56.41	100	90	110	107	0.6	20	
Sulfate	310	1.0	200	106.8	102	90	110	309.3	0.3	20	

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118951

Date: *17-Oct-16*

Run ID :Run Order: **IC102-H_160923A: 53** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV092316-2** Method: **E300.0**

Analysis Date: **09/23/16 20:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	98.3	1.0	100	0	98	90	110				
Sulfate	391	1.0	400	0	98	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 66** SampType: **Sample Matrix Spike** Lab ID: **H16090457-011AMS** Method: **E300.0**

Analysis Date: **09/24/16 02:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	75.6	1.0	50	24.69	102	90	110				
Sulfate	324	1.0	200	118.7	103	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 67** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-011AMSD** Method: **E300.0**

Analysis Date: **09/24/16 02:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	76.0	1.0	50	24.69	103	90	110	75.56	0.6	20	
Sulfate	321	1.0	200	118.7	101	90	110	323.8	0.9	20	

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118951

Date: *17-Oct-16*

Run ID :Run Order: **IC102-H_160923A: 68** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV092316-3** Method: **E300.0**

Analysis Date: **09/24/16 02:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	98.9	1.0	100	0	99	90	110				
Sulfate	395	1.0	400	0	99	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 81** SampType: **Sample Matrix Spike** Lab ID: **H16090457-021AMS** Method: **E300.0**

Analysis Date: **09/24/16 12:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	188	1.0	50	142.3	91	90	110				
Sulfate	544	1.0	200	357.4	93	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 82** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-021AMSD** Method: **E300.0**

Analysis Date: **09/24/16 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	190	1.0	50	142.3	96	90	110	187.7	1.4	20	
Sulfate	548	1.0	200	357.4	95	90	110	543.6	0.8	20	

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118951

Date: *17-Oct-16*

Run ID :Run Order: **IC102-H_160923A: 83** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV092316-4** Method: **E300.0**

Analysis Date: **09/24/16 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99.4	1.0	100	0	99	90	110				
Sulfate	399	1.0	400	0	100	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 96** SampType: **Sample Matrix Spike** Lab ID: **H16090457-031AMS** Method: **E300.0**

Analysis Date: **09/24/16 15:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	104	1.0	50	53.98	101	90	110				
Sulfate	472	1.0	200	282.4	95	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 97** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-031AMSD** Method: **E300.0**

Analysis Date: **09/24/16 15:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	106	1.0	50	53.98	104	90	110	104.5	1.3	20	
Sulfate	474	1.0	200	282.4	96	90	110	471.5	0.6	20	

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118951

Date: *17-Oct-16*

Run ID :Run Order: **IC102-H_160923A: 98** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV092316-5** Method: **E300.0**

Analysis Date: **09/24/16 15:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99.0	1.0	100	0	99	90	110				
Sulfate	399	1.0	400	0	100	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 109** SampType: **Sample Matrix Spike** Lab ID: **H16090457-041AMS** Method: **E300.0**

Analysis Date: **09/24/16 18:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	76.6	1.0	50	25.14	103	90	110				
Sulfate	384	1.0	200	184.9	100	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 110** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-041AMSD** Method: **E300.0**

Analysis Date: **09/24/16 18:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	77.5	1.0	50	25.14	105	90	110	76.59	1.2	20	
Sulfate	388	1.0	200	184.9	101	90	110	384.2	0.9	20	

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118951

Date: *17-Oct-16*

Run ID :Run Order: **IC102-H_160923A: 111** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV092316-6** Method: **E300.0**

Analysis Date: **09/24/16 18:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	100	1.0	100	0	100	90	110				
Sulfate	397	1.0	400	0	99	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 124** SampType: **Sample Matrix Spike** Lab ID: **H16090477-003AMS** Method: **E300.0**

Analysis Date: **09/25/16 11:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	48.0	1.0	50	0.18	96	90	110				
Sulfate	234	1.0	200	23.6	105	90	110				

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Run ID :Run Order: **IC102-H_160923A: 125** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090477-003AMSD** Method: **E300.0**

Analysis Date: **09/25/16 12:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	48.6	1.0	50	0.18	97	90	110	47.98	1.4	20	
Sulfate	236	1.0	200	23.6	106	90	110	233.8	0.8	20	

Associated samples: **H16090457-001A, H16090457-002A, H16090457-003A, H16090457-004A, H16090457-005A, H16090457-006A, H16090457-007A, H16090457-008A, H16090457-009A, H16090457-010A, H16090457-011A, H16090457-012A, H16090457-013A, H16090457-014A, H16090457-015A, H16090457-016A, H16090457-017A, H16090457-018A, H16090457-019A, H16090457-020A, H16090457-021A, H16090457-022A, H16090457-023A, H16090457-024A, H16090457-025A, H16090457-026A, H16090457-027A, H16090457-028A, H16090457-029A, H16090457-030A, H16090457-031A, H16090457-032A, H16090457-033A, H16090457-034A, H16090457-035A, H16090457-036A, H16090457-037A, H16090457-040A, H16090457-041A, H16090457-042A, H16090457-043A, H16090457-044A, H16090457-045A, H16090457-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118981

Date: *17-Oct-16*

Run ID :Run Order: **PHSC_101-H_160927A: 7** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**

Analysis Date: **09/27/16 09:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16090457-033A, H16090457-035A, H16090457-037A**

Run ID :Run Order: **PHSC_101-H_160927A: 9** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **09/27/16 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	1.76	**100**	90	110				

Associated samples: **H16090457-033A, H16090457-035A, H16090457-037A**

Run ID :Run Order: **PHSC_101-H_160927A: 12** SampType: **Sample Duplicate** Lab ID: **H16090340-006ADUP** Method: **A2320 B**

Analysis Date: **09/27/16 10:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	180	4.0		0				180.2	**0.5**	10	
Bicarbonate as HCO3	210	4.0		0				206.2	**0.3**	10	

Associated samples: **H16090457-033A, H16090457-035A, H16090457-037A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118991

Date: *17-Oct-16*

Run ID :Run Order: **IC103-H_160926A: 18** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **09/26/16 14:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.09	0.008									
Sulfate	0.2	0.08									

Associated samples: **H16090457-038A, H16090457-039A**

Run ID :Run Order: **IC103-H_160926A: 19** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **09/26/16 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	408	1.0	400	0	102	90	110				

Associated samples: **H16090457-038A, H16090457-039A**

Run ID :Run Order: **IC103-H_160926A: 20** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **09/26/16 14:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.0	1.0	50	0.094	102	90	110				
Sulfate	210	1.0	200	0.241	105	90	110				

Associated samples: **H16090457-038A, H16090457-039A**

Run ID :Run Order: **IC103-H_160926A: 21** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV092616-1** Method: **E300.0**
Analysis Date: **09/26/16 14:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	103	1.0	100	0	103	90	110				
Sulfate	419	1.0	400	0	105	90	110				

Associated samples: **H16090457-038A, H16090457-039A**

Run ID :Run Order: **IC103-H_160926A: 34** SampType: **Sample Matrix Spike** Lab ID: **H16090501-002AMS** Method: **E300.0**
Analysis Date: **09/26/16 17:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.0	1.0	50	1.091	104	90	110				
Sulfate	227	1.0	200	10.99	108	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R118991

Date: *17-Oct-16*

Run ID :Run Order: **IC103-H_160926A: 34** SampType: **Sample Matrix Spike** Lab ID: **H16090501-002AMS** Method: **E300.0**

Analysis Date: **09/26/16 17:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090457-038A, H16090457-039A**

Run ID :Run Order: **IC103-H_160926A: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090501-002AMSD** Method: **E300.0**

Analysis Date: **09/26/16 17:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.6	1.0	50	1.091	**103**	90	110	53.03	**0.9**	20	
Sulfate	222	1.0	200	10.99	**106**	90	110	226.7	**2.0**	20	

Associated samples: **H16090457-038A, H16090457-039A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/27/16 08:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.799	0.10	0.8	0	100	95	105				
Calcium	39.9	1.0	40	0	100	95	105				
Copper	0.810	0.010	0.8	0	101	95	105				
Iron	4.00	0.020	4	0	100	95	105				
Magnesium	39.8	1.0	40	0	100	95	105				
Manganese	3.93	0.010	4	0	98	95	105				
Potassium	40.3	1.0	40	0	101	95	105				
Sodium	40.2	1.0	40	0	101	95	105				
Zinc	0.796	0.010	0.8	0	100	95	105				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **09/27/16 08:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	95	105				
Calcium	25.0	1.0	25	0	100	95	105				
Copper	2.50	0.010	2.5	0	100	95	105				
Iron	2.50	0.020	2.5	0	100	95	105				
Magnesium	24.8	1.0	25	0	99	95	105				
Manganese	2.45	0.010	2.5	0	98	95	105				
Potassium	24.1	1.0	25	0	96	95	105				
Sodium	24.0	1.0	25	0	96	95	105				
Zinc	2.46	0.010	2.5	0	98	95	105				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
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J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/27/16 09:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00134	0.10		0		0	0				
Calcium	471	1.0	500	0	94	80	120				
Copper	0.00251	0.010		0		0	0				
Iron	189	0.020	200	0	95	80	120				
Magnesium	507	1.0	500	0	101	80	120				
Manganese	-0.00284	0.010		0		0	0				
Potassium	-0.0304	1.0		0		0	0				
Sodium	0.0454	1.0		0		0	0				
Zinc	0.00300	0.010		0		0	0				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/27/16 09:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.991	0.10	1	0	99	80	120				
Calcium	468	1.0	500	0	94	80	120				
Copper	0.507	0.010	0.5	0	101	80	120				
Iron	186	0.020	200	0	93	80	120				
Magnesium	500	1.0	500	0	100	80	120				
Manganese	0.471	0.010	0.5	0	94	80	120				
Potassium	19.9	1.0	20	0	100	80	120				
Sodium	19.9	1.0	20	0	100	80	120				
Zinc	0.985	0.010	1	0	99	80	120				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
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S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 21** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **09/27/16 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.003	0.002									
Calcium	0.07	0.02									
Copper	ND	0.004									
Iron	ND	0.003									
Magnesium	ND	0.003									
Manganese	0.0007	0.0006									
Potassium	0.04	0.03									
Sodium	0.02	0.02									
Zinc	0.001	0.0008									

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 22** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **09/27/16 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.989	0.10	1	0.00291	**99**	85	115				
Calcium	49.8	1.0	50	0.07203	**99**	85	115				
Copper	1.00	0.010	1	0	**100**	85	115				
Iron	5.04	0.020	5	0	**101**	85	115				
Magnesium	50.3	1.0	50	0	**101**	85	115				
Manganese	4.90	0.010	5	0.00072	**98**	85	115				
Potassium	52.8	1.0	50	0.04182	**105**	85	115				
Sodium	52.8	1.0	50	0.02079	**105**	85	115				
Zinc	0.998	0.010	1	0.00107	**100**	85	115				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 111** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/27/16 17:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.36	0.10	2.5	0	94	90	110				
Calcium	24.1	1.0	25	0	97	90	110				
Copper	2.41	0.010	2.5	0	97	90	110				
Iron	2.38	0.020	2.5	0	95	90	110				
Magnesium	23.7	1.0	25	0	95	90	110				
Manganese	2.35	0.010	2.5	0	94	90	110				
Potassium	24.5	1.0	25	0	98	90	110				
Sodium	24.7	1.0	25	0	99	90	110				
Zinc	2.35	0.010	2.5	0	94	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 121** SampType: **Sample Matrix Spike** Lab ID: **H16090457-001BMS2** Method: **E200.7**

Analysis Date: **09/27/16 18:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1	0.06587	95	70	130				
Calcium	94.8	1.0	50	47.73	94	70	130				
Copper	1.01	0.0050	1	0.03404	97	70	130				
Iron	4.74	0.020	5	0	95	70	130				
Magnesium	60.4	1.0	50	12.85	95	70	130				
Manganese	9.33	0.0010	5	4.7	93	70	130				
Potassium	55.3	1.0	50	5.69	99	70	130				
Sodium	84.5	1.0	50	34.41	100	70	130				
Zinc	4.01	0.010	1	3.156	85	70	130				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 122** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-001BMSD2** Method: **E200.7**

Analysis Date: **09/27/16 18:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.06587	95	70	130	1.012	0.8	20	
Calcium	96.1	1.0	50	47.73	97	70	130	94.8	1.4	20	
Copper	1.03	0.0050	1	0.03404	99	70	130	1.005	2.0	20	
Iron	4.87	0.020	5	0	97	70	130	4.742	2.6	20	
Magnesium	61.6	1.0	50	12.85	97	70	130	60.42	1.9	20	
Manganese	9.42	0.0010	5	4.7	94	70	130	9.332	1.0	20	
Potassium	56.1	1.0	50	5.69	101	70	130	55.35	1.3	20	
Sodium	85.3	1.0	50	34.41	102	70	130	84.49	1.0	20	
Zinc	4.07	0.010	1	3.156	91	70	130	4.006	1.5	20	

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 123** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/27/16 18:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.39	0.10	2.5	0	96	90	110				
Calcium	24.2	1.0	25	0	97	90	110				
Copper	2.41	0.010	2.5	0	97	90	110				
Iron	2.38	0.020	2.5	0	95	90	110				
Magnesium	23.8	1.0	25	0	95	90	110				
Manganese	2.35	0.010	2.5	0	94	90	110				
Potassium	24.1	1.0	25	0	96	90	110				
Sodium	24.1	1.0	25	0	96	90	110				
Zinc	2.38	0.010	2.5	0	95	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 135** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/27/16 19:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.30	0.10	2.5	0	92	90	110				
Calcium	23.5	1.0	25	0	94	90	110				
Copper	2.37	0.010	2.5	0	95	90	110				
Iron	2.35	0.020	2.5	0	94	90	110				
Magnesium	23.2	1.0	25	0	93	90	110				
Manganese	2.29	0.010	2.5	0	91	90	110				
Potassium	23.9	1.0	25	0	96	90	110				
Sodium	23.9	1.0	25	0	96	90	110				
Zinc	2.29	0.010	2.5	0	92	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 138** SampType: **Sample Matrix Spike** Lab ID: **H16090457-011BMS2** Method: **E200.7**

Analysis Date: **09/27/16 19:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.942	0.050	1	0.02272	92	70	130				
Calcium	85.5	1.0	50	38.89	93	70	130				
Copper	0.975	0.0050	1	0.0064	97	70	130				
Iron	4.74	0.020	5	0.01058	95	70	130				
Magnesium	55.1	1.0	50	8.059	94	70	130				
Manganese	4.90	0.0010	5	0.2675	93	70	130				
Potassium	54.9	1.0	50	5.652	99	70	130				
Sodium	74.3	1.0	50	24.77	99	70	130				
Zinc	0.930	0.010	1	0.00649	92	70	130				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 139** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-011BMSD2** Method: **E200.7**

Analysis Date: **09/27/16 19:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.969	0.050	1	0.02272	95	70	130	0.9417	2.9	20	
Calcium	86.7	1.0	50	38.89	96	70	130	85.5	1.4	20	
Copper	0.982	0.0050	1	0.0064	98	70	130	0.975	0.7	20	
Iron	4.79	0.020	5	0.01058	96	70	130	4.739	1.2	20	
Magnesium	56.2	1.0	50	8.059	96	70	130	55.12	1.9	20	
Manganese	4.98	0.0010	5	0.2675	94	70	130	4.904	1.6	20	
Potassium	54.7	1.0	50	5.652	98	70	130	54.94	0.4	20	
Sodium	73.8	1.0	50	24.77	98	70	130	74.35	0.8	20	
Zinc	0.959	0.010	1	0.00649	95	70	130	0.9298	3.0	20	

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 147** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/27/16 20:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.31	0.10	2.5	0	92	90	110				
Calcium	23.7	1.0	25	0	95	90	110				
Copper	2.35	0.010	2.5	0	94	90	110				
Iron	2.34	0.020	2.5	0	94	90	110				
Magnesium	23.4	1.0	25	0	93	90	110				
Manganese	2.29	0.010	2.5	0	92	90	110				
Potassium	23.5	1.0	25	0	94	90	110				
Sodium	23.5	1.0	25	0	94	90	110				
Zinc	2.29	0.010	2.5	0	92	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 154** SampType: **Sample Matrix Spike** Lab ID: **H16090457-021BMS2** Method: **E200.7**

Analysis Date: **09/27/16 20:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.08019	94	70	130				
Calcium	182	1.0	50	139	86	70	130				
Copper	0.994	0.0050	1	0.02613	97	70	130				
Iron	4.70	0.020	5	0	94	70	130				
Magnesium	69.2	1.0	50	22.39	94	70	130				
Manganese	9.98	0.0010	5	5.506	90	70	130				
Potassium	57.8	1.0	50	9.159	97	70	130				
Sodium	137	1.0	50	89.95	94	70	130				
Zinc	1.46	0.010	1	0.5193	94	70	130				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 155** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-021BMSD2** Method: **E200.7**

Analysis Date: **09/27/16 20:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.03	0.050	1	0.08019	95	70	130	1.023	0.4	20	
Calcium	184	1.0	50	139	90	70	130	182.2	1.0	20	
Copper	1.01	0.0050	1	0.02613	98	70	130	0.9937	1.3	20	
Iron	4.77	0.020	5	0	95	70	130	4.704	1.4	20	
Magnesium	69.9	1.0	50	22.39	95	70	130	69.25	0.9	20	
Manganese	10.1	0.0010	5	5.506	91	70	130	9.985	0.7	20	
Potassium	58.5	1.0	50	9.159	99	70	130	57.77	1.2	20	
Sodium	139	1.0	50	89.95	97	70	130	137	1.2	20	
Zinc	1.47	0.010	1	0.5193	95	70	130	1.459	0.6	20	

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 166** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/27/16 21:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.39	0.10	2.5	0	96	90	110				
Calcium	24.9	1.0	25	0	99	90	110				
Copper	2.48	0.010	2.5	0	99	90	110				
Iron	2.45	0.020	2.5	0	98	90	110				
Magnesium	24.4	1.0	25	0	98	90	110				
Manganese	2.40	0.010	2.5	0	96	90	110				
Potassium	24.9	1.0	25	0	100	90	110				
Sodium	25.0	1.0	25	0	100	90	110				
Zinc	2.40	0.010	2.5	0	96	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 177** SampType: **Sample Matrix Spike** Lab ID: **H16090457-031BMS2** Method: **E200.7**

Analysis Date: **09/27/16 22:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.0796	97	70	130				
Calcium	116	1.0	50	66.78	98	70	130				
Copper	1.59	0.0050	1	0.6019	99	70	130				
Iron	8.04	0.020	5	3.13	98	70	130				
Magnesium	63.6	1.0	50	13.7	100	70	130				
Manganese	14.3	0.0010	5	9.63	94	70	130				
Potassium	56.5	1.0	50	7.848	97	70	130				
Sodium	80.2	1.0	50	31.98	96	70	130				
Zinc	6.23	0.010	1	5.369		70	130				A

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 178** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/27/16 22:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.38	0.10	2.5	0	95	90	110				
Calcium	25.2	1.0	25	0	101	90	110				
Copper	2.47	0.010	2.5	0	99	90	110				
Iron	2.47	0.020	2.5	0	99	90	110				
Magnesium	24.5	1.0	25	0	98	90	110				
Manganese	2.42	0.010	2.5	0	97	90	110				
Potassium	24.6	1.0	25	0	99	90	110				
Sodium	24.5	1.0	25	0	98	90	110				
Zinc	2.38	0.010	2.5	0	95	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 180** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-031BMSD2** Method: **E200.7**

Analysis Date: **09/27/16 22:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1	0.0796	93	70	130	1.047	3.8	20	
Calcium	114	1.0	50	66.78	95	70	130	115.7	1.1	20	
Copper	1.60	0.0050	1	0.6019	99	70	130	1.59	0.4	20	
Iron	8.03	0.020	5	3.13	98	70	130	8.036	0.1	20	
Magnesium	62.9	1.0	50	13.7	98	70	130	63.63	1.1	20	
Manganese	14.2	0.0010	5	9.63	91	70	130	14.34	1.0	20	
Potassium	57.5	1.0	50	7.848	99	70	130	56.53	1.6	20	
Sodium	81.6	1.0	50	31.98	99	70	130	80.2	1.8	20	
Zinc	6.03	0.010	1	5.369		70	130	6.226	3.2	20	A

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 190** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/27/16 22:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.33	0.10	2.5	0	93	90	110				
Calcium	25.3	1.0	25	0	101	90	110				
Copper	2.43	0.010	2.5	0	97	90	110				
Iron	2.46	0.020	2.5	0	98	90	110				
Magnesium	24.6	1.0	25	0	98	90	110				
Manganese	2.42	0.010	2.5	0	97	90	110				
Potassium	23.8	1.0	25	0	95	90	110				
Sodium	23.5	1.0	25	0	94	90	110				
Zinc	2.33	0.010	2.5	0	93	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 195** SampType: **Sample Matrix Spike** Lab ID: **H16090457-045BMS2** Method: **E200.7**

Analysis Date: **09/27/16 23:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.971	0.050	1	0.00335	97	70	130				
Calcium	50.0	1.0	50	0	100	70	130				
Copper	0.997	0.0050	1	0	100	70	130				
Iron	4.93	0.020	5	0	99	70	130				
Magnesium	48.8	1.0	50	0.00944	98	70	130				
Manganese	4.85	0.0010	5	0	97	70	130				
Potassium	48.5	1.0	50	0.0566	97	70	130				
Sodium	48.3	1.0	50	0	97	70	130				
Zinc	0.968	0.010	1	0.00185	97	70	130				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119028

Date: *17-Oct-16*

Run ID :Run Order: **ICP2-HE_160927B: 196** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-045BMSD2** Method: **E200.7**

Analysis Date: **09/27/16 23:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.940	0.050	1	0.00335	94	70	130	0.9711	3.2	20	
Calcium	50.5	1.0	50	0	101	70	130	49.95	1.1	20	
Copper	1.01	0.0050	1	0	101	70	130	0.997	1.2	20	
Iron	5.02	0.020	5	0	100	70	130	4.932	1.8	20	
Magnesium	49.4	1.0	50	0.00944	99	70	130	48.8	1.2	20	
Manganese	4.91	0.0010	5	0	98	70	130	4.849	1.2	20	
Potassium	49.2	1.0	50	0.0566	98	70	130	48.54	1.4	20	
Sodium	48.9	1.0	50	0	98	70	130	48.33	1.2	20	
Zinc	0.941	0.010	1	0.00185	94	70	130	0.9685	2.8	20	

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICP2-HE_160927B: 202** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/27/16 23:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.37	0.10	2.5	0	95	90	110				
Calcium	24.8	1.0	25	0	99	90	110				
Copper	2.43	0.010	2.5	0	97	90	110				
Iron	2.46	0.020	2.5	0	98	90	110				
Magnesium	24.0	1.0	25	0	96	90	110				
Manganese	2.39	0.010	2.5	0	96	90	110				
Potassium	24.1	1.0	25	0	96	90	110				
Sodium	24.0	1.0	25	0	96	90	110				
Zinc	2.34	0.010	2.5	0	94	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/28/16 10:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.293	0.10	0.3	0	98	90	110				
Antimony	0.0603	0.050	0.06	0	101	90	110				
Arsenic	0.0602	0.0050	0.06	0	100	90	110				
Barium	0.0602	0.10	0.06	0	100	90	110				
Beryllium	0.0302	0.0010	0.03	0	101	90	110				
Cadmium	0.0294	0.0010	0.03	0	98	90	110				
Chromium	0.0595	0.010	0.06	0	99	90	110				
Cobalt	0.0594	0.010	0.06	0	99	90	110				
Copper	0.0610	0.010	0.06	0	102	90	110				
Iron	0.303	0.020	0.3	0	101	90	110				
Lead	0.0578	0.010	0.06	0	96	90	110				
Magnesium	2.95	0.50	3	0	98	90	110				
Manganese	0.300	0.010	0.3	0	100	90	110				
Molybdenum	0.0563	0.0050	0.06	0	94	90	110				
Nickel	0.0601	0.010	0.06	0	100	90	110				
Selenium	0.0609	0.0050	0.06	0	101	90	110				
Silver	0.0296	0.0050	0.03	0	99	90	110				
Sodium	2.85	0.50	3	0	95	90	110				
Uranium	0.0573	0.0010	0.06	0	96	90	110				
Vanadium	0.0579	0.10	0.06	0	96	90	110				
Zinc	0.0611	0.010	0.06	0	102	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/28/16 10:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.6	0.10	40	0	104	70	130				
Antimony	0.000125	0.050		0							
Arsenic	-1.90E-05	0.0050		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/28/16 10:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.70E-05	0.10		0							
Beryllium	0.000110	0.0010		0							
Cadmium	0.00104	0.0010		0							
Chromium	0.00133	0.010		0							
Cobalt	1.00E-05	0.010		0							
Copper	0.000343	0.010		0							
Iron	101	0.020	100	0	**101**	70	130				
Lead	0.000249	0.010		0							
Magnesium	41.6	0.50	40	0	**104**	70	130				
Manganese	0.000517	0.010		0							
Molybdenum	0.889	0.0050	0.8	0	**111**	70	130				
Nickel	0.000203	0.010		0							
Selenium	0.000179	0.0050		0							
Silver	5.40E-05	0.0050		0							
Sodium	105	0.50	100	0	**105**	70	130				
Uranium	0.000107	0.0010		0							
Vanadium	-0.000413	0.10		0							
Zinc	0.000753	0.010		0							

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 16** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/28/16 11:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0005									
Antimony	ND	3E-05									
Arsenic	ND	6E-05									
Barium	ND	0.0001									
Beryllium	ND	5E-05									
Cadmium	ND	1E-05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 16** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/28/16 11:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	3E-05									
Cobalt	3E-05	2E-05									
Copper	ND	6E-05									
Iron	ND	0.0002									
Lead	ND	5E-06									
Magnesium	ND	0.0009									
Manganese	0.0004	6E-05									
Molybdenum	ND	2E-05									
Nickel	ND	4E-05									
Selenium	ND	0.0003									
Silver	ND	9E-06									
Sodium	ND	0.002									
Uranium	ND	6E-06									
Vanadium	ND	0.0001									
Zinc	ND	0.0002									

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 17** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/28/16 11:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0472	0.10	0.05	0	**94**	85	115				
Antimony	0.0477	0.050	0.05	0	**95**	85	115				
Arsenic	0.0498	0.0050	0.05	0	**100**	85	115				
Barium	0.0485	0.10	0.05	0	**97**	85	115				
Beryllium	0.0490	0.0010	0.05	0	**98**	85	115				
Cadmium	0.0485	0.0010	0.05	0	**97**	85	115				
Chromium	0.0487	0.010	0.05	0	**97**	85	115				
Cobalt	0.0497	0.010	0.05	0.0000303	**99**	85	115				
Copper	0.0494	0.010	0.05	0	**99**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 17** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/28/16 11:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.147	0.020	0.15	0	98	85	115				
Lead	0.0478	0.010	0.05	0	96	85	115				
Magnesium	0.968	0.50	1	0	97	85	115				
Manganese	0.0503	0.010	0.05	0.000359	100	85	115				
Molybdenum	0.0465	0.0050	0.05	0	93	85	115				
Nickel	0.0496	0.010	0.05	0	99	85	115				
Selenium	0.0507	0.0050	0.05	0	101	85	115				
Silver	0.0195	0.0050	0.02	0	97	85	115				
Sodium	0.896	0.50	1	0	90	85	115				
Uranium	0.0457	0.0010	0.05	0	91	85	115				
Vanadium	0.0469	0.10	0.05	0	94	85	115				
Zinc	0.0493	0.010	0.05	0	99	85	115				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 69** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/28/16 23:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.295	0.10	0.3	0	98	90	110				
Antimony	0.0608	0.050	0.06	0	101	90	110				
Arsenic	0.0632	0.0050	0.06	0	105	90	110				
Barium	0.0608	0.10	0.06	0	101	90	110				
Beryllium	0.0315	0.0010	0.03	0	105	90	110				
Cadmium	0.0317	0.0010	0.03	0	106	90	110				
Chromium	0.0615	0.010	0.06	0	102	90	110				
Cobalt	0.0612	0.010	0.06	0	102	90	110				
Copper	0.0624	0.010	0.06	0	104	90	110				
Iron	0.312	0.020	0.3	0	104	90	110				
Lead	0.0598	0.010	0.06	0	100	90	110				
Magnesium	3.09	0.50	3	0	103	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 69** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/28/16 23:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.310	0.010	0.3	0	**103**	90	110				
Molybdenum	0.0591	0.0050	0.06	0	**98**	90	110				
Nickel	0.0620	0.010	0.06	0	**103**	90	110				
Selenium	0.0650	0.0050	0.06	0	**108**	90	110				
Silver	0.0313	0.0050	0.03	0	**104**	90	110				
Sodium	3.00	0.50	3	0	**100**	90	110				
Uranium	0.0589	0.0010	0.06	0	**98**	90	110				
Vanadium	0.0596	0.10	0.06	0	**99**	90	110				
Zinc	0.0634	0.010	0.06	0	**106**	90	110				

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 70** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/28/16 23:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.6	0.10	40	0	**104**	70	130				
Antimony	0.000215	0.050		0							
Arsenic	8.30E-05	0.0050		0							
Barium	0.000118	0.10		0							
Beryllium	4.40E-05	0.0010		0							
Cadmium	0.00122	0.0010		0							
Chromium	0.00134	0.010		0							
Cobalt	4.40E-05	0.010		0							
Copper	0.000330	0.010		0							
Iron	103	0.020	100	0	**103**	70	130				
Lead	0.000261	0.010		0							
Magnesium	42.3	0.50	40	0	**106**	70	130				
Manganese	0.000321	0.010		0							
Molybdenum	0.906	0.0050	0.8	0	**113**	70	130				
Nickel	0.000312	0.010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 70** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/28/16 23:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.000299	0.0050		0							
Silver	8.90E-05	0.0050		0							
Sodium	108	0.50	100	0	**108**	70	130				
Uranium	0.000100	0.0010		0							
Vanadium	-0.000387	0.10		0							
Zinc	0.000692	0.010		0							

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 80** SampType: **Sample Matrix Spike** Lab ID: **H16090457-004BMS** Method: **E200.8**

Analysis Date: **09/29/16 00:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0662	0.030	0.05	0.01754	**97**	70	130				
Antimony	0.0516	0.0010	0.05	0.0003709	**102**	70	130				
Arsenic	0.0521	0.0010	0.05	0.001329	**102**	70	130				
Barium	0.0886	0.050	0.05	0.03618	**105**	70	130				
Beryllium	0.0513	0.0010	0.05	0.0002127	**102**	70	130				
Cadmium	0.0794	0.0010	0.05	0.02796	**103**	70	130				
Chromium	0.0516	0.0050	0.05	0.0000433	**103**	70	130				
Cobalt	0.0647	0.0050	0.05	0.01294	**103**	70	130				
Copper	0.281	0.0050	0.05	0.2336		70	130				A
Iron	0.160	0.020	0.15	0.004758	**104**	70	130				
Lead	0.0508	0.0010	0.05	0.00001	**102**	70	130				
Magnesium	11.4	1.0	1	10.42		70	130				A
Manganese	5.81	0.0010	0.05	5.819		70	130				AE
Molybdenum	0.0578	0.0010	0.05	0.00725	**101**	70	130				
Nickel	0.0660	0.0050	0.05	0.01544	**101**	70	130				
Selenium	0.0507	0.0010	0.05	0	**101**	70	130				
Silver	0.0197	0.0010	0.02	0	**99**	70	130				
Sodium	34.1	1.0	1	33.32		70	130				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 80** SampType: **Sample Matrix Spike** Lab ID: **H16090457-004BMS** Method: **E200.8**

Analysis Date: **09/29/16 00:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0554	0.00030	0.05	0.003959	103	70	130				
Vanadium	0.0509	0.010	0.05	0	102	70	130				
Zinc	7.37	0.010	0.05	7.434		70	130				AE

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 81** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-004BMSD** Method: **E200.8**

Analysis Date: **09/29/16 00:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0639	0.030	0.05	0.01754	93	70	130	0.0662	3.6	20	
Antimony	0.0502	0.0010	0.05	0.0003709	100	70	130	0.05157	2.7	20	
Arsenic	0.0524	0.0010	0.05	0.001329	102	70	130	0.05208	0.7	20	
Barium	0.0890	0.050	0.05	0.03618	106	70	130	0.08855	0.5	20	
Beryllium	0.0487	0.0010	0.05	0.0002127	97	70	130	0.05132	5.3	20	
Cadmium	0.0767	0.0010	0.05	0.02796	97	70	130	0.07942	3.5	20	
Chromium	0.0504	0.0050	0.05	0.0000433	101	70	130	0.05158	2.3	20	
Cobalt	0.0634	0.0050	0.05	0.01294	101	70	130	0.06468	2.1	20	
Copper	0.280	0.0050	0.05	0.2336		70	130	0.2811	0.5	20	A
Iron	0.156	0.020	0.15	0.004758	101	70	130	0.1602	2.6	20	
Lead	0.0502	0.0010	0.05	0.00001	100	70	130	0.05081	1.2	20	
Magnesium	11.4	1.0	1	10.42		70	130	11.37	0.3	20	A
Manganese	5.82	0.0010	0.05	5.819		70	130	5.811	0.1	20	AE
Molybdenum	0.0571	0.0010	0.05	0.00725	100	70	130	0.05785	1.3	20	
Nickel	0.0656	0.0050	0.05	0.01544	100	70	130	0.066	0.7	20	
Selenium	0.0492	0.0010	0.05	0	98	70	130	0.05073	3.1	20	
Silver	0.0196	0.0010	0.02	0	98	70	130	0.01974	0.6	20	
Sodium	33.9	1.0	1	33.32		70	130	34.06	0.4	20	A
Uranium	0.0540	0.00030	0.05	0.003959	100	70	130	0.05535	2.6	20	
Vanadium	0.0494	0.010	0.05	0	99	70	130	0.05088	2.9	20	
Zinc	7.34	0.010	0.05	7.434		70	130	7.369	0.5	20	AE

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 81** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-004BMSD** Method: **E200.8**

Analysis Date: **09/29/16 00:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 93** SampType: **Sample Matrix Spike** Lab ID: **H16090457-011BMS** Method: **E200.8**

Analysis Date: **09/29/16 01:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0562	0.030	0.05	0.007494	97	70	130				
Antimony	0.0510	0.0010	0.05	0.0001075	102	70	130				
Arsenic	0.0506	0.0010	0.05	0.001398	98	70	130				
Barium	0.0908	0.050	0.05	0.04325	95	70	130				
Beryllium	0.0508	0.0010	0.05	0.0003861	101	70	130				
Cadmium	0.0497	0.0010	0.05	0.0003249	99	70	130				
Chromium	0.0503	0.0050	0.05	0.000051	100	70	130				
Cobalt	0.0510	0.0050	0.05	0.0000712	102	70	130				
Copper	0.0508	0.0050	0.05	0.0003817	101	70	130				
Iron	0.169	0.020	0.15	0.01784	101	70	130				
Lead	0.0500	0.0010	0.05	0.0000116	100	70	130				
Magnesium	9.30	1.0	1	8.392		70	130				A
Manganese	0.338	0.0010	0.05	0.2897		70	130				A
Molybdenum	0.0499	0.0010	0.05	0.0001562	99	70	130				
Nickel	0.0551	0.0050	0.05	0.004519	101	70	130				
Selenium	0.0500	0.0010	0.05	0	100	70	130				
Silver	0.0196	0.0010	0.02	0	98	70	130				
Sodium	26.0	1.0	1	25.15		70	130				A
Uranium	0.0494	0.00030	0.05	0.0003162	98	70	130				
Vanadium	0.0512	0.010	0.05	0.001048	100	70	130				
Zinc	0.0527	0.010	0.05	0.005622	94	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 93** SampType: **Sample Matrix Spike** Lab ID: **H16090457-011BMS** Method: **E200.8**

Analysis Date: **09/29/16 01:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 94** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-011BMSD** Method: **E200.8**

Analysis Date: **09/29/16 01:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0567	0.030	0.05	0.007494	98	70	130	0.05623	0.8	20	
Antimony	0.0519	0.0010	0.05	0.0001075	104	70	130	0.05095	1.8	20	
Arsenic	0.0517	0.0010	0.05	0.001398	101	70	130	0.05059	2.1	20	
Barium	0.0941	0.050	0.05	0.04325	102	70	130	0.09081	3.6	20	
Beryllium	0.0495	0.0010	0.05	0.0003861	98	70	130	0.05077	2.5	20	
Cadmium	0.0506	0.0010	0.05	0.0003249	101	70	130	0.04967	1.9	20	
Chromium	0.0505	0.0050	0.05	0.000051	101	70	130	0.05029	0.5	20	
Cobalt	0.0509	0.0050	0.05	0.0000712	102	70	130	0.05096	0.2	20	
Copper	0.0510	0.0050	0.05	0.0003817	101	70	130	0.05075	0.6	20	
Iron	0.168	0.020	0.15	0.01784	100	70	130	0.1686	0.1	20	
Lead	0.0506	0.0010	0.05	0.0000116	101	70	130	0.04997	1.2	20	
Magnesium	9.36	1.0	1	8.392		70	130	9.295	0.7	20	A
Manganese	0.337	0.0010	0.05	0.2897		70	130	0.3382	0.4	20	A
Molybdenum	0.0504	0.0010	0.05	0.0001562	100	70	130	0.04987	1.1	20	
Nickel	0.0551	0.0050	0.05	0.004519	101	70	130	0.05513	0.1	20	
Selenium	0.0500	0.0010	0.05	0	100	70	130	0.05001	0.0	20	
Silver	0.0206	0.0010	0.02	0	103	70	130	0.01956	5.3	20	
Sodium	26.2	1.0	1	25.15		70	130	26.05	0.7	20	A
Uranium	0.0502	0.00030	0.05	0.0003162	100	70	130	0.04936	1.7	20	
Vanadium	0.0513	0.010	0.05	0.001048	100	70	130	0.05122	0.1	20	
Zinc	0.0531	0.010	0.05	0.005622	95	70	130	0.0527	0.7	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 94** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-011BMSD** Method: **E200.8**

Analysis Date: **09/29/16 01:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 111** SampType: **Sample Matrix Spike** Lab ID: **H16090457-021BMS** Method: **E200.8**

Analysis Date: **09/29/16 02:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0490	0.030	0.05	0.002077	**94**	70	130				
Antimony	0.0508	0.0010	0.05	0.0001191	**101**	70	130				
Arsenic	0.0549	0.0010	0.05	0.00204	**106**	70	130				
Barium	0.113	0.050	0.05	0.06103	**104**	70	130				
Beryllium	0.0484	0.0010	0.05	0	**97**	70	130				
Cadmium	0.0591	0.0010	0.05	0.01099	**96**	70	130				
Chromium	0.0514	0.0050	0.05	0.0000726	**103**	70	130				
Cobalt	0.0596	0.0050	0.05	0.008405	**102**	70	130				
Copper	0.0728	0.0050	0.05	0.02372	**98**	70	130				
Iron	0.160	0.020	0.15	0.00768	**102**	70	130				
Lead	0.0513	0.0010	0.05	0.000006	**103**	70	130				
Magnesium	23.9	1.0	1	23.52		70	130				A
Manganese	5.99	0.0010	0.05	6.144		70	130				A
Molybdenum	0.0549	0.0010	0.05	0.002286	**105**	70	130				
Nickel	0.0536	0.0050	0.05	0.004008	**99**	70	130				
Selenium	0.0520	0.0010	0.05	0	**104**	70	130				
Silver	0.0191	0.0010	0.02	0	**95**	70	130				
Sodium	90.2	1.0	1	91.13		70	130				AE
Uranium	0.0560	0.00030	0.05	0.00412	**104**	70	130				
Vanadium	0.0517	0.010	0.05	0	**103**	70	130				
Zinc	0.535	0.010	0.05	0.498		70	130				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 111** SampType: **Sample Matrix Spike** Lab ID: **H16090457-021BMS** Method: **E200.8**

Analysis Date: **09/29/16 02:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 112** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-021BMSD** Method: **E200.8**

Analysis Date: **09/29/16 02:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0501	0.030	0.05	0.002077	96	70	130	0.04897	2.4	20	
Antimony	0.0511	0.0010	0.05	0.0001191	102	70	130	0.05082	0.6	20	
Arsenic	0.0564	0.0010	0.05	0.00204	109	70	130	0.05493	2.7	20	
Barium	0.114	0.050	0.05	0.06103	105	70	130	0.1128	0.8	20	
Beryllium	0.0498	0.0010	0.05	0	100	70	130	0.04842	2.8	20	
Cadmium	0.0601	0.0010	0.05	0.01099	98	70	130	0.05909	1.8	20	
Chromium	0.0521	0.0050	0.05	0.0000726	104	70	130	0.05137	1.5	20	
Cobalt	0.0602	0.0050	0.05	0.008405	104	70	130	0.05961	1.0	20	
Copper	0.0739	0.0050	0.05	0.02372	100	70	130	0.0728	1.5	20	
Iron	0.163	0.020	0.15	0.00768	104	70	130	0.1605	1.5	20	
Lead	0.0518	0.0010	0.05	0.000006	104	70	130	0.0513	0.9	20	
Magnesium	24.3	1.0	1	23.52		70	130	23.9	1.8	20	A
Manganese	6.08	0.0010	0.05	6.144		70	130	5.99	1.5	20	A
Molybdenum	0.0546	0.0010	0.05	0.002286	105	70	130	0.05487	0.5	20	
Nickel	0.0545	0.0050	0.05	0.004008	101	70	130	0.05358	1.8	20	
Selenium	0.0526	0.0010	0.05	0	105	70	130	0.05201	1.1	20	
Silver	0.0196	0.0010	0.02	0	98	70	130	0.01909	2.6	20	
Sodium	92.1	1.0	1	91.13		70	130	90.22	2.1	20	AE
Uranium	0.0567	0.00030	0.05	0.00412	105	70	130	0.05595	1.3	20	
Vanadium	0.0521	0.010	0.05	0	104	70	130	0.05173	0.7	20	
Zinc	0.544	0.010	0.05	0.498		70	130	0.535	1.6	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 112** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-021BMSD** Method: **E200.8**

Analysis Date: **09/29/16 02:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 127** SampType: **Sample Matrix Spike** Lab ID: **H16090457-031BMS** Method: **E200.8**

Analysis Date: **09/29/16 03:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.847	0.030	0.05	0.804		70	130				A
Antimony	0.0492	0.0010	0.05	0	98	70	130				
Arsenic	0.0504	0.0010	0.05	0.0003646	100	70	130				
Barium	0.0859	0.050	0.05	0.03452	103	70	130				
Beryllium	0.0458	0.0010	0.05	0.0004743	91	70	130				
Cadmium	0.0552	0.0010	0.05	0.006798	97	70	130				
Chromium	0.0499	0.0050	0.05	0.0000298	100	70	130				
Cobalt	0.0774	0.0050	0.05	0.02756	100	70	130				
Copper	0.641	0.0050	0.05	0.5941		70	130				A
Iron	3.27	0.020	0.15	3.127		70	130				A
Lead	0.0503	0.0010	0.05	0.000011	101	70	130				
Magnesium	14.7	1.0	1	13.86		70	130				A
Manganese	9.66	0.0010	0.05	9.647		70	130				A
Molybdenum	0.0501	0.0010	0.05	0.0001279	100	70	130				
Nickel	0.0618	0.0050	0.05	0.01214	99	70	130				
Selenium	0.0480	0.0010	0.05	0	96	70	130				
Silver	0.0192	0.0010	0.02	0	96	70	130				
Sodium	33.6	1.0	1	32.74		70	130				A
Uranium	0.0500	0.00030	0.05	0.0005827	99	70	130				
Vanadium	0.0498	0.010	0.05	0	100	70	130				
Zinc	5.18	0.010	0.05	5.181		70	130				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 127** SampType: **Sample Matrix Spike** Lab ID: **H16090457-031BMS** Method: **E200.8**

Analysis Date: **09/29/16 03:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 128** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-031BMSD** Method: **E200.8**

Analysis Date: **09/29/16 03:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.863	0.030	0.05	0.804		70	130	0.8474	1.8	20	A
Antimony	0.0495	0.0010	0.05	0	99	70	130	0.04916	0.7	20	
Arsenic	0.0506	0.0010	0.05	0.0003646	100	70	130	0.05045	0.3	20	
Barium	0.0854	0.050	0.05	0.03452	102	70	130	0.08592	0.6	20	
Beryllium	0.0491	0.0010	0.05	0.0004743	97	70	130	0.04581	6.9	20	
Cadmium	0.0562	0.0010	0.05	0.006798	99	70	130	0.05519	1.8	20	
Chromium	0.0512	0.0050	0.05	0.0000298	102	70	130	0.04988	2.7	20	
Cobalt	0.0793	0.0050	0.05	0.02756	103	70	130	0.07736	2.5	20	
Copper	0.651	0.0050	0.05	0.5941		70	130	0.6407	1.5	20	A
Iron	3.34	0.020	0.15	3.127		70	130	3.274	2.0	20	A
Lead	0.0512	0.0010	0.05	0.000011	102	70	130	0.05029	1.8	20	
Magnesium	15.0	1.0	1	13.86		70	130	14.73	1.7	20	A
Manganese	9.83	0.0010	0.05	9.647		70	130	9.657	1.7	20	A
Molybdenum	0.0509	0.0010	0.05	0.0001279	102	70	130	0.05014	1.5	20	
Nickel	0.0630	0.0050	0.05	0.01214	102	70	130	0.06184	1.8	20	
Selenium	0.0519	0.0010	0.05	0	104	70	130	0.04799	7.8	20	
Silver	0.0199	0.0010	0.02	0	99	70	130	0.01923	3.2	20	
Sodium	34.0	1.0	1	32.74		70	130	33.63	1.1	20	A
Uranium	0.0513	0.00030	0.05	0.0005827	101	70	130	0.05	2.5	20	
Vanadium	0.0508	0.010	0.05	0	102	70	130	0.04978	2.0	20	
Zinc	5.24	0.010	0.05	5.181		70	130	5.182	1.2	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 128** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-031BMSD** Method: **E200.8**

Analysis Date: **09/29/16 03:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 148** SampType: **Sample Matrix Spike** Lab ID: **H16090457-041BMS** Method: **E200.8**

Analysis Date: **09/29/16 04:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0516	0.030	0.05	0.001446	100	70	130				
Antimony	0.0497	0.0010	0.05	0.0001688	99	70	130				
Arsenic	0.0577	0.0010	0.05	0.00653	102	70	130				
Barium	0.0727	0.050	0.05	0.02087	104	70	130				
Beryllium	0.0474	0.0010	0.05	0	95	70	130				
Cadmium	0.0492	0.0010	0.05	0.0000173	98	70	130				
Chromium	0.0510	0.0050	0.05	0.0001209	102	70	130				
Cobalt	0.0513	0.0050	0.05	0	103	70	130				
Copper	0.0504	0.0050	0.05	0.0001351	101	70	130				
Iron	0.157	0.020	0.15	0.00287	103	70	130				
Lead	0.0509	0.0010	0.05	0.0000092	102	70	130				
Magnesium	17.4	1.0	1	16.39		70	130				A
Manganese	0.0527	0.0010	0.05	0.001689	102	70	130				
Molybdenum	0.0524	0.0010	0.05	0.002098	101	70	130				
Nickel	0.0500	0.0050	0.05	0.0000741	100	70	130				
Selenium	0.0545	0.0010	0.05	0.002497	104	70	130				
Silver	0.0197	0.0010	0.02	0	99	70	130				
Sodium	33.1	1.0	1	32.07		70	130				A
Uranium	0.0583	0.00030	0.05	0.008513	100	70	130				
Vanadium	0.0533	0.010	0.05	0.002123	102	70	130				
Zinc	0.0461	0.010	0.05	0.001417	89	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 148** SampType: **Sample Matrix Spike** Lab ID: **H16090457-041BMS** Method: **E200.8**

Analysis Date: **09/29/16 04:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 149** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-041BMSD** Method: **E200.8**

Analysis Date: **09/29/16 04:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0484	0.030	0.05	0.001446	94	70	130	0.05165	6.5	20	
Antimony	0.0500	0.0010	0.05	0.0001688	100	70	130	0.0497	0.7	20	
Arsenic	0.0575	0.0010	0.05	0.00653	102	70	130	0.05773	0.5	20	
Barium	0.0702	0.050	0.05	0.02087	99	70	130	0.07274	3.5	20	
Beryllium	0.0452	0.0010	0.05	0	90	70	130	0.04745	4.8	20	
Cadmium	0.0492	0.0010	0.05	0.0000173	98	70	130	0.04918	0.0	20	
Chromium	0.0509	0.0050	0.05	0.0001209	102	70	130	0.05105	0.2	20	
Cobalt	0.0502	0.0050	0.05	0	100	70	130	0.05126	2.0	20	
Copper	0.0500	0.0050	0.05	0.0001351	100	70	130	0.05043	0.9	20	
Iron	0.155	0.020	0.15	0.00287	102	70	130	0.1567	0.9	20	
Lead	0.0502	0.0010	0.05	0.0000092	100	70	130	0.05091	1.4	20	
Magnesium	17.1	1.0	1	16.39		70	130	17.45	1.8	20	A
Manganese	0.0515	0.0010	0.05	0.001689	100	70	130	0.05268	2.3	20	
Molybdenum	0.0526	0.0010	0.05	0.002098	101	70	130	0.05237	0.5	20	
Nickel	0.0494	0.0050	0.05	0.0000741	99	70	130	0.05004	1.3	20	
Selenium	0.0523	0.0010	0.05	0.002497	100	70	130	0.05447	4.0	20	
Silver	0.0198	0.0010	0.02	0	99	70	130	0.01972	0.2	20	
Sodium	32.4	1.0	1	32.07		70	130	33.09	2.2	20	A
Uranium	0.0581	0.00030	0.05	0.008513	99	70	130	0.05832	0.3	20	
Vanadium	0.0527	0.010	0.05	0.002123	101	70	130	0.05331	1.1	20	
Zinc	0.0478	0.010	0.05	0.001417	93	70	130	0.0461	3.6	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 149** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-041BMSD** Method: **E200.8**

Analysis Date: **09/29/16 04:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160928A: 185** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/29/16 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.1	0.10	40	0	**100**	70	130				
Antimony	2.30E-05	0.050		0							
Arsenic	-9.00E-06	0.0050		0							
Barium	-5.30E-05	0.10		0							
Beryllium	2.30E-05	0.0010		0							
Cadmium	0.00100	0.0010		0							
Chromium	0.00138	0.010		0							
Cobalt	2.70E-05	0.010		0							
Copper	0.000277	0.010		0							
Iron	97.3	0.020	100	0	**97**	70	130				
Lead	0.000254	0.010		0							
Magnesium	41.2	0.50	40	0	**103**	70	130				
Manganese	0.000423	0.010		0							
Molybdenum	0.896	0.0050	0.8	0	**112**	70	130				
Nickel	0.000308	0.010		0							
Selenium	0.000329	0.0050		0							
Silver	-1.00E-05	0.0050		0							
Sodium	105	0.50	100	0	**105**	70	130				
Uranium	2.00E-06	0.0010		0							
Vanadium	-0.000520	0.10		0							
Zinc	0.000783	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119044

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160928A: 185** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/29/16 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16090457-001B, H16090457-002B, H16090457-003B, H16090457-004B, H16090457-005B, H16090457-006B, H16090457-007B, H16090457-008B, H16090457-009B, H16090457-010B, H16090457-011B, H16090457-012B, H16090457-013B, H16090457-014B, H16090457-015B, H16090457-016B, H16090457-017B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-021B, H16090457-022B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-026B, H16090457-027B, H16090457-028B, H16090457-029B, H16090457-030B, H16090457-031B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-044B, H16090457-045B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119130

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160930B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/30/16 10:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0294	0.0010	0.03	0	**98**	90	110				
Copper	0.0616	0.010	0.06	0	**103**	90	110				
Lead	0.0584	0.010	0.06	0	**97**	90	110				
Manganese	0.302	0.010	0.3	0	**101**	90	110				
Uranium	0.0574	0.0010	0.06	0	**96**	90	110				

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160930B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/30/16 10:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.00134	0.0010		0							
Copper	-0.000716	0.010		0							
Lead	0.000276	0.010		0							
Manganese	0.000623	0.010		0							
Uranium	9.90E-05	0.0010		0							

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160930B: 16** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/30/16 10:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	1E-05									
Copper	ND	6E-05									
Lead	ND	5E-06									
Manganese	0.001	6E-05									
Uranium	ND	6E-06									

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119130

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160930B: 17** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/30/16 10:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0528	0.0010	0.05	0	106	85	115				
Copper	0.0512	0.010	0.05	0	102	85	115				
Lead	0.0497	0.010	0.05	0	99	85	115				
Manganese	0.0527	0.010	0.05	0.001193	103	85	115				
Uranium	0.0462	0.0010	0.05	0	93	85	115				

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160930B: 25** SampType: **Sample Matrix Spike** Lab ID: **H16090457-007BMS** Method: **E200.8**

Analysis Date: **09/30/16 10:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0494	0.0010	0.05	0.0000292	99	70	130				
Copper	0.0531	0.0050	0.05	0.002035	102	70	130				
Lead	0.0502	0.0010	0.05	0.0002609	100	70	130				
Manganese	0.0602	0.0010	0.05	0.009393	102	70	130				
Uranium	0.0539	0.00030	0.05	0.004992	98	70	130				

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160930B: 26** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-007BMSD** Method: **E200.8**

Analysis Date: **09/30/16 11:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0480	0.0010	0.05	0.0000292	96	70	130	0.04937	2.8	20	
Copper	0.0524	0.0050	0.05	0.002035	101	70	130	0.05313	1.3	20	
Lead	0.0492	0.0010	0.05	0.0002609	98	70	130	0.05019	2.0	20	
Manganese	0.0590	0.0010	0.05	0.009393	99	70	130	0.06021	2.0	20	
Uranium	0.0530	0.00030	0.05	0.004992	96	70	130	0.0539	1.7	20	

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119130

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160930B: 40** SampType: **Sample Matrix Spike** Lab ID: **H16090457-028BMS** Method: **E200.8**

Analysis Date: **09/30/16 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0494	0.0010	0.05	0	99	70	130				
Copper	0.0514	0.0050	0.05	0	103	70	130				
Lead	0.0492	0.0010	0.05	0	98	70	130				
Manganese	0.0522	0.0010	0.05	0.0004461	104	70	130				
Uranium	0.0470	0.00030	0.05	0.0001135	94	70	130				

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160930B: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-028BMSD** Method: **E200.8**

Analysis Date: **09/30/16 11:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0480	0.0010	0.05	0	96	70	130	0.0494	2.8	20	
Copper	0.0507	0.0050	0.05	0	101	70	130	0.05141	1.4	20	
Lead	0.0483	0.0010	0.05	0	97	70	130	0.04915	1.8	20	
Manganese	0.0514	0.0010	0.05	0.0004461	102	70	130	0.05223	1.7	20	
Uranium	0.0464	0.00030	0.05	0.0001135	92	70	130	0.04697	1.3	20	

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160930B: 57** SampType: **Sample Matrix Spike** Lab ID: **H16090457-040BMS** Method: **E200.8**

Analysis Date: **09/30/16 12:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0484	0.0010	0.05	0.0000185	97	70	130				
Copper	0.0509	0.0050	0.05	0.0001705	101	70	130				
Lead	0.0498	0.0010	0.05	0.0000096	100	70	130				
Manganese	0.0517	0.0010	0.05	0.0009537	102	70	130				
Uranium	0.0545	0.00030	0.05	0.005845	97	70	130				

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119130

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160930B: 58** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090457-040BMSD** Method: **E200.8**

Analysis Date: **09/30/16 12:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0477	0.0010	0.05	0.0000185	**95**	70	130	0.0484	**1.5**	20	
Copper	0.0509	0.0050	0.05	0.0001705	**101**	70	130	0.0509	**0.0**	20	
Lead	0.0499	0.0010	0.05	0.0000096	**100**	70	130	0.04981	**0.2**	20	
Manganese	0.0517	0.0010	0.05	0.0009537	**101**	70	130	0.05171	**0.1**	20	
Uranium	0.0548	0.00030	0.05	0.005845	**98**	70	130	0.05448	**0.7**	20	

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160930B: 71** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/30/16 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0311	0.0010	0.03	0	**104**	90	110				
Copper	0.0619	0.010	0.06	0	**103**	90	110				
Lead	0.0590	0.010	0.06	0	**98**	90	110				
Manganese	0.302	0.010	0.3	0	**101**	90	110				
Uranium	0.0582	0.0010	0.06	0	**97**	90	110				

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160930B: 72** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/30/16 13:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.00139	0.0010		0							
Copper	0.000406	0.010		0							
Lead	0.000248	0.010		0							
Manganese	0.000539	0.010		0							
Uranium	0.000110	0.0010		0							

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119130

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_160930B: 109** SampType: **Sample Matrix Spike** Lab ID: **H16090503-004BMS** Method: **E200.8**

Analysis Date: **09/30/16 16:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0510	0.0010	0.05	0	**102**	70	130				
Copper	0.0497	0.0050	0.05	0	**99**	70	130				
Lead	0.0502	0.0010	0.05	0.0001574	**100**	70	130				
Manganese	0.180	0.0010	0.05	0.1299	**99**	70	130				
Uranium	0.0510	0.00030	0.05	0.001889	**98**	70	130				

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Run ID :Run Order: **ICPMS204-B_160930B: 110** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16090503-004BMSD** Method: **E200.8**

Analysis Date: **09/30/16 16:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0505	0.0010	0.05	0	**101**	70	130	0.05096	**0.9**	20	
Copper	0.0489	0.0050	0.05	0	**98**	70	130	0.0497	**1.5**	20	
Lead	0.0494	0.0010	0.05	0.0001574	**98**	70	130	0.05017	**1.6**	20	
Manganese	0.176	0.0010	0.05	0.1299	**93**	70	130	0.1796	**1.9**	20	
Uranium	0.0507	0.00030	0.05	0.001889	**98**	70	130	0.05097	**0.5**	20	

Associated samples: **H16090457-007B, H16090457-013B, H16090457-014B, H16090457-018B, H16090457-019B, H16090457-020B, H16090457-023B, H16090457-024B, H16090457-025B, H16090457-028B, H16090457-029B, H16090457-032B, H16090457-033B, H16090457-034B, H16090457-035B, H16090457-036B, H16090457-037B, H16090457-038B, H16090457-039B, H16090457-040B, H16090457-041B, H16090457-042B, H16090457-043B, H16090457-046B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119178

Date: *17-Oct-16*

Run ID :Run Order: **PHSC_101-H_161004A: 6** SampType: **Method Blank** Lab ID: **MB** Method: **A2320 B**
Analysis Date: **10/04/16 09:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16090457-026A**

Run ID :Run Order: **PHSC_101-H_161004A: 8** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**
Analysis Date: **10/04/16 09:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	610	4.0	600	2.12	**102**	90	110				

Associated samples: **H16090457-026A**

Run ID :Run Order: **PHSC_101-H_161004A: 11** SampType: **Sample Duplicate** Lab ID: **H16090457-004ADUP** Method: **A2320 B**
Analysis Date: **10/04/16 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	56	4.0		0				55.95	**0.4**	10	
Bicarbonate as HCO3	68	4.0		0				67.65	**0.4**	10	

Associated samples: **H16090457-026A**

Run ID :Run Order: **PHSC_101-H_161004A: 49** SampType: **Sample Duplicate** Lab ID: **H16100008-001EDUP** Method: **A2320 B**
Analysis Date: **10/04/16 13:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	130	4.0		0				131.4	**0.5**	10	
Bicarbonate as HCO3	160	4.0		0				159.7	**0.5**	10	

Associated samples: **H16090457-026A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119413

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_161012A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**
Analysis Date: **10/12/16 10:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.302	0.010	0.3	0	101	90	110				

Associated samples: **H16090457-005B, H16090457-045B**

Run ID :Run Order: **ICPMS204-B_161012A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **10/12/16 10:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.000312	0.010		0							

Associated samples: **H16090457-005B, H16090457-045B**

Run ID :Run Order: **ICPMS204-B_161012A: 16** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**
Analysis Date: **10/12/16 10:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0007	6E-05									

Associated samples: **H16090457-005B, H16090457-045B**

Run ID :Run Order: **ICPMS204-B_161012A: 17** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **10/12/16 10:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0487	0.010	0.05	0.0006762	96	85	115				

Associated samples: **H16090457-005B, H16090457-045B**

Run ID :Run Order: **ICPMS204-B_161012A: 70** SampType: **Sample Matrix Spike** Lab ID: **H16100112-001BMS** Method: **E200.8**
Analysis Date: **10/12/16 15:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0518	0.0010	0.05	0.003391	97	70	130				

Associated samples: **H16090457-005B, H16090457-045B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16090457
Project: SSTOU Groundwater/Vadose

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R119413

Date: *17-Oct-16*

Run ID :Run Order: **ICPMS204-B_161012A: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16100112-001BMSD** Method: **E200.8**

Analysis Date: **10/12/16 15:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0516	0.0010	0.05	0.003391	**96**	70	130	0.0518	**0.4**	20	

Associated samples: **H16090457-005B, H16090457-045B**

Run ID :Run Order: **ICPMS204-B_161012A: 109** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**

Analysis Date: **10/12/16 17:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.302	0.010	0.3	0	**101**	90	110				

Associated samples: **H16090457-005B, H16090457-045B**

Run ID :Run Order: **ICPMS204-B_161012A: 110** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **10/12/16 17:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.000344	0.010		0							

Associated samples: **H16090457-005B, H16090457-045B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund H16090457

Login completed by: Tracy L. Lorash
Date Received: 9/21/2016
Reviewed by: BL2000\rwilliams
Received by: bjs
Reviewed Date: 9/28/2016
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	Not Applicable ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Silver not a requested analysis on the COC, however it's in the quote. Per Joe, we are to analyze.
Collection date on COC page 1 is 9/19/20 - bottles have 9/19/2016. Logged in with date from bottles
Dashes inconsistent between sample ID on COC and bottles. Logged in with ID from COC.
Sample ID on COC is GW-ST-WS-Field Dup and GW-1010R Field Dup -ID on bottles has Duplicate spelled out. Logged in with ID from COC.
Limited sample volume for samples LYS-01, LYS-03, LYS-05 and LYS-07. Priority analysis is Dissolved Metals, Hardness, Sulfate/Chloride, Alkalinity per Joe.
Cooler 1 was received at 0.4°C, Cooler 2 at 1.1°C. Samples were received on wet ice.
Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. tl 9/23/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Report Mail Address (Required): PO BOX 200901 Helena, MT 59620

☐ No Hard Copy Email:

Invoice Address (Required): SAME

☐ No Hard Copy Email:

Project Name, PWS, Permit, Etc.: SSTOU GROUNDWATER - VADOSE

Contact Name: BEN QUINONES Phone/Fax: 406 461-7128 Cell: BEQUINONES@MT.GOV

Invoice Contact & Phone: SAME

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Sampler: (Please Print) BRENT MERRILL, JOE NAUGHTON

Purchase Order:

Quote/Bottle Order: ~~20~~ 21702

Special Report/Formats:
☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

ANALYSIS REQUESTED

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	ALK, ANIONS	Diss As Cd Cu Pb	Hg Ni Al Sb	Ba Be B Co	Cr Fe Mn Mo	Ni Se O Va	HARDNESS, HCO_3, CARBONS			SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments:
1	AM-MC-NS	9/19/20	1730	IW	X	X	X	X	X	X	X				X		Cl = 0.4
2	-PM-ES		1630														Cl = 1.1
3	-ST-BG		1340														
4	MC-NS		1700														
5	MC-NS-Field Blank		1515														
6	CR-BG		1530														
7	FR-BG		1100														
8	CR-WS		1515														
9	FR-WS		1045														
10	FR-ES		1045														

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: Air 130 bottles submitted RAW
PLEASE CALL JOE NAUGHTON W/ ANALYSIS Qs WORK 406-926-2930
CELL 406-214-4478

Shipped by: HAND DL

Cooler ID(s): X2

Receipt Temp: See comm.

On Ice: (Y) N

Custody Seal: On Bottle (Y) N; On Cooler (Y) N

Intact: (Y) N

Signature Match: (Y) N

LABORATORY USE ONLY

HH4090457

Custody Record MUST be Signed

Relinquished by (print): BRENT MERRILL Date/Time: 9/21/16 1417 Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: B. Scher Date/Time: 9/21/16 14:17 Signature: Brandy Scher

Sample Disposal: Return to Client: Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ	Project Name, PWS, Permit, Etc.: SSTOU GROUNDWATER-VADOSE	Sample Origin State:	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address (Required):	Contact Name: BEN QUINONES Phone/Fax:	Cell:	Sampler: (Please Print) BM, JN
☐ No Hard Copy Email:	Invoice Contact & Phone: Same	Purchase Order:	Quote/Bottle Order: 21702
Invoice Address (Required): ☐ No Hard Copy Email:			

Special Report/Formats:
☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: _____
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

ANALYSIS REQUESTED: See page 1 for ANALYTES

Number of Containers; Sample Type: A W S V B O DW; Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

SEE ATTACHED

Standard Turnaround (TAT) — RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand del
Cooler ID(s): X2
Receipt Temp: See comm.
On Ice: Y N
Custody Seal: On Bottle Y N; On Cooler Y N
Intact: Y N
Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	SEE ATTACHED	Standard TAT	RUSH	Comments
1	G[redacted]-FM-BG	9/19/16	1545	IW		X		C1 = 0.4
1	2 ST-ES		1230					C2 = 1.1
2	3 [redacted]R-ES		1450					
2	4 MC-BG		1545					
2	5 ST-WS		1230					
1	6 FM-ES		1615					
2	7 ST-WS-field DUP		~~1615~~ BM 1230					
2	8 1010R	9/20/16	1500					
2	9 RK-BG		1140					
2	10 1[redacted]0R Field Dup		1505					

LABORATORY USE ONLY: H16090457

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Brent Merrin	9/21/16 1417	[signature]			

Received by Laboratory: B. Scher Date/Time: 9/21/16 14:17 Signature: [signature]

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: SSTOU Groundwater - Vadose

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required):

Contact Name:

Phone/Fax:

Cell:

Sampler: (Please Print) BM, JN

❑ No Hard Copy Email:

Invoice Contact & Phone:

Purchase Order:

Quote/Bottle Order: 21702

Invoice Address (Required):

❑ No Hard Copy Email:

Special Report/Formats:
- ☐ DW
- ☐ POTW/WWTP
- ☐ State: ____
- ☐ Other: ____
- ☐ EDD/EDT (Electronic Data) Format: ____
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers / Sample Type: A W S V B O DW / Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

ANALYSIS REQUESTED: See page 1 for analytes — SEE ATTACHED

Standard Turnaround (TAT) — RUSH: Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Standard Turnaround (TAT)	Comments
2	1 P-37A	9/20/16	0920	1W	X	C1=0.4
2	2 GW-1004A	↓	1000	↓	↓	C2=1.1
2	3 GW-1003R		1100			
2	4 MW-2A		1630			
2	5 P-39R		0855			
2	6 GW-WG-NS		1345			
2	7 MW-10		1320			
2	8 GW-WG-SS-Field Blank		1430			
2	9 P-114		1000			
2	10 GW-WG-SS		1415			

LABORATORY USE ONLY:
- Shipped by: hand del
- Cooler ID(s): X2
- Receipt Temp: See doc
- On Ice: (Y) N
- Custody Seal On Bottle: Y (N); On Cooler: (X) N
- Intact: (Y) N
- Signature Match: (Y) N
- H16090457

Custody Record MUST be Signed

Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
Brent Merritt	9/21/16 1417	Brent Elliott			
Sample Disposal: Return to Client: ____ Lab Disposal: X			Received by Laboratory: B. Scher	9/21/16 14:17	Brandy Scher

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: SSTOU GROUNDWATER - VADOSE

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required):

Contact Name: Phone/Fax: Cell:

Sampler: (Please Print) BM, JN

☐ No Hard Copy Email:

Invoice Contact & Phone:

Purchase Order:

Quote/Bottle Order: 21702

Invoice Address (Required):

☐ No Hard Copy Email:

Special Report/Formats:
☐ DW
☐ POTW/WWTP
☐ State:
☐ Other:
☐ EDD/EDT (Electronic Data) Format:
☐ LEVEL IV
☐ NELAC

ANALYSIS REQUESTED: See page 1 for analysis

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand del

Cooler ID(s): X2

Receipt Temp: See comm

On Ice: Y N

Custody Seal: On Bottle Y N; On Cooler Y N

Intact: Y N

Signature Match: Y N

LABORATORY USE ONLY: H16090457

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX												
2	1 P-58A	9/20/16	1030	IW										X		C1 = 0.4
2	2 MW-01		1220													C2 = 1.1
2	3 LYS-01		0850													
2	4 -02		0835													
2	5 -03		0920													
2	6 -04		0820													
2	7 -05		0800													
2	8 -06		0900													
2	9 -07		0845													
2	10 MW-2B	9/21/16	~~0640~~ 0710 Rem													

Custody Record MUST be Signed

Relinquished by (print): Brent Merritt Date/Time: 9/21/16 1417 Signature: Brent Merritt

Received by (print): Date/Time: Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: B. Scher Date/Time: 9/21/16 14:17 Signature: Brandy Scher

Sample Disposal: Return to Client: Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: SSTOU GROUNDWATER VADOSE

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required):

Contact Name: Phone/Fax: Cell:

Sampler: (Please Print) BM, JN

☐ No Hard Copy Email:

Invoice Contact & Phone:

Purchase Order:

Quote/Bottle Order: 21702

Invoice Address (Required):

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

ANALYSIS REQUESTED: See page 1 for analytes

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand del

Cooler ID(s): X2

Receipt Temp: See comm

On Ice: Y N

Custody Seal: On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

LABORATORY USE ONLY: H16090457

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments
2 1	MW-2C	9/21/16	0750	IW		X		Cl = 0.4
2 2	MW-2C DUP		0752					Cl2 = 1.1
2 3	MW-2D		0840					
2 4	LYP-07		0940					
2 5	LYP-07 BLANK		0930					
2 6	GW-1056		1030					
7								
8								
9								
10								

Custody Record MUST be Signed

Relinquished by (print): Brent Merritt Date/Time: 9/21/16 1417 Signature: [signature]

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: B. Scher Date/Time: 9/21/16 14:17 Signature: Brandy Scher

Sample Disposal: Return to Client: ____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

APPENDIX B4

ANALYTICAL LABORATORY RESULTS
4TH QUARTER MONITORING

ANALYTICAL SUMMARY REPORT

January 18, 2017

Natural Resource Damage Program
1301 E Lockey
Helena, MT 59620-1425

Work Order: H16120305 Quote ID: H1088 - Silver Bow Monitoring

Project Name: Silver Bow Creek Monitoring

Energy Laboratories Inc Helena MT received the following 13 samples for Natural Resource Damage Program on 12/16/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16120305-001	SS-01	12/15/16 16:45	12/16/16	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended Solids, Suspended Volatile
H16120305-002	Field Duplicate #2 (SS-01	12/15/16 16:45	12/16/16	Aqueous	Same As Above
H16120305-003	SS-05A	12/15/16 16:00	12/16/16	Aqueous	Same As Above
H16120305-004	Field Blank #2 (SS-05A)	12/15/16 15:30	12/16/16	Aqueous	Same As Above
H16120305-005	SS-15G	12/14/16 13:15	12/16/16	Aqueous	Same As Above
H16120305-006	SS-01 Sediment Sieve <0.065mm	12/15/16 16:45	12/16/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16120305-007	SS-01 Sediment Sieve 0.065-1mm	12/15/16 16:45	12/16/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16120305-008	SS-01 Sediment Sieve 1-2mm	12/15/16 16:45	12/16/16	Sediment	Same As Above
H16120305-009	SS-04 Sediment Sieve <0.065mm	12/15/16 16:30	12/16/16	Sediment	Metals by ICP/ICPMS, Total Percent Moisture Digestion, Total Metals Sieve Analysis, Wet

ANALYTICAL SUMMARY REPORT

January 16, 2017

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H16120307 Quote ID: H1088

Project Name: Silver Bow Monitoring

Energy Laboratories Inc Helena MT received the following 49 samples for MT DEQ-Federal Superfund on 12/16/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H16120307-001	SS-06G	12/15/16 14:30	12/16/16	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended Solids, Suspended Volatile
H16120307-002	SS-07	12/15/16 14:00	12/16/16	Aqueous	Same As Above
H16120307-003	SS-08	12/15/16 13:00	12/16/16	Aqueous	Same As Above
H16120307-004	SS-10A	12/15/16 12:00	12/16/16	Aqueous	Same As Above
H16120307-005	SS-10B	12/15/16 11:15	12/16/16	Aqueous	Same As Above
H16120307-006	SS-11C	12/15/16 10:00	12/16/16	Aqueous	Same As Above
H16120307-007	SS-11D	12/15/16 9:15	12/16/16	Aqueous	Same As Above
H16120307-008	SS-13	12/14/16 15:45	12/16/16	Aqueous	Same As Above
H16120307-009	SS-14	12/14/16 14:45	12/16/16	Aqueous	Same As Above
H16120307-010	SS-15A	12/14/16 14:00	12/16/16	Aqueous	Same As Above
H16120307-011	Field Duplicate #1 (SS-15A)	12/14/16 14:00	12/16/16	Aqueous	Same As Above
H16120307-012	SS-15B	12/14/16 12:45	12/16/16	Aqueous	Same As Above
H16120307-013	SS-16B	12/14/16 11:45	12/16/16	Aqueous	Same As Above
H16120307-014	SS-17D	12/14/16 10:30	12/16/16	Aqueous	Same As Above
H16120307-015	SS-19	12/14/16 9:30	12/16/16	Aqueous	Same As Above
H16120307-016	Field Blank #1 (SS-19)	12/14/16 9:00	12/16/16	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H16120307-017	SS-06G Sediment Sieve <0.065mm	12/15/16 14:30	12/16/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H16120307-018	SS-06G Sediment Sieve 0.065-1mm	12/15/16 14:30	12/16/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16120307-019	SS-06G Sediment Sieve 1-2mm	12/15/16 14:30	12/16/16	Sediment	Same As Above
H16120307-020	SS-07 Sediment Sieve <0.065mm	12/15/16 14:00	12/16/16	Sediment	Same As Above
H16120307-021	SS-07 Sediment Sieve 0.065-1mm	12/15/16 14:00	12/16/16	Sediment	Same As Above
H16120307-022	SS-07 Sediment Sieve 1-2mm	12/15/16 14:00	12/16/16	Sediment	Same As Above
H16120307-023	SS-08 Sediment Sieve <0.065mm	12/15/16 13:00	12/16/16	Sediment	Same As Above
H16120307-024	SS-08 Sediment Sieve 0.065-1mm	12/15/16 13:00	12/16/16	Sediment	Same As Above
H16120307-025	SS-08 Sediment Sieve 1-2mm	12/15/16 13:00	12/16/16	Sediment	Same As Above
H16120307-026	Sediment Duplicate #2 (SS-08) Sediment Sieve <0.065mm	12/15/16 13:00	12/16/16	Sediment	Same As Above
H16120307-027	Sediment Duplicate #2 (SS-08) Sediment Sieve 0.065-1mm	12/15/16 13:00	12/16/16	Sediment	Same As Above
H16120307-028	Sediment Duplicate #2 (SS-08) Sediment Sieve 1-2mm	12/15/16 13:00	12/16/16	Sediment	Same As Above
H16120307-029	SS-10A Sediment Sieve <0.065mm	12/15/16 12:00	12/16/16	Sediment	Same As Above
H16120307-030	SS-10A Sediment Sieve 0.065-1mm	12/15/16 12:00	12/16/16	Sediment	Same As Above
H16120307-031	SS-10A Sediment Sieve 1-2mm	12/15/16 12:00	12/16/16	Sediment	Same As Above
H16120307-032	SS-10B Sediment Sieve <0.065mm	12/15/16 11:15	12/16/16	Sediment	Same As Above
H16120307-033	SS-10B Sediment Sieve 0.065-1mm	12/15/16 11:15	12/16/16	Sediment	Same As Above
H16120307-034	SS-10B Sediment Sieve 1-2mm	12/15/16 11:15	12/16/16	Sediment	Same As Above
H16120307-035	SS-11C Sediment Sieve <0.065mm	12/15/16 10:00	12/16/16	Sediment	Same As Above
H16120307-036	SS-11C Sediment Sieve 0.065-1mm	12/15/16 10:00	12/16/16	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H16120307-037	SS-11C Sediment Sieve 1-2mm	12/15/16 10:00	12/16/16	Sediment	Same As Above
H16120307-038	SS-11D Sediment Sieve <0.065mm	12/15/16 9:15	12/16/16	Sediment	Same As Above
H16120307-039	SS-11D Sediment Sieve 0.065-1mm	12/15/16 9:15	12/16/16	Sediment	Same As Above
H16120307-040	SS-11D Sediment Sieve 1-2mm	12/15/16 9:15	12/16/16	Sediment	Same As Above
H16120307-041	SS-16B Sediment Sieve <0.065mm	12/14/16 11:45	12/16/16	Sediment	Same As Above
H16120307-042	SS-16B Sediment Sieve 0.065-1mm	12/14/16 11:45	12/16/16	Sediment	Same As Above
H16120307-043	SS-16B Sediment Sieve 1-2mm	12/14/16 11:45	12/16/16	Sediment	Same As Above
H16120307-044	SS-17D Sediment Sieve <0.065mm	12/14/16 10:30	12/16/16	Sediment	Same As Above
H16120307-045	SS-17D Sediment Sieve 0.065-1mm	12/14/16 10:30	12/16/16	Sediment	Same As Above
H16120307-046	SS-17D Sediment Sieve 1-2mm	12/14/16 10:30	12/16/16	Sediment	Same As Above
H16120307-047	SS-19 Sediment Sieve <0.065mm	12/14/16 9:30	12/16/16	Sediment	Same As Above
H16120307-048	SS-19 Sediment Sieve 0.065-1mm	12/14/16 9:30	12/16/16	Sediment	Same As Above
H16120307-049	SS-19 Sediment Sieve 1-2mm	12/14/16 9:30	12/16/16	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Work Order: H16120307

Report Date: 01/16/17

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16120307-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	26	mg/L		1		A2540 D	12/19/16 12:02 / SR		L24 (14410200)_161219A	21	TSS161219A
Solids, Volatile Suspended	6	mg/L		1		A2540 E	12/20/16 09:54 / SR		MISC WC_161220B	7	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	12/19/16 11:06 / SR		PHSC_101-H_161219A	34	R121384
Bicarbonate as HCO3	130	mg/L		4		A2320 B	12/19/16 11:06 / SR		PHSC_101-H_161219A	34	R121384
Chloride	31	mg/L		1.0		E300.0	12/19/16 19:42 / SR		IC METROHM_161219A	39	R121433
Sulfate	110	mg/L		1.0		E300.0	12/19/16 19:42 / SR		IC METROHM_161219A	39	R121433
Hardness as CaCO3	218	mg/L		1		A2340 B	12/21/16 10:36 / abc		CALC_161229A	443	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	12/22/16 16:12 / eli-c		SUB-C218388	12	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	0.08	mg/L		0.05		E350.1	12/21/16 12:02 / cm		FIA203-HE_161221A	80	R121479
Nitrogen, Nitrate+Nitrite as N	2.08	mg/L		0.02		E353.2	12/27/16 09:42 / cm		FIA203-HE_161227A	35	R121564
Nitrogen, Total	2.30	mg/L	D	0.06		A4500 N-C	12/22/16 11:11 / cm	12/20/16 16:42	FIA203-HE_161222A	85	35749
Phosphorus, Total as P	0.134	mg/L		0.003		E365.1	12/27/16 13:16 / cm	12/27/16 11:48	FIA202-HE_161227A	52	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Arsenic	0.002	mg/L		0.001		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Barium	0.049	mg/L		0.003		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:36 / sld		ICP2-HE_161221A	36	R121482
Cadmium	0.00004	mg/L		0.00003		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Calcium	61	mg/L		1		E200.7	12/21/16 10:36 / sld		ICP2-HE_161221A	36	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Copper	0.002	mg/L		0.001		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Iron	0.03	mg/L		0.02		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16120307-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Magnesium	16	mg/L		1		E200.7	12/21/16 10:36 / sld		ICP2-HE_161221A	36	R121482
Manganese	0.201	mg/L		0.001		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:43 / rgk	12/27/16 18:47	HGCV202-H_161228A	33	35805
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Potassium	4	mg/L		1		E200.7	12/21/16 10:36 / sld		ICP2-HE_161221A	36	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Sodium	25	mg/L		1		E200.7	12/21/16 10:36 / sld		ICP2-HE_161221A	36	R121482
Uranium	0.0060	mg/L		0.0002		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
Zinc	0.018	mg/L		0.008		E200.8	12/30/16 14:09 / dck		ICPMS205-H_161229A	274	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.453	mg/L		0.009		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Barium	0.058	mg/L		0.003		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Boron	ND	mg/L		0.1		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Cadmium	0.00023	mg/L		0.00003		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Calcium	60	mg/L		1		E200.7	12/30/16 11:13 / sld	12/29/16 10:47	ICP2-HE_161230A	28	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Copper	0.020	mg/L		0.001		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Iron	1.04	mg/L		0.02		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Lead	0.0056	mg/L		0.0003		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Magnesium	16	mg/L		1		E200.7	12/30/16 11:13 / sld	12/29/16 10:47	ICP2-HE_161230A	28	35802
Manganese	0.268	mg/L		0.001		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Mercury	0.000012	mg/L		5E-06		E245.1	12/28/16 14:46 / rgk	12/27/16 18:47	HGCV202-H_161228A	34	35805
Molybdenum	0.006	mg/L		0.005		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Lab ID: H16120307-001
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Potassium	4	mg/L		1		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:16 / dck	01/04/17 08:20	ICPMS205-H_170105A	104	35879
Sodium	24	mg/L		1		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Uranium	0.0063	mg/L		0.0002		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802
Zinc	0.052	mg/L		0.008		E200.8	12/30/16 14:18 / dck	12/29/16 10:47	ICPMS205-H_161229A	278	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16120307-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	17	mg/L		1		A2540 D	12/19/16 12:03 / SR		L24 (14410200)_161219A	22	TSS161219A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	12/20/16 09:54 / SR		MISC WC_161220B	8	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/19/16 11:12 / SR		PHSC_101-H_161219A	36	R121384
Bicarbonate as HCO3	140	mg/L		4		A2320 B	12/19/16 11:12 / SR		PHSC_101-H_161219A	36	R121384
Chloride	35	mg/L		1.0		E300.0	12/19/16 19:56 / SR		IC METROHM_161219A	40	R121433
Sulfate	84	mg/L		1.0		E300.0	12/19/16 19:56 / SR		IC METROHM_161219A	40	R121433
Hardness as CaCO3	183	mg/L		1		A2340 B	12/21/16 10:40 / abc		CALC_161229A	454	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.2	mg/L		0.5		A5310 C	12/22/16 16:28 / eli-c		SUB-C218388	13	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	0.08	mg/L		0.05		E350.1	12/21/16 12:07 / cm		FIA203-HE_161221A	84	R121479
Nitrogen, Nitrate+Nitrite as N	2.40	mg/L		0.02		E353.2	12/27/16 09:44 / cm		FIA203-HE_161227A	36	R121564
Nitrogen, Total	2.79	mg/L	D	0.06		A4500 N-C	12/22/16 11:12 / cm	12/20/16 16:42	FIA203-HE_161222A	86	35749
Phosphorus, Total as P	0.843	mg/L		0.003		E365.1	12/27/16 14:01 / cm	12/27/16 11:48	FIA202-HE_161227A	96	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Arsenic	0.002	mg/L		0.001		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Barium	0.043	mg/L		0.003		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:40 / sld		ICP2-HE_161221A	37	R121482
Cadmium	0.00006	mg/L		0.00003		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Calcium	51	mg/L		1		E200.7	12/21/16 10:40 / sld		ICP2-HE_161221A	37	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Copper	0.005	mg/L		0.001		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Iron	0.04	mg/L		0.02		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16120307-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Magnesium	13	mg/L		1		E200.7	12/21/16 10:40 / sld		ICP2-HE_161221A	37	R121482
Manganese	0.142	mg/L		0.001		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:48 / rgk	12/27/16 18:47	HGCV202-H_161228A	35	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Potassium	6	mg/L		1		E200.7	12/21/16 10:40 / sld		ICP2-HE_161221A	37	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Sodium	36	mg/L		1		E200.7	12/21/16 10:40 / sld		ICP2-HE_161221A	37	R121482
Uranium	0.0044	mg/L		0.0002		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
Zinc	0.054	mg/L		0.008		E200.8	12/30/16 14:36 / dck		ICPMS205-H_161229A	287	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.289	mg/L		0.009		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Arsenic	0.004	mg/L		0.001		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Barium	0.045	mg/L		0.003		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Boron	ND	mg/L		0.1		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Cadmium	0.00016	mg/L		0.00003		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Calcium	50	mg/L		1		E200.7	12/30/16 11:39 / sld	12/29/16 10:47	ICP2-HE_161230A	35	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Copper	0.016	mg/L		0.001		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Iron	0.66	mg/L		0.02		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Lead	0.0034	mg/L		0.0003		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Magnesium	14	mg/L		1		E200.7	12/30/16 11:39 / sld	12/29/16 10:47	ICP2-HE_161230A	35	35802
Manganese	0.191	mg/L		0.001		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Mercury	9.1E-06	mg/L		5E-06		E245.1	12/28/16 14:51 / rgk	12/27/16 18:47	HGCV202-H_161228A	36	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Lab ID: H16120307-002
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Potassium	6	mg/L		1		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:18 / dck	01/04/17 08:20	ICPMS205-H_170105A	105	35879
Sodium	35	mg/L		1		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Uranium	0.0046	mg/L		0.0002		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802
Zinc	0.075	mg/L		0.008		E200.8	12/30/16 14:38 / dck	12/29/16 10:47	ICPMS205-H_161229A	288	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16120307-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 13:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	49	mg/L		1		A2540 D	12/19/16 12:03 / SR		L24 (14410200)_161219A	23	TSS161219A
Solids, Volatile Suspended	11	mg/L		1		A2540 E	12/20/16 09:54 / SR		MISC WC_161220B	9	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/19/16 11:18 / SR		PHSC_101-H_161219A	38	R121384
Bicarbonate as HCO3	140	mg/L		4		A2320 B	12/19/16 11:18 / SR		PHSC_101-H_161219A	38	R121384
Chloride	35	mg/L		1.0		E300.0	12/19/16 20:09 / SR		IC METROHM_161219A	41	R121433
Sulfate	90	mg/L		1.0		E300.0	12/19/16 20:09 / SR		IC METROHM_161219A	41	R121433
Hardness as CaCO3	193	mg/L		1		A2340 B	01/06/17 18:02 / sld		WATERCALC_170106B	1	R121861
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.1	mg/L		0.5		A5310 C	12/22/16 16:48 / eli-c		SUB-C218388	14	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	0.18	mg/L		0.05		E350.1	12/21/16 12:10 / cm		FIA203-HE_161221A	87	R121479
Nitrogen, Nitrate+Nitrite as N	1.65	mg/L		0.02		E353.2	12/20/16 13:21 / cm		FIA203-HE_161220A	78	R121443
Nitrogen, Total	2.31	mg/L	D	0.06		A4500 N-C	12/22/16 11:15 / cm	12/20/16 16:42	FIA203-HE_161222A	89	35749
Phosphorus, Total as P	0.667	mg/L		0.003		E365.1	12/27/16 14:02 / cm	12/27/16 11:48	FIA202-HE_161227A	97	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Arsenic	0.003	mg/L		0.001		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Barium	0.040	mg/L		0.003		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:44 / sld		ICP2-HE_161221A	38	R121482
Cadmium	0.00008	mg/L		0.00003		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Calcium	54	mg/L		1		E200.7	12/21/16 10:44 / sld		ICP2-HE_161221A	38	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Copper	0.004	mg/L		0.001		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Iron	0.04	mg/L		0.02		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16120307-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 13:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Magnesium	14	mg/L		1		E200.7	12/21/16 10:44 / sld		ICP2-HE_161221A	38	R121482
Manganese	0.182	mg/L		0.001		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:54 / rgk	12/27/16 18:47	HGCV202-H_161228A	37	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Potassium	6	mg/L		1		E200.7	12/21/16 10:44 / sld		ICP2-HE_161221A	38	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Sodium	36	mg/L		1		E200.7	12/21/16 10:44 / sld		ICP2-HE_161221A	38	R121482
Uranium	0.0053	mg/L		0.0002		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
Zinc	0.048	mg/L		0.008		E200.8	12/30/16 14:40 / dck		ICPMS205-H_161229A	289	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.801	mg/L		0.009		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Barium	0.057	mg/L		0.003		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Boron	ND	mg/L		0.1		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Cadmium	0.00049	mg/L		0.00003		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Calcium	53	mg/L		1		E200.7	12/30/16 11:43 / sld	12/29/16 10:47	ICP2-HE_161230A	36	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Copper	0.040	mg/L		0.001		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Iron	1.56	mg/L		0.02		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Lead	0.0121	mg/L		0.0003		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Magnesium	14	mg/L		1		E200.7	12/30/16 11:43 / sld	12/29/16 10:47	ICP2-HE_161230A	36	35802
Manganese	0.302	mg/L		0.001		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Mercury	0.000048	mg/L		5E-06		E245.1	12/28/16 14:56 / rgk	12/27/16 18:47	HGCV202-H_161228A	38	35805
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Lab ID: H16120307-003
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 13:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Potassium	6	mg/L		1		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:26 / dck	01/04/17 08:20	ICPMS205-H_170105A	109	35879
Sodium	34	mg/L		1		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Uranium	0.0058	mg/L		0.0002		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802
Zinc	0.155	mg/L		0.008		E200.8	12/30/16 14:42 / dck	12/29/16 10:47	ICPMS205-H_161229A	290	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16120307-004
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 12:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	33	mg/L	D	2		A2540 D	12/19/16 12:07 / SR		L24 (14410200)_161219A	38	TSS161219A
Solids, Volatile Suspended	9	mg/L		1		A2540 E	12/20/16 09:55 / SR		MISC WC_161220B	10	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/19/16 11:23 / SR		PHSC_101-H_161219A	40	R121384
Bicarbonate as HCO3	140	mg/L		4		A2320 B	12/19/16 11:23 / SR		PHSC_101-H_161219A	40	R121384
Chloride	35	mg/L		1.0		E300.0	12/19/16 20:23 / SR		IC METROHM_161219A	42	R121433
Sulfate	94	mg/L		1.0		E300.0	12/19/16 20:23 / SR		IC METROHM_161219A	42	R121433
Hardness as CaCO3	193	mg/L		1		A2340 B	12/21/16 10:47 / abc		CALC_161229A	465	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	12/22/16 17:04 / eli-c		SUB-C218388	15	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:11 / cm		FIA203-HE_161221A	88	R121479
Nitrogen, Nitrate+Nitrite as N	1.89	mg/L		0.02		E353.2	12/20/16 13:22 / cm		FIA203-HE_161220A	79	R121443
Nitrogen, Total	2.29	mg/L	D	0.06		A4500 N-C	12/22/16 11:17 / cm	12/20/16 16:42	FIA203-HE_161222A	90	35749
Phosphorus, Total as P	0.567	mg/L		0.003		E365.1	12/27/16 14:03 / cm	12/27/16 11:48	FIA202-HE_161227A	98	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Arsenic	0.003	mg/L		0.001		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Barium	0.042	mg/L		0.003		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:47 / sld		ICP2-HE_161221A	39	R121482
Cadmium	0.00007	mg/L		0.00003		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Calcium	55	mg/L		1		E200.7	12/21/16 10:47 / sld		ICP2-HE_161221A	39	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Copper	0.009	mg/L		0.001		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Iron	0.04	mg/L		0.02		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16120307-004
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 12:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Magnesium	14	mg/L		1		E200.7	12/21/16 10:47 / sld		ICP2-HE_161221A	39	R121482
Manganese	0.191	mg/L		0.001		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:59 / rgk	12/27/16 18:47	HGCV202-H_161228A	39	35805
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Potassium	6	mg/L		1		E200.7	12/21/16 10:47 / sld		ICP2-HE_161221A	39	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Sodium	35	mg/L		1		E200.7	12/21/16 10:47 / sld		ICP2-HE_161221A	39	R121482
Uranium	0.0055	mg/L		0.0002		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
Zinc	0.068	mg/L		0.008		E200.8	12/30/16 14:44 / dck		ICPMS205-H_161229A	291	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.596	mg/L		0.009		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Barium	0.053	mg/L		0.003		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Boron	ND	mg/L		0.1		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Cadmium	0.00048	mg/L		0.00003		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Calcium	54	mg/L		1		E200.7	12/30/16 11:47 / sld	12/29/16 10:47	ICP2-HE_161230A	37	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Copper	0.044	mg/L		0.001		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Iron	1.08	mg/L		0.02		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Lead	0.0083	mg/L		0.0003		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Magnesium	14	mg/L		1		E200.7	12/30/16 11:47 / sld	12/29/16 10:47	ICP2-HE_161230A	37	35802
Manganese	0.294	mg/L		0.001		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Mercury	0.000072	mg/L		5E-06		E245.1	12/30/16 10:24 / dck	12/27/16 18:50	HGCV202-H_161230A	19	35806
Molybdenum	0.006	mg/L		0.005		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Lab ID: H16120307-004
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 12:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Potassium	6	mg/L		1		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:28 / dck	01/04/17 08:20	ICPMS205-H_170105A	110	35879
Sodium	35	mg/L		1		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Uranium	0.0059	mg/L		0.0002		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802
Zinc	0.150	mg/L		0.008		E200.8	12/30/16 14:46 / dck	12/29/16 10:47	ICPMS205-H_161229A	292	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16120307-005
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 11:15
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	45	mg/L	D	2		A2540 D	12/19/16 12:04 / SR		L24 (14410200)_161219A	27	TSS161219A
Solids, Volatile Suspended	11	mg/L		1		A2540 E	12/20/16 09:55 / SR		MISC WC_161220B	12	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/19/16 11:29 / SR		PHSC_101-H_161219A	42	R121384
Bicarbonate as HCO3	140	mg/L		4		A2320 B	12/19/16 11:29 / SR		PHSC_101-H_161219A	42	R121384
Chloride	34	mg/L		1.0		E300.0	12/19/16 20:36 / SR		IC METROHM_161219A	43	R121433
Sulfate	93	mg/L		1.0		E300.0	12/19/16 20:36 / SR		IC METROHM_161219A	43	R121433
Hardness as CaCO3	192	mg/L		1		A2340 B	01/06/17 18:02 / sld		WATERCALC_170106B	2	R121861
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	12/22/16 17:19 / eli-c		SUB-C218388	16	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	0.05	mg/L		0.05		E350.1	12/21/16 12:13 / cm		FIA203-HE_161221A	89	R121479
Nitrogen, Nitrate+Nitrite as N	1.84	mg/L		0.02		E353.2	12/27/16 09:45 / cm		FIA203-HE_161227A	37	R121564
Nitrogen, Total	2.42	mg/L	D	0.06		A4500 N-C	12/22/16 11:18 / cm	12/20/16 16:42	FIA203-HE_161222A	91	35749
Phosphorus, Total as P	0.696	mg/L		0.003		E365.1	12/27/16 13:22 / cm	12/27/16 11:48	FIA202-HE_161227A	58	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Arsenic	0.004	mg/L		0.001		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Barium	0.043	mg/L		0.003		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:51 / sld		ICP2-HE_161221A	40	R121482
Cadmium	0.00007	mg/L		0.00003		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Calcium	54	mg/L		1		E200.7	12/21/16 10:51 / sld		ICP2-HE_161221A	40	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Copper	0.009	mg/L		0.001		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Iron	0.05	mg/L		0.02		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16120307-005
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 11:15
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Magnesium	13	mg/L		1		E200.7	12/21/16 10:51 / sld		ICP2-HE_161221A	40	R121482
Manganese	0.204	mg/L		0.001		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 10:26 / dck	12/27/16 18:50	HGCV202-H_161230A	20	35806
Molybdenum	0.006	mg/L		0.005		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Potassium	6	mg/L		1		E200.7	12/21/16 10:51 / sld		ICP2-HE_161221A	40	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Sodium	35	mg/L		1		E200.7	12/21/16 10:51 / sld		ICP2-HE_161221A	40	R121482
Uranium	0.0059	mg/L		0.0002		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
Zinc	0.073	mg/L		0.008		E200.8	12/30/16 14:48 / dck		ICPMS205-H_161229A	293	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.845	mg/L		0.009		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Barium	0.059	mg/L		0.003		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Boron	ND	mg/L		0.1		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Cadmium	0.00060	mg/L		0.00003		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Calcium	54	mg/L		1		E200.7	12/30/16 11:50 / sld	12/29/16 10:47	ICP2-HE_161230A	38	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Copper	0.056	mg/L		0.001		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Iron	1.48	mg/L		0.02		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Lead	0.0107	mg/L		0.0003		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Magnesium	14	mg/L		1		E200.7	12/30/16 11:50 / sld	12/29/16 10:47	ICP2-HE_161230A	38	35802
Manganese	0.349	mg/L		0.001		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Mercury	0.000063	mg/L		5E-06		E245.1	12/30/16 10:35 / dck	12/27/16 18:50	HGCV202-H_161230A	23	35806
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B
Lab ID: H16120307-005
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 11:15
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Potassium	6	mg/L		1		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:30 / dck	01/04/17 08:20	ICPMS205-H_170105A	111	35879
Sodium	34	mg/L		1		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Uranium	0.0059	mg/L		0.0002		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802
Zinc	0.182	mg/L		0.008		E200.8	12/30/16 14:50 / dck	12/29/16 10:47	ICPMS205-H_161229A	294	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16120307-006
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 10:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	16	mg/L		1		A2540 D	12/19/16 12:04 / SR		L24 (14410200)_161219A	29	TSS161219A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	12/20/16 09:55 / SR		MISC WC_161220B	14	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/19/16 11:34 / SR		PHSC_101-H_161219A	44	R121384
Bicarbonate as HCO3	150	mg/L		4		A2320 B	12/19/16 11:34 / SR		PHSC_101-H_161219A	44	R121384
Chloride	54	mg/L		1.0		E300.0	12/19/16 20:50 / SR		IC METROHM_161219A	44	R121433
Sulfate	97	mg/L		1.0		E300.0	12/19/16 20:50 / SR		IC METROHM_161219A	44	R121433
Hardness as CaCO3	224	mg/L		1		A2340 B	12/21/16 10:55 / abc		CALC_161229A	476	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.9	mg/L		0.5		A5310 C	12/22/16 17:35 / eli-c		SUB-C218388	17	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:14 / cm		FIA203-HE_161221A	90	R121479
Nitrogen, Nitrate+Nitrite as N	2.04	mg/L		0.02		E353.2	12/27/16 09:46 / cm		FIA203-HE_161227A	38	R121564
Nitrogen, Total	2.40	mg/L	D	0.06		A4500 N-C	12/22/16 11:19 / cm	12/20/16 16:42	FIA203-HE_161222A	92	35749
Phosphorus, Total as P	0.568	mg/L		0.003		E365.1	12/27/16 13:23 / cm	12/27/16 11:48	FIA202-HE_161227A	59	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Barium	0.046	mg/L		0.003		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:55 / sld		ICP2-HE_161221A	41	R121482
Cadmium	0.00014	mg/L		0.00003		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Calcium	66	mg/L		1		E200.7	12/21/16 10:55 / sld		ICP2-HE_161221A	41	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Copper	0.010	mg/L		0.001		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Iron	0.04	mg/L		0.02		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16120307-006
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 10:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Magnesium	14	mg/L		1		E200.7	12/21/16 10:55 / sld		ICP2-HE_161221A	41	R121482
Manganese	0.186	mg/L		0.001		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 10:37 / dck	12/27/16 18:50	HGCV202-H_161230A	24	35806
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Potassium	7	mg/L		1		E200.7	12/21/16 10:55 / sld		ICP2-HE_161221A	41	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Sodium	39	mg/L		1		E200.7	12/21/16 10:55 / sld		ICP2-HE_161221A	41	R121482
Uranium	0.0057	mg/L		0.0002		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
Zinc	0.104	mg/L		0.008		E200.8	12/30/16 14:52 / dck		ICPMS205-H_161229A	295	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.309	mg/L		0.009		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Barium	0.048	mg/L		0.003		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Boron	ND	mg/L		0.1		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Cadmium	0.00042	mg/L		0.00003		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Calcium	65	mg/L		1		E200.7	12/30/16 11:54 / sld	12/29/16 10:47	ICP2-HE_161230A	39	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Copper	0.029	mg/L		0.001		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Iron	0.55	mg/L		0.02		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Lead	0.0036	mg/L		0.0003		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Magnesium	15	mg/L		1		E200.7	12/30/16 11:54 / sld	12/29/16 10:47	ICP2-HE_161230A	39	35802
Manganese	0.257	mg/L		0.001		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Mercury	0.000020	mg/L		5E-06		E245.1	12/30/16 10:40 / dck	12/27/16 18:50	HGCV202-H_161230A	25	35806
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Lab ID: H16120307-006
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 10:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Potassium	7	mg/L		1		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:32 / dck	01/04/17 08:20	ICPMS205-H_170105A	112	35879
Sodium	39	mg/L		1		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Uranium	0.0060	mg/L		0.0002		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802
Zinc	0.148	mg/L		0.008		E200.8	12/30/16 14:54 / dck	12/29/16 10:47	ICPMS205-H_161229A	296	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16120307-007
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 09:15
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	14	mg/L		1		A2540 D	12/19/16 12:05 / SR		L24 (14410200)_161219A	30	TSS161219A
Solids, Volatile Suspended	4	mg/L		1		A2540 E	12/20/16 09:55 / SR		MISC WC_161220B	15	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	12/19/16 11:40 / SR		PHSC_101-H_161219A	46	R121384
Bicarbonate as HCO3	130	mg/L		4		A2320 B	12/19/16 11:40 / SR		PHSC_101-H_161219A	46	R121384
Chloride	62	mg/L		1.0		E300.0	12/19/16 21:04 / SR		IC METROHM_161219A	45	R121433
Sulfate	93	mg/L		1.0		E300.0	12/19/16 21:04 / SR		IC METROHM_161219A	45	R121433
Hardness as CaCO3	211	mg/L		1		A2340 B	01/06/17 18:02 / sld		WATERCALC_170106B	3	R121861
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	12/22/16 17:51 / eli-c		SUB-C218388	18	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:15 / cm		FIA203-HE_161221A	91	R121479
Nitrogen, Nitrate+Nitrite as N	1.97	mg/L		0.02		E353.2	12/20/16 13:30 / cm		FIA203-HE_161220A	86	R121443
Nitrogen, Total	2.26	mg/L	D	0.06		A4500 N-C	12/22/16 11:20 / cm	12/20/16 16:42	FIA203-HE_161222A	93	35749
Phosphorus, Total as P	0.524	mg/L		0.003		E365.1	12/27/16 13:24 / cm	12/27/16 11:48	FIA202-HE_161227A	60	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Barium	0.040	mg/L		0.003		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:59 / sld		ICP2-HE_161221A	42	R121482
Cadmium	0.00012	mg/L		0.00003		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Calcium	63	mg/L		1		E200.7	12/21/16 10:59 / sld		ICP2-HE_161221A	42	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Copper	0.009	mg/L		0.001		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Iron	0.04	mg/L		0.02		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16120307-007
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 09:15
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Magnesium	14	mg/L		1		E200.7	12/21/16 10:59 / sld		ICP2-HE_161221A	42	R121482
Manganese	0.174	mg/L		0.001		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 10:43 / dck	12/27/16 18:50	HGCV202-H_161230A	26	35806
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Potassium	6	mg/L		1		E200.7	12/21/16 10:59 / sld		ICP2-HE_161221A	42	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Sodium	39	mg/L		1		E200.7	12/21/16 10:59 / sld		ICP2-HE_161221A	42	R121482
Uranium	0.0054	mg/L		0.0002		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
Zinc	0.110	mg/L		0.008		E200.8	12/30/16 15:02 / dck		ICPMS205-H_161229A	300	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.337	mg/L		0.009		E200.7	12/30/16 11:58 / sld	12/29/16 10:47	ICP2-HE_161230A	40	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Barium	0.046	mg/L		0.003		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 11:58 / sld	12/29/16 10:47	ICP2-HE_161230A	40	35802
Cadmium	0.00039	mg/L		0.00003		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Calcium	61	mg/L		1		E200.7	12/30/16 11:58 / sld	12/29/16 10:47	ICP2-HE_161230A	40	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Copper	0.026	mg/L		0.001		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Iron	0.54	mg/L		0.02		E200.7	12/30/16 11:58 / sld	12/29/16 10:47	ICP2-HE_161230A	40	35802
Lead	0.0033	mg/L		0.0003		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Magnesium	14	mg/L		1		E200.7	12/30/16 11:58 / sld	12/29/16 10:47	ICP2-HE_161230A	40	35802
Manganese	0.241	mg/L		0.001		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Mercury	0.000015	mg/L		5E-06		E245.1	12/30/16 10:46 / dck	12/27/16 18:50	HGCV202-H_161230A	27	35806
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Lab ID: H16120307-007
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/15/16 09:15
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Potassium	7	mg/L		1		E200.7	12/30/16 11:58 / sld	12/29/16 10:47	ICP2-HE_161230A	40	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:34 / dck	01/04/17 08:20	ICPMS205-H_170105A	113	35879
Sodium	41	mg/L		1		E200.7	12/30/16 11:58 / sld	12/29/16 10:47	ICP2-HE_161230A	40	35802
Uranium	0.0056	mg/L		0.0002		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802
Zinc	0.134	mg/L		0.008		E200.8	12/30/16 15:04 / dck	12/29/16 10:47	ICPMS205-H_161229A	301	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16120307-008
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 15:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	27	mg/L		1		A2540 D	12/19/16 12:05 / SR		L24 (14410200)_161219A	31	TSS161219A
Solids, Volatile Suspended	7	mg/L		1		A2540 E	12/20/16 09:55 / SR		MISC WC_161220B	16	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/19/16 11:47 / SR		PHSC_101-H_161219A	48	R121384
Bicarbonate as HCO3	150	mg/L		4		A2320 B	12/19/16 11:47 / SR		PHSC_101-H_161219A	48	R121384
Chloride	50	mg/L		1.0		E300.0	12/20/16 16:58 / SR		IC METROHM_161220A	20	R121470
Sulfate	93	mg/L		1.0		E300.0	12/20/16 16:58 / SR		IC METROHM_161220A	20	R121470
Hardness as CaCO3	221	mg/L		1		A2340 B	12/21/16 11:10 / abc		CALC_161229A	487	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	12/22/16 18:07 / eli-c		SUB-C218388	19	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:16 / cm		FIA203-HE_161221A	92	R121479
Nitrogen, Nitrate+Nitrite as N	1.81	mg/L		0.02		E353.2	12/20/16 13:31 / cm		FIA203-HE_161220A	87	R121443
Nitrogen, Total	2.13	mg/L	D	0.06		A4500 N-C	12/22/16 11:21 / cm	12/20/16 16:42	FIA203-HE_161222A	94	35749
Phosphorus, Total as P	0.580	mg/L		0.003		E365.1	12/27/16 14:05 / cm	12/27/16 11:48	FIA202-HE_161227A	99	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Barium	0.039	mg/L		0.003		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 11:10 / sld		ICP2-HE_161221A	45	R121482
Cadmium	0.00012	mg/L		0.00003		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Calcium	65	mg/L		1		E200.7	12/21/16 11:10 / sld		ICP2-HE_161221A	45	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Copper	0.009	mg/L		0.001		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Iron	0.03	mg/L		0.02		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16120307-008
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 15:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Magnesium	14	mg/L		1		E200.7	12/21/16 11:10 / sld		ICP2-HE_161221A	45	R121482
Manganese	0.152	mg/L		0.001		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 10:48 / dck	12/27/16 18:50	HGCV202-H_161230A	28	35806
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Potassium	6	mg/L		1		E200.7	12/21/16 11:10 / sld		ICP2-HE_161221A	45	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Sodium	39	mg/L		1		E200.7	12/21/16 11:10 / sld		ICP2-HE_161221A	45	R121482
Uranium	0.0057	mg/L		0.0002		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
Zinc	0.085	mg/L		0.008		E200.8	12/30/16 15:06 / dck		ICPMS205-H_161229A	302	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.560	mg/L		0.009		E200.7	12/30/16 12:02 / sld	12/29/16 10:47	ICP2-HE_161230A	41	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Barium	0.050	mg/L		0.003		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 12:02 / sld	12/29/16 10:47	ICP2-HE_161230A	41	35802
Cadmium	0.00050	mg/L		0.00003		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Calcium	63	mg/L		1		E200.7	12/30/16 12:02 / sld	12/29/16 10:47	ICP2-HE_161230A	41	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Copper	0.037	mg/L		0.001		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Iron	0.89	mg/L		0.02		E200.7	12/30/16 12:02 / sld	12/29/16 10:47	ICP2-HE_161230A	41	35802
Lead	0.0055	mg/L		0.0003		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Magnesium	15	mg/L		1		E200.7	12/30/16 12:02 / sld	12/29/16 10:47	ICP2-HE_161230A	41	35802
Manganese	0.280	mg/L		0.001		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Mercury	0.000027	mg/L		5E-06		E245.1	12/30/16 10:51 / dck	12/27/16 18:50	HGCV202-H_161230A	29	35806
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Lab ID: H16120307-008
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 15:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Potassium	7	mg/L		1		E200.7	12/30/16 12:02 / sld	12/29/16 10:47	ICP2-HE_161230A	41	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:36 / dck	01/04/17 08:20	ICPMS205-H_170105A	114	35879
Sodium	41	mg/L		1		E200.7	12/30/16 12:02 / sld	12/29/16 10:47	ICP2-HE_161230A	41	35802
Uranium	0.0061	mg/L		0.0002		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802
Zinc	0.152	mg/L		0.008		E200.8	12/30/16 15:08 / dck	12/29/16 10:47	ICPMS205-H_161229A	303	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16120307-009
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 14:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	27	mg/L		1		A2540 D	12/19/16 12:05 / SR		L24 (14410200)_161219A	32	TSS161219A
Solids, Volatile Suspended	6	mg/L		1		A2540 E	12/20/16 09:56 / SR		MISC WC_161220B	17	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	12/19/16 11:52 / SR		PHSC_101-H_161219A	50	R121384
Bicarbonate as HCO3	150	mg/L		4		A2320 B	12/19/16 11:52 / SR		PHSC_101-H_161219A	50	R121384
Chloride	54	mg/L		1.0		E300.0	12/20/16 17:11 / SR		IC METROHM_161220A	21	R121470
Sulfate	94	mg/L		1.0		E300.0	12/20/16 17:11 / SR		IC METROHM_161220A	21	R121470
Hardness as CaCO3	226	mg/L		1		A2340 B	01/06/17 18:02 / sld		WATERCALC_170106B	4	R121861
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	12/22/16 18:22 / eli-c		SUB-C218388	20	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:17 / cm		FIA203-HE_161221A	93	R121479
Nitrogen, Nitrate+Nitrite as N	2.0	mg/L	D	0.2		E353.2	12/27/16 09:47 / cm		FIA203-HE_161227A	39	R121564
Nitrogen, Total	2.2	mg/L	D	0.2		A4500 N-C	12/22/16 11:23 / cm	12/20/16 16:42	FIA203-HE_161222A	95	35749
Phosphorus, Total as P	0.618	mg/L		0.003		E365.1	12/27/16 13:26 / cm	12/27/16 11:48	FIA202-HE_161227A	62	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Barium	0.039	mg/L		0.003		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 11:13 / sld		ICP2-HE_161221A	46	R121482
Cadmium	0.00014	mg/L		0.00003		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Calcium	66	mg/L		1		E200.7	12/21/16 11:13 / sld		ICP2-HE_161221A	46	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Copper	0.010	mg/L		0.001		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Iron	0.03	mg/L		0.02		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16120307-009
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 14:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Magnesium	14	mg/L		1		E200.7	12/21/16 11:13 / sld		ICP2-HE_161221A	46	R121482
Manganese	0.154	mg/L		0.001		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 10:54 / dck	12/27/16 18:50	HGCV202-H_161230A	30	35806
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Potassium	6	mg/L		1		E200.7	12/21/16 11:13 / sld		ICP2-HE_161221A	46	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Sodium	40	mg/L		1		E200.7	12/21/16 11:13 / sld		ICP2-HE_161221A	46	R121482
Uranium	0.0058	mg/L		0.0002		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
Zinc	0.087	mg/L		0.008		E200.8	12/30/16 15:10 / dck		ICPMS205-H_161229A	304	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.595	mg/L		0.009		E200.7	12/30/16 12:05 / sld	12/29/16 10:47	ICP2-HE_161230A	42	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Barium	0.053	mg/L		0.003		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 12:05 / sld	12/29/16 10:47	ICP2-HE_161230A	42	35802
Cadmium	0.00048	mg/L		0.00003		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Calcium	66	mg/L		1		E200.7	12/30/16 12:05 / sld	12/29/16 10:47	ICP2-HE_161230A	42	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Copper	0.037	mg/L		0.001		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Iron	0.87	mg/L		0.02		E200.7	12/30/16 12:05 / sld	12/29/16 10:47	ICP2-HE_161230A	42	35802
Lead	0.0052	mg/L		0.0003		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Magnesium	15	mg/L		1		E200.7	12/30/16 12:05 / sld	12/29/16 10:47	ICP2-HE_161230A	42	35802
Manganese	0.282	mg/L		0.001		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Mercury	0.000025	mg/L		5E-06		E245.1	12/30/16 11:02 / dck	12/27/16 18:50	HGCV202-H_161230A	33	35806
Molybdenum	0.006	mg/L		0.005		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Lab ID: H16120307-009
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 14:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Potassium	7	mg/L		1		E200.7	12/30/16 12:05 / sld	12/29/16 10:47	ICP2-HE_161230A	42	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:44 / dck	01/04/17 08:20	ICPMS205-H_170105A	118	35879
Sodium	42	mg/L		1		E200.7	12/30/16 12:05 / sld	12/29/16 10:47	ICP2-HE_161230A	42	35802
Uranium	0.0063	mg/L		0.0002		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802
Zinc	0.155	mg/L		0.008		E200.8	12/30/16 15:12 / dck	12/29/16 10:47	ICPMS205-H_161229A	305	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16120307-010
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	3	mg/L		1		A2540 D	12/19/16 12:05 / SR		L24 (14410200)_161219A	33	TSS161219A
Solids, Volatile Suspended	1	mg/L		1		A2540 E	12/20/16 09:56 / SR		MISC WC_161220B	18	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/20/16 09:56 / SR		PHSC_101-H_161220A	16	R121425
Bicarbonate as HCO3	150	mg/L		4		A2320 B	12/20/16 09:56 / SR		PHSC_101-H_161220A	16	R121425
Chloride	55	mg/L		1.0		E300.0	12/20/16 17:25 / SR		IC METROHM_161220A	22	R121470
Sulfate	96	mg/L		1.0		E300.0	12/20/16 17:25 / SR		IC METROHM_161220A	22	R121470
Hardness as CaCO3	230	mg/L		1		A2340 B	12/21/16 11:17 / abc		CALC_161229A	498	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.5	mg/L		0.5		A5310 C	12/22/16 20:12 / eli-c		SUB-C218388	24	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:18 / cm		FIA203-HE_161221A	94	R121479
Nitrogen, Nitrate+Nitrite as N	1.81	mg/L		0.02		E353.2	12/27/16 09:48 / cm		FIA203-HE_161227A	40	R121564
Nitrogen, Total	1.99	mg/L	DH	0.06		A4500 N-C	01/13/17 15:59 / cm	01/13/17 14:13	FIA203-HE_170113C	13	35981
Phosphorus, Total as P	0.397	mg/L		0.003		E365.1	12/27/16 13:27 / cm	12/27/16 11:48	FIA202-HE_161227A	63	35795
-TPN was re-analyzed to confirm results.											
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Barium	0.039	mg/L		0.003		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 11:17 / sld		ICP2-HE_161221A	47	R121482
Cadmium	0.00019	mg/L		0.00003		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Calcium	69	mg/L		1		E200.7	12/21/16 11:17 / sld		ICP2-HE_161221A	47	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Copper	0.011	mg/L		0.001		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
H - Analysis performed past recommended holding time.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16120307-010
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Iron	0.02	mg/L		0.02		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Lead	ND	mg/L		0.0003		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Magnesium	14	mg/L		1		E200.7	12/21/16 11:17 / sld		ICP2-HE_161221A	47	R121482
Manganese	0.080	mg/L		0.001		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 11:10 / dck	12/27/16 18:50	HGCV202-H_161230A	36	35806
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Potassium	6	mg/L		1		E200.7	12/21/16 11:17 / sld		ICP2-HE_161221A	47	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Sodium	39	mg/L		1		E200.7	12/21/16 11:17 / sld		ICP2-HE_161221A	47	R121482
Uranium	0.0060	mg/L		0.0002		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
Zinc	0.106	mg/L		0.008		E200.8	12/30/16 15:15 / dck		ICPMS205-H_161229A	306	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.059	mg/L		0.009		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Barium	0.040	mg/L		0.003		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 12:16 / sld	12/29/16 10:47	ICP2-HE_161230A	45	35802
Cadmium	0.00024	mg/L		0.00003		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Calcium	68	mg/L		1		E200.7	12/30/16 12:16 / sld	12/29/16 10:47	ICP2-HE_161230A	45	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Copper	0.015	mg/L		0.001		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Iron	0.12	mg/L		0.02		E200.7	12/30/16 12:16 / sld	12/29/16 10:47	ICP2-HE_161230A	45	35802
Lead	0.0007	mg/L		0.0003		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Magnesium	15	mg/L		1		E200.7	12/30/16 12:16 / sld	12/29/16 10:47	ICP2-HE_161230A	45	35802
Manganese	0.089	mg/L		0.001		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Mercury	ND	mg/L		5E-06		E245.1	01/04/17 13:40 / rgk	01/03/17 09:13	HGCV202-H_170104A	19	35861

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A
Lab ID: H16120307-010
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Potassium	7	mg/L		1		E200.7	12/30/16 12:16 / sld	12/29/16 10:47	ICP2-HE_161230A	45	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:46 / dck	01/04/17 08:20	ICPMS205-H_170105A	119	35879
Sodium	41	mg/L		1		E200.7	12/30/16 12:16 / sld	12/29/16 10:47	ICP2-HE_161230A	45	35802
Uranium	0.0061	mg/L		0.0002		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802
Zinc	0.114	mg/L		0.008		E200.8	12/30/16 15:17 / dck	12/29/16 10:47	ICPMS205-H_161229A	307	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1 (SS-15A)
Lab ID: H16120307-011
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	2	mg/L		1		A2540 D	12/19/16 12:06 / SR		L24 (14410200)_161219A	34	TSS161219A
Solids, Volatile Suspended	1	mg/L		1		A2540 E	12/20/16 09:56 / SR		MISC WC_161220B	19	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	12/20/16 10:02 / SR		PHSC_101-H_161220A	18	R121425
Bicarbonate as HCO3	150	mg/L		4		A2320 B	12/20/16 10:02 / SR		PHSC_101-H_161220A	18	R121425
Chloride	55	mg/L		1.0		E300.0	12/20/16 17:38 / SR		IC METROHM_161220A	23	R121470
Sulfate	96	mg/L		1.0		E300.0	12/20/16 17:38 / SR		IC METROHM_161220A	23	R121470
Hardness as CaCO3	230	mg/L		1		A2340 B	01/06/17 18:02 / sld		WATERCALC_170106B	5	R121861
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	12/22/16 20:28 / eli-c		SUB-C218388	25	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:20 / cm		FIA203-HE_161221A	95	R121479
Nitrogen, Nitrate+Nitrite as N	1.81	mg/L		0.02		E353.2	12/27/16 09:49 / cm		FIA203-HE_161227A	41	R121564
Nitrogen, Total	2.03	mg/L	DH	0.06		A4500 N-C	01/13/17 16:02 / cm	01/13/17 14:14	FIA203-HE_170113C	15	35981
Phosphorus, Total as P	0.414	mg/L		0.003		E365.1	12/27/16 13:28 / cm	12/27/16 11:48	FIA202-HE_161227A	64	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Barium	0.039	mg/L		0.003		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 11:32 / sld		ICP2-HE_161221A	51	R121482
Cadmium	0.00020	mg/L		0.00003		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Calcium	69	mg/L		1		E200.7	12/21/16 11:32 / sld		ICP2-HE_161221A	51	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Copper	0.011	mg/L		0.001		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Iron	ND	mg/L		0.02		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
H - Analysis performed past recommended holding time.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1 (SS-15A)
Lab ID: H16120307-011
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Magnesium	14	mg/L		1		E200.7	12/21/16 11:32 / sld		ICP2-HE_161221A	51	R121482
Manganese	0.081	mg/L		0.001		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 11:16 / dck	12/27/16 18:50	HGCV202-H_161230A	38	35806
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Potassium	6	mg/L		1		E200.7	12/21/16 11:32 / sld		ICP2-HE_161221A	51	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Sodium	40	mg/L		1		E200.7	12/21/16 11:32 / sld		ICP2-HE_161221A	51	R121482
Uranium	0.0060	mg/L		0.0002		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
Zinc	0.108	mg/L		0.008		E200.8	12/30/16 15:19 / dck		ICPMS205-H_161229A	308	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.056	mg/L		0.009		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Barium	0.039	mg/L		0.003		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 12:20 / sld	12/29/16 10:47	ICP2-HE_161230A	46	35802
Cadmium	0.00025	mg/L		0.00003		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Calcium	68	mg/L		1		E200.7	12/30/16 12:20 / sld	12/29/16 10:47	ICP2-HE_161230A	46	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Copper	0.017	mg/L		0.001		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Iron	0.14	mg/L		0.02		E200.7	12/30/16 12:20 / sld	12/29/16 10:47	ICP2-HE_161230A	46	35802
Lead	0.0007	mg/L		0.0003		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Magnesium	15	mg/L		1		E200.7	12/30/16 12:20 / sld	12/29/16 10:47	ICP2-HE_161230A	46	35802
Manganese	0.090	mg/L		0.001		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Mercury	ND	mg/L		5E-06		E245.1	01/04/17 13:43 / rgk	01/03/17 09:13	HGCV202-H_170104A	20	35861
Molybdenum	0.005	mg/L		0.005		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Duplicate #1 (SS-15A)
Lab ID: H16120307-011
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	0.005	mg/L		0.002		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Potassium	7	mg/L		1		E200.7	12/30/16 12:20 / sld	12/29/16 10:47	ICP2-HE_161230A	46	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:48 / dck	01/04/17 08:20	ICPMS205-H_170105A	120	35879
Sodium	41	mg/L		1		E200.7	12/30/16 12:20 / sld	12/29/16 10:47	ICP2-HE_161230A	46	35802
Uranium	0.0061	mg/L		0.0002		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802
Zinc	0.116	mg/L		0.008		E200.8	12/30/16 15:21 / dck	12/29/16 10:47	ICPMS205-H_161229A	309	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16120307-012
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 12:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	1	mg/L		1		A2540 D	12/19/16 12:06 / SR		L24 (14410200)_161219A	35	TSS161219A
Solids, Volatile Suspended	1	mg/L		1		A2540 E	12/20/16 09:56 / SR		MISC WC_161220B	20	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/20/16 10:08 / SR		PHSC_101-H_161220A	20	R121425
Bicarbonate as HCO3	140	mg/L		4		A2320 B	12/20/16 10:08 / SR		PHSC_101-H_161220A	20	R121425
Chloride	45	mg/L		1.0		E300.0	12/20/16 19:13 / SR		IC METROHM_161220A	29	R121470
Sulfate	80	mg/L		1.0		E300.0	12/20/16 19:13 / SR		IC METROHM_161220A	29	R121470
Hardness as CaCO3	211	mg/L		1		A2340 B	12/21/16 11:36 / abc		CALC_161229A	509	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.3	mg/L		0.5		A5310 C	12/22/16 20:43 / eli-c		SUB-C218388	26	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:25 / cm		FIA203-HE_161221A	99	R121479
Nitrogen, Nitrate+Nitrite as N	1.36	mg/L		0.02		E353.2	12/27/16 09:53 / cm		FIA203-HE_161227A	44	R121564
Nitrogen, Total	1.54	mg/L		0.05		A4500 N-C	12/22/16 11:05 / cm	12/20/16 16:42	FIA203-HE_161222A	80	35749
Phosphorus, Total as P	0.313	mg/L		0.003		E365.1	12/27/16 14:08 / cm	12/27/16 11:48	FIA202-HE_161227A	102	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Barium	0.034	mg/L		0.003		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 11:36 / sld		ICP2-HE_161221A	52	R121482
Cadmium	0.00016	mg/L		0.00003		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Calcium	63	mg/L		1		E200.7	12/21/16 11:36 / sld		ICP2-HE_161221A	52	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Copper	0.008	mg/L		0.001		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Iron	0.02	mg/L		0.02		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16120307-012
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 12:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Magnesium	13	mg/L		1		E200.7	12/21/16 11:36 / sld		ICP2-HE_161221A	52	R121482
Manganese	0.064	mg/L		0.001		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Mercury	ND	mg/L		5E-06		E245.1	01/04/17 13:46 / rgk	01/03/17 09:13	HGCV202-H_170104A	21	35861
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Potassium	5	mg/L		1		E200.7	12/21/16 11:36 / sld		ICP2-HE_161221A	52	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Sodium	32	mg/L		1		E200.7	12/21/16 11:36 / sld		ICP2-HE_161221A	52	R121482
Uranium	0.0048	mg/L		0.0002		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
Zinc	0.088	mg/L		0.008		E200.8	12/30/16 15:35 / dck		ICPMS205-H_161229A	316	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.033	mg/L		0.009		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Barium	0.034	mg/L		0.003		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 12:39 / sld	12/29/16 10:47	ICP2-HE_161230A	51	35802
Cadmium	0.00020	mg/L		0.00003		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Calcium	59	mg/L		1		E200.7	12/30/16 12:39 / sld	12/29/16 10:47	ICP2-HE_161230A	51	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Copper	0.011	mg/L		0.001		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Iron	0.08	mg/L		0.02		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Lead	0.0005	mg/L		0.0003		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Magnesium	12	mg/L		1		E200.7	12/30/16 12:39 / sld	12/29/16 10:47	ICP2-HE_161230A	51	35802
Manganese	0.068	mg/L		0.001		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 11:24 / dck	12/27/16 18:50	HGCV202-H_161230A	41	35806
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Lab ID: H16120307-012
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 12:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Potassium	5	mg/L		1		E200.7	12/30/16 12:39 / sld	12/29/16 10:47	ICP2-HE_161230A	51	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:50 / dck	01/04/17 08:20	ICPMS205-H_170105A	121	35879
Sodium	32	mg/L		1		E200.7	12/30/16 12:39 / sld	12/29/16 10:47	ICP2-HE_161230A	51	35802
Uranium	0.0049	mg/L		0.0002		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802
Zinc	0.090	mg/L		0.008		E200.8	12/30/16 15:43 / dck	12/29/16 10:47	ICPMS205-H_161229A	320	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16120307-013
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 11:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	12/19/16 12:06 / SR		L24 (14410200)_161219A	36	TSS161219A
Solids, Volatile Suspended	2	mg/L		1		A2540 E	12/20/16 09:56 / SR		MISC WC_161220B	21	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/20/16 10:13 / SR		PHSC_101-H_161220A	22	R121425
Bicarbonate as HCO3	150	mg/L		4		A2320 B	12/20/16 10:13 / SR		PHSC_101-H_161220A	22	R121425
Chloride	45	mg/L		1.0		E300.0	12/20/16 19:27 / SR		IC METROHM_161220A	30	R121470
Sulfate	83	mg/L		1.0		E300.0	12/20/16 19:27 / SR		IC METROHM_161220A	30	R121470
Hardness as CaCO3	206	mg/L		1		A2340 B	01/06/17 18:02 / sld		WATERCALC_170106B	6	R121861
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.2	mg/L		0.5		A5310 C	12/22/16 20:59 / eli-c		SUB-C218388	27	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:28 / cm		FIA203-HE_161221A	102	R121479
Nitrogen, Nitrate+Nitrite as N	1.29	mg/L		0.02		E353.2	12/27/16 09:54 / cm		FIA203-HE_161227A	45	R121564
Nitrogen, Total	1.46	mg/L		0.05		A4500 N-C	12/22/16 11:06 / cm	12/20/16 16:42	FIA203-HE_161222A	81	35749
Phosphorus, Total as P	0.352	mg/L		0.003		E365.1	12/27/16 13:32 / cm	12/27/16 11:48	FIA202-HE_161227A	68	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Barium	0.035	mg/L		0.003		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 11:39 / sld		ICP2-HE_161221A	53	R121482
Cadmium	0.00014	mg/L		0.00003		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Calcium	64	mg/L		1		E200.7	12/21/16 11:39 / sld		ICP2-HE_161221A	53	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Copper	0.008	mg/L		0.001		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Iron	ND	mg/L		0.02		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16120307-013
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 11:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Magnesium	13	mg/L		1		E200.7	12/21/16 11:39 / sld		ICP2-HE_161221A	53	R121482
Manganese	0.063	mg/L		0.001		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 11:27 / dck	12/27/16 18:50	HGCV202-H_161230A	42	35806
Molybdenum	ND	mg/L		0.005		E200.7	12/21/16 11:39 / sld		ICP2-HE_161221A	53	R121482
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Potassium	5	mg/L		1		E200.7	12/21/16 11:39 / sld		ICP2-HE_161221A	53	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Sodium	31	mg/L		1		E200.7	12/21/16 11:39 / sld		ICP2-HE_161221A	53	R121482
Uranium	0.0049	mg/L		0.0002		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
Zinc	0.080	mg/L		0.008		E200.8	12/30/16 15:45 / dck		ICPMS205-H_161229A	321	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.143	mg/L		0.009		E200.7	12/30/16 12:42 / sld	12/29/16 10:47	ICP2-HE_161230A	52	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Barium	0.037	mg/L		0.003		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 12:42 / sld	12/29/16 10:47	ICP2-HE_161230A	52	35802
Cadmium	0.00023	mg/L		0.00003		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Calcium	61	mg/L		1		E200.7	12/30/16 12:42 / sld	12/29/16 10:47	ICP2-HE_161230A	52	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Copper	0.013	mg/L		0.001		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Iron	0.19	mg/L		0.02		E200.7	12/30/16 12:42 / sld	12/29/16 10:47	ICP2-HE_161230A	52	35802
Lead	0.0010	mg/L		0.0003		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Magnesium	13	mg/L		1		E200.7	12/30/16 12:42 / sld	12/29/16 10:47	ICP2-HE_161230A	52	35802
Manganese	0.077	mg/L		0.001		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Mercury	5.9E-06	mg/L		5E-06		E245.1	12/30/16 11:29 / dck	12/27/16 18:50	HGCV202-H_161230A	43	35806
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Lab ID: H16120307-013
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 11:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Potassium	6	mg/L		1		E200.7	12/30/16 12:42 / sld	12/29/16 10:47	ICP2-HE_161230A	52	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 16:58 / dck	01/04/17 08:20	ICPMS205-H_170105A	125	35879
Sodium	32	mg/L		1		E200.7	12/30/16 12:42 / sld	12/29/16 10:47	ICP2-HE_161230A	52	35802
Uranium	0.0050	mg/L		0.0002		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802
Zinc	0.090	mg/L		0.008		E200.8	12/30/16 15:47 / dck	12/29/16 10:47	ICPMS205-H_161229A	322	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16120307-014
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 10:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	3	mg/L		1		A2540 D	12/19/16 12:06 / SR		L24 (14410200)_161219A	37	TSS161219A
Solids, Volatile Suspended	1	mg/L		1		A2540 E	12/20/16 09:56 / SR		MISC WC_161220B	22	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/20/16 10:19 / SR		PHSC_101-H_161220A	24	R121425
Bicarbonate as HCO3	150	mg/L		4		A2320 B	12/20/16 10:19 / SR		PHSC_101-H_161220A	24	R121425
Chloride	44	mg/L		1.0		E300.0	12/20/16 19:41 / SR		IC METROHM_161220A	31	R121470
Sulfate	85	mg/L		1.0		E300.0	12/20/16 19:41 / SR		IC METROHM_161220A	31	R121470
Hardness as CaCO3	214	mg/L		1		A2340 B	12/21/16 11:43 / abc		CALC_161229A	520	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.5	mg/L		0.5		A5310 C	12/22/16 21:14 / eli-c		SUB-C218388	28	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:29 / cm		FIA203-HE_161221A	103	R121479
Nitrogen, Nitrate+Nitrite as N	1.69	mg/L		0.02		E353.2	12/27/16 09:55 / cm		FIA203-HE_161227A	46	R121564
Nitrogen, Total	1.87	mg/L		0.05		A4500 N-C	12/22/16 11:07 / cm	12/20/16 16:42	FIA203-HE_161222A	82	35749
Phosphorus, Total as P	0.321	mg/L		0.003		E365.1	12/27/16 13:34 / cm	12/27/16 11:48	FIA202-HE_161227A	69	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Barium	0.036	mg/L		0.003		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 11:43 / sld		ICP2-HE_161221A	54	R121482
Cadmium	0.00020	mg/L		0.00003		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Calcium	64	mg/L		1		E200.7	12/21/16 11:43 / sld		ICP2-HE_161221A	54	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Copper	0.012	mg/L		0.001		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Iron	ND	mg/L		0.02		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16120307-014
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 10:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Magnesium	13	mg/L		1		E200.7	12/21/16 11:43 / sld		ICP2-HE_161221A	54	R121482
Manganese	0.037	mg/L		0.001		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 11:32 / dck	12/27/16 18:50	HGCV202-H_161230A	44	35806
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Potassium	5	mg/L		1		E200.7	12/21/16 11:43 / sld		ICP2-HE_161221A	54	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Sodium	33	mg/L		1		E200.7	12/21/16 11:43 / sld		ICP2-HE_161221A	54	R121482
Uranium	0.0046	mg/L		0.0002		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
Zinc	0.093	mg/L		0.008		E200.8	12/30/16 15:49 / dck		ICPMS205-H_161229A	323	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.083	mg/L		0.009		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Barium	0.036	mg/L		0.003		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 12:46 / sld	12/29/16 10:47	ICP2-HE_161230A	53	35802
Cadmium	0.00026	mg/L		0.00003		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Calcium	62	mg/L		1		E200.7	12/30/16 12:46 / sld	12/29/16 10:47	ICP2-HE_161230A	53	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Copper	0.015	mg/L		0.001		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Iron	0.14	mg/L		0.02		E200.7	12/30/16 12:46 / sld	12/29/16 10:47	ICP2-HE_161230A	53	35802
Lead	0.0008	mg/L		0.0003		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Magnesium	13	mg/L		1		E200.7	12/30/16 12:46 / sld	12/29/16 10:47	ICP2-HE_161230A	53	35802
Manganese	0.049	mg/L		0.001		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 12:31 / dck	12/28/16 18:23	HGCV202-H_161230A	59	35818
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Lab ID: H16120307-014
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 10:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Potassium	6	mg/L		1		E200.7	12/30/16 12:46 / sld	12/29/16 10:47	ICP2-HE_161230A	53	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 17:00 / dck	01/04/17 08:20	ICPMS205-H_170105A	126	35879
Sodium	34	mg/L		1		E200.7	12/30/16 12:46 / sld	12/29/16 10:47	ICP2-HE_161230A	53	35802
Uranium	0.0047	mg/L		0.0002		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802
Zinc	0.099	mg/L		0.008		E200.8	12/30/16 15:51 / dck	12/29/16 10:47	ICPMS205-H_161229A	324	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16120307-015
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 09:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	3	mg/L		1		A2540 D	12/19/16 12:03 / SR		L24 (14410200)_161219A	24	TSS161219A
Solids, Volatile Suspended	1	mg/L		1		A2540 E	12/20/16 09:56 / SR		MISC WC_161220B	23	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	12/20/16 10:25 / SR		PHSC_101-H_161220A	26	R121425
Bicarbonate as HCO3	150	mg/L		4		A2320 B	12/20/16 10:25 / SR		PHSC_101-H_161220A	26	R121425
Chloride	43	mg/L		1.0		E300.0	12/20/16 19:54 / SR		IC METROHM_161220A	32	R121470
Sulfate	88	mg/L		1.0		E300.0	12/20/16 19:54 / SR		IC METROHM_161220A	32	R121470
Hardness as CaCO3	211	mg/L		1		A2340 B	01/06/17 18:02 / sld		WATERCALC_170106B	7	R121861
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	12/22/16 21:30 / eli-c		SUB-C218388	29	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:30 / cm		FIA203-HE_161221A	104	R121479
Nitrogen, Nitrate+Nitrite as N	1.73	mg/L		0.02		E353.2	12/27/16 09:57 / cm		FIA203-HE_161227A	47	R121564
Nitrogen, Total	1.89	mg/L		0.05		A4500 N-C	12/22/16 11:08 / cm	12/20/16 16:42	FIA203-HE_161222A	83	35749
Phosphorus, Total as P	0.279	mg/L		0.003		E365.1	12/27/16 13:39 / cm	12/27/16 11:50	FIA202-HE_161227A	74	35796
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Arsenic	0.005	mg/L		0.001		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Barium	0.038	mg/L		0.003		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 11:54 / sld		ICP2-HE_161221A	57	R121482
Cadmium	0.00020	mg/L		0.00003		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Calcium	65	mg/L		1		E200.7	12/21/16 11:54 / sld		ICP2-HE_161221A	57	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Copper	0.011	mg/L		0.001		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Iron	0.02	mg/L		0.02		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16120307-015
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 09:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Magnesium	13	mg/L		1		E200.7	12/21/16 11:54 / sld		ICP2-HE_161221A	57	R121482
Manganese	0.039	mg/L		0.001		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 12:40 / dck	12/28/16 18:23	HGCV202-H_161230A	62	35818
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Potassium	5	mg/L		1		E200.7	12/21/16 11:54 / sld		ICP2-HE_161221A	57	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Sodium	34	mg/L		1		E200.7	12/21/16 11:54 / sld		ICP2-HE_161221A	57	R121482
Uranium	0.0050	mg/L		0.0002		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
Zinc	0.095	mg/L		0.008		E200.8	12/30/16 15:53 / dck		ICPMS205-H_161229A	325	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.084	mg/L		0.009		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Arsenic	0.006	mg/L		0.001		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Barium	0.039	mg/L		0.003		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 12:50 / sld	12/29/16 10:47	ICP2-HE_161230A	54	35802
Cadmium	0.00024	mg/L		0.00003		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Calcium	63	mg/L		1		E200.7	12/30/16 12:50 / sld	12/29/16 10:47	ICP2-HE_161230A	54	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Copper	0.015	mg/L		0.001		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Iron	0.14	mg/L		0.02		E200.7	12/30/16 12:50 / sld	12/29/16 10:47	ICP2-HE_161230A	54	35802
Lead	0.0008	mg/L		0.0003		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Magnesium	13	mg/L		1		E200.7	12/30/16 12:50 / sld	12/29/16 10:47	ICP2-HE_161230A	54	35802
Manganese	0.052	mg/L		0.001		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 12:43 / dck	12/28/16 18:23	HGCV202-H_161230A	63	35818
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Lab ID: H16120307-015
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 09:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Potassium	6	mg/L		1		E200.7	12/30/16 12:50 / sld	12/29/16 10:47	ICP2-HE_161230A	54	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 17:02 / dck	01/04/17 08:20	ICPMS205-H_170105A	127	35879
Sodium	35	mg/L		1		E200.7	12/30/16 12:50 / sld	12/29/16 10:47	ICP2-HE_161230A	54	35802
Uranium	0.0052	mg/L		0.0002		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802
Zinc	0.100	mg/L		0.008		E200.8	12/30/16 15:55 / dck	12/29/16 10:47	ICPMS205-H_161229A	326	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 (SS-19)
Lab ID: H16120307-016
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 09:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	12/19/16 12:07 / SR		L24 (14410200)_161219A	40	TSS161219A
Solids, Volatile Suspended	ND	mg/L		1		A2540 E	12/20/16 09:56 / SR		MISC WC_161220B	24	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	12/20/16 10:31 / SR		PHSC_101-H_161220A	28	R121425
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	12/20/16 10:31 / SR		PHSC_101-H_161220A	28	R121425
Chloride	ND	mg/L		1.0		E300.0	12/20/16 20:08 / SR		IC METROHM_161220A	33	R121470
Sulfate	ND	mg/L		1.0		E300.0	12/20/16 20:08 / SR		IC METROHM_161220A	33	R121470
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/06/17 18:02 / sld		WATERCALC_170106B	8	R121861
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	12/22/16 21:45 / eli-c		SUB-C218388	30	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:32 / cm		FIA203-HE_161221A	105	R121479
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	12/27/16 09:58 / cm		FIA203-HE_161227A	48	R121564
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	12/22/16 11:09 / cm	12/20/16 16:42	FIA203-HE_161222A	84	35749
Phosphorus, Total as P	ND	mg/L		0.003		E365.1	12/27/16 13:40 / cm	12/27/16 11:50	FIA202-HE_161227A	75	35796
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Arsenic	ND	mg/L		0.001		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Barium	ND	mg/L		0.003		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 11:58 / sld		ICP2-HE_161221A	58	R121482
Cadmium	ND	mg/L		0.00003		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Calcium	ND	mg/L		1		E200.7	12/21/16 11:58 / sld		ICP2-HE_161221A	58	R121482
Chromium	ND	mg/L		0.01		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Copper	ND	mg/L		0.001		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Iron	ND	mg/L		0.02		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 (SS-19)
Lab ID: H16120307-016
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 09:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Magnesium	ND	mg/L		1		E200.7	12/21/16 11:58 / sld		ICP2-HE_161221A	58	R121482
Manganese	ND	mg/L		0.001		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 12:45 / dck	12/28/16 18:23	HGCV202-H_161230A	64	35818
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Nickel	ND	mg/L		0.002		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Potassium	ND	mg/L		1		E200.7	12/21/16 11:58 / sld		ICP2-HE_161221A	58	R121482
Selenium	ND	mg/L		0.001		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Silver	ND	mg/L		0.0002		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Sodium	ND	mg/L		1		E200.7	12/21/16 11:58 / sld		ICP2-HE_161221A	58	R121482
Uranium	ND	mg/L		0.0002		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
Zinc	0.010	mg/L		0.008		E200.8	12/30/16 16:07 / dck		ICPMS205-H_161229A	332	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	ND	mg/L		0.009		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Antimony	ND	mg/L		0.0005		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Arsenic	ND	mg/L		0.001		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Barium	ND	mg/L		0.003		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Beryllium	ND	mg/L		0.0008		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Boron	ND	mg/L		0.1		E200.7	12/30/16 13:01 / sld	12/29/16 10:47	ICP2-HE_161230A	57	35802
Cadmium	ND	mg/L		0.00003		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Calcium	ND	mg/L		1		E200.7	12/30/16 13:01 / sld	12/29/16 10:47	ICP2-HE_161230A	57	35802
Chromium	ND	mg/L		0.01		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Cobalt	ND	mg/L		0.01		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Copper	ND	mg/L		0.001		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Iron	ND	mg/L		0.02		E200.7	12/30/16 13:01 / sld	12/29/16 10:47	ICP2-HE_161230A	57	35802
Lead	ND	mg/L		0.0003		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Magnesium	ND	mg/L		1		E200.7	12/30/16 13:01 / sld	12/29/16 10:47	ICP2-HE_161230A	57	35802
Manganese	ND	mg/L		0.001		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Mercury	ND	mg/L		5E-06		E245.1	12/30/16 12:48 / dck	12/28/16 18:23	HGCV202-H_161230A	65	35818
Molybdenum	ND	mg/L		0.005		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 (SS-19)
Lab ID: H16120307-016
Matrix: Aqueous

Project: Silver Bow Monitoring
Collection Date: 12/14/16 09:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Potassium	ND	mg/L		1		E200.7	12/30/16 13:01 / sld	12/29/16 10:47	ICP2-HE_161230A	57	35802
Selenium	ND	mg/L		0.001		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Silver	ND	mg/L		0.0002		E200.8	01/05/17 17:04 / dck	01/04/17 08:20	ICPMS205-H_170105A	128	35879
Sodium	ND	mg/L		1		E200.7	12/30/16 13:01 / sld	12/29/16 10:47	ICP2-HE_161230A	57	35802
Uranium	ND	mg/L		0.0002		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Vanadium	ND	mg/L		0.1		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802
Zinc	ND	mg/L		0.008		E200.8	12/30/16 16:09 / dck	12/29/16 10:47	ICPMS205-H_161229A	333	35802

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve <0.065mm
Lab ID: H16120307-017
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	68.6	wt%		0.2		D2974	01/05/17 08:07 / sld		DRYING OVEN 2_170104A	1	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	1.7	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	9	R121738
3050 EXTRACTABLE METALS											
Aluminum	18000	mg/kg-dry		10		SW6010B	01/04/17 16:59 / sld	01/02/17 13:26	ICP2-HE_170104A	115	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Arsenic	138	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Barium	1250	mg/kg-dry		5		SW6010B	01/04/17 16:59 / sld	01/02/17 13:26	ICP2-HE_170104A	115	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Boron	16	mg/kg-dry		7		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Cadmium	14.4	mg/kg-dry		0.5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Chromium	116	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Cobalt	53	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Copper	943	mg/kg-dry		5		SW6010B	01/04/17 16:59 / sld	01/02/17 13:26	ICP2-HE_170104A	115	35851
Iron	42600	mg/kg-dry	D	20		SW6010B	01/04/17 16:59 / sld	01/02/17 13:26	ICP2-HE_170104A	115	35851
Lead	595	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Manganese	36100	mg/kg-dry		5		SW6010B	01/04/17 16:59 / sld	01/02/17 13:26	ICP2-HE_170104A	115	35851
Molybdenum	31	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Nickel	92	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Silver	5	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Uranium	8	mg/kg-dry		5		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Vanadium	133	mg/kg-dry		1		SW6020	01/11/17 16:37 / sld	01/02/17 13:26	ICPMS204-B_170111D	21	35851
Zinc	3380	mg/kg-dry		5		SW6010B	01/04/17 16:59 / sld	01/02/17 13:26	ICP2-HE_170104A	115	35851
METALS, TOTAL											
Mercury	0.87	mg/kg-dry		0.10		SW7471B	01/04/17 11:01 / rgk	01/03/17 08:42	HGCV201-H_170104A	22	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 0.065-1mm
Lab ID: H16120307-018
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	22.6	wt%		0.2		D2974	01/05/17 08:07 / sld		›RYING OVEN 2_170104A	2	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	34.6	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	10	R121738
3050 EXTRACTABLE METALS											
Aluminum	3270	mg/kg-dry		5		SW6010B	01/04/17 18:57 / sld	01/02/17 13:27	ICP2-HE_170104A	147	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Arsenic	23	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Barium	100	mg/kg-dry		5		SW6010B	01/04/17 18:57 / sld	01/02/17 13:27	ICP2-HE_170104A	147	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Cadmium	0.8	mg/kg-dry		0.2		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Chromium	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Copper	73	mg/kg-dry		5		SW6010B	01/04/17 18:57 / sld	01/02/17 13:27	ICP2-HE_170104A	147	35852
Iron	7880	mg/kg-dry	D	9		SW6010B	01/04/17 18:57 / sld	01/02/17 13:27	ICP2-HE_170104A	147	35852
Lead	74	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Manganese	1820	mg/kg-dry		5		SW6010B	01/04/17 18:57 / sld	01/02/17 13:27	ICP2-HE_170104A	147	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Vanadium	18	mg/kg-dry		1		SW6020	01/11/17 18:17 / sld	01/02/17 13:27	ICPMS204-B_170111D	50	35852
Zinc	374	mg/kg-dry		5		SW6010B	01/04/17 18:57 / sld	01/02/17 13:27	ICP2-HE_170104A	147	35852
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 11:03 / rgk	01/03/17 08:42	HGCV201-H_170104A	23	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 1-2mm
Lab ID: H16120307-019
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.0	wt%		0.2		D2974	01/05/17 08:07 / sld		DRYING OVEN 2_170104A	3	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	38.2	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	11	R121738
3050 EXTRACTABLE METALS											
Aluminum	3020	mg/kg-dry		5		SW6010B	01/04/17 20:18 / sld	01/02/17 13:27	ICP2-HE_170104A	169	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Arsenic	17	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Barium	113	mg/kg-dry		5		SW6010B	01/04/17 20:18 / sld	01/02/17 13:27	ICP2-HE_170104A	169	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Cadmium	0.8	mg/kg-dry		0.2		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Chromium	9	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Copper	69	mg/kg-dry		5		SW6010B	01/04/17 20:18 / sld	01/02/17 13:27	ICP2-HE_170104A	169	35853
Iron	6670	mg/kg-dry	D	9		SW6010B	01/04/17 20:18 / sld	01/02/17 13:27	ICP2-HE_170104A	169	35853
Lead	62	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Manganese	1930	mg/kg-dry		5		SW6010B	01/04/17 20:18 / sld	01/02/17 13:27	ICP2-HE_170104A	169	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Vanadium	15	mg/kg-dry		1		SW6020	01/11/17 19:43 / sld	01/02/17 13:27	ICPMS204-B_170111D	75	35853
Zinc	298	mg/kg-dry		5		SW6010B	01/04/17 20:18 / sld	01/02/17 13:27	ICP2-HE_170104A	169	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 11:05 / rgk	01/03/17 08:42	HGCV201-H_170104A	24	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve <0.065mm
Lab ID: H16120307-020
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	70.0	wt%		0.2		D2974	01/05/17 08:07 / sld		DRYING OVEN 2_170104A	4	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	2.7	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	12	R121738
3050 EXTRACTABLE METALS											
Aluminum	19400	mg/kg-dry		10		SW6010B	01/04/17 17:03 / sld	01/02/17 13:26	ICP2-HE_170104A	116	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Arsenic	146	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Barium	440	mg/kg-dry		5		SW6010B	01/04/17 17:03 / sld	01/02/17 13:26	ICP2-HE_170104A	116	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Boron	15	mg/kg-dry		7		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Cadmium	10.6	mg/kg-dry		0.6		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Chromium	63	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Cobalt	20	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Copper	1100	mg/kg-dry		5		SW6010B	01/04/17 17:03 / sld	01/02/17 13:26	ICP2-HE_170104A	116	35851
Iron	46700	mg/kg-dry	D	20		SW6010B	01/04/17 17:03 / sld	01/02/17 13:26	ICP2-HE_170104A	116	35851
Lead	554	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Manganese	6580	mg/kg-dry		5		SW6010B	01/04/17 17:03 / sld	01/02/17 13:26	ICP2-HE_170104A	116	35851
Molybdenum	21	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Nickel	33	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Silver	6	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Uranium	9	mg/kg-dry		5		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Vanadium	95	mg/kg-dry		1		SW6020	01/11/17 16:41 / sld	01/02/17 13:26	ICPMS204-B_170111D	22	35851
Zinc	3410	mg/kg-dry		6		SW6010B	01/04/17 17:03 / sld	01/02/17 13:26	ICP2-HE_170104A	116	35851
METALS, TOTAL											
Mercury	1.2	mg/kg-dry		0.10		SW7471B	01/04/17 11:07 / rgk	01/03/17 08:42	HGCV201-H_170104A	25	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 0.065-1mm
Lab ID: H16120307-021
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.9	wt%		0.2		D2974	01/05/17 08:07 / sld		DRYING OVEN 2_170104A	5	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	35.9	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	13	R121738
3050 EXTRACTABLE METALS											
Aluminum	5170	mg/kg-dry		5		SW6010B	01/04/17 19:01 / sld	01/02/17 13:27	ICP2-HE_170104A	148	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Arsenic	17	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Barium	87	mg/kg-dry		5		SW6010B	01/04/17 19:01 / sld	01/02/17 13:27	ICP2-HE_170104A	148	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Cadmium	1.0	mg/kg-dry		0.2		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Chromium	9	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Copper	150	mg/kg-dry		5		SW6010B	01/04/17 19:01 / sld	01/02/17 13:27	ICP2-HE_170104A	148	35852
Iron	16500	mg/kg-dry	D	9		SW6010B	01/04/17 19:01 / sld	01/02/17 13:27	ICP2-HE_170104A	148	35852
Lead	67	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Manganese	826	mg/kg-dry		5		SW6010B	01/04/17 19:01 / sld	01/02/17 13:27	ICP2-HE_170104A	148	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Vanadium	29	mg/kg-dry		1		SW6020	01/11/17 18:20 / sld	01/02/17 13:27	ICPMS204-B_170111D	51	35852
Zinc	591	mg/kg-dry		5		SW6010B	01/04/17 19:01 / sld	01/02/17 13:27	ICP2-HE_170104A	148	35852
METALS, TOTAL											
Mercury	0.18	mg/kg-dry		0.10		SW7471B	01/04/17 13:20 / rgk	01/03/17 08:42	HGCV201-H_170104A	87	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 1-2mm
Lab ID: H16120307-022
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 14:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	23.0	wt%		0.2		D2974	01/05/17 08:07 / sld		DRYING OVEN 2_170104A	6	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	16.8	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	14	R121738
3050 EXTRACTABLE METALS											
Aluminum	3910	mg/kg-dry		5		SW6010B	01/04/17 20:22 / sld	01/02/17 13:27	ICP2-HE_170104A	170	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Arsenic	18	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Barium	58	mg/kg-dry		5		SW6010B	01/04/17 20:22 / sld	01/02/17 13:27	ICP2-HE_170104A	170	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Cadmium	0.6	mg/kg-dry		0.2		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Chromium	ND	mg/kg-dry		5		SW6020	01/12/17 11:30 / sld	01/02/17 13:27	ICPMS204-B_170112A	22	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Copper	49	mg/kg-dry		5		SW6010B	01/04/17 20:22 / sld	01/02/17 13:27	ICP2-HE_170104A	170	35853
Iron	8320	mg/kg-dry	D	9		SW6010B	01/04/17 20:22 / sld	01/02/17 13:27	ICP2-HE_170104A	170	35853
Lead	41	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Manganese	2620	mg/kg-dry		5		SW6010B	01/04/17 20:22 / sld	01/02/17 13:27	ICP2-HE_170104A	170	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Vanadium	16	mg/kg-dry		1		SW6020	01/11/17 20:01 / sld	01/02/17 13:27	ICPMS204-B_170111D	80	35853
Zinc	266	mg/kg-dry		5		SW6010B	01/04/17 20:22 / sld	01/02/17 13:27	ICP2-HE_170104A	170	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 11:20 / rgk	01/03/17 08:42	HGCV201-H_170104A	32	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve <0.065mm
Lab ID: H16120307-023
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 13:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	70.6	wt%		0.2		D2974	01/05/17 08:07 / sld		DRYING OVEN 2_170104A	7	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	17.0	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	15	R121738
3050 EXTRACTABLE METALS											
Aluminum	20300	mg/kg-dry		10		SW6010B	01/04/17 17:07 / sld	01/02/17 13:26	ICP2-HE_170104A	117	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Arsenic	62	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Barium	363	mg/kg-dry		5		SW6010B	01/04/17 17:07 / sld	01/02/17 13:26	ICP2-HE_170104A	117	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Boron	16	mg/kg-dry		7		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Cadmium	11.0	mg/kg-dry		0.6		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Chromium	59	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Cobalt	12	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Copper	831	mg/kg-dry		5		SW6010B	01/04/17 17:07 / sld	01/02/17 13:26	ICP2-HE_170104A	117	35851
Iron	33100	mg/kg-dry	D	20		SW6010B	01/04/17 17:07 / sld	01/02/17 13:26	ICP2-HE_170104A	117	35851
Lead	351	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Manganese	2460	mg/kg-dry		5		SW6010B	01/04/17 17:07 / sld	01/02/17 13:26	ICP2-HE_170104A	117	35851
Molybdenum	16	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Nickel	35	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Silver	6	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Uranium	10	mg/kg-dry		5		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Vanadium	63	mg/kg-dry		1		SW6020	01/11/17 16:44 / sld	01/02/17 13:26	ICPMS204-B_170111D	23	35851
Zinc	2360	mg/kg-dry		6		SW6010B	01/04/17 17:07 / sld	01/02/17 13:26	ICP2-HE_170104A	117	35851
METALS, TOTAL											
Mercury	1.4	mg/kg-dry		0.10		SW7471B	01/04/17 11:22 / rgk	01/03/17 08:42	HGCV201-H_170104A	33	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 0.065-1mm
Lab ID: H16120307-024
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 13:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	34.6	wt%		0.2		D2974	01/05/17 08:07 / sld		DRYING OVEN 2_170104A	9	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	28.0	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	16	R121738
3050 EXTRACTABLE METALS											
Aluminum	6150	mg/kg-dry		6		SW6010B	01/04/17 19:05 / sld	01/02/17 13:27	ICP2-HE_170104A	149	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Arsenic	12	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Barium	88	mg/kg-dry		5		SW6010B	01/04/17 19:05 / sld	01/02/17 13:27	ICP2-HE_170104A	149	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Cadmium	2.8	mg/kg-dry		0.3		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Chromium	8	mg/kg-dry		5		SW6020	01/12/17 11:14 / sld	01/02/17 13:27	ICPMS204-B_170112A	18	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Copper	165	mg/kg-dry		5		SW6010B	01/04/17 19:05 / sld	01/02/17 13:27	ICP2-HE_170104A	149	35852
Iron	11600	mg/kg-dry	D	10		SW6010B	01/04/17 19:05 / sld	01/02/17 13:27	ICP2-HE_170104A	149	35852
Lead	47	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Manganese	473	mg/kg-dry		5		SW6010B	01/04/17 19:05 / sld	01/02/17 13:27	ICP2-HE_170104A	149	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Vanadium	25	mg/kg-dry		1		SW6020	01/11/17 18:24 / sld	01/02/17 13:27	ICPMS204-B_170111D	52	35852
Zinc	488	mg/kg-dry		5		SW6010B	01/04/17 19:05 / sld	01/02/17 13:27	ICP2-HE_170104A	149	35852
METALS, TOTAL											
Mercury	0.37	mg/kg-dry		0.10		SW7471B	01/04/17 11:24 / rgk	01/03/17 08:42	HGCV201-H_170104A	34	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 1-2mm
Lab ID: H16120307-025
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 13:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.7	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	10	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	26.3	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	17	R121738
3050 EXTRACTABLE METALS											
Aluminum	4310	mg/kg-dry		5		SW6010B	01/04/17 20:26 / sld	01/02/17 13:27	ICP2-HE_170104A	171	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Arsenic	12	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Barium	56	mg/kg-dry		5		SW6010B	01/04/17 20:26 / sld	01/02/17 13:27	ICP2-HE_170104A	171	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Cadmium	2.5	mg/kg-dry		0.2		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Chromium	ND	mg/kg-dry		5		SW6020	01/12/17 11:34 / sld	01/02/17 13:27	ICPMS204-B_170112A	23	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Copper	87	mg/kg-dry		5		SW6010B	01/04/17 20:26 / sld	01/02/17 13:27	ICP2-HE_170104A	171	35853
Iron	7270	mg/kg-dry	D	9		SW6010B	01/04/17 20:26 / sld	01/02/17 13:27	ICP2-HE_170104A	171	35853
Lead	22	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Manganese	463	mg/kg-dry		5		SW6010B	01/04/17 20:26 / sld	01/02/17 13:27	ICP2-HE_170104A	171	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Vanadium	14	mg/kg-dry		1		SW6020	01/11/17 20:04 / sld	01/02/17 13:27	ICPMS204-B_170111D	81	35853
Zinc	195	mg/kg-dry		5		SW6010B	01/04/17 20:26 / sld	01/02/17 13:27	ICP2-HE_170104A	171	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 11:26 / rgk	01/03/17 08:42	HGCV201-H_170104A	35	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment Duplicate #2 (SS-08) Sediment Sieve <0.065mm
Collection Date: 12/15/16 13:00
DateReceived: 12/16/16
Lab ID: H16120307-026
Report Date: 01/16/17
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	66.8	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	11	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.9	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	18	R121738
3050 EXTRACTABLE METALS											
Aluminum	19700	mg/kg-dry		10		SW6010B	01/04/17 17:10 / sld	01/02/17 13:26	ICP2-HE_170104A	118	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Arsenic	55	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Barium	305	mg/kg-dry		5		SW6010B	01/04/17 17:10 / sld	01/02/17 13:26	ICP2-HE_170104A	118	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Boron	16	mg/kg-dry		7		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Cadmium	13.5	mg/kg-dry		0.5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Chromium	36	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Cobalt	11	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Copper	785	mg/kg-dry		5		SW6010B	01/04/17 17:10 / sld	01/02/17 13:26	ICP2-HE_170104A	118	35851
Iron	28600	mg/kg-dry	D	20		SW6010B	01/04/17 17:10 / sld	01/02/17 13:26	ICP2-HE_170104A	118	35851
Lead	334	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Manganese	2280	mg/kg-dry		5		SW6010B	01/04/17 17:10 / sld	01/02/17 13:26	ICP2-HE_170104A	118	35851
Molybdenum	14	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Nickel	18	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Silver	5	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Uranium	7	mg/kg-dry		5		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Vanadium	59	mg/kg-dry		1		SW6020	01/11/17 16:48 / sld	01/02/17 13:26	ICPMS204-B_170111D	24	35851
Zinc	2730	mg/kg-dry		5		SW6010B	01/04/17 17:10 / sld	01/02/17 13:26	ICP2-HE_170104A	118	35851
METALS, TOTAL											
Mercury	1.6	mg/kg-dry		0.10		SW7471B	01/04/17 13:28 / rgk	01/03/17 08:42	HGCV201-H_170104A	91	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment Duplicate #2 (SS-08) Sediment Sieve 0.065-1mm
Collection Date: 12/15/16 13:00
DateReceived: 12/16/16
Lab ID: H16120307-027
Report Date: 01/16/17
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	29.1	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	12	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	31.3	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	19	R121738
3050 EXTRACTABLE METALS											
Aluminum	5220	mg/kg-dry		6		SW6010B	01/04/17 19:09 / sld	01/02/17 13:27	ICP2-HE_170104A	150	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Arsenic	36	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Barium	65	mg/kg-dry		5		SW6010B	01/04/17 19:09 / sld	01/02/17 13:27	ICP2-HE_170104A	150	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Cadmium	2.4	mg/kg-dry		0.2		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Chromium	6	mg/kg-dry		5		SW6020	01/12/17 11:18 / sld	01/02/17 13:27	ICPMS204-B_170112A	19	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Copper	216	mg/kg-dry		5		SW6010B	01/04/17 19:09 / sld	01/02/17 13:27	ICP2-HE_170104A	150	35852
Iron	10100	mg/kg-dry	D	9		SW6010B	01/04/17 19:09 / sld	01/02/17 13:27	ICP2-HE_170104A	150	35852
Lead	169	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Manganese	543	mg/kg-dry		5		SW6010B	01/04/17 19:09 / sld	01/02/17 13:27	ICP2-HE_170104A	150	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Vanadium	22	mg/kg-dry		1		SW6020	01/11/17 18:27 / sld	01/02/17 13:27	ICPMS204-B_170111D	53	35852
Zinc	671	mg/kg-dry		5		SW6010B	01/04/17 19:09 / sld	01/02/17 13:27	ICP2-HE_170104A	150	35852
METALS, TOTAL											
Mercury	0.33	mg/kg-dry		0.10		SW7471B	01/04/17 11:29 / rgk	01/03/17 08:42	HGCV201-H_170104A	37	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: Sediment Duplicate #2 (SS-08) Sediment Sieve 1-2mm
Collection Date: 12/15/16 13:00
DateReceived: 12/16/16
Lab ID: H16120307-028
Report Date: 01/16/17
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.8	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	13	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	25.7	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	20	R121738
3050 EXTRACTABLE METALS											
Aluminum	3520	mg/kg-dry		5		SW6010B	01/04/17 20:29 / sld	01/02/17 13:27	ICP2-HE_170104A	172	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Arsenic	15	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Barium	48	mg/kg-dry		5		SW6010B	01/04/17 20:29 / sld	01/02/17 13:27	ICP2-HE_170104A	172	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Cadmium	1.1	mg/kg-dry		0.2		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Chromium	ND	mg/kg-dry		5		SW6020	01/12/17 11:37 / sld	01/02/17 13:27	ICPMS204-B_170112A	24	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Copper	189	mg/kg-dry		5		SW6010B	01/04/17 20:29 / sld	01/02/17 13:27	ICP2-HE_170104A	172	35853
Iron	6570	mg/kg-dry	D	8		SW6010B	01/04/17 20:29 / sld	01/02/17 13:27	ICP2-HE_170104A	172	35853
Lead	36	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Manganese	408	mg/kg-dry		5		SW6010B	01/04/17 20:29 / sld	01/02/17 13:27	ICP2-HE_170104A	172	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Vanadium	13	mg/kg-dry		1		SW6020	01/11/17 20:07 / sld	01/02/17 13:27	ICPMS204-B_170111D	82	35853
Zinc	379	mg/kg-dry		5		SW6010B	01/04/17 20:29 / sld	01/02/17 13:27	ICP2-HE_170104A	172	35853
METALS, TOTAL											
Mercury	0.14	mg/kg-dry		0.10		SW7471B	01/04/17 11:31 / rgk	01/03/17 08:42	HGCV201-H_170104A	38	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve <0.065mm
Lab ID: H16120307-029
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 12:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	59.6	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	14	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	16.6	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	21	R121738
3050 EXTRACTABLE METALS											
Aluminum	29200	mg/kg-dry		10		SW6010B	01/04/17 17:14 / sld	01/02/17 13:26	ICP2-HE_170104A	119	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Arsenic	20	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Barium	451	mg/kg-dry		5		SW6010B	01/04/17 17:14 / sld	01/02/17 13:26	ICP2-HE_170104A	119	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Boron	11	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Cadmium	2.7	mg/kg-dry		0.4		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Chromium	18	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Cobalt	10	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Copper	227	mg/kg-dry		5		SW6010B	01/04/17 17:14 / sld	01/02/17 13:26	ICP2-HE_170104A	119	35851
Iron	26900	mg/kg-dry	D	20		SW6010B	01/04/17 17:14 / sld	01/02/17 13:26	ICP2-HE_170104A	119	35851
Lead	92	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Manganese	2450	mg/kg-dry		5		SW6010B	01/04/17 17:14 / sld	01/02/17 13:26	ICP2-HE_170104A	119	35851
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Nickel	11	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Vanadium	40	mg/kg-dry		1		SW6020	01/11/17 16:51 / sld	01/02/17 13:26	ICPMS204-B_170111D	25	35851
Zinc	875	mg/kg-dry		5		SW6010B	01/04/17 17:14 / sld	01/02/17 13:26	ICP2-HE_170104A	119	35851
METALS, TOTAL											
Mercury	0.32	mg/kg-dry		0.10		SW7471B	01/04/17 11:46 / rgk	01/03/17 08:45	HGCV201-H_170104A	44	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: SS-10A Sediment Sieve 0.065-1mm
Collection Date: 12/15/16 12:00
DateReceived: 12/16/16
Lab ID: H16120307-030
Report Date: 01/16/17
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	26.2	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	15	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	32.6	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	22	R121738
3050 EXTRACTABLE METALS											
Aluminum	8490	mg/kg-dry		5		SW6010B	01/04/17 19:12 / sld	01/02/17 13:27	ICP2-HE_170104A	151	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Arsenic	8	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Barium	141	mg/kg-dry		5		SW6010B	01/04/17 19:12 / sld	01/02/17 13:27	ICP2-HE_170104A	151	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Cadmium	1.1	mg/kg-dry		0.2		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Chromium	9	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Copper	64	mg/kg-dry		5		SW6010B	01/04/17 19:12 / sld	01/02/17 13:27	ICP2-HE_170104A	151	35852
Iron	17100	mg/kg-dry	D	9		SW6010B	01/04/17 19:12 / sld	01/02/17 13:27	ICP2-HE_170104A	151	35852
Lead	22	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Manganese	564	mg/kg-dry		5		SW6010B	01/04/17 19:12 / sld	01/02/17 13:27	ICP2-HE_170104A	151	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Vanadium	42	mg/kg-dry		1		SW6020	01/11/17 18:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	54	35852
Zinc	245	mg/kg-dry		5		SW6010B	01/04/17 19:12 / sld	01/02/17 13:27	ICP2-HE_170104A	151	35852
METALS, TOTAL											
Mercury	0.15	mg/kg-dry		0.10		SW7471B	01/04/17 11:54 / rgk	01/03/17 08:45	HGCV201-H_170104A	48	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 1-2mm
Lab ID: H16120307-031
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 12:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	32.0	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	16	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	15.9	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	23	R121738
3050 EXTRACTABLE METALS											
Aluminum	11300	mg/kg-dry		6		SW6010B	01/04/17 20:33 / sld	01/02/17 13:27	ICP2-HE_170104A	173	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Arsenic	6	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Barium	211	mg/kg-dry		5		SW6010B	01/04/17 20:33 / sld	01/02/17 13:27	ICP2-HE_170104A	173	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Cadmium	0.6	mg/kg-dry		0.2		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Chromium	ND	mg/kg-dry		5		SW6020	01/12/17 11:40 / sld	01/02/17 13:27	ICPMS204-B_170112A	25	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Copper	21	mg/kg-dry		5		SW6010B	01/04/17 20:33 / sld	01/02/17 13:27	ICP2-HE_170104A	173	35853
Iron	9600	mg/kg-dry	D	10		SW6010B	01/04/17 20:33 / sld	01/02/17 13:27	ICP2-HE_170104A	173	35853
Lead	12	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Manganese	850	mg/kg-dry		5		SW6010B	01/04/17 20:33 / sld	01/02/17 13:27	ICP2-HE_170104A	173	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Vanadium	14	mg/kg-dry		1		SW6020	01/11/17 20:11 / sld	01/02/17 13:27	ICPMS204-B_170111D	83	35853
Zinc	105	mg/kg-dry		5		SW6010B	01/04/17 20:33 / sld	01/02/17 13:27	ICP2-HE_170104A	173	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 11:56 / rgk	01/03/17 08:45	HGCV201-H_170104A	49	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: SS-10B Sediment Sieve <0.065mm
Collection Date: 12/15/16 11:15
DateReceived: 12/16/16
Lab ID: H16120307-032
Report Date: 01/16/17
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	57.2	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	17	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	8.1	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	24	R121738
3050 EXTRACTABLE METALS											
Aluminum	20400	mg/kg-dry		9		SW6010B	01/04/17 17:18 / sld	01/02/17 13:26	ICP2-HE_170104A	120	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Arsenic	18	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Barium	216	mg/kg-dry		5		SW6010B	01/04/17 17:18 / sld	01/02/17 13:26	ICP2-HE_170104A	120	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Boron	9	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Cadmium	3.8	mg/kg-dry		0.4		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Chromium	13	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Cobalt	7	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Copper	295	mg/kg-dry		5		SW6010B	01/04/17 17:18 / sld	01/02/17 13:26	ICP2-HE_170104A	120	35851
Iron	19500	mg/kg-dry	D	20		SW6010B	01/04/17 17:18 / sld	01/02/17 13:26	ICP2-HE_170104A	120	35851
Lead	98	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Manganese	1190	mg/kg-dry		5		SW6010B	01/04/17 17:18 / sld	01/02/17 13:26	ICP2-HE_170104A	120	35851
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Nickel	8	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Vanadium	34	mg/kg-dry		1		SW6020	01/11/17 16:54 / sld	01/02/17 13:26	ICPMS204-B_170111D	26	35851
Zinc	1120	mg/kg-dry		5		SW6010B	01/04/17 17:18 / sld	01/02/17 13:26	ICP2-HE_170104A	120	35851
METALS, TOTAL											
Mercury	0.38	mg/kg-dry		0.10		SW7471B	01/04/17 11:57 / rgk	01/03/17 08:45	HGCV201-H_170104A	50	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: SS-10B Sediment Sieve 0.065-1mm
Collection Date: 12/15/16 11:15
DateReceived: 12/16/16
Lab ID: H16120307-033
Report Date: 01/16/17
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	29.2	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	18	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	35.6	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	25	R121738
3050 EXTRACTABLE METALS											
Aluminum	8400	mg/kg-dry		5		SW6010B	01/04/17 19:16 / sld	01/02/17 13:27	ICP2-HE_170104A	152	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Arsenic	5	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Barium	94	mg/kg-dry		5		SW6010B	01/04/17 19:16 / sld	01/02/17 13:27	ICP2-HE_170104A	152	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Cadmium	0.9	mg/kg-dry		0.2		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Chromium	16	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Copper	62	mg/kg-dry		5		SW6010B	01/04/17 19:16 / sld	01/02/17 13:27	ICP2-HE_170104A	152	35852
Iron	27500	mg/kg-dry	D	9		SW6010B	01/04/17 19:16 / sld	01/02/17 13:27	ICP2-HE_170104A	152	35852
Lead	18	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Manganese	407	mg/kg-dry		5		SW6010B	01/04/17 19:16 / sld	01/02/17 13:27	ICP2-HE_170104A	152	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Vanadium	80	mg/kg-dry		1		SW6020	01/11/17 18:34 / sld	01/02/17 13:27	ICPMS204-B_170111D	55	35852
Zinc	207	mg/kg-dry		5		SW6010B	01/04/17 19:16 / sld	01/02/17 13:27	ICP2-HE_170104A	152	35852
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 11:59 / rgk	01/03/17 08:45	HGCV201-H_170104A	51	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10B Sediment Sieve 1-2mm
Lab ID: H16120307-034
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 11:15
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	27.3	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	20	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	12.8	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	26	R121738
3050 EXTRACTABLE METALS											
Aluminum	4500	mg/kg-dry		5		SW6010B	01/04/17 20:37 / sld	01/02/17 13:27	ICP2-HE_170104A	174	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Arsenic	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Barium	47	mg/kg-dry		5		SW6010B	01/04/17 20:37 / sld	01/02/17 13:27	ICP2-HE_170104A	174	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Cadmium	ND	mg/kg-dry		0.2		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Chromium	ND	mg/kg-dry		5		SW6020	01/12/17 11:44 / sld	01/02/17 13:27	ICPMS204-B_170112A	26	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Copper	16	mg/kg-dry		5		SW6010B	01/04/17 20:37 / sld	01/02/17 13:27	ICP2-HE_170104A	174	35853
Iron	6270	mg/kg-dry	D	9		SW6010B	01/04/17 20:37 / sld	01/02/17 13:27	ICP2-HE_170104A	174	35853
Lead	6	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Manganese	358	mg/kg-dry		5		SW6010B	01/04/17 20:37 / sld	01/02/17 13:27	ICP2-HE_170104A	174	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:14 / sld	01/02/17 13:27	ICPMS204-B_170111D	84	35853
Vanadium	13	mg/kg-dry	D	2		SW6020	01/12/17 14:37 / sld	01/02/17 13:27	ICPMS204-B_170112A	64	35853
Zinc	92	mg/kg-dry		5		SW6010B	01/04/17 20:37 / sld	01/02/17 13:27	ICP2-HE_170104A	174	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 12:01 / rgk	01/03/17 08:45	HGCV201-H_170104A	52	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve <0.065mm
Lab ID: H16120307-035
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 10:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	73.8	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	21	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.7	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	27	R121738
3050 EXTRACTABLE METALS											
Aluminum	19700	mg/kg-dry		10		SW6010B	01/04/17 17:21 / sld	01/02/17 13:26	ICP2-HE_170104A	121	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Arsenic	38	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Barium	414	mg/kg-dry		5		SW6010B	01/04/17 17:21 / sld	01/02/17 13:26	ICP2-HE_170104A	121	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Boron	12	mg/kg-dry		8		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Cadmium	10.6	mg/kg-dry		0.6		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Chromium	27	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Cobalt	15	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Copper	695	mg/kg-dry		5		SW6010B	01/04/17 17:21 / sld	01/02/17 13:26	ICP2-HE_170104A	121	35851
Iron	26100	mg/kg-dry	D	20		SW6010B	01/04/17 17:21 / sld	01/02/17 13:26	ICP2-HE_170104A	121	35851
Lead	170	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Manganese	7160	mg/kg-dry		5		SW6010B	01/04/17 17:21 / sld	01/02/17 13:26	ICP2-HE_170104A	121	35851
Molybdenum	7	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Nickel	18	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Vanadium	48	mg/kg-dry		2		SW6020	01/11/17 16:58 / sld	01/02/17 13:26	ICPMS204-B_170111D	27	35851
Zinc	1920	mg/kg-dry		6		SW6010B	01/04/17 17:21 / sld	01/02/17 13:26	ICP2-HE_170104A	121	35851
METALS, TOTAL											
Mercury	0.68	mg/kg-dry		0.10		SW7471B	01/04/17 12:03 / rgk	01/03/17 08:45	HGCV201-H_170104A	53	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 0.065-1mm
Lab ID: H16120307-036
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 10:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	29.0	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	22	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	14.3	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	28	R121738
3050 EXTRACTABLE METALS											
Aluminum	6040	mg/kg-dry		5		SW6010B	01/04/17 19:27 / sld	01/02/17 13:27	ICP2-HE_170104A	155	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Arsenic	7	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Barium	157	mg/kg-dry		5		SW6010B	01/04/17 19:27 / sld	01/02/17 13:27	ICP2-HE_170104A	155	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Cadmium	1.2	mg/kg-dry		0.2		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Chromium	10	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Copper	55	mg/kg-dry		5		SW6010B	01/04/17 19:27 / sld	01/02/17 13:27	ICP2-HE_170104A	155	35852
Iron	14600	mg/kg-dry	D	9		SW6010B	01/04/17 19:27 / sld	01/02/17 13:27	ICP2-HE_170104A	155	35852
Lead	18	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Manganese	1210	mg/kg-dry		5		SW6010B	01/04/17 19:27 / sld	01/02/17 13:27	ICP2-HE_170104A	155	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Vanadium	39	mg/kg-dry		1		SW6020	01/11/17 18:38 / sld	01/02/17 13:27	ICPMS204-B_170111D	56	35852
Zinc	221	mg/kg-dry		5		SW6010B	01/04/17 19:27 / sld	01/02/17 13:27	ICP2-HE_170104A	155	35852
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 12:05 / rgk	01/03/17 08:45	HGCV201-H_170104A	54	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 1-2mm
Lab ID: H16120307-037
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 10:00
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.0	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	23	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	22.6	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	29	R121738
3050 EXTRACTABLE METALS											
Aluminum	4790	mg/kg-dry		5		SW6010B	01/04/17 20:41 / sld	01/02/17 13:27	ICP2-HE_170104A	175	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Arsenic	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Barium	147	mg/kg-dry		5		SW6010B	01/04/17 20:41 / sld	01/02/17 13:27	ICP2-HE_170104A	175	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Cadmium	0.6	mg/kg-dry		0.2		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Chromium	7	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Copper	20	mg/kg-dry		5		SW6010B	01/04/17 20:41 / sld	01/02/17 13:27	ICP2-HE_170104A	175	35853
Iron	5860	mg/kg-dry	D	8		SW6010B	01/04/17 20:41 / sld	01/02/17 13:27	ICP2-HE_170104A	175	35853
Lead	7	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Manganese	1200	mg/kg-dry		5		SW6010B	01/04/17 20:41 / sld	01/02/17 13:27	ICP2-HE_170104A	175	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Vanadium	13	mg/kg-dry		1		SW6020	01/11/17 20:18 / sld	01/02/17 13:27	ICPMS204-B_170111D	85	35853
Zinc	163	mg/kg-dry		5		SW6010B	01/04/17 20:41 / sld	01/02/17 13:27	ICP2-HE_170104A	175	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 12:07 / rgk	01/03/17 08:45	HGCV201-H_170104A	55	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: SS-11D Sediment Sieve <0.065mm
Collection Date: 12/15/16 09:15
DateReceived: 12/16/16
Lab ID: H16120307-038
Report Date: 01/16/17
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	71.5	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	24	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	4.7	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	30	R121738
3050 EXTRACTABLE METALS											
Aluminum	26900	mg/kg-dry		10		SW6010B	01/04/17 17:32 / sld	01/02/17 13:26	ICP2-HE_170104A	124	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Arsenic	24	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Barium	452	mg/kg-dry		5		SW6010B	01/04/17 17:32 / sld	01/02/17 13:26	ICP2-HE_170104A	124	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Boron	12	mg/kg-dry		7		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Cadmium	7.0	mg/kg-dry		0.6		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Chromium	42	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Cobalt	13	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Copper	447	mg/kg-dry		5		SW6010B	01/04/17 17:32 / sld	01/02/17 13:26	ICP2-HE_170104A	124	35851
Iron	28500	mg/kg-dry	D	20		SW6010B	01/04/17 17:32 / sld	01/02/17 13:26	ICP2-HE_170104A	124	35851
Lead	122	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Manganese	6340	mg/kg-dry		5		SW6010B	01/04/17 17:32 / sld	01/02/17 13:26	ICP2-HE_170104A	124	35851
Molybdenum	5	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Nickel	25	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Uranium	6	mg/kg-dry		5		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Vanadium	59	mg/kg-dry		1		SW6020	01/11/17 17:15 / sld	01/02/17 13:26	ICPMS204-B_170111D	32	35851
Zinc	1340	mg/kg-dry		6		SW6010B	01/04/17 17:32 / sld	01/02/17 13:26	ICP2-HE_170104A	124	35851
METALS, TOTAL											
Mercury	0.47	mg/kg-dry		0.10		SW7471B	01/04/17 12:09 / rgk	01/03/17 08:45	HGCV201-H_170104A	56	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 0.065-1mm
Lab ID: H16120307-039
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 09:15
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	26.6	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	25	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	30.4	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	31	R121738
3050 EXTRACTABLE METALS											
Aluminum	4390	mg/kg-dry		5		SW6010B	01/04/17 19:31 / sld	01/02/17 13:27	ICP2-HE_170104A	156	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Arsenic	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Barium	98	mg/kg-dry		5		SW6010B	01/04/17 19:31 / sld	01/02/17 13:27	ICP2-HE_170104A	156	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Cadmium	0.5	mg/kg-dry		0.2		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Chromium	9	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Copper	19	mg/kg-dry		5		SW6010B	01/04/17 19:31 / sld	01/02/17 13:27	ICP2-HE_170104A	156	35852
Iron	6900	mg/kg-dry	D	9		SW6010B	01/04/17 19:31 / sld	01/02/17 13:27	ICP2-HE_170104A	156	35852
Lead	9	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Manganese	534	mg/kg-dry		5		SW6010B	01/04/17 19:31 / sld	01/02/17 13:27	ICP2-HE_170104A	156	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Vanadium	17	mg/kg-dry		1		SW6020	01/11/17 18:41 / sld	01/02/17 13:27	ICPMS204-B_170111D	57	35852
Zinc	90	mg/kg-dry		5		SW6010B	01/04/17 19:31 / sld	01/02/17 13:27	ICP2-HE_170104A	156	35852
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 12:14 / rgk	01/03/17 08:45	HGCV201-H_170104A	59	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 1-2mm
Lab ID: H16120307-040
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/15/16 09:15
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.3	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	26	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	27.2	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	32	R121738
3050 EXTRACTABLE METALS											
Aluminum	4970	mg/kg-dry		5		SW6010B	01/04/17 20:44 / sld	01/02/17 13:27	ICP2-HE_170104A	176	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Arsenic	ND	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Barium	128	mg/kg-dry		5		SW6010B	01/04/17 20:44 / sld	01/02/17 13:27	ICP2-HE_170104A	176	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Cadmium	0.4	mg/kg-dry		0.2		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Chromium	10	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Copper	17	mg/kg-dry		5		SW6010B	01/04/17 20:44 / sld	01/02/17 13:27	ICP2-HE_170104A	176	35853
Iron	6440	mg/kg-dry	D	9		SW6010B	01/04/17 20:44 / sld	01/02/17 13:27	ICP2-HE_170104A	176	35853
Lead	9	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Manganese	936	mg/kg-dry		5		SW6010B	01/04/17 20:44 / sld	01/02/17 13:27	ICP2-HE_170104A	176	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Nickel	5	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Vanadium	13	mg/kg-dry		1		SW6020	01/11/17 20:21 / sld	01/02/17 13:27	ICPMS204-B_170111D	86	35853
Zinc	116	mg/kg-dry		5		SW6010B	01/04/17 20:44 / sld	01/02/17 13:27	ICP2-HE_170104A	176	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 12:22 / rgk	01/03/17 08:45	HGCV201-H_170104A	63	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Sieve <0.065mm
Lab ID: H16120307-041
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/14/16 11:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	63.4	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	27	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	1.2	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	33	R121738
3050 EXTRACTABLE METALS											
Aluminum	30000	mg/kg-dry		10		SW6010B	01/04/17 17:36 / sld	01/02/17 13:26	ICP2-HE_170104A	125	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Arsenic	85	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Barium	368	mg/kg-dry		5		SW6010B	01/04/17 17:36 / sld	01/02/17 13:26	ICP2-HE_170104A	125	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Boron	11	mg/kg-dry		6		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Cadmium	14.5	mg/kg-dry		0.4		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Chromium	39	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Cobalt	16	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Copper	1050	mg/kg-dry		5		SW6010B	01/04/17 17:36 / sld	01/02/17 13:26	ICP2-HE_170104A	125	35851
Iron	36700	mg/kg-dry	D	20		SW6010B	01/04/17 17:36 / sld	01/02/17 13:26	ICP2-HE_170104A	125	35851
Lead	421	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Manganese	4000	mg/kg-dry		5		SW6010B	01/04/17 17:36 / sld	01/02/17 13:26	ICP2-HE_170104A	125	35851
Molybdenum	7	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Nickel	23	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Uranium	8	mg/kg-dry		5		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Vanadium	97	mg/kg-dry		1		SW6020	01/11/17 17:19 / sld	01/02/17 13:26	ICPMS204-B_170111D	33	35851
Zinc	2710	mg/kg-dry		5		SW6010B	01/04/17 17:36 / sld	01/02/17 13:26	ICP2-HE_170104A	125	35851
METALS, TOTAL											
Mercury	1.9	mg/kg-dry		0.10		SW7471B	01/04/17 13:30 / rgk	01/03/17 08:45	HGCV201-H_170104A	92	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Sieve 0.065-1mm
Lab ID: H16120307-042
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/14/16 11:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	25.7	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	28	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	45.6	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	34	R121738
3050 EXTRACTABLE METALS											
Aluminum	4950	mg/kg-dry		5		SW6010B	01/04/17 19:34 / sld	01/02/17 13:27	ICP2-HE_170104A	157	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Arsenic	23	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Barium	96	mg/kg-dry		5		SW6010B	01/04/17 19:34 / sld	01/02/17 13:27	ICP2-HE_170104A	157	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Cadmium	0.8	mg/kg-dry		0.2		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Chromium	11	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Copper	95	mg/kg-dry		5		SW6010B	01/04/17 19:34 / sld	01/02/17 13:27	ICP2-HE_170104A	157	35852
Iron	15800	mg/kg-dry	D	9		SW6010B	01/04/17 19:34 / sld	01/02/17 13:27	ICP2-HE_170104A	157	35852
Lead	62	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Manganese	554	mg/kg-dry		5		SW6010B	01/04/17 19:34 / sld	01/02/17 13:27	ICP2-HE_170104A	157	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Vanadium	44	mg/kg-dry		1		SW6020	01/11/17 18:44 / sld	01/02/17 13:27	ICPMS204-B_170111D	58	35852
Zinc	324	mg/kg-dry		5		SW6010B	01/04/17 19:34 / sld	01/02/17 13:27	ICP2-HE_170104A	157	35852
METALS, TOTAL											
Mercury	0.14	mg/kg-dry		0.10		SW7471B	01/04/17 12:26 / rgk	01/03/17 08:45	HGCV201-H_170104A	65	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sediment Sieve 1-2mm
Lab ID: H16120307-043
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/14/16 11:45
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	28.0	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	29	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	31.3	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	35	R121738
3050 EXTRACTABLE METALS											
Aluminum	3900	mg/kg-dry		5		SW6010B	01/04/17 20:55 / sld	01/02/17 13:27	ICP2-HE_170104A	179	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Arsenic	30	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Barium	90	mg/kg-dry		5		SW6010B	01/04/17 20:55 / sld	01/02/17 13:27	ICP2-HE_170104A	179	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Cadmium	0.4	mg/kg-dry		0.2		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Chromium	8	mg/kg-dry		5		SW6020	01/12/17 11:47 / sld	01/02/17 13:27	ICPMS204-B_170112A	27	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Copper	92	mg/kg-dry		5		SW6010B	01/04/17 20:55 / sld	01/02/17 13:27	ICP2-HE_170104A	179	35853
Iron	7720	mg/kg-dry	D	9		SW6010B	01/04/17 20:55 / sld	01/02/17 13:27	ICP2-HE_170104A	179	35853
Lead	21	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Manganese	670	mg/kg-dry		5		SW6010B	01/04/17 20:55 / sld	01/02/17 13:27	ICP2-HE_170104A	179	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Vanadium	18	mg/kg-dry		1		SW6020	01/11/17 20:25 / sld	01/02/17 13:27	ICPMS204-B_170111D	87	35853
Zinc	187	mg/kg-dry		5		SW6010B	01/04/17 20:55 / sld	01/02/17 13:27	ICP2-HE_170104A	179	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 12:28 / rgk	01/03/17 08:45	HGCV201-H_170104A	66	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve <0.065mm
Lab ID: H16120307-044
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/14/16 10:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	65.3	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	30	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.4	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	36	R121738
3050 EXTRACTABLE METALS											
Aluminum	26000	mg/kg-dry		10		SW6010B	01/04/17 17:40 / sld	01/02/17 13:26	ICP2-HE_170104A	126	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Arsenic	75	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Barium	438	mg/kg-dry		5		SW6010B	01/04/17 17:40 / sld	01/02/17 13:26	ICP2-HE_170104A	126	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Boron	11	mg/kg-dry		6		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Cadmium	10.1	mg/kg-dry		0.5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Chromium	53	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Cobalt	18	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Copper	1020	mg/kg-dry		5		SW6010B	01/04/17 17:40 / sld	01/02/17 13:26	ICP2-HE_170104A	126	35851
Iron	35500	mg/kg-dry	D	20		SW6010B	01/04/17 17:40 / sld	01/02/17 13:26	ICP2-HE_170104A	126	35851
Lead	284	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Manganese	6260	mg/kg-dry		5		SW6010B	01/04/17 17:40 / sld	01/02/17 13:26	ICP2-HE_170104A	126	35851
Molybdenum	6	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Nickel	32	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Vanadium	84	mg/kg-dry		1		SW6020	01/11/17 17:22 / sld	01/02/17 13:26	ICPMS204-B_170111D	34	35851
Zinc	1890	mg/kg-dry		5		SW6010B	01/04/17 17:40 / sld	01/02/17 13:26	ICP2-HE_170104A	126	35851
METALS, TOTAL											
Mercury	1.4	mg/kg-dry		0.10		SW7471B	01/04/17 13:31 / rgk	01/03/17 08:45	HGCV201-H_170104A	93	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: Silver Bow Monitoring
Client Sample ID: SS-17D Sediment Sieve 0.065-1mm
Collection Date: 12/14/16 10:30
DateReceived: 12/16/16
Lab ID: H16120307-045
Report Date: 01/16/17
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	26.0	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	31	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	48.2	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	37	R121738
3050 EXTRACTABLE METALS											
Aluminum	4530	mg/kg-dry		5		SW6010B	01/04/17 19:38 / sld	01/02/17 13:27	ICP2-HE_170104A	158	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Arsenic	24	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Barium	98	mg/kg-dry		5		SW6010B	01/04/17 19:38 / sld	01/02/17 13:27	ICP2-HE_170104A	158	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Cadmium	1.7	mg/kg-dry		0.2		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Chromium	11	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Copper	138	mg/kg-dry		5		SW6010B	01/04/17 19:38 / sld	01/02/17 13:27	ICP2-HE_170104A	158	35852
Iron	15100	mg/kg-dry	D	9		SW6010B	01/04/17 19:38 / sld	01/02/17 13:27	ICP2-HE_170104A	158	35852
Lead	45	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Manganese	585	mg/kg-dry		5		SW6010B	01/04/17 19:38 / sld	01/02/17 13:27	ICP2-HE_170104A	158	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Vanadium	37	mg/kg-dry		1		SW6020	01/11/17 19:02 / sld	01/02/17 13:27	ICPMS204-B_170111D	63	35852
Zinc	554	mg/kg-dry		5		SW6010B	01/04/17 19:38 / sld	01/02/17 13:27	ICP2-HE_170104A	158	35852
METALS, TOTAL											
Mercury	0.12	mg/kg-dry		0.10		SW7471B	01/04/17 12:32 / rgk	01/03/17 08:45	HGCV201-H_170104A	68	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 1-2mm
Lab ID: H16120307-046
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/14/16 10:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	24.8	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	32	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	21.5	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	38	R121738
3050 EXTRACTABLE METALS											
Aluminum	2940	mg/kg-dry		5		SW6010B	01/05/17 12:59 / sld	01/02/17 13:27	ICP2-HE_170105A	58	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Arsenic	46	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Barium	63	mg/kg-dry		5		SW6010B	01/05/17 12:59 / sld	01/02/17 13:27	ICP2-HE_170105A	58	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Cadmium	1.8	mg/kg-dry		0.2		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Chromium	7	mg/kg-dry		5		SW6020	01/12/17 12:01 / sld	01/02/17 13:27	ICPMS204-B_170112A	31	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Copper	159	mg/kg-dry		5		SW6010B	01/06/17 14:09 / sld	01/02/17 13:27	ICP2-HE_170106B	54	35853
Iron	9310	mg/kg-dry	D	8		SW6010B	01/06/17 14:09 / sld	01/02/17 13:27	ICP2-HE_170106B	54	35853
Lead	47	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Manganese	548	mg/kg-dry		5		SW6010B	01/05/17 12:59 / sld	01/02/17 13:27	ICP2-HE_170105A	58	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:28 / sld	01/02/17 13:27	ICPMS204-B_170111D	88	35853
Vanadium	13	mg/kg-dry	D	2		SW6020	01/12/17 14:41 / sld	01/02/17 13:27	ICPMS204-B_170112A	65	35853
Zinc	591	mg/kg-dry		5		SW6010B	01/05/17 12:59 / sld	01/02/17 13:27	ICP2-HE_170105A	58	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 12:33 / rgk	01/03/17 08:45	HGCV201-H_170104A	69	35859

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve <0.065mm
Lab ID: H16120307-047
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/14/16 09:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	68.8	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	34	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.2	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	39	R121738
3050 EXTRACTABLE METALS											
Aluminum	17300	mg/kg-dry		10		SW6010B	01/04/17 17:43 / sld	01/02/17 13:26	ICP2-HE_170104A	127	35851
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Arsenic	53	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Barium	276	mg/kg-dry		5		SW6010B	01/04/17 17:43 / sld	01/02/17 13:26	ICP2-HE_170104A	127	35851
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Boron	9	mg/kg-dry		7		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Cadmium	19.2	mg/kg-dry		0.5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Chromium	32	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Cobalt	15	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Copper	619	mg/kg-dry		5		SW6010B	01/04/17 17:43 / sld	01/02/17 13:26	ICP2-HE_170104A	127	35851
Iron	24300	mg/kg-dry	D	20		SW6010B	01/04/17 17:43 / sld	01/02/17 13:26	ICP2-HE_170104A	127	35851
Lead	183	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Manganese	4880	mg/kg-dry		5		SW6010B	01/04/17 17:43 / sld	01/02/17 13:26	ICP2-HE_170104A	127	35851
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Nickel	21	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Vanadium	57	mg/kg-dry		1		SW6020	01/11/17 17:25 / sld	01/02/17 13:26	ICPMS204-B_170111D	35	35851
Zinc	2300	mg/kg-dry		5		SW6010B	01/04/17 17:43 / sld	01/02/17 13:26	ICP2-HE_170104A	127	35851
METALS, TOTAL											
Mercury	0.91	mg/kg-dry		0.10		SW7471B	01/04/17 12:45 / rgk	01/03/17 08:46	HGCV201-H_170104A	75	35860

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 0.065-1mm
Lab ID: H16120307-048
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/14/16 09:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	26.1	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	35	R121783
SIEVE ANALYSIS											
No. 230 (63 um), Retained	41.5	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	40	R121738
3050 EXTRACTABLE METALS											
Aluminum	3780	mg/kg-dry		5		SW6010B	01/04/17 19:42 / sld	01/02/17 13:27	ICP2-HE_170104A	159	35852
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Arsenic	12	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Barium	89	mg/kg-dry		5		SW6010B	01/04/17 19:42 / sld	01/02/17 13:27	ICP2-HE_170104A	159	35852
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Cadmium	0.7	mg/kg-dry		0.2		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Chromium	7	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Copper	47	mg/kg-dry		5		SW6010B	01/04/17 19:42 / sld	01/02/17 13:27	ICP2-HE_170104A	159	35852
Iron	8670	mg/kg-dry	D	9		SW6010B	01/04/17 19:42 / sld	01/02/17 13:27	ICP2-HE_170104A	159	35852
Lead	46	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Manganese	519	mg/kg-dry		5		SW6010B	01/04/17 19:42 / sld	01/02/17 13:27	ICP2-HE_170104A	159	35852
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Vanadium	21	mg/kg-dry		1		SW6020	01/11/17 19:05 / sld	01/02/17 13:27	ICPMS204-B_170111D	64	35852
Zinc	229	mg/kg-dry		5		SW6010B	01/04/17 19:42 / sld	01/02/17 13:27	ICP2-HE_170104A	159	35852
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 12:47 / rgk	01/03/17 08:46	HGCV201-H_170104A	76	35860

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 1-2mm
Lab ID: H16120307-049
Matrix: Sediment

Project: Silver Bow Monitoring
Collection Date: 12/14/16 09:30
DateReceived: 12/16/16
Report Date: 01/16/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	20.9	wt%		0.2		D2974	01/05/17 08:07 / sld		RYING OVEN 2_170104A	36	R121783
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	24.8	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	41	R121738
3050 EXTRACTABLE METALS											
Aluminum	3290	mg/kg-dry		5		SW6010B	01/04/17 21:03 / sld	01/02/17 13:27	ICP2-HE_170104A	181	35853
Antimony	ND	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Arsenic	17	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Barium	84	mg/kg-dry		5		SW6010B	01/04/17 21:03 / sld	01/02/17 13:27	ICP2-HE_170104A	181	35853
Beryllium	ND	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Boron	ND	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Cadmium	2.7	mg/kg-dry		0.2		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Chromium	7	mg/kg-dry		5		SW6020	01/12/17 12:04 / sld	01/02/17 13:27	ICPMS204-B_170112A	32	35853
Cobalt	ND	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Copper	79	mg/kg-dry		5		SW6010B	01/04/17 21:03 / sld	01/02/17 13:27	ICP2-HE_170104A	181	35853
Iron	6970	mg/kg-dry	D	8		SW6010B	01/04/17 21:03 / sld	01/02/17 13:27	ICP2-HE_170104A	181	35853
Lead	39	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Manganese	495	mg/kg-dry		5		SW6010B	01/04/17 21:03 / sld	01/02/17 13:27	ICP2-HE_170104A	181	35853
Molybdenum	ND	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Nickel	ND	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Selenium	ND	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Silver	ND	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Uranium	ND	mg/kg-dry		5		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Vanadium	14	mg/kg-dry		1		SW6020	01/11/17 20:31 / sld	01/02/17 13:27	ICPMS204-B_170111D	89	35853
Zinc	1020	mg/kg-dry		5		SW6010B	01/04/17 21:03 / sld	01/02/17 13:27	ICP2-HE_170104A	181	35853
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 12:49 / rgk	01/03/17 08:46	HGCV201-H_170104A	77	35860

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161220A-SLDS-VSS-W

Date: *16-Jan-17*

Run ID :Run Order: **MISC WC_161220B: 1** SampType: **Method Blank** Lab ID: **MBLK1_161220A** Method: **A2540 E**

Analysis Date: **12/20/16 09:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	ND	1									

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **MISC WC_161220B: 11** SampType: **Sample Duplicate** Lab ID: **H16120307-004ADUP** Method: **A2540 E**

Analysis Date: **12/20/16 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	9	10		0				9		30	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **MISC WC_161220B: 13** SampType: **Sample Duplicate** Lab ID: **H16120307-005ADUP** Method: **A2540 E**

Analysis Date: **12/20/16 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	13	10		0				11.2	**12**	30	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161228wa-hgcv202

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_161228A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **12/28/16 13:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000193	0.00010	0.0002	0	96	90	110				

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B**

Run ID :Run Order: **HGCV202-H_161228A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **12/28/16 14:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000207	0.00010	0.0002	0	103	90	110				

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B**

Run ID :Run Order: **HGCV202-H_161228A: 40** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **12/28/16 15:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000191	0.00010	0.0002	0	95	90	110				

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161229wa-hg202

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_161230A: 14** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **12/30/16 10:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0	101	90	110				

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **HGCV202-H_161230A: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **12/30/16 10:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000214	0.00010	0.0002	0	107	90	110				

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **HGCV202-H_161230A: 45** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **12/30/16 11:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000216	0.00010	0.0002	0	108	90	110				

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **HGCV202-H_161230A: 54** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **12/30/16 12:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000189	0.00010	0.0002	0	95	90	110				

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 170104sa-201

Date: *16-Jan-17*

Run ID :Run Order: **HGCV201-H_170104A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **01/04/17 10:25** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00100	0.50	0.001	0	100	90	110				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **HGCV201-H_170104A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **01/04/17 10:27** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **HGCV201-H_170104A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **01/04/17 11:09** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **HGCV201-H_170104A: 39** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **01/04/17 11:33** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	102	90	110				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 170104sa-201

Date: *16-Jan-17*

Run ID :Run Order: **HGCV201-H_170104A: 57** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **01/04/17 12:11** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **HGCV201-H_170104A: 70** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **01/04/17 12:35** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **HGCV201-H_170104A: 85** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **01/04/17 13:04** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	102	90	110				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 170104wa-hgcv202

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_170104A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **01/04/17 13:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000198	0.00010	0.0002	0	99	90	110				

Associated samples: **H16120307-010C, H16120307-011C, H16120307-012B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35749

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161222A: 27** SampType: **Laboratory Control Sample** Lab ID: **LCS-35749** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:58** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	13.6	0.30	13.7	0	100	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 28** SampType: **Method Blank** Lab ID: **MB-35749** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:59** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.007									

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 30** SampType: **Sample Matrix Spike** Lab ID: **H16120305-004Ams** Method: **A4500 N-C**
Analysis Date: **12/22/16 10:01** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.895	0.10	1	0	89	90	110				S

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 31** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-004Amsd** Method: **A4500 N-C**
Analysis Date: **12/22/16 10:02** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.911	0.10	1	0	91	90	110	0.8946	1.9	20	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 96** SampType: **Sample Matrix Spike** Lab ID: **H16120307-009AMS** Method: **A4500 N-C**
Analysis Date: **12/22/16 11:24** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	2.96	0.15	1	2.156	81	90	110				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35749

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161222A: 96** SampType: **Sample Matrix Spike** Lab ID: **H16120307-009AMS** Method: **A4500 N-C**

Analysis Date: **12/22/16 11:24** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 97** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-009AMSD** Method: **A4500 N-C**

Analysis Date: **12/22/16 11:25** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	2.96	0.15	1	2.156	80	90	110	2.965	0.2	20	S

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35795

Date: *16-Jan-17*

Run ID :Run Order: **FIA202-HE_161227A: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-35795** Method: **E365.1**
Analysis Date: **12/27/16 13:06** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.423	0.010	0.4	0.00317	105	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D**

Run ID :Run Order: **FIA202-HE_161227A: 43** SampType: **Method Blank** Lab ID: **MB-35795** Method: **E365.1**
Analysis Date: **12/27/16 13:07** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.003	0.001									

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D**

Run ID :Run Order: **FIA202-HE_161227A: 49** SampType: **Sample Matrix Spike** Lab ID: **H16120305-004Dms** Method: **E365.1**
Analysis Date: **12/27/16 13:13** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.222	0.010	0.2	0.00548	108	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D**

Run ID :Run Order: **FIA202-HE_161227A: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-004Dmsd** Method: **E365.1**
Analysis Date: **12/27/16 13:14** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.225	0.010	0.2	0.00548	110	90	110	0.2221	1.4	20	

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D**

Run ID :Run Order: **FIA202-HE_161227A: 103** SampType: **Sample Matrix Spike** Lab ID: **H16120307-012DMS** Method: **E365.1**
Analysis Date: **12/27/16 14:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.503	0.010	0.2	0.3128	95	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35795

Date: *16-Jan-17*

Run ID :Run Order: **FIA202-HE_161227A: 103** SampType: **Sample Matrix Spike** Lab ID: **H16120307-012DMS** Method: **E365.1**

Analysis Date: **12/27/16 14:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D**

Run ID :Run Order: **FIA202-HE_161227A: 104** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-012DMSD** Method: **E365.1**

Analysis Date: **12/27/16 14:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.538	0.010	0.2	0.3128	113	90	110	0.5031	6.7	20	S

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35796

Date: *16-Jan-17*

Run ID :Run Order: **FIA202-HE_161227A: 72** SampType: **Laboratory Control Sample** Lab ID: **LCS-35796** Method: **E365.1**
Analysis Date: **12/27/16 13:37** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.426	0.010	0.4	0.01022	104	90	110				

Associated samples: **H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 73** SampType: **Method Blank** Lab ID: **MB-35796** Method: **E365.1**
Analysis Date: **12/27/16 13:38** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.01	0.001									

Associated samples: **H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 76** SampType: **Sample Matrix Spike** Lab ID: **H16120307-016Dms** Method: **E365.1**
Analysis Date: **12/27/16 13:41** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.218	0.010	0.2	0	109	90	110				

Associated samples: **H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 77** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-016Dmsd** Method: **E365.1**
Analysis Date: **12/27/16 13:42** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.228	0.010	0.2	0	114	90	110	0.2177	4.5	20	S

Associated samples: **H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 89** SampType: **Sample Matrix Spike** Lab ID: **H16120359-006Dms** Method: **E365.1**
Analysis Date: **12/27/16 13:54** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.209	0.010	0.2	0	104	90	110				

Associated samples: **H16120307-015D, H16120307-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35796

Date: *16-Jan-17*

Run ID :Run Order: **FIA202-HE_161227A: 90** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120359-006Dmsd** Method: **E365.1**

Analysis Date: **12/27/16 13:55** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.221	0.010	0.2	0	**110**	90	110	0.2087	**5.7**	20	

Associated samples: **H16120307-015D, H16120307-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161230A: 25** SampType: **Method Blank** Lab ID: **MB-35802** Method: **E200.7**

Analysis Date: **12/30/16 11:02** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Boron	0.005	0.003									
Calcium	ND	0.04									
Iron	ND	0.003									
Magnesium	ND	0.01									
Potassium	ND	0.04									
Sodium	ND	0.02									

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 26** SampType: **Laboratory Control Sample** Lab ID: **LCS-35802** Method: **E200.7**

Analysis Date: **12/30/16 11:06** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.46	0.030	2.5	0	**98**	85	115				
Boron	0.492	0.050	0.5	0.00452	**98**	85	115				
Calcium	24.1	1.0	25	0	**96**	85	115				
Iron	2.45	0.020	2.5	0	**98**	85	115				
Magnesium	24.2	1.0	25	0	**97**	85	115				
Potassium	26.3	1.0	25	0	**105**	85	115				
Sodium	26.4	1.0	25	0	**106**	85	115				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 29** SampType: **Serial Dilution** Lab ID: **H16120307-001CDIL** Method: **E200.7**

Analysis Date: **12/30/16 11:17** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.541	0.030		0		0	0	0.5126	**5.3**	10	
Boron	0.0898	0.050		0		0	0	0.06995		10	N
Calcium	62.0	1.0		0		0	0	59.99	**3.3**	10	
Iron	1.15	0.020		0		0	0	1.083	**6.0**	10	
Magnesium	17.1	1.0		0		0	0	16.14	**5.6**	10	
Potassium	4.69	1.0		0		0	0	4.72	**0.6**	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161230A: 29** SampType: **Serial Dilution** Lab ID: **H16120307-001CDIL** Method: **E200.7**

Analysis Date: **12/30/16 11:17** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	27.1	1.0		0		0	0	26.21	3.2	10	

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 33** SampType: **Sample Matrix Spike** Lab ID: **H16120307-001CMS3** Method: **E200.7**

Analysis Date: **12/30/16 11:32** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.16	0.030	2.5	0.5126	106	70	130				
Boron	0.569	0.050	0.5	0.06995	100	70	130				
Calcium	83.8	1.0	25	59.99	95	70	130				
Iron	3.60	0.020	2.5	1.083	101	70	130				
Magnesium	40.7	1.0	25	16.14	98	70	130				
Potassium	31.5	1.0	25	4.72	107	70	130				
Sodium	53.3	1.0	25	26.21	108	70	130				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-001CMSD3** Method: **E200.7**

Analysis Date: **12/30/16 11:35** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.16	0.030	2.5	0.5126	106	70	130	3.155	0.2	20	
Boron	0.564	0.050	0.5	0.06995	99	70	130	0.5689	0.9	20	
Calcium	83.1	1.0	25	59.99	92	70	130	83.79	0.8	20	
Iron	3.61	0.020	2.5	1.083	101	70	130	3.598	0.4	20	
Magnesium	40.4	1.0	25	16.14	97	70	130	40.73	0.8	20	
Potassium	30.9	1.0	25	4.72	105	70	130	31.49	1.9	20	
Sodium	52.4	1.0	25	26.21	105	70	130	53.28	1.7	20	

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161230A: 47** SampType: **Serial Dilution** Lab ID: **H16120307-011CDIL** Method: **E200.7**

Analysis Date: **12/30/16 12:24** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0742	0.030		0		0	0	0.06255		10	N
Boron	0.0860	0.050		0		0	0	0.07581		10	N
Calcium	68.3	1.0		0		0	0	68.04	0.4	10	
Iron	0.146	0.020		0		0	0	0.1367	6.6	10	
Magnesium	15.3	1.0		0		0	0	14.67	4.1	10	
Potassium	6.55	1.0		0		0	0	6.709	2.5	10	
Sodium	41.8	1.0		0		0	0	41.1	1.7	10	

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 49** SampType: **Sample Matrix Spike** Lab ID: **H16120307-011CMS3** Method: **E200.7**

Analysis Date: **12/30/16 12:31** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.62	0.030	2.5	0.06255	102	70	130				
Boron	0.582	0.050	0.5	0.07581	101	70	130				
Calcium	93.0	1.0	25	68.04	100	70	130				
Iron	2.67	0.020	2.5	0.1367	101	70	130				
Magnesium	40.0	1.0	25	14.67	101	70	130				
Potassium	34.6	1.0	25	6.709	111	70	130				
Sodium	70.8	1.0	25	41.1	119	70	130				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-011CMSD3** Method: **E200.7**

Analysis Date: **12/30/16 12:35** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.69	0.030	2.5	0.06255	105	70	130	2.616	2.8	20	
Boron	0.604	0.050	0.5	0.07581	106	70	130	0.5818	3.8	20	
Calcium	92.1	1.0	25	68.04	96	70	130	93.02	1.0	20	
Iron	2.65	0.020	2.5	0.1367	100	70	130	2.669	0.9	20	
Magnesium	39.7	1.0	25	14.67	100	70	130	40.01	0.8	20	
Potassium	33.4	1.0	25	6.709	107	70	130	34.56	3.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161230A: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-011CMSD3** Method: **E200.7**

Analysis Date: **12/30/16 12:35** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	68.3	1.0	25	41.1	**109**	70	130	70.81	**3.6**	20	

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 268** SampType: **Method Blank** Lab ID: **MB-35802** Method: **E200.8**

Analysis Date: **12/30/16 13:57** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	5E-05									
Arsenic	0.0001	6E-05									
Barium	ND	7E-05									
Beryllium	ND	0.0001									
Boron	ND	0.002									
Cadmium	ND	1.0E-05									
Calcium	0.006	0.004									
Chromium	ND	5E-05									
Cobalt	ND	1E-05									
Copper	ND	7E-05									
Iron	0.002	0.001									
Lead	2E-05	9E-06									
Magnesium	-0.0007										
Manganese	ND	4E-05									
Molybdenum	ND	1E-05									
Nickel	ND	2E-05									
Potassium	ND	0.004									
Selenium	ND	3E-05									
Sodium	ND	0.005									
Uranium	ND	3E-06									
Vanadium	ND	3E-05									
Zinc	ND	0.0005									

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 269** SampType: **Laboratory Control Sample** Lab ID: **LCS-35802** Method: **E200.8**

Analysis Date: **12/30/16 13:59** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.35	0.030	2.5	0	**94**	85	115				
Antimony	0.508	0.0010	0.5	0	**102**	85	115				
Arsenic	0.474	0.0010	0.5	0.0001151	**95**	85	115				
Barium	0.478	0.050	0.5	0	**96**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 269** SampType: **Laboratory Control Sample** Lab ID: **LCS-35802** Method: **E200.8**

Analysis Date: **12/30/16 13:59** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.241	0.0010	0.25	0	96	85	115				
Boron	0.469	0.050	0.5	0	94	85	115				
Cadmium	0.238	0.0010	0.25	0	95	85	115				
Calcium	24.1	1.0	25	0.006151	97	85	115				
Chromium	0.494	0.0050	0.5	0	99	85	115				
Cobalt	0.492	0.0050	0.5	0	98	85	115				
Copper	0.483	0.0050	0.5	0	97	85	115				
Iron	2.46	0.020	2.5	0.001558	98	85	115				
Lead	0.478	0.0010	0.5	0.00001812	96	85	115				
Magnesium	24.7	1.0	25	-0.0006707	99	85	115				
Manganese	2.44	0.0010	2.5	0	98	85	115				
Molybdenum	0.497	0.0010	0.5	0	99	85	115				
Nickel	0.468	0.0050	0.5	0	94	85	115				
Potassium	24.5	1.0	25	0	98	85	115				
Selenium	0.464	0.0010	0.5	0	93	85	115				
Sodium	24.5	1.0	25	0	98	85	115				
Uranium	0.458	0.00030	0.5	0	92	85	115				
Vanadium	0.497	0.010	0.5	0	99	85	115				
Zinc	0.470	0.010	0.5	0	94	85	115				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 279** SampType: **Sample Matrix Spike** Lab ID: **H16120307-001CMS3** Method: **E200.8**

Analysis Date: **12/30/16 14:20** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.94	0.030	2.5	0.453	100	70	130				
Antimony	0.496	0.0010	0.5	0.0002675	99	70	130				
Arsenic	0.470	0.0010	0.5	0.004813	93	70	130				
Barium	0.523	0.050	0.5	0.05752	93	70	130				
Beryllium	0.233	0.0010	0.25	0	93	70	130				
Boron	0.520	0.050	0.5	0.06466	91	70	130				
Cadmium	0.230	0.0010	0.25	0.00023	92	70	130				
Calcium	85.6	1.0	25	59.23	105	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 279** SampType: **Sample Matrix Spike** Lab ID: **H16120307-001CMS3** Method: **E200.8**

Analysis Date: **12/30/16 14:20** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.488	0.0050	0.5	0.000909	97	70	130				
Cobalt	0.478	0.0050	0.5	0.000646	95	70	130				
Copper	0.491	0.0050	0.5	0.0204	94	70	130				
Iron	3.50	0.020	2.5	1.045	98	70	130				
Lead	0.474	0.0010	0.5	0.005608	94	70	130				
Magnesium	39.8	1.0	25	15.87	96	70	130				
Manganese	2.66	0.0010	2.5	0.2684	95	70	130				
Molybdenum	0.492	0.0010	0.5	0.005681	97	70	130				
Nickel	0.456	0.0050	0.5	0.001149	91	70	130				
Potassium	28.3	1.0	25	4.283	96	70	130				
Selenium	0.463	0.0010	0.5	0.0002268	93	70	130				
Sodium	47.8	1.0	25	23.73	96	70	130				
Uranium	0.460	0.00030	0.5	0.006323	91	70	130				
Vanadium	0.488	0.010	0.5	0.004039	97	70	130				
Zinc	0.503	0.010	0.5	0.05197	90	70	130				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 280** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-001CMSD3** Method: **E200.8**

Analysis Date: **12/30/16 14:21** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.91	0.030	2.5	0.453	98	70	130	2.942	1.2	20	
Antimony	0.491	0.0010	0.5	0.0002675	98	70	130	0.4962	1.1	20	
Arsenic	0.469	0.0010	0.5	0.004813	93	70	130	0.4696	0.2	20	
Barium	0.525	0.050	0.5	0.05752	93	70	130	0.5233	0.3	20	
Beryllium	0.229	0.0010	0.25	0	92	70	130	0.2327	1.5	20	
Boron	0.528	0.050	0.5	0.06466	93	70	130	0.5199	1.6	20	
Cadmium	0.231	0.0010	0.25	0.00023	92	70	130	0.23	0.3	20	
Calcium	84.2	1.0	25	59.23	100	70	130	85.59	1.6	20	
Chromium	0.480	0.0050	0.5	0.000909	96	70	130	0.4875	1.4	20	
Cobalt	0.475	0.0050	0.5	0.000646	95	70	130	0.4777	0.5	20	
Copper	0.491	0.0050	0.5	0.0204	94	70	130	0.4906	0.1	20	
Iron	3.48	0.020	2.5	1.045	97	70	130	3.503	0.7	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 280** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-001CMSD3** Method: **E200.8**

Analysis Date: **12/30/16 14:21** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.472	0.0010	0.5	0.005608	93	70	130	0.4737	0.3	20	
Magnesium	39.2	1.0	25	15.87	93	70	130	39.83	1.5	20	
Manganese	2.64	0.0010	2.5	0.2684	95	70	130	2.655	0.6	20	
Molybdenum	0.492	0.0010	0.5	0.005681	97	70	130	0.4922	0.1	20	
Nickel	0.453	0.0050	0.5	0.001149	90	70	130	0.4558	0.6	20	
Potassium	28.2	1.0	25	4.283	96	70	130	28.28	0.4	20	
Selenium	0.457	0.0010	0.5	0.0002268	91	70	130	0.4634	1.4	20	
Sodium	47.4	1.0	25	23.73	95	70	130	47.82	0.9	20	
Uranium	0.453	0.00030	0.5	0.006323	89	70	130	0.4599	1.6	20	
Vanadium	0.487	0.010	0.5	0.004039	97	70	130	0.4875	0.2	20	
Zinc	0.502	0.010	0.5	0.05197	90	70	130	0.5033	0.3	20	

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 310** SampType: **Sample Matrix Spike** Lab ID: **H16120307-011CMS3** Method: **E200.8**

Analysis Date: **12/30/16 15:23** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.37	0.030	2.5	0.05628	93	70	130				
Antimony	0.491	0.0010	0.5	0.0002865	98	70	130				
Arsenic	0.474	0.0010	0.5	0.006015	94	70	130				
Barium	0.510	0.050	0.5	0.03942	94	70	130				
Beryllium	0.239	0.0010	0.25	0	96	70	130				
Boron	0.541	0.050	0.5	0.07225	94	70	130				
Cadmium	0.239	0.0010	0.25	0.0002476	95	70	130				
Calcium	94.4	1.0	25	67.72	107	70	130				
Chromium	0.498	0.0050	0.5	0.005781	98	70	130				
Cobalt	0.480	0.0050	0.5	0.0002471	96	70	130				
Copper	0.492	0.0050	0.5	0.01697	95	70	130				
Iron	2.57	0.020	2.5	0.128	98	70	130				
Lead	0.477	0.0010	0.5	0.0007333	95	70	130				
Magnesium	38.8	1.0	25	14.55	97	70	130				
Manganese	2.46	0.0010	2.5	0.0903	95	70	130				
Molybdenum	0.500	0.0010	0.5	0.005323	99	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 310** SampType: **Sample Matrix Spike** Lab ID: **H16120307-011CMS3** Method: **E200.8**

Analysis Date: **12/30/16 15:23** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.465	0.0050	0.5	0.005196	92	70	130				
Potassium	30.0	1.0	25	6.242	95	70	130				
Selenium	0.477	0.0010	0.5	0.0003639	95	70	130				
Sodium	63.0	1.0	25	38.36	99	70	130				
Uranium	0.469	0.00030	0.5	0.00613	93	70	130				
Vanadium	0.495	0.010	0.5	0.002228	99	70	130				
Zinc	0.571	0.010	0.5	0.1155	91	70	130				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 311** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-011CMSD3** Method: **E200.8**

Analysis Date: **12/30/16 15:25** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.39	0.030	2.5	0.05628	93	70	130	2.371	0.9	20	
Antimony	0.495	0.0010	0.5	0.0002865	99	70	130	0.4912	0.7	20	
Arsenic	0.470	0.0010	0.5	0.006015	93	70	130	0.4743	1.0	20	
Barium	0.509	0.050	0.5	0.03942	94	70	130	0.5105	0.3	20	
Beryllium	0.241	0.0010	0.25	0	96	70	130	0.2391	0.9	20	
Boron	0.552	0.050	0.5	0.07225	96	70	130	0.5414	1.9	20	
Cadmium	0.238	0.0010	0.25	0.0002476	95	70	130	0.2389	0.6	20	
Calcium	91.9	1.0	25	67.72	97	70	130	94.39	2.7	20	
Chromium	0.493	0.0050	0.5	0.005781	98	70	130	0.4979	0.9	20	
Cobalt	0.474	0.0050	0.5	0.0002471	95	70	130	0.4801	1.3	20	
Copper	0.490	0.0050	0.5	0.01697	95	70	130	0.4925	0.4	20	
Iron	2.54	0.020	2.5	0.128	96	70	130	2.566	1.2	20	
Lead	0.476	0.0010	0.5	0.0007333	95	70	130	0.4767	0.2	20	
Magnesium	39.2	1.0	25	14.55	98	70	130	38.82	0.9	20	
Manganese	2.48	0.0010	2.5	0.0903	95	70	130	2.465	0.4	20	
Molybdenum	0.498	0.0010	0.5	0.005323	99	70	130	0.5002	0.5	20	
Nickel	0.458	0.0050	0.5	0.005196	91	70	130	0.465	1.6	20	
Potassium	30.0	1.0	25	6.242	95	70	130	30.03	0.1	20	
Selenium	0.464	0.0010	0.5	0.0003639	93	70	130	0.477	2.7	20	
Sodium	62.8	1.0	25	38.36	98	70	130	63.04	0.5	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35802

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 311** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-011CMSD3** Method: **E200.8**

Analysis Date: **12/30/16 15:25** Units: **mg/L** **Prep Info:** Prep Date: **12/29/2016** Prep Method: **E200.2**

Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.459	0.00030	0.5	0.00613	**91**	70	130	0.4687	**2.0**	20	
Vanadium	0.491	0.010	0.5	0.002228	**98**	70	130	0.495	**0.8**	20	
Zinc	0.567	0.010	0.5	0.1155	**90**	70	130	0.5714	**0.7**	20	

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35805

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_161228A: 12** SampType: **Method Blank** Lab ID: **MB-35805** Method: **E245.1**
Analysis Date: **12/28/16 13:48** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B**

Run ID :Run Order: **HGCV202-H_161228A: 13** SampType: **Laboratory Control Sample** Lab ID: **LCS-35805** Method: **E245.1**
Analysis Date: **12/28/16 13:50** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000145	0.00010	0.00015	0	97	90	110				

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B**

Run ID :Run Order: **HGCV202-H_161228A: 29** SampType: **Sample Matrix Spike** Lab ID: **H16120305-004CMS** Method: **E245.1**
Analysis Date: **12/28/16 14:32** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00014	0.00010	0.00015	0	97	70	130				

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B**

Run ID :Run Order: **HGCV202-H_161228A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-004CMSD** Method: **E245.1**
Analysis Date: **12/28/16 14:35** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00014	0.00010	0.00015	0	91	70	130	0.0001447	5.9	20	

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35806

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_161230A: 17** SampType: **Method Blank** Lab ID: **MB-35806** Method: **E245.1**
Analysis Date: **12/30/16 10:18** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B**

Run ID :Run Order: **HGCV202-H_161230A: 18** SampType: **Laboratory Control Sample** Lab ID: **LCS-35806** Method: **E245.1**
Analysis Date: **12/30/16 10:21** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00015	0.00010	0.00015	0	99	90	110				

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B**

Run ID :Run Order: **HGCV202-H_161230A: 21** SampType: **Sample Matrix Spike** Lab ID: **H16120307-005BMS** Method: **E245.1**
Analysis Date: **12/30/16 10:29** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000153	0.00010	0.00015	0	102	70	130				

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B**

Run ID :Run Order: **HGCV202-H_161230A: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-005BMSD** Method: **E245.1**
Analysis Date: **12/30/16 10:32** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000163	0.00010	0.00015	0	109	70	130	0.0001532	6.4	20	

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B**

Run ID :Run Order: **HGCV202-H_161230A: 34** SampType: **Sample Matrix Spike** Lab ID: **H16120307-009CMS** Method: **E245.1**
Analysis Date: **12/30/16 11:05** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.00015	0.00002518	112	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35806

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_161230A: 34** SampType: **Sample Matrix Spike** Lab ID: **H16120307-009CMS** Method: **E245.1**

Analysis Date: **12/30/16 11:05** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B**

Run ID :Run Order: **HGCV202-H_161230A: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-009CMSD** Method: **E245.1**

Analysis Date: **12/30/16 11:07** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.00015	0.00002518	**114**	70	130	0.0001936	**1.0**	20	

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35818

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_161230A: 57** SampType: **Method Blank** Lab ID: **MB-35818** Method: **E245.1**
Analysis Date: **12/30/16 12:26** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **HGCV202-H_161230A: 58** SampType: **Laboratory Control Sample** Lab ID: **LCS-35818** Method: **E245.1**
Analysis Date: **12/30/16 12:29** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00015	0.00010	0.00015	0	98	90	110				

Associated samples: **H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **HGCV202-H_161230A: 60** SampType: **Sample Matrix Spike** Lab ID: **H16120307-014CMS** Method: **E245.1**
Analysis Date: **12/30/16 12:35** Units: **mg/L** **Prep Info:** Prep Date: **12/30/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00015	0.00010	0.00015	0.00000198	98	70	130				

Associated samples: **H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **HGCV202-H_161230A: 61** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-014CMSD** Method: **E245.1**
Analysis Date: **12/30/16 12:37** Units: **mg/L** **Prep Info:** Prep Date: **12/30/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00015	0.00010	0.00015	0.00000198	98	70	130	0.0001489	0.3	20	

Associated samples: **H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35851

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 112** SampType: **Method Blank** Lab ID: **MB-35851** Method: **SW6010B**

Analysis Date: **01/04/17 16:48** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Barium	0.04	0.02									
Copper	0.2	0.2									
Iron	4	1									
Manganese	0.06	0.05									
Zinc	0.3	0.3									

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

Run ID :Run Order: **ICP2-HE_170104A: 113** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35851** Method: **SW6010B**

Analysis Date: **01/04/17 16:52** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	255	5.0	250	0	102	80	120				
Barium	50.8	1.0	50	0.03514	102	80	120				
Copper	51.4	1.0	50	0.2168	102	80	120				
Iron	255	5.0	250	4.133	100	80	120				
Manganese	248	1.0	250	0.06435	99	80	120				
Zinc	49.9	1.0	50	0.346	99	80	120				

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

Run ID :Run Order: **ICP2-HE_170104A: 114** SampType: **Laboratory Control Sample** Lab ID: **LCS-35851** Method: **SW6010B**

Analysis Date: **01/04/17 16:56** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9520	5.0	9830	0	97	46.3	130.2				
Barium	165	1.0	187	0.03514	88	78.6	112.8				
Copper	120	1.0	137	0.2168	88	76.6	108.8				
Iron	14600	6.7	16300	4.133	89	51.7	131.9				
Manganese	409	1.0	434	0.06435	94	81.1	116.6				
Zinc	227	1.7	231	0.346	98	75.3	111.7				

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35851

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 129** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120307-047APDS** Method: **SW6010B**

Analysis Date: **01/04/17 17:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	21500	13	4167	17320		75	125				A
Barium	1050	1.0	833.5	276.1	93	75	125				
Copper	1410	3.0	833.5	619.2	95	75	125				
Iron	28200	22	4167	24350		75	125				A
Manganese	8660	1.0	4167	4877	91	75	125				
Zinc	2980	5.6	833.5	2297	82	75	125				

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

Run ID :Run Order: **ICP2-HE_170104A: 130** SampType: **Sample Matrix Spike** Lab ID: **H16120307-047AMS** Method: **SW6010B**

Analysis Date: **01/04/17 17:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25400	13	801.2	17320		75	125				A
Barium	495	1.0	160.2	276.1	137	75	125				S
Copper	804	2.8	160.2	619.2	115	75	125				
Iron	29900	21	801.2	24350		75	125				A
Manganese	5910	1.0	801.2	4877		75	125				A
Zinc	2570	5.4	160.2	2297		75	125				A

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_170104A: 131** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-047AMSD** Method: **SW6010B**

Analysis Date: **01/04/17 17:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	29900	13	793.2	17320		75	125	25360	17	20	A
Barium	591	1.0	158.6	276.1	199	75	125	495	18	20	S
Copper	829	2.8	158.6	619.2	132	75	125	804.2	3.0	20	S
Iron	34900	21	793.2	24350		75	125	29870	15	20	A
Manganese	5930	1.0	793.2	4877		75	125	5910	0.3	20	A
Zinc	2640	5.3	158.6	2297		75	125	2567	2.8	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35851

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 131** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-047AMSD** Method: **SW6010B**

Analysis Date: **01/04/17 17:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35851

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 17** SampType: **Method Blank** Lab ID: **MB-35851** Method: **SW6020**

Analysis Date: **01/11/17 16:24** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.2	0.05									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Cobalt	ND	0.03									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.1									
Silver	ND	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

Run ID :Run Order: **ICPMS204-B_170111D: 18** SampType: **Laboratory Control Sample** Lab ID: **LCS-35851** Method: **SW6020**

Analysis Date: **01/11/17 16:27** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	53.4	1.0	240	0	**22**	0	92.9				
Arsenic	151	1.0	196	0.1885	**77**	71.4	105.1				
Beryllium	76.2	1.0	83.6	0	**91**	76.2	108				
Boron	107	2.2	129	0	**83**	59.5	106.2				
Cadmium	86.7	1.0	99	0	**88**	73.9	106.1				
Chromium	104	1.0	117	0	**89**	73.5	108.5				
Cobalt	101	1.0	108	0	**94**	74.2	105.6				
Lead	91.8	1.0	105	0	**87**	74.4	108.6				
Molybdenum	107	1.0	127	0	**84**	66.5	103.1				
Nickel	77.5	1.0	86.2	0	**90**	72.3	105				
Selenium	168	1.0	205	0	**82**	71.2	110.2				
Silver	39.2	1.0	42.1	0	**93**	70.8	111.9				
Uranium	88.8	1.0	99.9	0	**89**	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35851

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 18** SampType: **Laboratory Control Sample** Lab ID: **LCS-35851** Method: **SW6020**

Analysis Date: **01/11/17 16:27** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	104	1.0	114	0	91	67	107				

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

Run ID :Run Order: **ICPMS204-B_170111D: 19** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35851** Method: **SW6020**

Analysis Date: **01/11/17 16:30** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.3	1.0	50	0	97	80	120				
Arsenic	48.2	1.0	50	0.1885	96	80	120				
Beryllium	26.6	1.0	25	0	106	80	120				
Boron	52.4	2.2	50	0	105	80	120				
Cadmium	23.8	1.0	25	0	95	80	120				
Chromium	50.0	1.0	50	0	100	80	120				
Cobalt	49.8	1.0	50	0	100	80	120				
Lead	48.3	1.0	50	0	97	80	120				
Molybdenum	47.1	1.0	50	0	94	80	120				
Nickel	50.4	1.0	50	0	101	80	120				
Selenium	45.8	1.0	50	0	92	80	120				
Silver	25.0	1.0	25	0	100	80	120				
Uranium	47.6	1.0	50	0	95	80	120				
Vanadium	49.3	1.0	50	0	99	80	120				

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

Run ID :Run Order: **ICPMS204-B_170111D: 37** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120307-047APDS** Method: **SW6020**

Analysis Date: **01/11/17 17:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1510	1.0	1618	0.5595	93	75	125				
Arsenic	1490	1.0	1618	52.52	89	75	125				
Beryllium	730	1.0	809.2	1.153	90	75	125				
Boron	1450	7.0	1618	8.578	89	75	125				
Cadmium	733	1.0	809.2	19.21	88	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35851

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 37** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120307-047APDS** Method: **SW6020**

Analysis Date: **01/11/17 17:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1570	2.7	1618	31.75	95	75	125				
Cobalt	1540	1.0	1618	14.73	94	75	125				
Lead	1730	1.0	1618	182.6	95	75	125				
Molybdenum	1510	1.0	1618	4.674	93	75	125				
Nickel	1500	1.0	1618	20.64	91	75	125				
Selenium	1320	1.0	1618	2.021	82	75	125				
Silver	533	1.0	809.2	1.623	66	75	125				S
Uranium	1610	1.0	1618	4.524	99	75	125				
Vanadium	1610	1.4	1618	56.61	96	75	125				

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

Run ID :Run Order: **ICPMS204-B_170111D: 38** SampType: **Sample Matrix Spike** Lab ID: **H16120307-047AMS** Method: **SW6020**

Analysis Date: **01/11/17 17:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	76.2	1.0	160.2	0.5595	47	75	125				S
Arsenic	205	1.0	160.2	52.52	95	75	125				
Beryllium	81.1	1.0	80.12	1.153	100	75	125				
Boron	175	6.9	160.2	8.578	104	75	125				
Cadmium	92.7	1.0	80.12	19.21	92	75	125				
Chromium	195	2.7	160.2	31.75	102	75	125				
Cobalt	171	1.0	160.2	14.73	98	75	125				
Lead	344	1.0	160.2	182.6	101	75	125				
Molybdenum	152	1.0	160.2	4.674	92	75	125				
Nickel	179	1.0	160.2	20.64	99	75	125				
Selenium	145	1.0	160.2	2.021	89	75	125				
Silver	80.5	1.0	80.12	1.623	98	75	125				
Uranium	157	1.0	160.2	4.524	95	75	125				
Vanadium	221	1.3	160.2	56.61	103	75	125				

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35851

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 39** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-047AMSD** Method: **SW6020**

Analysis Date: **01/11/17 17:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	62.4	1.0	158.6	0.5595	39	75	125	76.24	20	20	S
Arsenic	210	1.0	158.6	52.52	99	75	125	205.4	2.0	20	
Beryllium	80.8	1.0	79.32	1.153	100	75	125	81.08	0.3	20	
Boron	167	6.9	158.6	8.578	100	75	125	175.3	5.1	20	
Cadmium	94.4	1.0	79.32	19.21	95	75	125	92.75	1.8	20	
Chromium	199	2.7	158.6	31.75	105	75	125	195.3	1.9	20	
Cobalt	173	1.0	158.6	14.73	100	75	125	171.5	1.1	20	
Lead	348	1.0	158.6	182.6	104	75	125	343.9	1.2	20	
Molybdenum	150	1.0	158.6	4.674	91	75	125	152	1.5	20	
Nickel	180	1.0	158.6	20.64	100	75	125	178.5	0.9	20	
Selenium	144	1.0	158.6	2.021	89	75	125	145.3	1.1	20	
Silver	79.9	1.0	79.32	1.623	99	75	125	80.49	0.8	20	
Uranium	155	1.0	158.6	4.524	95	75	125	157.2	1.1	20	
Vanadium	229	1.3	158.6	56.61	109	75	125	221.1	3.5	20	

Associated samples: **H16120307-017A, H16120307-020A, H16120307-023A, H16120307-026A, H16120307-029A, H16120307-032A, H16120307-035A, H16120307-038A, H16120307-041A, H16120307-044A, H16120307-047A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35852

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 144** SampType: **Method Blank** Lab ID: **MB-35852** Method: **SW6010B**

Analysis Date: **01/04/17 18:46** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Barium	ND	0.02									
Copper	ND	0.2									
Iron	2	1									
Manganese	ND	0.05									
Zinc	ND	0.3									

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

Run ID :Run Order: **ICP2-HE_170104A: 145** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35852** Method: **SW6010B**

Analysis Date: **01/04/17 18:50** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	255	5.0	250	0	102	80	120				
Barium	50.3	1.0	50	0	101	80	120				
Copper	51.0	1.0	50	0	102	80	120				
Iron	256	5.0	250	1.588	102	80	120				
Manganese	250	1.0	250	0	100	80	120				
Zinc	51.2	1.0	50	0	102	80	120				

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

Run ID :Run Order: **ICP2-HE_170104A: 146** SampType: **Laboratory Control Sample** Lab ID: **LCS-35852** Method: **SW6010B**

Analysis Date: **01/04/17 18:54** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9640	5.0	9830	0	98	46.3	130.2				
Barium	166	1.0	187	0	89	78.6	112.8				
Copper	123	1.0	137	0	90	76.6	108.8				
Iron	15700	6.5	16300	1.588	96	51.7	131.9				
Manganese	413	1.0	434	0	95	81.1	116.6				
Zinc	234	1.7	231	0	101	75.3	111.7				

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35852

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 161** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120307-048APDS** Method: **SW6010B**

Analysis Date: **01/04/17 19:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5380	5.2	1658	3781	96	75	125				
Barium	395	1.0	331.6	89.45	92	75	125				
Copper	357	1.2	331.6	46.56	94	75	125				
Iron	10100	8.9	1658	8671		75	125				A
Manganese	2020	1.0	1658	519.3	90	75	125				
Zinc	555	2.2	331.6	229.3	98	75	125				

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

Run ID :Run Order: **ICP2-HE_170104A: 162** SampType: **Sample Matrix Spike** Lab ID: **H16120307-048AMS** Method: **SW6010B**

Analysis Date: **01/04/17 19:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4570	5.1	325.3	3781		75	125				A
Barium	154	1.0	65.06	89.45	100	75	125				
Copper	116	1.2	65.06	46.56	107	75	125				
Iron	8670	8.7	325.3	8671		75	125				A
Manganese	894	1.0	325.3	519.3	115	75	125				
Zinc	303	2.2	65.06	229.3	113	75	125				

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

Run ID :Run Order: **ICP2-HE_170104A: 163** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-048AMSD** Method: **SW6010B**

Analysis Date: **01/04/17 19:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4690	5.1	325.3	3781		75	125	4573	2.6	20	A
Barium	155	1.0	65.06	89.45	101	75	125	154.2	0.6	20	
Copper	123	1.2	65.06	46.56	117	75	125	116	5.8	20	
Iron	8670	8.7	325.3	8671		75	125	8672	0.0	20	A
Manganese	959	1.0	325.3	519.3	135	75	125	894.2	7.0	20	S
Zinc	287	2.2	65.06	229.3	89	75	125	302.6	5.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35852

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 163** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-048AMSD** Method: **SW6010B**

Analysis Date: **01/04/17 19:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35852

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 42** SampType: **Method Blank** Lab ID: **MB-35852** Method: **SW6020**

Analysis Date: **01/11/17 17:49** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.2	0.05									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Cobalt	0.07	0.03									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.1									
Silver	ND	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

Run ID :Run Order: **ICPMS204-B_170111D: 43** SampType: **Laboratory Control Sample** Lab ID: **LCS-35852** Method: **SW6020**

Analysis Date: **01/11/17 17:53** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	55.3	1.0	240	0	**23**	0	92.9				
Arsenic	154	1.0	196	0.1888	**79**	71.4	105.1				
Beryllium	78.2	1.0	83.6	0	**94**	76.2	108				
Boron	107	2.1	129	0	**83**	59.5	106.2				
Cadmium	88.0	1.0	99	0	**89**	73.9	106.1				
Chromium	108	1.0	117	0	**92**	73.5	108.5				
Cobalt	104	1.0	108	0.07232	**96**	74.2	105.6				
Lead	94.6	1.0	105	0	**90**	74.4	108.6				
Molybdenum	108	1.0	127	0	**85**	66.5	103.1				
Nickel	79.3	1.0	86.2	0	**92**	72.3	105				
Selenium	173	1.0	205	0	**85**	71.2	110.2				
Silver	38.2	1.0	42.1	0	**91**	70.8	111.9				
Uranium	91.2	1.0	99.9	0	**91**	80.1	120.1				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35852

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 43** SampType: **Laboratory Control Sample** Lab ID: **LCS-35852** Method: **SW6020**

Analysis Date: **01/11/17 17:53** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	107	1.0	114	0	94	67	107				

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

Run ID :Run Order: **ICPMS204-B_170111D: 48** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35852** Method: **SW6020**

Analysis Date: **01/11/17 18:10** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.7	1.0	50	0	95	80	120				
Arsenic	47.6	1.0	50	0.1888	95	80	120				
Beryllium	24.8	1.0	25	0	99	80	120				
Boron	50.0	2.2	50	0	100	80	120				
Cadmium	23.6	1.0	25	0	94	80	120				
Chromium	49.3	1.0	50	0	99	80	120				
Cobalt	49.7	1.0	50	0.07232	99	80	120				
Lead	47.7	1.0	50	0	95	80	120				
Molybdenum	46.6	1.0	50	0	93	80	120				
Nickel	50.2	1.0	50	0	100	80	120				
Selenium	46.0	1.0	50	0	92	80	120				
Silver	24.6	1.0	25	0	98	80	120				
Uranium	47.1	1.0	50	0	94	80	120				
Vanadium	48.5	1.0	50	0	97	80	120				

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

Run ID :Run Order: **ICPMS204-B_170111D: 66** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120307-048APDS** Method: **SW6020**

Analysis Date: **01/11/17 19:12** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	582	1.0	643.9	0.1226	90	75	125				
Arsenic	577	1.0	643.9	11.72	88	75	125				
Beryllium	282	1.0	321.9	0	88	75	125				
Boron	572	2.8	643.9	0	89	75	125				
Cadmium	282	1.0	321.9	0.6992	87	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35852

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 66** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120307-048APDS** Method: **SW6020**

Analysis Date: **01/11/17 19:12** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	622	1.1	643.9	7.379	96	75	125				
Cobalt	603	1.0	643.9	2.941	93	75	125				
Lead	656	1.0	643.9	45.91	95	75	125				
Molybdenum	592	1.0	643.9	0.4945	92	75	125				
Nickel	589	1.0	643.9	3.519	91	75	125				
Selenium	521	1.0	643.9	0.2783	81	75	125				
Silver	171	1.0	321.9	0.6651	53	75	125				S
Uranium	645	1.0	643.9	2.651	100	75	125				
Vanadium	633	1.0	643.9	21.2	95	75	125				

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

Run ID :Run Order: **ICPMS204-B_170111D: 67** SampType: **Sample Matrix Spike** Lab ID: **H16120307-048AMS** Method: **SW6020**

Analysis Date: **01/11/17 19:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.4	1.0	65.06	0.1226	74	75	125				S
Arsenic	80.8	1.0	65.06	11.72	106	75	125				
Beryllium	32.1	1.0	32.53	0	99	75	125				
Boron	67.8	2.8	65.06	0	104	75	125				
Cadmium	31.1	1.0	32.53	0.6992	94	75	125				
Chromium	70.7	1.1	65.06	7.379	97	75	125				
Cobalt	66.2	1.0	65.06	2.941	97	75	125				
Lead	92.8	1.0	65.06	45.91	72	75	125				S
Molybdenum	60.1	1.0	65.06	0.4945	92	75	125				
Nickel	67.3	1.0	65.06	3.519	98	75	125				
Selenium	58.7	1.0	65.06	0.2783	90	75	125				
Silver	31.5	1.0	32.53	0.6651	95	75	125				
Uranium	64.3	1.0	65.06	2.651	95	75	125				
Vanadium	82.0	1.0	65.06	21.2	94	75	125				

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35852

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 68** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-048AMSD** Method: **SW6020**

Analysis Date: **01/11/17 19:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.1	1.0	65.06	0.1226	74	75	125	48.39	0.5	20	S
Arsenic	78.7	1.0	65.06	11.72	103	75	125	80.81	2.6	20	
Beryllium	32.9	1.0	32.53	0	101	75	125	32.08	2.6	20	
Boron	66.8	2.8	65.06	0	103	75	125	67.8	1.5	20	
Cadmium	31.6	1.0	32.53	0.6992	95	75	125	31.13	1.5	20	
Chromium	72.4	1.1	65.06	7.379	100	75	125	70.66	2.4	20	
Cobalt	67.8	1.0	65.06	2.941	100	75	125	66.23	2.3	20	
Lead	88.6	1.0	65.06	45.91	66	75	125	92.78	4.7	20	S
Molybdenum	61.4	1.0	65.06	0.4945	94	75	125	60.11	2.2	20	
Nickel	69.0	1.0	65.06	3.519	101	75	125	67.34	2.4	20	
Selenium	59.7	1.0	65.06	0.2783	91	75	125	58.66	1.7	20	
Silver	32.6	1.0	32.53	0.6651	98	75	125	31.5	3.6	20	
Uranium	63.9	1.0	65.06	2.651	94	75	125	64.26	0.5	20	
Vanadium	84.8	1.0	65.06	21.2	98	75	125	82.05	3.4	20	

Associated samples: **H16120307-018A, H16120307-021A, H16120307-024A, H16120307-027A, H16120307-030A, H16120307-033A, H16120307-036A, H16120307-039A, H16120307-042A, H16120307-045A, H16120307-048A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35853

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 164** SampType: **Method Blank** Lab ID: **MB-35853** Method: **SW6010B**

Analysis Date: **01/04/17 20:00** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Barium	ND	0.02									
Copper	ND	0.2									
Iron	3	1									
Manganese	ND	0.05									
Zinc	ND	0.3									

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

Run ID :Run Order: **ICP2-HE_170104A: 167** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35853** Method: **SW6010B**

Analysis Date: **01/04/17 20:11** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	250	5.0	247.5	0	**101**	80	120				
Barium	49.7	1.0	49.5	0	**100**	80	120				
Copper	50.1	1.0	49.5	0	**101**	80	120				
Iron	249	5.0	247.5	2.777	**100**	80	120				
Manganese	240	1.0	247.5	0	**97**	80	120				
Zinc	51.0	1.0	49.5	0	**103**	80	120				

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

Run ID :Run Order: **ICP2-HE_170104A: 168** SampType: **Laboratory Control Sample** Lab ID: **LCS-35853** Method: **SW6010B**

Analysis Date: **01/04/17 20:15** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9150	5.0	9830	0	**93**	46.3	130.2				
Barium	156	1.0	187	0	**83**	78.6	112.8				
Copper	117	1.0	137	0	**85**	76.6	108.8				
Iron	14100	6.7	16300	2.777	**86**	51.7	131.9				
Manganese	380	1.0	434	0	**88**	81.1	116.6				
Zinc	227	1.7	231	0	**98**	75.3	111.7				

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35853

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 183** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120307-049APDS** Method: **SW6010B**

Analysis Date: **01/04/17 21:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4850	5.1	1628	3292	96	75	125				
Barium	389	1.0	325.5	84.28	94	75	125				
Copper	386	1.2	325.5	79.23	94	75	125				
Iron	8360	8.7	1628	6969		75	125				A
Manganese	1940	1.0	1628	495.4	89	75	125				
Zinc	1350	2.2	325.5	1021	102	75	125				

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

Run ID :Run Order: **ICP2-HE_170104A: 184** SampType: **Sample Matrix Spike** Lab ID: **H16120307-049AMS** Method: **SW6010B**

Analysis Date: **01/04/17 21:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4850	5.0	312.9	3292		75	125				A
Barium	133	1.0	62.58	84.28	77	75	125				
Copper	128	1.1	62.58	79.23	79	75	125				
Iron	7750	8.4	312.9	6969		75	125				A
Manganese	682	1.0	312.9	495.4	60	75	125				S
Zinc	358	2.1	62.58	1021		75	125				A

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_170104A: 185** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-049AMSD** Method: **SW6010B**

Analysis Date: **01/04/17 21:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4360	5.0	312.9	3292		75	125	4848	11	20	A
Barium	132	1.0	62.58	84.28	77	75	125	132.7	0.2	20	
Copper	104	1.1	62.58	79.23	40	75	125	128.4	21	20	SR
Iron	6730	8.4	312.9	6969		75	125	7750	14	20	A
Manganese	727	1.0	312.9	495.4	74	75	125	681.9	6.4	20	S
Zinc	237	2.1	62.58	1021		75	125	358.1	41	20	AR

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35853

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 185** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-049AMSD** Method: **SW6010B**

Analysis Date: **01/04/17 21:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35853

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 71** SampType: **Method Blank** Lab ID: **MB-35853** Method: **SW6020**

Analysis Date: **01/11/17 19:29** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	0.2	0.05									
Beryllium	ND	0.1									
Boron	ND	2									
Cadmium	ND	0.2									
Chromium	ND	0.8									
Cobalt	0.1	0.03									
Lead	ND	0.09									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.1									
Silver	ND	0.05									
Uranium	ND	0.06									
Vanadium	ND	0.4									

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

Run ID :Run Order: **ICPMS204-B_170111D: 72** SampType: **Laboratory Control Sample** Lab ID: **LCS-35853** Method: **SW6020**

Analysis Date: **01/11/17 19:33** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	53.6	1.0	240	0	22	0	92.9				
Arsenic	147	1.0	196	0.1897	75	71.4	105.1				
Beryllium	74.0	1.0	83.6	0	89	76.2	108				
Boron	103	2.2	129	0	80	59.5	106.2				
Cadmium	86.2	1.0	99	0	87	73.9	106.1				
Chromium	102	1.0	117	0	88	73.5	108.5				
Cobalt	101	1.0	108	0.1037	93	74.2	105.6				
Lead	91.0	1.0	105	0	87	74.4	108.6				
Molybdenum	105	1.0	127	0	82	66.5	103.1				
Nickel	76.4	1.0	86.2	0	89	72.3	105				
Selenium	168	1.0	205	0	82	71.2	110.2				
Silver	36.8	1.0	42.1	0	87	70.8	111.9				
Uranium	89.2	1.0	99.9	0	89	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35853

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 72** SampType: **Laboratory Control Sample** Lab ID: **LCS-35853** Method: **SW6020**

Analysis Date: **01/11/17 19:33** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	101	1.0	114	0	88	67	107				

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

Run ID :Run Order: **ICPMS204-B_170111D: 73** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35853** Method: **SW6020**

Analysis Date: **01/11/17 19:36** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.0	1.0	49.5	0	95	80	120				
Arsenic	47.3	1.0	49.5	0.1897	95	80	120				
Beryllium	24.7	1.0	24.75	0	100	80	120				
Boron	49.5	2.1	49.5	0	100	80	120				
Cadmium	23.4	1.0	24.75	0	95	80	120				
Chromium	48.7	1.0	49.5	0	98	80	120				
Cobalt	49.0	1.0	49.5	0.1037	99	80	120				
Lead	47.2	1.0	49.5	0	95	80	120				
Molybdenum	46.0	1.0	49.5	0	93	80	120				
Nickel	49.2	1.0	49.5	0	99	80	120				
Selenium	44.7	1.0	49.5	0	90	80	120				
Silver	24.2	1.0	24.75	0	98	80	120				
Uranium	47.1	1.0	49.5	0	95	80	120				
Vanadium	48.2	1.0	49.5	0	97	80	120				

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

Run ID :Run Order: **ICPMS204-B_170111D: 95** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120307-049APDS** Method: **SW6020**

Analysis Date: **01/11/17 20:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	582	1.0	632.1	0.2524	92	75	125				
Arsenic	581	1.0	632.1	17.44	89	75	125				
Beryllium	274	1.0	316.1	0.202	87	75	125				
Boron	559	2.7	632.1	0	88	75	125				
Cadmium	280	1.0	316.1	2.704	88	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35853

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 95** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120307-049APDS** Method: **SW6020**

Analysis Date: **01/11/17 20:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	615	1.1	632.1	6.122	96	75	125				
Cobalt	602	1.0	632.1	2.532	95	75	125				
Lead	645	1.0	632.1	38.57	96	75	125				
Molybdenum	582	1.0	632.1	0.6079	92	75	125				
Nickel	584	1.0	632.1	3.261	92	75	125				
Selenium	518	1.0	632.1	0	82	75	125				
Silver	146	1.0	316.1	0.9103	46	75	125				S
Uranium	636	1.0	632.1	1.177	100	75	125				
Vanadium	622	1.0	632.1	13.88	96	75	125				

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

Run ID :Run Order: **ICPMS204-B_170111D: 96** SampType: **Sample Matrix Spike** Lab ID: **H16120307-049AMS** Method: **SW6020**

Analysis Date: **01/11/17 20:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.6	1.0	62.58	0.2524	76	75	125				
Arsenic	70.7	1.0	62.58	17.44	85	75	125				
Beryllium	29.6	1.0	31.29	0.202	94	75	125				
Boron	62.9	2.7	62.58	0	100	75	125				
Cadmium	30.1	1.0	31.29	2.704	87	75	125				
Chromium	69.0	1.0	62.58	6.122	100	75	125				
Cobalt	64.0	1.0	62.58	2.532	98	75	125				
Lead	79.2	1.0	62.58	38.57	65	75	125				S
Molybdenum	58.4	1.0	62.58	0.6079	92	75	125				
Nickel	65.5	1.0	62.58	3.261	99	75	125				
Selenium	57.2	1.0	62.58	0	91	75	125				
Silver	30.6	1.0	31.29	0.9103	95	75	125				
Uranium	61.0	1.0	62.58	1.177	96	75	125				
Vanadium	76.3	1.0	62.58	13.88	100	75	125				

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35853

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 97** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-049AMSD** Method: **SW6020**

Analysis Date: **01/11/17 20:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.2	1.0	62.58	0.2524	77	75	125	47.62	1.3	20	
Arsenic	71.1	1.0	62.58	17.44	86	75	125	70.65	0.6	20	
Beryllium	29.9	1.0	31.29	0.202	95	75	125	29.59	1.0	20	
Boron	64.0	2.7	62.58	0	102	75	125	62.89	1.7	20	
Cadmium	30.0	1.0	31.29	2.704	87	75	125	30.07	0.1	20	
Chromium	67.8	1.0	62.58	6.122	99	75	125	68.96	1.6	20	
Cobalt	64.1	1.0	62.58	2.532	98	75	125	63.96	0.2	20	
Lead	78.7	1.0	62.58	38.57	64	75	125	79.16	0.6	20	S
Molybdenum	58.0	1.0	62.58	0.6079	92	75	125	58.42	0.8	20	
Nickel	65.5	1.0	62.58	3.261	99	75	125	65.52	0.0	20	
Selenium	57.4	1.0	62.58	0	92	75	125	57.19	0.5	20	
Silver	30.5	1.0	31.29	0.9103	95	75	125	30.59	0.3	20	
Uranium	60.7	1.0	62.58	1.177	95	75	125	61.03	0.6	20	
Vanadium	74.5	1.0	62.58	13.88	97	75	125	76.35	2.5	20	

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS204-B_170112A: 21** SampType: **Method Blank** Lab ID: **MB-35853** Method: **SW6020**

Analysis Date: **01/12/17 11:24** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.04									
Arsenic	0.3	0.02									
Beryllium	ND	0.07									
Boron	ND	1									
Cadmium	ND	0.08									
Chromium	ND	0.4									
Cobalt	ND	0.02									
Lead	ND	0.05									
Molybdenum	ND	0.05									
Nickel	ND	0.05									
Selenium	ND	0.07									
Silver	ND	0.03									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35853

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170112A: 21** SampType: **Method Blank** Lab ID: **MB-35853** Method: **SW6020**

Analysis Date: **01/12/17 11:24** Units: **mg/kg** **Prep Info:** Prep Date: **1/2/2017** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	ND	0.03									
Vanadium	1	0.2									

Associated samples: **H16120307-019A, H16120307-022A, H16120307-025A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-037A, H16120307-040A, H16120307-043A, H16120307-046A, H16120307-049A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35858

Date: *16-Jan-17*

Run ID :Run Order: **HGCV201-H_170104A: 10** SampType: **Method Blank** Lab ID: **MB-35858** Method: **SW7471B**
Analysis Date: **01/04/17 10:39** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.001									

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A**

Run ID :Run Order: **HGCV201-H_170104A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-35858** Method: **SW7471B**
Analysis Date: **01/04/17 10:40** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.1	0.50	5	0	**101**	71	126.4				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A**

Run ID :Run Order: **HGCV201-H_170104A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35858** Method: **SW7471B**
Analysis Date: **01/04/17 10:42** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.2	0	**103**	80	120				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A**

Run ID :Run Order: **HGCV201-H_170104A: 15** SampType: **Sample Matrix Spike** Lab ID: **H16120305-006AMS** Method: **SW7471B**
Analysis Date: **01/04/17 10:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.69	0.50	0.488	0.2151	**98**	80	120				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A**

Run ID :Run Order: **HGCV201-H_170104A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-006AMSD** Method: **SW7471B**
Analysis Date: **01/04/17 10:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.68	0.50	0.4829	0.2151	**96**	80	120	0.6913	**1.6**	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35858

Date: *16-Jan-17*

Run ID :Run Order: **HGCV201-H_170104A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-006AMSD** Method: **SW7471B**

Analysis Date: **01/04/17 10:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A**

Run ID :Run Order: **HGCV201-H_170104A: 89** SampType: **Sample Matrix Spike** Lab ID: **H16120307-021AMS** Method: **SW7471B**

Analysis Date: **01/04/17 13:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.42	0.50	0.2618	0.1791	**93**	80	120				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A**

Run ID :Run Order: **HGCV201-H_170104A: 90** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-021AMSD** Method: **SW7471B**

Analysis Date: **01/04/17 13:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.43	0.20	0.2645	0.1791	**94**	80	120	0.4215	**1.7**	20	

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35859

Date: *16-Jan-17*

Run ID :Run Order: **HGCV201-H_170104A: 41** SampType: **Method Blank** Lab ID: **MB-35859** Method: **SW7471B**
Analysis Date: **01/04/17 11:37** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.001									

Associated samples: **H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A**

Run ID :Run Order: **HGCV201-H_170104A: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-35859** Method: **SW7471B**
Analysis Date: **01/04/17 11:39** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.7	0.50	5	0	94	71	126.4				

Associated samples: **H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A**

Run ID :Run Order: **HGCV201-H_170104A: 43** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35859** Method: **SW7471B**
Analysis Date: **01/04/17 11:44** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.196	0	104	80	120				

Associated samples: **H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A**

Run ID :Run Order: **HGCV201-H_170104A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16120307-029AMS** Method: **SW7471B**
Analysis Date: **01/04/17 11:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.79	0.50	0.4803	0.3171	98	80	120				

Associated samples: **H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35859

Date: *16-Jan-17*

Run ID :Run Order: **HGCV201-H_170104A: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-029AMSD** Method: **SW7471B**

Analysis Date: **01/04/17 11:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.81	0.50	0.4803	0.3171	103	80	120	0.7887	3.0	20	

Associated samples: **H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A**

Run ID :Run Order: **HGCV201-H_170104A: 61** SampType: **Sample Matrix Spike** Lab ID: **H16120307-039AMS** Method: **SW7471B**

Analysis Date: **01/04/17 12:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.28	0.50	0.2561	0.02856	96	80	120				

Associated samples: **H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A**

Run ID :Run Order: **HGCV201-H_170104A: 62** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-039AMSD** Method: **SW7471B**

Analysis Date: **01/04/17 12:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.29	0.10	0.2561	0.02856	101	80	120	0.2751	4.4	20	

Associated samples: **H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35860

Date: *16-Jan-17*

Run ID :Run Order: **HGCV201-H_170104A: 72** SampType: **Method Blank** Lab ID: **MB-35860** Method: **SW7471B**
Analysis Date: **01/04/17 12:39** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.001									

Associated samples: **H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **HGCV201-H_170104A: 73** SampType: **Laboratory Control Sample** Lab ID: **LCS-35860** Method: **SW7471B**
Analysis Date: **01/04/17 12:41** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.8	0.50	5	0	97	71	126.4				

Associated samples: **H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **HGCV201-H_170104A: 74** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35860** Method: **SW7471B**
Analysis Date: **01/04/17 12:43** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.19	0.50	0.2	0	93	80	120				

Associated samples: **H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **HGCV201-H_170104A: 80** SampType: **Sample Matrix Spike** Lab ID: **H16120329-024AMS** Method: **SW7471B**
Analysis Date: **01/04/17 12:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.2021	0.01472	97	80	120				

Associated samples: **H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **HGCV201-H_170104A: 81** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120329-024AMSD** Method: **SW7471B**
Analysis Date: **01/04/17 12:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.20	0.2021	0.01472	98	80	120	0.2102	1.3	20	

Associated samples: **H16120307-047A, H16120307-048A, H16120307-049A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35861

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_170104A: 14** SampType: **Method Blank** Lab ID: **MB-35861** Method: **E245.1**
Analysis Date: **01/04/17 13:27** Units: **mg/L** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16120307-010C, H16120307-011C, H16120307-012B**

Run ID :Run Order: **HGCV202-H_170104A: 15** SampType: **Laboratory Control Sample** Lab ID: **LCS-35861** Method: **E245.1**
Analysis Date: **01/04/17 13:30** Units: **mg/L** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000153	0.00010	0.00015	0	102	90	110				

Associated samples: **H16120307-010C, H16120307-011C, H16120307-012B**

Run ID :Run Order: **HGCV202-H_170104A: 17** SampType: **Sample Matrix Spike** Lab ID: **H16120270-018AMS** Method: **E245.1**
Analysis Date: **01/04/17 13:35** Units: **mg/L** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00016	0.00010	0.00015	0.00000763	102	70	130				

Associated samples: **H16120307-010C, H16120307-011C, H16120307-012B**

Run ID :Run Order: **HGCV202-H_170104A: 18** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120270-018AMSD** Method: **E245.1**
Analysis Date: **01/04/17 13:38** Units: **mg/L** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00015	0.00010	0.00015	0.00000763	98	70	130	0.0001602	3.8	20	

Associated samples: **H16120307-010C, H16120307-011C, H16120307-012B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35879

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_170105A: 101** SampType: **Method Blank** Lab ID: **MB-35879** Method: **E200.8**
Analysis Date: **01/05/17 16:10** Units: **mg/L** **Prep Info:** Prep Date: **1/4/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	1E-05									

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 102** SampType: **Laboratory Control Sample** Lab ID: **LCS-35879** Method: **E200.8**
Analysis Date: **01/05/17 16:12** Units: **mg/L** **Prep Info:** Prep Date: **1/4/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0494	0.0010	0.05	0	99	85	115				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 106** SampType: **Sample Matrix Spike** Lab ID: **H16120307-002CMS3** Method: **E200.8**
Analysis Date: **01/05/17 16:20** Units: **mg/L** **Prep Info:** Prep Date: **1/4/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0480	0.0010	0.05	0.0000383	96	70	130				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 107** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-002CMSD3** Method: **E200.8**
Analysis Date: **01/05/17 16:22** Units: **mg/L** **Prep Info:** Prep Date: **1/4/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0482	0.0010	0.05	0.0000383	96	70	130	0.04802	0.4	20	

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 122** SampType: **Sample Matrix Spike** Lab ID: **H16120307-012CMS3** Method: **E200.8**
Analysis Date: **01/05/17 16:52** Units: **mg/L** **Prep Info:** Prep Date: **1/4/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0488	0.0010	0.05	0	98	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35879

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_170105A: 122** SampType: **Sample Matrix Spike** Lab ID: **H16120307-012CMS3** Method: **E200.8**

Analysis Date: **01/05/17 16:52** Units: **mg/L** **Prep Info:** Prep Date: **1/4/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 123** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-012CMSD3** Method: **E200.8**

Analysis Date: **01/05/17 16:54** Units: **mg/L** **Prep Info:** Prep Date: **1/4/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0492	0.0010	0.05	0	**99**	70	130	0.04878	**1.0**	20	

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35981

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_170113C: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-35981** Method: **A4500 N-C**
Analysis Date: **01/13/17 15:57** Units: **mg/L** **Prep Info:** Prep Date: **1/13/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	15.1	0.30	13.7	0	**110**	90	110				

Associated samples: **H16120307-010A, H16120307-011A**

Run ID :Run Order: **FIA203-HE_170113C: 12** SampType: **Method Blank** Lab ID: **MB-35981** Method: **A4500 N-C**
Analysis Date: **01/13/17 15:58** Units: **mg/L** **Prep Info:** Prep Date: **1/13/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.007									

Associated samples: **H16120307-010A, H16120307-011A**

Run ID :Run Order: **FIA203-HE_170113C: 14** SampType: **Sample Duplicate** Lab ID: **H16120307-010ADUP** Method: **A4500 N-C**
Analysis Date: **01/13/17 16:01** Units: **mg/L** **Prep Info:** Prep Date: **1/13/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.96	0.10		0				1.992	**1.4**	20	

Associated samples: **H16120307-010A, H16120307-011A**

Run ID :Run Order: **FIA203-HE_170113C: 16** SampType: **Sample Duplicate** Lab ID: **H16120307-011ADUP** Method: **A4500 N-C**
Analysis Date: **01/13/17 16:03** Units: **mg/L** **Prep Info:** Prep Date: **1/13/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.96	0.10		0				2.032	**3.7**	20	

Associated samples: **H16120307-010A, H16120307-011A**

Run ID :Run Order: **FIA203-HE_170113C: 18** SampType: **Sample Matrix Spike** Lab ID: **H17010152-002Ams** Method: **A4500 N-C**
Analysis Date: **01/13/17 16:05** Units: **mg/L** **Prep Info:** Prep Date: **1/13/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.16	0.10	1	0.2069	**95**	90	110				

Associated samples: **H16120307-010A, H16120307-011A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35981

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_170113C: 19** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H17010152-002Amsd** Method: **A4500 N-C**

Analysis Date: **01/13/17 16:07** Units: **mg/L** **Prep Info:** Prep Date: **1/13/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.14	0.10	1	0.2069	**93**	90	110	1.156	**1.6**	20	

Associated samples: **H16120307-010A, H16120307-011A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R218388

Date: *16-Jan-17*

Run ID :Run Order: **SUB-C218388: 1** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV-9269** Method: **A5310 C**

Analysis Date: **12/22/16 10:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.12	0.50	5	0	102	90	110	0			

Associated samples: **H16120307-001E, H16120307-002E, H16120307-003E, H16120307-004E, H16120307-005E, H16120307-006E, H16120307-007E, H16120307-008E, H16120307-009E, H16120307-010E, H16120307-011E, H16120307-012E, H16120307-013E, H16120307-014E, H16120307-015E, H16120307-016E**

Run ID :Run Order: **SUB-C218388: 2** SampType: **Method Blank** Lab ID: **MBLK** Method: **A5310 C**

Analysis Date: **12/22/16 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.04									

Associated samples: **H16120307-001E, H16120307-002E, H16120307-003E, H16120307-004E, H16120307-005E, H16120307-006E, H16120307-007E, H16120307-008E, H16120307-009E, H16120307-010E, H16120307-011E, H16120307-012E, H16120307-013E, H16120307-014E, H16120307-015E, H16120307-016E**

Run ID :Run Order: **SUB-C218388: 8** SampType: **Sample Matrix Spike** Lab ID: **H16120307-001E** Method: **A5310 C**

Analysis Date: **12/22/16 15:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	21.6	0.50	20	1.561	100	85	115	0			

Associated samples: **H16120307-001E, H16120307-002E, H16120307-003E, H16120307-004E, H16120307-005E, H16120307-006E, H16120307-007E, H16120307-008E, H16120307-009E, H16120307-010E, H16120307-011E, H16120307-012E, H16120307-013E, H16120307-014E, H16120307-015E, H16120307-016E**

Run ID :Run Order: **SUB-C218388: 9** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-001E** Method: **A5310 C**

Analysis Date: **12/22/16 15:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	21.7	0.50	20	1.561	101	85	115	21.62	0.5	20	

Associated samples: **H16120307-001E, H16120307-002E, H16120307-003E, H16120307-004E, H16120307-005E, H16120307-006E, H16120307-007E, H16120307-008E, H16120307-009E, H16120307-010E, H16120307-011E, H16120307-012E, H16120307-013E, H16120307-014E, H16120307-015E, H16120307-016E**

Run ID :Run Order: **SUB-C218388: 10** SampType: **Laboratory Control Sample** Lab ID: **LCS-9269** Method: **A5310 C**

Analysis Date: **12/22/16 18:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.02	0.50	5	0.1388	98	90	110	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R218388

Date: *16-Jan-17*

Run ID :Run Order: **SUB-C218388: 10** SampType: **Laboratory Control Sample** Lab ID: **LCS-9269** Method: **A5310 C**

Analysis Date: **12/22/16 18:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001E, H16120307-002E, H16120307-003E, H16120307-004E, H16120307-005E, H16120307-006E, H16120307-007E, H16120307-008E, H16120307-009E, H16120307-010E, H16120307-011E, H16120307-012E, H16120307-013E, H16120307-014E, H16120307-015E, H16120307-016E**

Run ID :Run Order: **SUB-C218388: 22** SampType: **Sample Matrix Spike** Lab ID: **H16120307-010E** Method: **A5310 C**

Analysis Date: **12/22/16 19:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	22.7	0.50	20	2.64	**100**	85	115	0			

Associated samples: **H16120307-001E, H16120307-002E, H16120307-003E, H16120307-004E, H16120307-005E, H16120307-006E, H16120307-007E, H16120307-008E, H16120307-009E, H16120307-010E, H16120307-011E, H16120307-012E, H16120307-013E, H16120307-014E, H16120307-015E, H16120307-016E**

Run ID :Run Order: **SUB-C218388: 23** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-010E** Method: **A5310 C**

Analysis Date: **12/22/16 19:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	23.0	0.50	20	2.64	**102**	85	115	22.67	**1.4**	20	

Associated samples: **H16120307-001E, H16120307-002E, H16120307-003E, H16120307-004E, H16120307-005E, H16120307-006E, H16120307-007E, H16120307-008E, H16120307-009E, H16120307-010E, H16120307-011E, H16120307-012E, H16120307-013E, H16120307-014E, H16120307-015E, H16120307-016E**

Run ID :Run Order: **SUB-C218388: 31** SampType: **Laboratory Control Sample** Lab ID: **LCS-9269** Method: **A5310 C**

Analysis Date: **12/22/16 22:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.98	0.50	5	0.1388	**97**	90	110	0			

Associated samples: **H16120307-001E, H16120307-002E, H16120307-003E, H16120307-004E, H16120307-005E, H16120307-006E, H16120307-007E, H16120307-008E, H16120307-009E, H16120307-010E, H16120307-011E, H16120307-012E, H16120307-013E, H16120307-014E, H16120307-015E, H16120307-016E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121384

Date: *16-Jan-17*

Run ID :Run Order: **PHSC_101-H_161219A: 6** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **12/19/16 09:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A**

Run ID :Run Order: **PHSC_101-H_161219A: 7** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **12/19/16 09:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	2	**100**	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A**

Run ID :Run Order: **PHSC_101-H_161219A: 10** SampType: **Sample Duplicate** Lab ID: **H16120300-001ADUP** Method: **A2320 B**

Analysis Date: **12/19/16 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	350	4.0		0				348.5	**0.2**	10	
Bicarbonate as HCO3	430	4.0		0				424.6	**0.2**	10	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A**

Run ID :Run Order: **PHSC_101-H_161219A: 32** SampType: **Sample Duplicate** Lab ID: **H16120305-005ADUP** Method: **A2320 B**

Analysis Date: **12/19/16 11:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	100	4.0		0				103.9	**0.8**	10	
Bicarbonate as HCO3	130	4.0		0				126.1	**0.8**	10	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121425

Date: *16-Jan-17*

Run ID :Run Order: **PHSC_101-H_161220A: 6** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **12/20/16 09:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **PHSC_101-H_161220A: 7** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **12/20/16 09:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	1.8	**98**	90	110				

Associated samples: **H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **PHSC_101-H_161220A: 50** SampType: **Sample Duplicate** Lab ID: **H16120309-010EDUP** Method: **A2320 B**

Analysis Date: **12/20/16 11:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	390	4.0		0				389.6	**0.7**	10	
Bicarbonate as HCO3	470	4.0		0				474.8	**0.7**	10	

Associated samples: **H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121433

Date: *16-Jan-17*

Run ID :Run Order: **IC METROHM_161219A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **12/19/16 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.008									
Sulfate	ND	0.08									

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A**

Run ID :Run Order: **IC METROHM_161219A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **12/19/16 10:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	96	1.0	100	0	96	90	110				
Sulfate	380	1.0	400	0	96	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A**

Run ID :Run Order: **IC METROHM_161219A: 9** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **12/19/16 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	48	1.0	50	0	97	90	110				
Sulfate	190	1.0	200	0	97	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A**

Run ID :Run Order: **IC METROHM_161219A: 32** SampType: **Sample Matrix Spike** Lab ID: **H16120305-002AMS** Method: **E300.0**
Analysis Date: **12/19/16 17:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62	1.0	50	12.65	99	90	110				
Sulfate	230	1.0	200	30.61	100	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A**

Run ID :Run Order: **IC METROHM_161219A: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-002AMSD** Method: **E300.0**
Analysis Date: **12/19/16 18:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62	1.0	50	12.65	98	90	110	62.3	1.1	20	
Sulfate	230	1.0	200	30.61	98	90	110	230.2	1.7	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121433

Date: *16-Jan-17*

Run ID :Run Order: **IC METROHM_161219A: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-002AMSD** Method: **E300.0**
Analysis Date: **12/19/16 18:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A**

Run ID :Run Order: **IC METROHM_161219A: 34** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **12/19/16 18:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99	1.0	100	0	99	90	110				
Sulfate	400	1.0	400	0	99	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A**

Run ID :Run Order: **IC METROHM_161219A: 46** SampType: **Sample Matrix Spike** Lab ID: **H16120307-007AMS** Method: **E300.0**
Analysis Date: **12/19/16 21:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	110	1.0	50	61.6	95	90	110				
Sulfate	280	1.0	200	92.69	96	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A**

Run ID :Run Order: **IC METROHM_161219A: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-007AMSD** Method: **E300.0**
Analysis Date: **12/19/16 21:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	110	1.0	50	61.6	97	90	110	109.2	0.7	20	
Sulfate	290	1.0	200	92.69	97	90	110	283.9	0.9	20	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121443

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161220A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **12/20/16 11:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.935	0.010	1	0	94	90	110				

Associated samples: **H16120307-003D, H16120307-004D, H16120307-007D, H16120307-008D**

Run ID :Run Order: **FIA203-HE_161220A: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **12/20/16 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.001									

Associated samples: **H16120307-003D, H16120307-004D, H16120307-007D, H16120307-008D**

Run ID :Run Order: **FIA203-HE_161220A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **12/20/16 12:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.011	1	0	103	90	110				

Associated samples: **H16120307-003D, H16120307-004D, H16120307-007D, H16120307-008D**

Run ID :Run Order: **FIA203-HE_161220A: 67** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **12/20/16 13:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.517	0.010	0.5	0	103	90	110				

Associated samples: **H16120307-003D, H16120307-004D, H16120307-007D, H16120307-008D**

Run ID :Run Order: **FIA203-HE_161220A: 69** SampType: **Sample Matrix Spike** Lab ID: **H16120303-013CMS** Method: **E353.2**
Analysis Date: **12/20/16 13:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.866	0.011	1	0	87	90	110				S

Associated samples: **H16120307-003D, H16120307-004D, H16120307-007D, H16120307-008D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121443

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161220A: 70** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120303-013CMSD** Method: **E353.2**

Analysis Date: **12/20/16 13:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.881	0.011	1	0	88	90	110	0.8661	1.7	20	S

Associated samples: **H16120307-003D, H16120307-004D, H16120307-007D, H16120307-008D**

Run ID :Run Order: **FIA203-HE_161220A: 81** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **12/20/16 13:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.547	0.010	0.5	0	109	90	110				

Associated samples: **H16120307-003D, H16120307-004D, H16120307-007D, H16120307-008D**

Run ID :Run Order: **FIA203-HE_161220A: 95** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **12/20/16 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.545	0.010	0.5	0	109	90	110				

Associated samples: **H16120307-003D, H16120307-004D, H16120307-007D, H16120307-008D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121470

Date: *16-Jan-17*

Run ID :Run Order: **IC METROHM_161220A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **12/20/16 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.008									
Sulfate	ND	0.08									

Associated samples: **H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **IC METROHM_161220A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **12/20/16 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	94	1.0	100	0	94	90	110				
Sulfate	370	1.0	400	0	94	90	110				

Associated samples: **H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **IC METROHM_161220A: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **12/20/16 12:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	45	1.0	50	0	90	90	110				
Sulfate	180	1.0	200	0	90	90	110				

Associated samples: **H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **IC METROHM_161220A: 6** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **12/20/16 13:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99	1.0	100	0	99	90	110				
Sulfate	390	1.0	400	0	99	90	110				

Associated samples: **H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **IC METROHM_161220A: 25** SampType: **Sample Matrix Spike** Lab ID: **H16120279-001AMS** Method: **E300.0**
Analysis Date: **12/20/16 18:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	76	1.0	50	28.68	95	90	110				
Sulfate	260	1.0	200	72.3	94	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121470

Date: *16-Jan-17*

Run ID :Run Order: **IC METROHM_161220A: 25** SampType: **Sample Matrix Spike** Lab ID: **H16120279-001AMS** Method: **E300.0**
Analysis Date: **12/20/16 18:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **IC METROHM_161220A: 26** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120279-001AMSD** Method: **E300.0**
Analysis Date: **12/20/16 18:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	77	1.0	50	28.68	96	90	110	75.97	0.8	20	
Sulfate	260	1.0	200	72.3	96	90	110	260.8	1.0	20	

Associated samples: **H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **IC METROHM_161220A: 27** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **12/20/16 18:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99	1.0	100	0	99	90	110				
Sulfate	390	1.0	400	0	98	90	110				

Associated samples: **H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **IC METROHM_161220A: 39** SampType: **Sample Matrix Spike** Lab ID: **H16120279-002AMS** Method: **E300.0**
Analysis Date: **12/20/16 21:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62	1.0	50	15.1	93	90	110				
Sulfate	280	1.0	200	93	92	90	110				

Associated samples: **H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **IC METROHM_161220A: 40** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120279-002AMSD** Method: **E300.0**
Analysis Date: **12/20/16 21:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	61	1.0	50	15.1	92	90	110	61.65	0.9	20	
Sulfate	280	1.0	200	93	91	90	110	277.4	0.8	20	

Associated samples: **H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121479

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161221A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**

Analysis Date: **12/21/16 09:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	15.5	0.50	14.2	0	109	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 8** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**

Analysis Date: **12/21/16 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.10	0.055	1	0	110	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**

Analysis Date: **12/21/16 10:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.02									

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 65** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**

Analysis Date: **12/21/16 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	15.1	0.50	14.2	0	106	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 66** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**

Analysis Date: **12/21/16 11:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121479

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161221A: 66** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **12/21/16 11:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 67** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **12/21/16 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.547	0.050	0.5	0	**109**	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 82** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **12/21/16 12:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.521	0.050	0.5	0	**104**	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 85** SampType: **Sample Matrix Spike** Lab ID: **H16120307-002DMS** Method: **E350.1**
Analysis Date: **12/21/16 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.19	0.055	1	0.08163	**111**	80	120				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 96** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-002DMSD** Method: **E350.1**
Analysis Date: **12/21/16 12:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.19	0.055	1	0.08163	**111**	80	120	1.187	**0.2**	10	

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121479

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161221A: 97** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **12/21/16 12:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.534	0.050	0.5	0	**107**	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 100** SampType: **Sample Matrix Spike** Lab ID: **H16120307-012DMS** Method: **E350.1**

Analysis Date: **12/21/16 12:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.936	0.055	1	0.02232	**91**	80	120				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161221A: 101** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-012DMSD** Method: **E350.1**

Analysis Date: **12/21/16 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.944	0.055	1	0.02232	**92**	80	120	0.9359	**0.9**	10	

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121482

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161221A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **12/21/16 08:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.776	0.10	0.8	0	97	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Magnesium	39.0	1.0	40	0	98	95	105				
Molybdenum	0.784	0.0050	0.8	0	98	95	105				
Potassium	41.0	1.0	40	0	103	95	105				
Sodium	41.0	1.0	40	0	102	95	105				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **12/21/16 08:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	95	105				
Calcium	25.1	1.0	25	0	100	95	105				
Magnesium	24.7	1.0	25	0	99	95	105				
Molybdenum	2.49	0.0050	2.5	0	100	95	105				
Potassium	25.6	1.0	25	0	102	95	105				
Sodium	25.6	1.0	25	0	102	95	105				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/21/16 08:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00546	0.10		0		0	0				
Calcium	462	1.0	500	0	92	80	120				
Magnesium	487	1.0	500	0	97	80	120				
Molybdenum	-0.000480	0.0050		0		0	0				
Potassium	-0.0263	1.0		0		0	0				
Sodium	0.0339	1.0		0		0	0				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121482

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161221A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/21/16 09:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.970	0.10	1	0	97	80	120				
Calcium	461	1.0	500	0	92	80	120				
Magnesium	490	1.0	500	0	98	80	120				
Molybdenum	0.936	0.0050	1	0	94	80	120				
Potassium	18.9	1.0	20	0	95	80	120				
Sodium	19.0	1.0	20	0	95	80	120				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 13** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **12/21/16 09:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.002									
Calcium	ND	0.03									
Magnesium	ND	0.003									
Molybdenum	ND	0.001									
Potassium	ND	0.03									
Sodium	ND	0.02									

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 14** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **12/21/16 09:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.993	0.10	1	0	99	85	115				
Calcium	49.7	1.0	50	0	99	85	115				
Magnesium	49.4	1.0	50	0	99	85	115				
Molybdenum	0.988	0.0050	1	0	99	85	115				
Potassium	50.2	1.0	50	0	100	85	115				
Sodium	50.3	1.0	50	0	101	85	115				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121482

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161221A: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/21/16 10:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	90	110				
Calcium	24.6	1.0	25	0	98	90	110				
Magnesium	23.7	1.0	25	0	95	90	110				
Molybdenum	2.46	0.0050	2.5	0	99	90	110				
Potassium	25.1	1.0	25	0	101	90	110				
Sodium	25.2	1.0	25	0	101	90	110				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 34** SampType: **Sample Matrix Spike** Lab ID: **H16120305-005BMS2** Method: **E200.7**

Analysis Date: **12/21/16 10:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.952	0.050	1	0.00715	95	70	130				
Calcium	85.7	1.0	50	38.82	94	70	130				
Magnesium	54.2	1.0	50	7.048	94	70	130				
Molybdenum	0.939	0.0013	1	0	94	70	130				
Potassium	51.8	1.0	50	1.333	101	70	130				
Sodium	55.2	1.0	50	4.538	101	70	130				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-005BMSD2** Method: **E200.7**

Analysis Date: **12/21/16 10:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.976	0.050	1	0.00715	97	70	130	0.9525	2.4	20	
Calcium	87.7	1.0	50	38.82	98	70	130	85.69	2.3	20	
Magnesium	55.6	1.0	50	7.048	97	70	130	54.19	2.5	20	
Molybdenum	0.969	0.0013	1	0	97	70	130	0.9386	3.2	20	
Potassium	51.5	1.0	50	1.333	100	70	130	51.78	0.5	20	
Sodium	54.9	1.0	50	4.538	101	70	130	55.22	0.6	20	

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121482

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161221A: 43** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/21/16 11:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	24.9	1.0	25	0	100	90	110				
Magnesium	24.2	1.0	25	0	97	90	110				
Molybdenum	2.49	0.0050	2.5	0	100	90	110				
Potassium	24.8	1.0	25	0	99	90	110				
Sodium	24.9	1.0	25	0	100	90	110				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 49** SampType: **Sample Matrix Spike** Lab ID: **H16120307-010BMS2** Method: **E200.7**

Analysis Date: **12/21/16 11:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.04	0.050	1	0.07326	97	70	130				
Calcium	115	1.0	50	68.75	92	70	130				
Magnesium	61.9	1.0	50	14.29	95	70	130				
Molybdenum	0.958	0.0013	1	0.00543	95	70	130				
Potassium	55.0	1.0	50	6.36	97	70	130				
Sodium	86.9	1.0	50	39.22	95	70	130				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-010BMSD2** Method: **E200.7**

Analysis Date: **12/21/16 11:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.07326	98	70	130	1.041	1.3	20	
Calcium	114	1.0	50	68.75	91	70	130	114.5	0.2	20	
Magnesium	61.6	1.0	50	14.29	95	70	130	61.94	0.5	20	
Molybdenum	0.971	0.0013	1	0.00543	97	70	130	0.9583	1.3	20	
Potassium	56.7	1.0	50	6.36	101	70	130	55	3.1	20	
Sodium	89.8	1.0	50	39.22	101	70	130	86.95	3.2	20	

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121482

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161221A: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/21/16 11:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.55	0.10	2.5	0	102	90	110				
Calcium	25.3	1.0	25	0	101	90	110				
Magnesium	24.9	1.0	25	0	100	90	110				
Molybdenum	2.54	0.0050	2.5	0	102	90	110				
Potassium	25.4	1.0	25	0	102	90	110				
Sodium	25.4	1.0	25	0	102	90	110				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 63** SampType: **Sample Matrix Spike** Lab ID: **H16120309-004CMS2** Method: **E200.7**

Analysis Date: **12/21/16 12:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.08	0.050	1	0.08492	100	70	130				
Calcium	141	1.0	50	94.36	94	70	130				
Magnesium	147	1.0	50	98.01	98	70	130				
Molybdenum	0.970	0.0013	1	0	97	70	130				
Potassium	51.7	1.0	50	1.132	101	70	130				
Sodium	70.2	1.0	50	19.85	101	70	130				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICP2-HE_161221A: 64** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120309-004CMSD2** Method: **E200.7**

Analysis Date: **12/21/16 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.10	0.050	1	0.08492	102	70	130	1.084	1.6	20	
Calcium	142	1.0	50	94.36	95	70	130	141.2	0.5	20	
Magnesium	148	1.0	50	98.01	100	70	130	146.9	0.6	20	
Molybdenum	0.987	0.0013	1	0	99	70	130	0.9698	1.8	20	
Potassium	53.4	1.0	50	1.132	105	70	130	51.69	3.3	20	
Sodium	72.5	1.0	50	19.85	105	70	130	70.2	3.3	20	

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121519

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161222A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **12/22/16 09:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.0156	0.10		0		0	0				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **12/22/16 09:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.487	0.10	0.5	0	97	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 42** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **12/22/16 10:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.471	0.10	0.5	0	94	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **12/22/16 10:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.494	0.10	0.5	0	99	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 72** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **12/22/16 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.00179	0.10		0		0	0				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121519

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161222A: 72** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **12/22/16 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **FIA203-HE_161222A: 88** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **12/22/16 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.480	0.10	0.5	0	96	90	110				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121564

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161227A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**

Analysis Date: **12/27/16 09:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.08	0.010	1	0	108	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-005D, H16120307-006D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161227A: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**

Analysis Date: **12/27/16 09:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.001									

Associated samples: **H16120307-001D, H16120307-002D, H16120307-005D, H16120307-006D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161227A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**

Analysis Date: **12/27/16 09:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.06	0.011	1	0	106	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-005D, H16120307-006D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161227A: 29** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **12/27/16 09:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.517	0.010	0.5	0	103	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-005D, H16120307-006D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161227A: 33** SampType: **Sample Matrix Spike** Lab ID: **H16120303-012CMS** Method: **E353.2**

Analysis Date: **12/27/16 09:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0	102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121564

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_161227A: 33** SampType: **Sample Matrix Spike** Lab ID: **H16120303-012CMS** Method: **E353.2**
Analysis Date: **12/27/16 09:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001D, H16120307-002D, H16120307-005D, H16120307-006D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161227A: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120303-012CMSD** Method: **E353.2**
Analysis Date: **12/27/16 09:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0	101	90	110	1.016	0.9	20	

Associated samples: **H16120307-001D, H16120307-002D, H16120307-005D, H16120307-006D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161227A: 43** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **12/27/16 09:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.515	0.010	0.5	0	103	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-005D, H16120307-006D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161227A: 49** SampType: **Sample Matrix Spike** Lab ID: **H16120307-016DMS** Method: **E353.2**
Analysis Date: **12/27/16 09:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.05	0.011	1	0.004074	105	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-005D, H16120307-006D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA203-HE_161227A: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-016DMSD** Method: **E353.2**
Analysis Date: **12/27/16 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.06	0.011	1	0.004074	106	90	110	1.051	1.2	20	

Associated samples: **H16120307-001D, H16120307-002D, H16120307-005D, H16120307-006D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121594

Date: *16-Jan-17*

Run ID :Run Order: **FIA202-HE_161227A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **12/27/16 12:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.255	0.010	0.25	0	102	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **12/27/16 12:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00237	0.010		0		0	0				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **12/27/16 13:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.101	0.010	0.1	0	101	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 57** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **12/27/16 13:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.101	0.010	0.1	0	101	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **12/27/16 13:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.103	0.010	0.1	0	103	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121594

Date: *16-Jan-17*

Run ID :Run Order: **FIA202-HE_161227A: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **12/27/16 13:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 87** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **12/27/16 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.104	0.010	0.1	0	**104**	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Run ID :Run Order: **FIA202-HE_161227A: 101** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **12/27/16 14:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.103	0.010	0.1	0	**103**	90	110				

Associated samples: **H16120307-001D, H16120307-002D, H16120307-003D, H16120307-004D, H16120307-005D, H16120307-006D, H16120307-007D, H16120307-008D, H16120307-009D, H16120307-010D, H16120307-011D, H16120307-012D, H16120307-013D, H16120307-014D, H16120307-015D, H16120307-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/29/16 10:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.297	0.10	0.3	0	99	90	110				
Antimony	0.0584	0.050	0.06	0	97	90	110				
Arsenic	0.0602	0.0050	0.06	0	100	90	110				
Barium	0.0590	0.10	0.06	0	98	90	110				
Beryllium	0.0298	0.0010	0.03	0	99	90	110				
Boron	0.0606	0.10	0.06	0	101	90	110				
Cadmium	0.0298	0.0010	0.03	0	99	90	110				
Chromium	0.0595	0.010	0.06	0	99	90	110				
Cobalt	0.0604	0.010	0.06	0	101	90	110				
Copper	0.0612	0.010	0.06	0	102	90	110				
Iron	0.309	0.020	0.3	0	103	90	110				
Lead	0.0587	0.010	0.06	0	98	90	110				
Manganese	0.299	0.010	0.3	0	100	90	110				
Molybdenum	0.0576	0.0050	0.06	0	96	90	110				
Nickel	0.0611	0.010	0.06	0	102	90	110				
Potassium	3.05	0.50	3	0	102	90	110				
Selenium	0.0588	0.0050	0.06	0	98	90	110				
Silver	0.0297	0.0050	0.03	0	99	90	110				
Sodium	3.08	0.50	3	0	103	90	110				
Uranium	0.0602	0.0010	0.06	0	100	90	110				
Vanadium	0.0588	0.10	0.06	0	98	90	110				
Zinc	0.0608	0.010	0.06	0	101	90	110				

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/29/16 10:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.9	0.10	40	0	112	70	130				
Antimony	3.01E-05	0.050		0							
Arsenic	2.09E-06	0.0050		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/29/16 10:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.000116	0.10		0							
Beryllium	-5.61E-06	0.0010		0							
Boron	0.00164	0.10		0							
Cadmium	2.02E-05	0.0010		0							
Chromium	0.00132	0.010		0							
Cobalt	-7.63E-06	0.010		0							
Copper	0.000273	0.010		0							
Iron	113	0.020	100	0	**113**	70	130				
Lead	0.000217	0.010		0							
Manganese	0.000286	0.010		0							
Molybdenum	0.916	0.0050	0.8	0	**115**	70	130				
Nickel	2.30E-05	0.010		0							
Potassium	45.0	0.50	40	0	**113**	70	130				
Selenium	9.07E-05	0.0050		0							
Silver	3.07E-05	0.0050		0							
Sodium	112	0.50	100	0	**112**	70	130				
Uranium	7.44E-06	0.0010		0							
Vanadium	-0.000100	0.10		0							
Zinc	0.000419	0.010		0							

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/29/16 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.2	0.10	40	0	**111**	70	130				
Antimony	2.02E-05	0.050		0		0	0				
Arsenic	0.0111	0.0050	0.01	0	**111**	70	130				
Barium	0.000123	0.10		0		0	0				
Beryllium	-1.86E-05	0.0010		0		0	0				
Boron	0.00104	0.10		0		0	0				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/29/16 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0110	0.0010	0.01	0	**109**	70	130				
Chromium	0.0234	0.010	0.02	0	**117**	70	130				
Cobalt	0.0224	0.010	0.02	0	**112**	70	130				
Copper	0.0223	0.010	0.02	0	**112**	70	130				
Iron	111	0.020	100	0	**111**	70	130				
Lead	0.000207	0.010		0		0	0				
Manganese	0.0222	0.010	0.02	0	**111**	70	130				
Molybdenum	0.893	0.0050	0.8	0	**112**	70	130				
Nickel	0.0223	0.010	0.02	0	**111**	70	130				
Potassium	44.3	0.50	40	0	**111**	70	130				
Selenium	0.0118	0.0050	0.01	0	**118**	70	130				
Silver	0.0215	0.0050	0.02	0	**108**	70	130				
Sodium	110	0.50	100	0	**110**	70	130				
Uranium	2.21E-06	0.0010		0		0	0				
Vanadium	0.0221	0.10	0.02	0	**111**	70	130				
Zinc	0.0111	0.010	0.01	0	**111**	70	130				

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **12/29/16 11:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.004									
Antimony	ND	1E-05									
Arsenic	ND	1E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0002									
Cadmium	ND	5E-06									
Chromium	ND	2E-05									
Cobalt	ND	9E-06									
Copper	ND	9E-05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **12/29/16 11:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.0009	0.0002									
Lead	ND	1E-05									
Manganese	2E-05	2E-05									
Molybdenum	ND	9E-06									
Nickel	ND	2E-05									
Selenium	ND	2E-05									
Silver	ND	3E-06									
Uranium	ND	1E-06									
Vanadium	ND	6E-05									
Zinc	ND	8E-05									

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICPMS205-H_161229A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **12/29/16 11:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0484	0.10	0.05	0	**97**	85	115				
Antimony	0.0484	0.050	0.05	0	**97**	85	115				
Arsenic	0.0478	0.0050	0.05	0	**96**	85	115				
Barium	0.0481	0.10	0.05	0	**96**	85	115				
Beryllium	0.0484	0.0010	0.05	0	**97**	85	115				
Cadmium	0.0485	0.0010	0.05	0	**97**	85	115				
Chromium	0.0485	0.010	0.05	0	**97**	85	115				
Cobalt	0.0493	0.010	0.05	0	**99**	85	115				
Copper	0.0495	0.010	0.05	0	**99**	85	115				
Iron	0.148	0.020	0.15	0.0009145	**98**	85	115				
Lead	0.0468	0.010	0.05	0	**94**	85	115				
Manganese	0.0489	0.010	0.05	0.00002374	**98**	85	115				
Molybdenum	0.0467	0.0050	0.05	0	**93**	85	115				
Nickel	0.0500	0.010	0.05	0	**100**	85	115				
Selenium	0.0477	0.0050	0.05	0	**95**	85	115				
Silver	0.0192	0.0050	0.02	0	**96**	85	115				
Uranium	0.0461	0.0010	0.05	0	**92**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **12/29/16 11:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0479	0.10	0.05	0	96	85	115				
Zinc	0.0498	0.010	0.05	0	100	85	115				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICPMS205-H_161229A: 138** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/29/16 17:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.306	0.10	0.3	0	102	90	110				
Antimony	0.0608	0.050	0.06	0	101	90	110				
Arsenic	0.0618	0.0050	0.06	0	103	90	110				
Barium	0.0613	0.10	0.06	0	102	90	110				
Beryllium	0.0304	0.0010	0.03	0	101	90	110				
Boron	0.0579	0.10	0.06	0	96	90	110				
Cadmium	0.0306	0.0010	0.03	0	102	90	110				
Chromium	0.0612	0.010	0.06	0	102	90	110				
Cobalt	0.0623	0.010	0.06	0	104	90	110				
Copper	0.0631	0.010	0.06	0	105	90	110				
Iron	0.315	0.020	0.3	0	105	90	110				
Lead	0.0603	0.010	0.06	0	101	90	110				
Manganese	0.309	0.010	0.3	0	103	90	110				
Molybdenum	0.0594	0.0050	0.06	0	99	90	110				
Nickel	0.0628	0.010	0.06	0	105	90	110				
Potassium	3.10	0.50	3	0	103	90	110				
Selenium	0.0598	0.0050	0.06	0	100	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Sodium	3.27	0.50	3	0	109	90	110				
Uranium	0.0636	0.0010	0.06	0	106	90	110				
Vanadium	0.0607	0.10	0.06	0	101	90	110				
Zinc	0.0622	0.010	0.06	0	104	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 138** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/29/16 17:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 139** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/29/16 17:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.4	0.10	40	0	**113**	70	130				
Antimony	2.79E-05	0.050		0							
Arsenic	3.82E-06	0.0050		0							
Barium	0.000122	0.10		0							
Beryllium	7.19E-05	0.0010		0							
Boron	0.00265	0.10		0							
Cadmium	3.96E-05	0.0010		0							
Chromium	0.00131	0.010		0							
Cobalt	1.13E-05	0.010		0							
Copper	0.000284	0.010		0							
Iron	112	0.020	100	0	**112**	70	130				
Lead	0.000224	0.010		0							
Manganese	0.000247	0.010		0							
Molybdenum	0.910	0.0050	0.8	0	**114**	70	130				
Nickel	-7.00E-06	0.010		0							
Potassium	44.8	0.50	40	0	**112**	70	130				
Selenium	6.13E-05	0.0050		0							
Silver	5.30E-07	0.0050		0							
Sodium	111	0.50	100	0	**111**	70	130				
Uranium	5.57E-06	0.0010		0							
Vanadium	-0.000195	0.10		0							
Zinc	0.000521	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 139** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/29/16 17:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 140** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/29/16 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.9	0.10	40	0	**112**	70	130				
Antimony	1.11E-05	0.050		0		0	0				
Arsenic	0.0112	0.0050	0.01	0	**112**	70	130				
Barium	0.000105	0.10		0		0	0				
Beryllium	5.60E-05	0.0010		0		0	0				
Boron	0.000153	0.10		0		0	0				
Cadmium	0.0110	0.0010	0.01	0	**110**	70	130				
Chromium	0.0234	0.010	0.02	0	**117**	70	130				
Cobalt	0.0222	0.010	0.02	0	**111**	70	130				
Copper	0.0222	0.010	0.02	0	**111**	70	130				
Iron	110	0.020	100	0	**110**	70	130				
Lead	0.000218	0.010		0		0	0				
Manganese	0.0227	0.010	0.02	0	**114**	70	130				
Molybdenum	0.889	0.0050	0.8	0	**111**	70	130				
Nickel	0.0222	0.010	0.02	0	**111**	70	130				
Potassium	44.8	0.50	40	0	**112**	70	130				
Selenium	0.0111	0.0050	0.01	0	**111**	70	130				
Silver	0.0215	0.0050	0.02	0	**108**	70	130				
Sodium	110	0.50	100	0	**110**	70	130				
Uranium	1.92E-06	0.0010		0		0	0				
Vanadium	0.0221	0.10	0.02	0	**110**	70	130				
Zinc	0.0108	0.010	0.01	0	**108**	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 140** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/29/16 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 199** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/30/16 08:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	48.6	0.10	40	0	**122**	70	130				
Antimony	1.57E-05	0.050		0							
Arsenic	7.03E-05	0.0050		0							
Barium	0.000121	0.10		0							
Beryllium	5.01E-05	0.0010		0							
Boron	-1.82E-05	0.10		0							
Cadmium	3.72E-05	0.0010		0							
Chromium	0.00134	0.010		0							
Cobalt	1.11E-05	0.010		0							
Copper	0.000300	0.010		0							
Iron	118	0.020	100	0	**118**	70	130				
Lead	0.000231	0.010		0							
Manganese	0.000271	0.010		0							
Molybdenum	0.967	0.0050	0.8	0	**121**	70	130				
Nickel	5.60E-05	0.010		0							
Potassium	46.6	0.50	40	0	**117**	70	130				
Selenium	0.00195	0.0050		0							
Silver	-3.50E-05	0.0050		0							
Sodium	119	0.50	100	0	**119**	70	130				
Uranium	8.12E-07	0.0010		0							
Vanadium	-0.000227	0.10		0							
Zinc	0.000529	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 199** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/30/16 08:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 200** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/30/16 08:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	46.1	0.10	40	0	**115**	70	130				
Antimony	1.96E-05	0.050		0		0	0				
Arsenic	0.0114	0.0050	0.01	0	**114**	70	130				
Barium	0.000118	0.10		0		0	0				
Beryllium	1.20E-05	0.0010		0		0	0				
Boron	-0.000928	0.10		0		0	0				
Cadmium	0.0114	0.0010	0.01	0	**114**	70	130				
Chromium	0.0238	0.010	0.02	0	**119**	70	130				
Cobalt	0.0229	0.010	0.02	0	**115**	70	130				
Copper	0.0230	0.010	0.02	0	**115**	70	130				
Iron	112	0.020	100	0	**112**	70	130				
Lead	0.000221	0.010		0		0	0				
Manganese	0.0227	0.010	0.02	0	**113**	70	130				
Molybdenum	0.930	0.0050	0.8	0	**116**	70	130				
Nickel	0.0231	0.010	0.02	0	**115**	70	130				
Potassium	44.8	0.50	40	0	**112**	70	130				
Selenium	0.0125	0.0050	0.01	0	**125**	70	130				
Silver	0.0160	0.0050	0.02	0	**80**	70	130				
Sodium	114	0.50	100	0	**115**	70	130				
Uranium	2.42E-07	0.0010		0		0	0				
Vanadium	0.0226	0.10	0.02	0	**113**	70	130				
Zinc	0.0112	0.010	0.01	0	**112**	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 200** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/30/16 08:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 224** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/30/16 11:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.288	0.10	0.3	0	96	90	110				
Antimony	0.0563	0.050	0.06	0	94	90	110				
Arsenic	0.0579	0.0050	0.06	0	96	90	110				
Barium	0.0566	0.10	0.06	0	94	90	110				
Beryllium	0.0278	0.0010	0.03	0	93	90	110				
Boron	0.0593	0.10	0.06	0	99	90	110				
Cadmium	0.0289	0.0010	0.03	0	96	90	110				
Chromium	0.0574	0.010	0.06	0	96	90	110				
Cobalt	0.0582	0.010	0.06	0	97	90	110				
Copper	0.0587	0.010	0.06	0	98	90	110				
Iron	0.297	0.020	0.3	0	99	90	110				
Lead	0.0563	0.010	0.06	0	94	90	110				
Manganese	0.291	0.010	0.3	0	97	90	110				
Molybdenum	0.0551	0.0050	0.06	0	92	90	110				
Nickel	0.0580	0.010	0.06	0	97	90	110				
Potassium	2.99	0.50	3	0	100	90	110				
Selenium	0.0569	0.0050	0.06	0	95	90	110				
Silver	0.0284	0.0050	0.03	0	95	90	110				
Sodium	3.01	0.50	3	0	100	90	110				
Uranium	0.0577	0.0010	0.06	0	96	90	110				
Vanadium	0.0569	0.10	0.06	0	95	90	110				
Zinc	0.0590	0.010	0.06	0	98	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 224** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/30/16 11:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 225** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/30/16 11:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.6	0.10	40	0	**114**	70	130				
Antimony	2.19E-07	0.050		0							
Arsenic	-1.08E-05	0.0050		0							
Barium	0.000126	0.10		0							
Beryllium	6.39E-05	0.0010		0							
Boron	0.00291	0.10		0							
Cadmium	1.21E-05	0.0010		0							
Chromium	0.00131	0.010		0							
Cobalt	1.20E-05	0.010		0							
Copper	0.000264	0.010		0							
Iron	114	0.020	100	0	**114**	70	130				
Lead	0.000231	0.010		0							
Manganese	0.000244	0.010		0							
Molybdenum	0.904	0.0050	0.8	0	**113**	70	130				
Nickel	2.42E-05	0.010		0							
Potassium	45.6	0.50	40	0	**114**	70	130				
Selenium	9.10E-05	0.0050		0							
Silver	-0.000284	0.0050		0							
Sodium	111	0.50	100	0	**111**	70	130				
Uranium	8.19E-06	0.0010		0							
Vanadium	-8.96E-05	0.10		0							
Zinc	0.000379	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 225** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/30/16 11:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 226** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/30/16 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.4	0.10	40	0	**114**	70	130				
Antimony	-2.46E-06	0.050		0		0	0				
Arsenic	0.0112	0.0050	0.01	0	**112**	70	130				
Barium	9.72E-05	0.10		0		0	0				
Beryllium	4.97E-05	0.0010		0		0	0				
Boron	0.00346	0.10		0		0	0				
Cadmium	0.0112	0.0010	0.01	0	**112**	70	130				
Chromium	0.0236	0.010	0.02	0	**118**	70	130				
Cobalt	0.0224	0.010	0.02	0	**112**	70	130				
Copper	0.0222	0.010	0.02	0	**111**	70	130				
Iron	112	0.020	100	0	**112**	70	130				
Lead	0.000228	0.010		0		0	0				
Manganese	0.0231	0.010	0.02	0	**115**	70	130				
Molybdenum	0.898	0.0050	0.8	0	**112**	70	130				
Nickel	0.0220	0.010	0.02	0	**110**	70	130				
Potassium	45.7	0.50	40	0	**114**	70	130				
Selenium	0.0114	0.0050	0.01	0	**114**	70	130				
Silver	0.0210	0.0050	0.02	0	**105**	70	130				
Sodium	110	0.50	100	0	**110**	70	130				
Uranium	1.28E-06	0.0010		0		0	0				
Vanadium	0.0226	0.10	0.02	0	**113**	70	130				
Zinc	0.0112	0.010	0.01	0	**112**	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 226** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/30/16 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001B, H16120307-001C, H16120307-002B, H16120307-002C, H16120307-003B, H16120307-003C, H16120307-004B, H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-010C, H16120307-011B, H16120307-011C, H16120307-012B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_161229A: 275** SampType: **Sample Matrix Spike** Lab ID: **H16120307-001BMS** Method: **E200.8**

Analysis Date: **12/30/16 14:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0506	0.030	0.05	0	101	70	130				
Antimony	0.0476	0.0010	0.05	0.0001455	95	70	130				
Arsenic	0.0493	0.0010	0.05	0.002395	94	70	130				
Barium	0.0956	0.050	0.05	0.04899	93	70	130				
Beryllium	0.0454	0.0010	0.05	0	91	70	130				
Cadmium	0.0462	0.0010	0.05	0.00003963	92	70	130				
Chromium	0.0469	0.0050	0.05	0.00007472	94	70	130				
Cobalt	0.0468	0.0050	0.05	0.0003618	93	70	130				
Copper	0.0489	0.0050	0.05	0.002269	93	70	130				
Iron	0.168	0.020	0.15	0.02908	92	70	130				
Lead	0.0458	0.0010	0.05	0.0000697	92	70	130				
Manganese	0.246	0.0010	0.05	0.2012		70	130				A
Molybdenum	0.0515	0.0010	0.05	0.005365	92	70	130				
Nickel	0.0468	0.0050	0.05	0.0007908	92	70	130				
Selenium	0.0476	0.0010	0.05	0.0001601	95	70	130				
Silver	0.0171	0.0010	0.02	0	86	70	130				
Uranium	0.0523	0.00030	0.05	0.005973	93	70	130				
Vanadium	0.0485	0.010	0.05	0.001915	93	70	130				
Zinc	0.0645	0.010	0.05	0.01756	94	70	130				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 276** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-001BMSD** Method: **E200.8**

Analysis Date: **12/30/16 14:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0520	0.030	0.05	0	104	70	130	0.05065	2.7	20	
Antimony	0.0480	0.0010	0.05	0.0001455	96	70	130	0.0476	0.8	20	
Arsenic	0.0498	0.0010	0.05	0.002395	95	70	130	0.04931	1.1	20	
Barium	0.0957	0.050	0.05	0.04899	94	70	130	0.09556	0.2	20	
Beryllium	0.0456	0.0010	0.05	0	91	70	130	0.04537	0.5	20	
Cadmium	0.0468	0.0010	0.05	0.00003963	94	70	130	0.04621	1.3	20	
Chromium	0.0469	0.0050	0.05	0.00007472	94	70	130	0.04693	0.0	20	
Cobalt	0.0469	0.0050	0.05	0.0003618	93	70	130	0.04683	0.1	20	
Copper	0.0492	0.0050	0.05	0.002269	94	70	130	0.04888	0.7	20	
Iron	0.170	0.020	0.15	0.02908	94	70	130	0.1677	1.1	20	
Lead	0.0461	0.0010	0.05	0.0000697	92	70	130	0.04584	0.7	20	
Manganese	0.247	0.0010	0.05	0.2012		70	130	0.2458	0.4	20	A
Molybdenum	0.0518	0.0010	0.05	0.005365	93	70	130	0.05149	0.6	20	
Nickel	0.0474	0.0050	0.05	0.0007908	93	70	130	0.04678	1.3	20	
Selenium	0.0476	0.0010	0.05	0.0001601	95	70	130	0.04762	0.0	20	
Silver	0.0173	0.0010	0.02	0	86	70	130	0.01712	0.9	20	
Uranium	0.0529	0.00030	0.05	0.005973	94	70	130	0.05231	1.1	20	
Vanadium	0.0484	0.010	0.05	0.001915	93	70	130	0.04849	0.1	20	
Zinc	0.0645	0.010	0.05	0.01756	94	70	130	0.06447	0.0	20	

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICPMS205-H_161229A: 317** SampType: **Sample Matrix Spike** Lab ID: **H16120307-012BMS** Method: **E200.8**

Analysis Date: **12/30/16 15:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0520	0.030	0.05	0	104	70	130				
Antimony	0.0484	0.0010	0.05	0.0002238	96	70	130				
Arsenic	0.0530	0.0010	0.05	0.004913	96	70	130				
Barium	0.0815	0.050	0.05	0.03426	94	70	130				
Beryllium	0.0492	0.0010	0.05	0	98	70	130				
Cadmium	0.0476	0.0010	0.05	0.0001629	95	70	130				
Chromium	0.0480	0.0050	0.05	0.0000205	96	70	130				
Cobalt	0.0482	0.0050	0.05	0.0004627	95	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 317** SampType: **Sample Matrix Spike** Lab ID: **H16120307-012BMS** Method: **E200.8**

Analysis Date: **12/30/16 15:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0564	0.0050	0.05	0.008489	96	70	130				
Iron	0.166	0.020	0.15	0.02341	95	70	130				
Lead	0.0469	0.0010	0.05	0.0001395	94	70	130				
Manganese	0.111	0.0010	0.05	0.06359	96	70	130				
Molybdenum	0.0515	0.0010	0.05	0.003994	95	70	130				
Nickel	0.0480	0.0050	0.05	0.0006936	95	70	130				
Selenium	0.0498	0.0010	0.05	0.0004139	99	70	130				
Silver	0.0175	0.0010	0.02	0	88	70	130				
Uranium	0.0519	0.00030	0.05	0.004793	94	70	130				
Vanadium	0.0495	0.010	0.05	0.001653	96	70	130				
Zinc	0.136	0.010	0.05	0.08847	94	70	130				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICPMS205-H_161229A: 318** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-012BMSD** Method: **E200.8**

Analysis Date: **12/30/16 15:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0497	0.030	0.05	0	99	70	130	0.052	4.5	20	
Antimony	0.0487	0.0010	0.05	0.0002238	97	70	130	0.04841	0.5	20	
Arsenic	0.0529	0.0010	0.05	0.004913	96	70	130	0.053	0.2	20	
Barium	0.0808	0.050	0.05	0.03426	93	70	130	0.08148	0.8	20	
Beryllium	0.0487	0.0010	0.05	0	97	70	130	0.04917	1.0	20	
Cadmium	0.0478	0.0010	0.05	0.0001629	95	70	130	0.04759	0.5	20	
Chromium	0.0479	0.0050	0.05	0.0000205	96	70	130	0.04804	0.3	20	
Cobalt	0.0481	0.0050	0.05	0.0004627	95	70	130	0.04818	0.2	20	
Copper	0.0564	0.0050	0.05	0.008489	96	70	130	0.05637	0.0	20	
Iron	0.166	0.020	0.15	0.02341	95	70	130	0.166	0.1	20	
Lead	0.0465	0.0010	0.05	0.0001395	93	70	130	0.04694	0.9	20	
Manganese	0.111	0.0010	0.05	0.06359	95	70	130	0.1114	0.4	20	
Molybdenum	0.0514	0.0010	0.05	0.003994	95	70	130	0.05146	0.1	20	
Nickel	0.0478	0.0050	0.05	0.0006936	94	70	130	0.04802	0.5	20	
Selenium	0.0492	0.0010	0.05	0.0004139	97	70	130	0.04978	1.3	20	
Silver	0.0179	0.0010	0.02	0	89	70	130	0.01754	2.0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 318** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-012BMSD** Method: **E200.8**

Analysis Date: **12/30/16 15:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0517	0.00030	0.05	0.004793	94	70	130	0.05187	0.4	20	
Vanadium	0.0492	0.010	0.05	0.001653	95	70	130	0.04952	0.5	20	
Zinc	0.136	0.010	0.05	0.08847	95	70	130	0.1357	0.1	20	

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Run ID :Run Order: **ICPMS205-H_161229A: 340** SampType: **Sample Matrix Spike** Lab ID: **H16120309-007CMS** Method: **E200.8**

Analysis Date: **12/30/16 16:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0501	0.030	0.05	0	100	70	130				
Antimony	0.0482	0.0010	0.05	0.00005605	96	70	130				
Arsenic	0.0473	0.0010	0.05	0.00006833	94	70	130				
Barium	0.144	0.050	0.05	0.09796	92	70	130				
Beryllium	0.0443	0.0010	0.05	0	89	70	130				
Cadmium	0.0475	0.0010	0.05	0.0006131	94	70	130				
Chromium	0.0469	0.0050	0.05	0.0001207	94	70	130				
Cobalt	0.0462	0.0050	0.05	0.00003346	92	70	130				
Copper	0.0514	0.0050	0.05	0.006007	91	70	130				
Iron	0.145	0.020	0.15	0.003497	94	70	130				
Lead	0.0464	0.0010	0.05	0.0001255	93	70	130				
Manganese	0.0501	0.0010	0.05	0.002746	95	70	130				
Molybdenum	0.0479	0.0010	0.05	0.001374	93	70	130				
Nickel	0.0465	0.0050	0.05	0.0007396	91	70	130				
Selenium	0.0473	0.0010	0.05	0.0002602	94	70	130				
Silver	0.0178	0.0010	0.02	0	89	70	130				
Uranium	0.0497	0.00030	0.05	0.002773	94	70	130				
Vanadium	0.0558	0.010	0.05	0.00887	94	70	130				
Zinc	0.0640	0.010	0.05	0.01659	95	70	130				

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 341** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120309-007CMSD** Method: **E200.8**

Analysis Date: **12/30/16 16:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0489	0.030	0.05	0	98	70	130	0.0501	2.4	20	
Antimony	0.0482	0.0010	0.05	0.00005605	96	70	130	0.04816	0.0	20	
Arsenic	0.0472	0.0010	0.05	0.00006833	94	70	130	0.04726	0.1	20	
Barium	0.144	0.050	0.05	0.09796	92	70	130	0.1442	0.1	20	
Beryllium	0.0451	0.0010	0.05	0	90	70	130	0.04434	1.7	20	
Cadmium	0.0479	0.0010	0.05	0.0006131	94	70	130	0.04751	0.7	20	
Chromium	0.0468	0.0050	0.05	0.0001207	93	70	130	0.04691	0.2	20	
Cobalt	0.0460	0.0050	0.05	0.00003346	92	70	130	0.04618	0.3	20	
Copper	0.0511	0.0050	0.05	0.006007	90	70	130	0.05144	0.7	20	
Iron	0.143	0.020	0.15	0.003497	93	70	130	0.1448	1.0	20	
Lead	0.0461	0.0010	0.05	0.0001255	92	70	130	0.0464	0.6	20	
Manganese	0.0500	0.0010	0.05	0.002746	94	70	130	0.05012	0.3	20	
Molybdenum	0.0479	0.0010	0.05	0.001374	93	70	130	0.04786	0.1	20	
Nickel	0.0463	0.0050	0.05	0.0007396	91	70	130	0.04648	0.3	20	
Selenium	0.0383	0.0010	0.05	0.0002602	76	70	130	0.04727	21	20	R
Silver	0.0180	0.0010	0.02	0	90	70	130	0.01778	1.0	20	
Uranium	0.0499	0.00030	0.05	0.002773	94	70	130	0.04973	0.3	20	
Vanadium	0.0561	0.010	0.05	0.00887	94	70	130	0.05582	0.5	20	
Zinc	0.0644	0.010	0.05	0.01659	96	70	130	0.064	0.7	20	

Associated samples: **H16120307-001B, H16120307-002B, H16120307-003B, H16120307-004B, H16120307-005B, H16120307-006B, H16120307-007B, H16120307-008B, H16120307-009B, H16120307-010B, H16120307-011B, H16120307-012B, H16120307-013B, H16120307-014B, H16120307-015B, H16120307-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121705

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_161230A: 15** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **12/30/16 10:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	0.00010	0.0002	0	**103**	95	105				

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Run ID :Run Order: **HGCV202-H_161230A: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **12/30/16 12:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000190	0.00010	0.0002	0	**95**	95	105				

Associated samples: **H16120307-004C, H16120307-005B, H16120307-005C, H16120307-006B, H16120307-006C, H16120307-007B, H16120307-007C, H16120307-008B, H16120307-008C, H16120307-009B, H16120307-009C, H16120307-010B, H16120307-011B, H16120307-012C, H16120307-013B, H16120307-013C, H16120307-014B, H16120307-014C, H16120307-015B, H16120307-015C, H16120307-016B, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121728

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161230A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **12/30/16 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.01	0.10	4	0	100	95	105				
Boron	0.781	0.10	0.8	0	98	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Iron	3.94	0.020	4	0	99	95	105				
Magnesium	39.2	1.0	40	0	98	95	105				
Potassium	40.4	1.0	40	0	101	95	105				
Sodium	40.5	1.0	40	0	101	95	105				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **12/30/16 09:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	101	95	105				
Boron	2.52	0.10	2.5	0	101	95	105				
Calcium	25.0	1.0	25	0	100	95	105				
Iron	2.49	0.020	2.5	0	100	95	105				
Magnesium	24.8	1.0	25	0	99	95	105				
Potassium	25.4	1.0	25	0	102	95	105				
Sodium	25.5	1.0	25	0	102	95	105				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/30/16 10:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	503	0.10	500	0	101	80	120				
Boron	-0.00358	0.10		0		0	0				
Calcium	449	1.0	500	0	90	80	120				
Iron	180	0.020	200	0	90	80	120				
Magnesium	494	1.0	500	0	99	80	120				
Potassium	-0.0451	1.0		0		0	0				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121728

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161230A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/30/16 10:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.0161	1.0		0		0	0				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/30/16 10:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	504	0.10	500	0	**101**	80	120				
Boron	0.960	0.10	1	0	**96**	80	120				
Calcium	453	1.0	500	0	**91**	80	120				
Iron	179	0.020	200	0	**90**	80	120				
Magnesium	489	1.0	500	0	**98**	80	120				
Potassium	20.0	1.0	20	0	**100**	80	120				
Sodium	20.0	1.0	20	0	**100**	80	120				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 19** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/30/16 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.10	2.5	0	**101**	90	110				
Boron	2.47	0.10	2.5	0	**99**	90	110				
Calcium	24.6	1.0	25	0	**98**	90	110				
Iron	2.50	0.020	2.5	0	**100**	90	110				
Magnesium	24.6	1.0	25	0	**98**	90	110				
Potassium	26.6	1.0	25	0	**107**	90	110				
Sodium	26.6	1.0	25	0	**106**	90	110				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121728

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161230A: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/30/16 11:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	101	90	110				
Boron	2.53	0.10	2.5	0	101	90	110				
Calcium	24.5	1.0	25	0	98	90	110				
Iron	2.51	0.020	2.5	0	100	90	110				
Magnesium	24.7	1.0	25	0	99	90	110				
Potassium	26.1	1.0	25	0	104	90	110				
Sodium	26.1	1.0	25	0	104	90	110				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 43** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/30/16 12:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.56	0.10	2.5	0	103	90	110				
Boron	2.52	0.10	2.5	0	101	90	110				
Calcium	24.8	1.0	25	0	99	90	110				
Iron	2.53	0.020	2.5	0	101	90	110				
Magnesium	25.1	1.0	25	0	100	90	110				
Potassium	26.1	1.0	25	0	104	90	110				
Sodium	26.1	1.0	25	0	104	90	110				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICP2-HE_161230A: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/30/16 12:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	101	90	110				
Boron	2.49	0.10	2.5	0	100	90	110				
Calcium	24.3	1.0	25	0	97	90	110				
Iron	2.50	0.020	2.5	0	100	90	110				
Magnesium	24.1	1.0	25	0	96	90	110				
Potassium	26.1	1.0	25	0	104	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121728

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_161230A: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/30/16 12:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	26.2	1.0	25	0	**105**	90	110				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121778

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **01/04/17 10:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.01	0.10	4	0	100	90	110				
Barium	0.792	0.10	0.8	0	99	90	110				
Copper	0.808	0.010	0.8	0	101	90	110				
Iron	4.05	0.030	4	0	101	90	110				
Manganese	3.99	0.010	4	0	100	90	110				
Zinc	0.789	0.010	0.8	0	99	90	110				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **ICP2-HE_170104A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **01/04/17 10:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	513	0.10	500	0	103	80	120				
Barium	-0.000180	0.10		0		0	0				
Copper	0.00131	0.010		0		0	0				
Iron	187	0.030	200	0	93	80	120				
Manganese	0.00250	0.010		0		0	0				
Zinc	0.00133	0.010		0		0	0				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **ICP2-HE_170104A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **01/04/17 10:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	513	0.10	500	0	103	80	120				
Barium	0.487	0.10	0.5	0	97	80	120				
Copper	0.500	0.010	0.5	0	100	80	120				
Iron	187	0.030	200	0	93	80	120				
Manganese	0.480	0.010	0.5	0	96	80	120				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121778

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170104A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **01/04/17 10:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.952	0.010	1	0	95	80	120				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-047A, H16120307-048A, H16120307-049A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121782

Date: *16-Jan-17*

Run ID :Run Order: **HGCV202-H_170104A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **01/04/17 13:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000206	0.00010	0.0002	0	**103**	95	105				

Associated samples: **H16120307-010C, H16120307-011C, H16120307-012B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121783

Date: *16-Jan-17*

Run ID :Run Order: **SOIL DRYING OVEN 2_170104A: 8** SampType: **Sample Duplicate** Lab ID: **H16120307-023ADUP** Method: **D2974**

Analysis Date: **01/05/17 08:07** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	70.8	0.20		0				70.6	0.3	20	

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **SOIL DRYING OVEN 2_170104A: 1** SampType: **Sample Duplicate** Lab ID: **H16120307-033ADUP** Method: **D2974**

Analysis Date: **01/05/17 08:07** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	29.1	0.20		0				29.25	0.5	20	

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Run ID :Run Order: **SOIL DRYING OVEN 2_170104A: 3** SampType: **Sample Duplicate** Lab ID: **H16120307-046ADUP** Method: **D2974**

Analysis Date: **01/05/17 08:07** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	23.7	0.20		0				24.83	4.6	20	

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121800

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170105A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **01/05/17 09:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.02	0.10	4	0	101	90	110				
Barium	0.804	0.10	0.8	0	101	90	110				
Manganese	3.93	0.010	4	0	98	90	110				
Zinc	0.783	0.010	0.8	0	98	90	110				

Associated samples: **H16120307-046A**

Run ID :Run Order: **ICP2-HE_170105A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **01/05/17 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	508	0.10	500	0	102	80	120				
Barium	-2.00E-05	0.10		0		0	0				
Manganese	-0.0274	0.010		0		0	0				
Zinc	-0.00176	0.010		0		0	0				

Associated samples: **H16120307-046A**

Run ID :Run Order: **ICP2-HE_170105A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **01/05/17 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	513	0.10	500	0	103	80	120				
Barium	0.506	0.10	0.5	0	101	80	120				
Manganese	0.448	0.010	0.5	0	90	80	120				
Zinc	0.969	0.010	1	0	97	80	120				

Associated samples: **H16120307-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121844

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_170105A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **01/05/17 11:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0300	0.0050	0.03	0	100	90	110				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **01/05/17 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	-4.09E-07	0.0050		0							

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **01/05/17 11:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0215	0.0050	0.02	0	108	70	130				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 94** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **01/05/17 15:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0305	0.0050	0.03	0	102	90	110				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 95** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **01/05/17 15:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	8.05E-06	0.0050		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121844

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS205-H_170105A: 95** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **01/05/17 15:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Run ID :Run Order: **ICPMS205-H_170105A: 96** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **01/05/17 16:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0215	0.0050	0.02	0	**108**	70	130				

Associated samples: **H16120307-001C, H16120307-002C, H16120307-003C, H16120307-004C, H16120307-005C, H16120307-006C, H16120307-007C, H16120307-008C, H16120307-009C, H16120307-010C, H16120307-011C, H16120307-012C, H16120307-013C, H16120307-014C, H16120307-015C, H16120307-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121860

Date: *16-Jan-17*

Run ID :Run Order: **ICP2-HE_170106B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **01/06/17 08:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.788	0.010	0.8	0	99	90	110				
Iron	3.94	0.030	4	0	99	90	110				

Associated samples: **H16120307-046A**

Run ID :Run Order: **ICP2-HE_170106B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **01/06/17 08:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.00767	0.010		0		0	0				
Iron	181	0.030	200	0	91	80	120				

Associated samples: **H16120307-046A**

Run ID :Run Order: **ICP2-HE_170106B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **01/06/17 08:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.503	0.010	0.5	0	101	80	120				
Iron	181	0.030	200	0	91	80	120				

Associated samples: **H16120307-046A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121965

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170111D: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **01/11/17 15:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0578	0.0010	0.06	0	**96**	90	110				
Arsenic	0.0606	0.0010	0.06	0	**101**	90	110				
Beryllium	0.0300	0.0010	0.03	0	**100**	90	110				
Boron	0.0592	0.0011	0.06	0	**99**	90	110				
Cadmium	0.0301	0.0010	0.03	0	**100**	90	110				
Chromium	0.0587	0.0010	0.06	0	**98**	90	110				
Cobalt	0.0596	0.0010	0.06	0	**99**	90	110				
Lead	0.0579	0.0010	0.06	0	**96**	90	110				
Molybdenum	0.0553	0.0010	0.06	0	**92**	90	110				
Nickel	0.0600	0.0010	0.06	0	**100**	90	110				
Selenium	0.0595	0.0010	0.06	0	**99**	90	110				
Silver	0.0292	0.0010	0.03	0	**97**	90	110				
Uranium	0.0573	0.00030	0.06	0	**96**	90	110				
Vanadium	0.0579	0.0010	0.06	0	**97**	90	110				

Associated samples: **H16120307-017A, H16120307-018A, H16120307-019A, H16120307-020A, H16120307-021A, H16120307-022A, H16120307-023A, H16120307-024A, H16120307-025A, H16120307-026A, H16120307-027A, H16120307-028A, H16120307-029A, H16120307-030A, H16120307-031A, H16120307-032A, H16120307-033A, H16120307-034A, H16120307-035A, H16120307-036A, H16120307-037A, H16120307-038A, H16120307-039A, H16120307-040A, H16120307-041A, H16120307-042A, H16120307-043A, H16120307-044A, H16120307-045A, H16120307-046A, H16120307-047A, H16120307-048A, H16120307-049A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121980

Date: *16-Jan-17*

Run ID :Run Order: **ICPMS204-B_170112A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **01/12/17 10:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0580	0.0010	0.06	0	97	90	110				
Vanadium	0.0565	0.0010	0.06	0	94	90	110				

Associated samples: **H16120307-022A, H16120307-024A, H16120307-025A, H16120307-027A, H16120307-028A, H16120307-031A, H16120307-034A, H16120307-043A, H16120307-046A, H16120307-049A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R122043

Date: *16-Jan-17*

Run ID :Run Order: **FIA203-HE_170113C: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **01/13/17 15:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.474	0.10	0.5	0	**95**	90	110				

Associated samples: **H16120307-010A, H16120307-011A**

Run ID :Run Order: **FIA203-HE_170113C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **01/13/17 15:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.00178	0.10		0		0	0				

Associated samples: **H16120307-010A, H16120307-011A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS161219A

Date: *16-Jan-17*

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 1** SampType: **Method Blank** Lab ID: **MB-1_161219A** Method: **A2540 D**

Analysis Date: **12/19/16 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_161219A** Method: **A2540 D**

Analysis Date: **12/19/16 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	102	10	100	0	**102**	80	120				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 4** SampType: **Sample Duplicate** Lab ID: **H16120281-005ADUP** Method: **A2540 D**

Analysis Date: **12/19/16 11:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	10		0				0		5	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 1** SampType: **Sample Duplicate** Lab ID: **H16120296-001ADUP** Method: **A2540 D**

Analysis Date: **12/19/16 12:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	6.00	10		0				9		5	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 2** SampType: **Method Blank** Lab ID: **MB-25_161219A** Method: **A2540 D**

Analysis Date: **12/19/16 12:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H16120307
Project: Silver Bow Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS161219A

Date: *16-Jan-17*

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 2** SampType: **Method Blank** Lab ID: **MB-25_161219A** Method: **A2540 D**

Analysis Date: **12/19/16 12:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-26_161219A** Method: **A2540 D**

Analysis Date: **12/19/16 12:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	103	10	100	0	**103**	80	120				

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 2** SampType: **Sample Duplicate** Lab ID: **H16120307-005ADUP** Method: **A2540 D**

Analysis Date: **12/19/16 12:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	46.8	10		0				44.6	**4.8**	5	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 3** SampType: **Sample Duplicate** Lab ID: **H16120307-004ADUP** Method: **A2540 D**

Analysis Date: **12/19/16 12:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	34.0	10		0				33.4	**1.8**	5	

Associated samples: **H16120307-001A, H16120307-002A, H16120307-003A, H16120307-004A, H16120307-005A, H16120307-006A, H16120307-007A, H16120307-008A, H16120307-009A, H16120307-010A, H16120307-011A, H16120307-012A, H16120307-013A, H16120307-014A, H16120307-015A, H16120307-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund H16120307

Login completed by: Tracy L. Lorash
Date Received: 12/16/2016
Reviewed by: BL2000\wjohnson
Received by: TLL
Reviewed Date: 12/21/2016
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	°C See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Collection date on COC for SS-06G is 12/15/16 - sediment jar has date of 12/8/16. Logged in with date from COC.
Sample ID on COC is Sediment Duplicate #2 (SS-08) -ID on jar is SS-08. Logged in with ID from COC.
Collection time on COC for SS-10A is 1200 - bottles have time of 1300. Logged in with time from COC per Gary Ingman.
Collection time on COC for SS-10B is 1115 - bottles have time of 1215. Logged in with time from COC per Gary.
Sample ID on COC is Field Blank #1 (SS-19) -ID on bottles is Field Blank #1. Logged in with ID from COC.
Cooler 1 was received at 0.6°C, Cooler 2 at 5.6°C, Cooler 3 at 0.2°C, Cooler 4 at 4.0°C, Box 2 at 8.2°C. Samples in coolers were received on wet ice - samples in box were not received on ice. Temperature in coolers 1, 2, 3 was taken from a temperature blank and temperature in cooler 4 and box 2 was taken from a client sample. tl 12/19/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Report Mail Address (Required): P.O. Box 200901-0901, Helena, MT 59620-0901

☐ No Hard Copy Email:

Invoice Address (Required): Same as above

☐ No Hard Copy Email:

Special Report/Formats:
☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Contact Name: Ben Quinones Phone/Fax: 444-6593 ~~Cell~~: email bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

Invoice Contact & Phone: Same as above

Purchase Order:

Quote/Bottle Order: 1088/22396

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: DISS. metals and DOC were field filtered. Lab to sieve sediment metals into 3 size fractions. Report sediment metals results as dry weight concentrations.

Shipped by: Hand delivery

Cooler ID(s): 4

Receipt Temp: See comments

On Ice: (Y) N

Custody Seal: On Bottle Y (N); On Cooler Y (N)

Intact Y N

Signature Match Y N

LABORATORY USE ONLY: H16120307

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR Metals (See list)	DISS Metals (See list)	TPN	NH_3-N, NO_2, NO_3, TP	TSS, VSS	Hardness (TR Ca, Mg)	Total Alk., HCO_3, SO_4, Cl, K, Na	DOC	Total Metals, Sediment (See list, dry weight conc.)	SEE ATTACHED	Comments
C3	1 SS-06G	12-15-16	1430	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓			
C3	2 SS-07	12-15-16	1400	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓			
C3	3 SS-08	12-15-16	1300	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓			
b2	4 Sediment Duplicate #2 (SS-08)	12-15-16	1300	1S											
C3	5 SS-10A	12-15-16	1200	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓			
C3	6 SS-10B	12-15-16	1115	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓			
C1	7 SS-11C	12-15-16	1000	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓			
C4	8 SS-11D	12-15-16	0915	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓			
C4	9 SS-13	12-14-16	1545	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓			
C2	10 SS-14	12-14-16	1445	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓			

C1 = 0.6
C2 = 5.6
C3 = 0.2
} TB
C4 = 4.0
Box 1 = 9.3
Box 2 = 8.2

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Gary L. Ingman	12/16/2016 10:30am	Gary L. Ingman			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lund	Date/Time: 12/16/16 1030	Signature: Tracy Lund

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

Chain of Custody and Analytical Request Record

ENERGY LABORATORIES

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ	Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☑
Report Mail Address (Required): P.O. Box 200901-0901, Helena, MT 59620-0901 ☐ No Hard Copy Email:	Contact Name: Ben Quinones; Phone/Fax: 444-6593; ~~Cell:~~ email: bequinones@mt.gov		Sampler: (Please Print) Joe Naughton
	Invoice Contact & Phone: Same as above	Purchase Order:	Quote/Bottle Order: 1088/22396
Invoice Address (Required): Same as above ☐ No Hard Copy Email:			

Special Report/Formats:
☐ DW ☐ POTW/WWTP ☐ State: ☐ Other: ☐ EDD/EDT (Electronic Data) Format: ☐ LEVEL IV ☐ NELAC

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Standard Turnaround (TAT) — RUSH

Comments: Diss. metals and DOC were field filtered. Lab to sieve sediment metals into 3 size fractions. Report sediment results as dry weight concentrations.

Shipped by: Hand delivery
Cooler ID(s): 4
Receipt Temp: See comments
On Ice: Y N
Custody Seal: On Bottle Y N; On Cooler Y N
Intact: Y N
Signature Match: Y N

LABORATORY USE ONLY: H16120307

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O DW; Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water)	TR Metals (See list)	Diss Metals (See list)	TPH	NH3-N, NO3-NO2, TP	TSS, VSS	Hardness (TR Ca & Mg)	Total Alk., HCO3, SO4, Cl, K, Na	DOC	Total Metals, Sediment (Dry weight, See list)	SEE ATTACHED		
C2	1 SS-15A	12-14-16	1400	8W, 15	↓	↓	↓	↓	↓	↓	↓	↓				Cl = 0.6
C2	2 Field Duplicate #1 (SS-15A)	12-14-16	1400	8W	↓	↓	↓	↓	↓	↓	↓	↓				C2 = 5.6
	3 ~~SS-15A-2~~	~~12-14-16~~		~~15~~												C3 = 0.2
C2	4 SS-15B	12-14-16	1245	8W, 15	↓	↓	↓	↓	↓	↓	↓	↓				C4 = 4.0
C4	5 SS-16B	12-14-16	1145	8W, 15	↓	↓	↓	↓	↓	↓	↓	↓				Box1 = 9.3
C4	6 SS-17D	12-14-16	1030	8W, 15	↓	↓	↓	↓	↓	↓	↓	↓				Box2 = 8.2
C4	7 SS-19	12-14-16	0930	8W, 15	↓	↓	↓	↓	↓	↓	↓	↓				
C4	8 Field Blank #1 (SS-19)	12-14-16	0900	8W	↓	↓	↓	↓	↓	↓	↓	↓				
	9															
	10															

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Gary L. Ingman	12/16/2016 10:30am	Gary L. Ingman			

Received by Laboratory: Date/Time: 12/16/16 10:30 Signature:

Sample Disposal: Return to Client: ____ Lab Disposal: ____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

RESPEC Bottle Order

[redacted]

DEQ Quote# : H958 DEQ Project: SBC Monitoring -

Required for sampling planned for the week of **12/5/2016** **SUBMITTED: 10/17/2016** **Please prepare for pick up no later than 11/30/2016**

Samples will be delivered to Energy Labs in Helena the morning of 12/9/2016

Contact: Joe Naughton 406.214.4478; Gary Ingman 406.439.0508 Quote No.(MDEQ/MDJ-NRDP): H956 (Will be through Ben Quinones, M

Surface Water Parameters	**No. of Samples**	**Container**	**Perservative**	**Holding Time**
Metals at 17 sites + 2 duplicates + 2 blanks:				
Dissolved* for:				
Al, Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, U, Va, Zn	**21**	poly, 250 mL, red cap	HNO_3 to pH<2	180 days
Total Recoverable for:				
Al, Sb, As, Ba, Be, B, Ca, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, U, Va, Zn	**21**	poly, 250 mL, red cap	HNO_3 to pH<2	180 days
Hardness (calculated from TR Ca and Mg)				
Nutrients at 17 sites + 2 duplicates + 2 blanks:				
NH_3, NO_{3+2}, TP	**21**	poly, 500 mL, yellow cap	H_2SO_4 to pH<2	28 days
TPN	**21**	same bottle as common ions	none	30 days
Dissolved Organic Carbon* at 17 sites + 2 duplicates + 2 field blanks:	**21**	40mL X 3, amber glass	H_3PO_4 to pH<2	
Physical / Common Ions at 17 sites + 2 duplicates + 2 blanks:			none	
K, Na, Cl, SO_4, HCO_3	**21**	poly, 500 mL, white cap		
Total Suspended Solids (TSS)	**21**	poly, 1000 mL, white cap		7 days
Volitile Suspended Solids (VSS)		same sample as TSS		7 days
Sediment Parameters				
Metals at 17 sites + 2 duplicates				
Total Extractable as DW, in 3 size fractions[1] for:				
Al, Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, U, Va, Zn	**19**	wide-mouth glass, 1L	none	48 hrs?

*size fractions: <0.063mm, 0.063-1mm, 1-2mm

Note:

Please include:

- **2 sets of extra poly sample bottles (glass for sediment), included in totals at right**
- **4 gal. E-pure laboratory DI H_2O** in poly for field blank samples
- **5 gal. E-pure DI H_2O** for equipment rinse (RESPEC will provide carboy)
- **3 gal. of 5% HCl solution in DI H2O for equipment decontamination**
- **4 large coolers**
- **Preservatives for nutrients, DOC, TR metals and dissolved metals**

NOTE: For each preservative type, please package all vials in a single bag

***All samples for dissolved parameters will be filtered in the field.**

Bottles required (23 sets in total, including 2 extras)

polyethylene	**total #**
Red cap, 250 mL	46
White cap, 500 mL	23
White cap, 1000 mL	23
Yellow cap, 500 mL	23

glass	**total #**
Wide-mouth clear, 1L	19 (no blanks)
Scintillation vial, amber, 40mL	66

02827

IDEQ)

Comments
4°C+/-2°C
4°C+/-2°C
4°C+/-2°C
4°C+/-2°C
$4^{o}C$ +/- $2^{o}C$
4°C+/-2°C
4°C+/-2°C; lab will sieve[1]

ANALYTICAL SUMMARY REPORT

H16120305-010	Slag-01 Sediment Sieve <0.065mm	12/15/16 16:15	12/16/16	Sediment	Same As Above
H16120305-011	SS-05A Sediment Sieve <0.065mm	12/15/16 16:00	12/16/16	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H16120305-012	SS-05A Sediment Sieve 0.065-1mm	12/15/16 16:00	12/16/16	Sediment	Same As Above
H16120305-013	SS-05A Sediment Sieve 1-2mm	12/15/16 16:00	12/16/16	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: Natural Resource Damage Program
Project: Silver Bow Creek Monitoring
Work Order: H16120305

Report Date: 01/18/17

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16120305-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:45
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	20	mg/L		1		A2540 D	12/19/16 12:01 / SR		L24 (14410200)_161219A	16	TSS161219A
Solids, Volatile Suspended	5	mg/L		1		A2540 E	12/20/16 09:53 / SR		MISC WC_161220B	2	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	98	mg/L		4		A2320 B	12/19/16 10:33 / SR		PHSC_101-H_161219A	22	R121384
Bicarbonate as HCO3	120	mg/L		4		A2320 B	12/19/16 10:33 / SR		PHSC_101-H_161219A	22	R121384
Chloride	13	mg/L		1.0		E300.0	12/19/16 17:26 / SR		IC METROHM_161219A	30	R121433
Sulfate	31	mg/L		1.0		E300.0	12/19/16 17:26 / SR		IC METROHM_161219A	30	R121433
Hardness as CaCO3	126	mg/L		1		A2340 B	12/21/16 09:59 / abc		CALC_161229A	388	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	12/22/16 13:38 / eli-c		SUB-C218388	3	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 11:56 / cm		FIA203-HE_161221A	75	R121479
Nitrogen, Nitrate+Nitrite as N	1.80	mg/L		0.02		E353.2	12/20/16 13:12 / cm		FIA203-HE_161220A	71	R121443
Nitrogen, Total	1.84	mg/L		0.05		A4500 N-C	12/22/16 09:52 / cm	12/20/16 16:40	FIA203-HE_161222A	22	35748
Phosphorus, Total as P	0.126	mg/L		0.003		E365.1	12/27/16 13:09 / cm	12/27/16 11:48	FIA202-HE_161227A	45	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Arsenic	0.001	mg/L		0.001		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Barium	0.058	mg/L		0.003		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 09:59 / sld		ICP2-HE_161221A	26	R121482
Cadmium	ND	mg/L		0.00003		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Calcium	36	mg/L		1		E200.7	12/21/16 09:59 / sld		ICP2-HE_161221A	26	R121482
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Copper	ND	mg/L		0.001		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Iron	0.04	mg/L		0.02		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16120305-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:45
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Magnesium	9	mg/L		1		E200.7	12/21/16 09:59 / sld		ICP2-HE_161221A	26	R121482
Manganese	0.054	mg/L		0.001		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:06 / rgk	12/27/16 18:47	HGCV202-H_161228A	19	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Potassium	3	mg/L		1		E200.7	12/21/16 09:59 / sld		ICP2-HE_161221A	26	R121482
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Sodium	12	mg/L		1		E200.7	12/21/16 09:59 / sld		ICP2-HE_161221A	26	R121482
Uranium	0.0037	mg/L		0.0002		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
Zinc	ND	mg/L		0.008		E200.8	12/29/16 18:09 / dck		ICPMS205-H_161229A	154	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.379	mg/L		0.009		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Arsenic	0.002	mg/L		0.001		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Barium	0.066	mg/L		0.003		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Boron	ND	mg/L		0.1		E200.7	12/27/16 14:01 / sld	12/21/16 07:13	ICP2-HE_161227C	47	35752
Cadmium	0.00004	mg/L		0.00003		E200.8	12/30/16 14:05 / dck	12/21/16 07:13	ICPMS205-H_161229A	272	35752
Calcium	35	mg/L		1		E200.7	12/27/16 14:01 / sld	12/21/16 07:13	ICP2-HE_161227C	47	35752
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Copper	0.005	mg/L		0.001		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Iron	0.95	mg/L		0.02		E200.7	12/27/16 14:01 / sld	12/21/16 07:13	ICP2-HE_161227C	47	35752
Lead	0.0013	mg/L		0.0003		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Magnesium	9	mg/L		1		E200.7	12/27/16 14:01 / sld	12/21/16 07:13	ICP2-HE_161227C	47	35752
Manganese	0.095	mg/L		0.001		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Mercury	8.7E-06	mg/L		5E-06		E245.1	12/28/16 14:09 / rgk	12/27/16 18:47	HGCV202-H_161228A	20	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01
Lab ID: H16120305-001
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:45
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Potassium	3	mg/L		1		E200.7	12/27/16 14:01 / sld	12/21/16 07:13	ICP2-HE_161227C	47	35752
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Sodium	12	mg/L		1		E200.7	12/27/16 14:01 / sld	12/21/16 07:13	ICP2-HE_161227C	47	35752
Uranium	0.0040	mg/L		0.0002		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752
Zinc	0.009	mg/L		0.008		E200.8	12/29/16 18:11 / dck	12/21/16 07:13	ICPMS205-H_161229A	155	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Duplicate #2 (SS-01
Lab ID: H16120305-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:45
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	20	mg/L		1		A2540 D	12/19/16 12:01 / SR		L24 (14410200)_161219A	17	TSS161219A
Solids, Volatile Suspended	5	mg/L		1		A2540 E	12/20/16 09:53 / SR		MISC WC_161220B	3	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	98	mg/L		4		A2320 B	12/19/16 10:38 / SR		PHSC_101-H_161219A	24	R121384
Bicarbonate as HCO3	120	mg/L		4		A2320 B	12/19/16 10:38 / SR		PHSC_101-H_161219A	24	R121384
Chloride	13	mg/L		1.0		E300.0	12/19/16 17:40 / SR		IC METROHM_161219A	31	R121433
Sulfate	31	mg/L		1.0		E300.0	12/19/16 17:40 / SR		IC METROHM_161219A	31	R121433
Hardness as CaCO3	125	mg/L		1		A2340 B	12/21/16 10:03 / abc		CALC_161229A	399	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	12/22/16 13:54 / eli-c		SUB-C218388	4	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 11:57 / cm		FIA203-HE_161221A	76	R121479
Nitrogen, Nitrate+Nitrite as N	1.80	mg/L		0.02		E353.2	12/20/16 13:14 / cm		FIA203-HE_161220A	72	R121443
Nitrogen, Total	1.82	mg/L		0.05		A4500 N-C	12/22/16 09:53 / cm	12/20/16 16:40	FIA203-HE_161222A	23	35748
Phosphorus, Total as P	0.137	mg/L		0.003		E365.1	12/27/16 13:10 / cm	12/27/16 11:48	FIA202-HE_161227A	46	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Arsenic	0.001	mg/L		0.001		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Barium	0.060	mg/L		0.003		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:03 / sld		ICP2-HE_161221A	27	R121482
Cadmium	ND	mg/L		0.00003		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Calcium	36	mg/L		1		E200.7	12/21/16 10:03 / sld		ICP2-HE_161221A	27	R121482
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Copper	ND	mg/L		0.001		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Iron	0.05	mg/L		0.02		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Duplicate #2 (SS-01
Lab ID: H16120305-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:45
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Magnesium	9	mg/L		1		E200.7	12/21/16 10:03 / sld		ICP2-HE_161221A	27	R121482
Manganese	0.055	mg/L		0.001		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:11 / rgk	12/27/16 18:47	HGCV202-H_161228A	21	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Potassium	3	mg/L		1		E200.7	12/21/16 10:03 / sld		ICP2-HE_161221A	27	R121482
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Sodium	12	mg/L		1		E200.7	12/21/16 10:03 / sld		ICP2-HE_161221A	27	R121482
Uranium	0.0037	mg/L		0.0002		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
Zinc	ND	mg/L		0.008		E200.8	12/29/16 18:13 / dck		ICPMS205-H_161229A	156	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.385	mg/L		0.009		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Arsenic	0.002	mg/L		0.001		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Barium	0.066	mg/L		0.003		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Boron	ND	mg/L		0.1		E200.7	12/27/16 14:19 / sld	12/21/16 07:13	ICP2-HE_161227C	52	35752
Cadmium	0.00003	mg/L		0.00003		E200.8	12/30/16 14:07 / dck	12/21/16 07:13	ICPMS205-H_161229A	273	35752
Calcium	35	mg/L		1		E200.7	12/27/16 14:19 / sld	12/21/16 07:13	ICP2-HE_161227C	52	35752
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Copper	0.005	mg/L		0.001		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Iron	0.96	mg/L		0.02		E200.7	12/27/16 14:19 / sld	12/21/16 07:13	ICP2-HE_161227C	52	35752
Lead	0.0013	mg/L		0.0003		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Magnesium	9	mg/L		1		E200.7	12/27/16 14:19 / sld	12/21/16 07:13	ICP2-HE_161227C	52	35752
Manganese	0.097	mg/L		0.001		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Mercury	8.1E-06	mg/L		5E-06		E245.1	12/28/16 14:14 / rgk	12/27/16 18:47	HGCV202-H_161228A	22	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Duplicate #2 (SS-01
Lab ID: H16120305-002
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:45
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Potassium	3	mg/L		1		E200.7	12/27/16 14:19 / sld	12/21/16 07:13	ICP2-HE_161227C	52	35752
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Sodium	12	mg/L		1		E200.7	12/27/16 14:19 / sld	12/21/16 07:13	ICP2-HE_161227C	52	35752
Uranium	0.0040	mg/L		0.0002		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752
Zinc	0.011	mg/L		0.008		E200.8	12/29/16 18:15 / dck	12/21/16 07:13	ICPMS205-H_161229A	157	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16120305-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:00
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	36	mg/L		1		A2540 D	12/19/16 12:02 / SR		L24 (14410200)_161219A	18	TSS161219A
Solids, Volatile Suspended	7	mg/L		1		A2540 E	12/20/16 09:54 / SR		MISC WC_161220B	4	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	12/19/16 10:44 / SR		PHSC_101-H_161219A	26	R121384
Bicarbonate as HCO3	140	mg/L		4		A2320 B	12/19/16 10:44 / SR		PHSC_101-H_161219A	26	R121384
Chloride	20	mg/L		1.0		E300.0	12/19/16 19:01 / SR		IC METROHM_161219A	36	R121433
Sulfate	34	mg/L		1.0		E300.0	12/19/16 19:01 / SR		IC METROHM_161219A	36	R121433
Hardness as CaCO3	144	mg/L		1		A2340 B	12/22/16 09:15 / abc		CALC_161229A	410	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	12/22/16 14:10 / eli-c		SUB-C218388	5	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	0.06	mg/L		0.05		E350.1	12/21/16 11:58 / cm		FIA203-HE_161221A	77	R121479
Nitrogen, Nitrate+Nitrite as N	1.79	mg/L		0.02		E353.2	12/20/16 13:15 / cm		FIA203-HE_161220A	73	R121443
Nitrogen, Total	1.95	mg/L		0.05		A4500 N-C	12/22/16 09:54 / cm	12/20/16 16:40	FIA203-HE_161222A	24	35748
Phosphorus, Total as P	0.191	mg/L		0.003		E365.1	12/27/16 13:11 / cm	12/27/16 11:48	FIA202-HE_161227A	47	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Arsenic	0.002	mg/L		0.001		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Barium	0.060	mg/L		0.003		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Boron	ND	mg/L		0.1		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Cadmium	ND	mg/L		0.00003		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Calcium	41	mg/L		1		E200.7	12/22/16 09:15 / sld		ICP2-HE_161222A	15	R121531
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Copper	ND	mg/L		0.001		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Iron	0.05	mg/L		0.02		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16120305-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:00
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Magnesium	10	mg/L		1		E200.7	12/22/16 09:15 / sld		ICP2-HE_161222A	15	R121531
Manganese	0.122	mg/L		0.001		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:17 / rgk	12/27/16 18:47	HGCV202-H_161228A	23	35805
Molybdenum	0.006	mg/L		0.005		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Potassium	3	mg/L		1		E200.7	12/22/16 09:15 / sld		ICP2-HE_161222A	15	R121531
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Sodium	16	mg/L		1		E200.7	12/22/16 09:15 / sld		ICP2-HE_161222A	15	R121531
Uranium	0.0047	mg/L		0.0002		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
Zinc	0.012	mg/L		0.008		E200.8	12/29/16 18:17 / dck		ICPMS205-H_161229A	158	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.604	mg/L		0.009		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Arsenic	0.005	mg/L		0.001		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Barium	0.081	mg/L		0.003		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Boron	ND	mg/L		0.1		E200.7	12/27/16 14:23 / sld	12/21/16 07:13	ICP2-HE_161227C	53	35752
Cadmium	0.00020	mg/L		0.00003		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Calcium	41	mg/L		1		E200.7	12/27/16 14:23 / sld	12/21/16 07:13	ICP2-HE_161227C	53	35752
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Copper	0.018	mg/L		0.001		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Iron	1.39	mg/L		0.02		E200.7	12/27/16 14:23 / sld	12/21/16 07:13	ICP2-HE_161227C	53	35752
Lead	0.0066	mg/L		0.0003		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Magnesium	10	mg/L		1		E200.7	12/27/16 14:23 / sld	12/21/16 07:13	ICP2-HE_161227C	53	35752
Manganese	0.166	mg/L		0.001		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Mercury	0.000019	mg/L		5E-06		E245.1	12/28/16 14:19 / rgk	12/27/16 18:47	HGCV202-H_161228A	24	35805
Molybdenum	0.006	mg/L		0.005		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A
Lab ID: H16120305-003
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:00
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Potassium	4	mg/L		1		E200.7	12/27/16 14:23 / sld	12/21/16 07:13	ICP2-HE_161227C	53	35752
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Sodium	17	mg/L		1		E200.7	12/27/16 14:23 / sld	12/21/16 07:13	ICP2-HE_161227C	53	35752
Uranium	0.0051	mg/L		0.0002		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752
Zinc	0.047	mg/L		0.008		E200.8	12/29/16 18:19 / dck	12/21/16 07:13	ICPMS205-H_161229A	159	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Blank #2 (SS-05A)
Lab ID: H16120305-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 15:30
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	12/19/16 12:02 / SR		L24 (14410200)_161219A	19	TSS161219A
Solids, Volatile Suspended	ND	mg/L		1		A2540 E	12/20/16 09:54 / SR		MISC WC_161220B	5	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	12/19/16 10:50 / SR		PHSC_101-H_161219A	28	R121384
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	12/19/16 10:50 / SR		PHSC_101-H_161219A	28	R121384
Chloride	ND	mg/L		1.0		E300.0	12/19/16 19:15 / SR		IC METROHM_161219A	37	R121433
Sulfate	ND	mg/L		1.0		E300.0	12/19/16 19:15 / SR		IC METROHM_161219A	37	R121433
Hardness as CaCO3	ND	mg/L		1		A2340 B	12/30/16 09:47 / sld		WATERCALC_161230B	6	R121690
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	12/22/16 14:26 / eli-c		SUB-C218388	6	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 11:59 / cm		FIA203-HE_161221A	78	R121479
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02		E353.2	12/20/16 13:16 / cm		FIA203-HE_161220A	74	R121443
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	12/22/16 10:00 / cm	12/20/16 16:42	FIA203-HE_161222A	29	35749
Phosphorus, Total as P	ND	mg/L		0.003		E365.1	12/30/16 19:00 / cm	12/30/16 18:01	FIA202-HE_161230B	14	35850
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Arsenic	ND	mg/L		0.001		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Barium	ND	mg/L		0.003		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:10 / sld		ICP2-HE_161221A	29	R121482
Cadmium	ND	mg/L		0.00003		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Calcium	ND	mg/L		1		E200.7	12/21/16 10:10 / sld		ICP2-HE_161221A	29	R121482
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Copper	ND	mg/L		0.001		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Iron	ND	mg/L		0.02		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Blank #2 (SS-05A)
Lab ID: H16120305-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 15:30
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Magnesium	ND	mg/L		1		E200.7	12/21/16 10:10 / sld		ICP2-HE_161221A	29	R121482
Manganese	ND	mg/L		0.001		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:22 / rgk	12/27/16 18:47	HGCV202-H_161228A	25	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Potassium	ND	mg/L		1		E200.7	12/21/16 10:10 / sld		ICP2-HE_161221A	29	R121482
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Sodium	ND	mg/L		1		E200.7	12/21/16 10:10 / sld		ICP2-HE_161221A	29	R121482
Uranium	ND	mg/L		0.0002		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
Zinc	ND	mg/L		0.008		E200.8	12/29/16 18:21 / dck		ICPMS205-H_161229A	160	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	ND	mg/L		0.009		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Arsenic	ND	mg/L		0.001		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Barium	ND	mg/L		0.003		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Boron	ND	mg/L		0.1		E200.7	12/27/16 14:26 / sld	12/21/16 07:13	ICP2-HE_161227C	54	35752
Cadmium	ND	mg/L		0.00003		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Calcium	ND	mg/L		1		E200.7	12/27/16 14:26 / sld	12/21/16 07:13	ICP2-HE_161227C	54	35752
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Copper	ND	mg/L		0.001		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Iron	ND	mg/L		0.02		E200.7	12/27/16 14:26 / sld	12/21/16 07:13	ICP2-HE_161227C	54	35752
Lead	ND	mg/L		0.0003		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Magnesium	ND	mg/L		1		E200.7	12/27/16 14:26 / sld	12/21/16 07:13	ICP2-HE_161227C	54	35752
Manganese	ND	mg/L		0.001		E200.8	01/17/17 18:33 / dck	01/16/17 18:43	ICPMS204-B_170117B	55	35996
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:30 / rgk	12/27/16 18:47	HGCV202-H_161228A	28	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Field Blank #2 (SS-05A)
Lab ID: H16120305-004
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 15:30
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Potassium	ND	mg/L		1		E200.7	12/27/16 14:26 / sld	12/21/16 07:13	ICP2-HE_161227C	54	35752
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Sodium	ND	mg/L		1		E200.7	12/27/16 14:26 / sld	12/21/16 07:13	ICP2-HE_161227C	54	35752
Uranium	ND	mg/L		0.0002		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752
Zinc	ND	mg/L		0.008		E200.8	12/29/16 18:23 / dck	12/21/16 07:13	ICPMS205-H_161229A	161	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16120305-005
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/14/16 13:15
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	1	mg/L		1		A2540 D	12/19/16 12:02 / SR		L24 (14410200)_161219A	20	TSS161219A
Solids, Volatile Suspended	1	mg/L		1		A2540 E	12/20/16 09:54 / SR		MISC WC_161220B	6	161220A-SLDS-VSS-
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	12/19/16 10:56 / SR		PHSC_101-H_161219A	30	R121384
Bicarbonate as HCO3	130	mg/L		4		A2320 B	12/19/16 10:56 / SR		PHSC_101-H_161219A	30	R121384
Chloride	4.3	mg/L		1.0		E300.0	12/19/16 19:28 / SR		IC METROHM_161219A	38	R121433
Sulfate	27	mg/L		1.0		E300.0	12/19/16 19:28 / SR		IC METROHM_161219A	38	R121433
Hardness as CaCO3	126	mg/L		1		A2340 B	12/21/16 10:14 / abc		CALC_161229A	432	R121655
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	12/22/16 14:41 / eli-c		SUB-C218388	7	C_R218388
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/21/16 12:01 / cm		FIA203-HE_161221A	79	R121479
Nitrogen, Nitrate+Nitrite as N	0.11	mg/L		0.02		E353.2	01/06/17 10:10 / cm		FIA203-HE_170106A	12	R121832
Nitrogen, Total	0.17	mg/L		0.05		A4500 N-C	01/11/17 08:38 / cm	01/10/17 12:50	FIA203-HE_170111A	13	35953
Phosphorus, Total as P	0.042	mg/L		0.003		E365.1	12/27/16 13:15 / cm	12/27/16 11:48	FIA202-HE_161227A	51	35795
METALS, DISSOLVED											
Aluminum	ND	mg/L		0.009		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Arsenic	0.003	mg/L		0.001		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Barium	0.020	mg/L		0.003		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Boron	ND	mg/L		0.1		E200.7	12/21/16 10:14 / sld		ICP2-HE_161221A	30	R121482
Cadmium	ND	mg/L		0.00003		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Calcium	39	mg/L		1		E200.7	12/21/16 10:14 / sld		ICP2-HE_161221A	30	R121482
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Copper	ND	mg/L		0.001		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Iron	ND	mg/L		0.02		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16120305-005
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/14/16 13:15
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Lead	ND	mg/L		0.0003		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Magnesium	7	mg/L		1		E200.7	12/21/16 10:14 / sld		ICP2-HE_161221A	30	R121482
Manganese	0.001	mg/L		0.001		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:38 / rgk	12/27/16 18:47	HGCV202-H_161228A	31	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Potassium	1	mg/L		1		E200.7	12/21/16 10:14 / sld		ICP2-HE_161221A	30	R121482
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Sodium	5	mg/L		1		E200.7	12/21/16 10:14 / sld		ICP2-HE_161221A	30	R121482
Uranium	0.0008	mg/L		0.0002		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
Zinc	ND	mg/L		0.008		E200.8	12/29/16 18:25 / dck		ICPMS205-H_161229A	162	R121677
METALS, TOTAL RECOVERABLE											
Aluminum	0.027	mg/L		0.009		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Antimony	ND	mg/L		0.0005		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Arsenic	0.003	mg/L		0.001		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Barium	0.019	mg/L		0.003		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Beryllium	ND	mg/L		0.0008		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Boron	ND	mg/L		0.1		E200.7	12/27/16 14:38 / sld	12/21/16 07:13	ICP2-HE_161227C	57	35752
Cadmium	ND	mg/L		0.00003		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Calcium	38	mg/L		1		E200.7	12/27/16 14:38 / sld	12/21/16 07:13	ICP2-HE_161227C	57	35752
Chromium	ND	mg/L		0.01		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Cobalt	ND	mg/L		0.01		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Copper	ND	mg/L		0.001		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Iron	0.03	mg/L		0.02		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Lead	ND	mg/L		0.0003		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Magnesium	7	mg/L		1		E200.7	12/27/16 14:38 / sld	12/21/16 07:13	ICP2-HE_161227C	57	35752
Manganese	0.003	mg/L		0.001		E200.8	01/17/17 18:36 / dck	01/16/17 18:43	ICPMS204-B_170117B	56	35996
Mercury	ND	mg/L		5E-06		E245.1	12/28/16 14:40 / rgk	12/27/16 18:47	HGCV202-H_161228A	32	35805
Molybdenum	ND	mg/L		0.005		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-15G
Lab ID: H16120305-005
Matrix: Aqueous

Project: Silver Bow Creek Monitoring
Collection Date: 12/14/16 13:15
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Nickel	ND	mg/L		0.002		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Potassium	1	mg/L		1		E200.7	12/27/16 14:38 / sld	12/21/16 07:13	ICP2-HE_161227C	57	35752
Selenium	ND	mg/L		0.001		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Silver	ND	mg/L		0.0002		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Sodium	5	mg/L		1		E200.7	12/27/16 14:38 / sld	12/21/16 07:13	ICP2-HE_161227C	57	35752
Uranium	0.0008	mg/L		0.0002		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Vanadium	ND	mg/L		0.1		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752
Zinc	ND	mg/L		0.008		E200.8	12/29/16 18:27 / dck	12/21/16 07:13	ICPMS205-H_161229A	163	35752

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve <0.065mm
Lab ID: H16120305-006
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:45
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	61.1	wt%		0.2		D2974	12/30/16 10:20 / sld		DRYING OVEN 2_161229C	1	R121691
SIEVE ANALYSIS											
No. 230 (63 um), Passed	5.8	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	1	R121738
3050 EXTRACTABLE METALS											
Aluminum	21600	mg/kg-dry		10		SW6010B	12/30/16 13:23 / sld	12/28/16 09:12	ICP2-HE_161230B	22	35807
Antimony	ND	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Arsenic	35	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Barium	293	mg/kg-dry		5		SW6010B	12/30/16 13:23 / sld	12/28/16 09:12	ICP2-HE_161230B	22	35807
Beryllium	ND	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Boron	13	mg/kg-dry		5		SW6020	01/09/17 14:19 / dck	12/28/16 09:12	ICPMS204-B_170109A	73	35807
Cadmium	ND	mg/kg-dry	D	2		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Chromium	52	mg/kg-dry		10		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Cobalt	11	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Copper	341	mg/kg-dry		5		SW6010B	12/30/16 13:23 / sld	12/28/16 09:12	ICP2-HE_161230B	22	35807
Iron	34000	mg/kg-dry	D	20		SW6010B	12/30/16 13:23 / sld	12/28/16 09:12	ICP2-HE_161230B	22	35807
Lead	132	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Manganese	1060	mg/kg-dry		5		SW6010B	12/30/16 13:23 / sld	12/28/16 09:12	ICP2-HE_161230B	22	35807
Molybdenum	25	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Nickel	24	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Selenium	ND	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Silver	ND	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Uranium	6	mg/kg-dry		5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Vanadium	82	mg/kg-dry	D	5		SW6020	01/05/17 18:22 / dck	12/28/16 09:12	ICPMS204-B_170105B	62	35807
Zinc	520	mg/kg-dry		5		SW6010B	12/30/16 13:23 / sld	12/28/16 09:12	ICP2-HE_161230B	22	35807
METALS, TOTAL											
Mercury	0.22	mg/kg-dry		0.10		SW7471B	01/04/17 10:44 / rgk	01/03/17 08:42	HGCV201-H_170104A	13	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve 0.065-1mm
Lab ID: H16120305-007
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:45
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	21.2	wt%		0.2		D2974	12/30/16 10:20 / sld		DRYING OVEN 2_161229C	2	R121691
SIEVE ANALYSIS											
No. 230 (63 um), Retained	53.6	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	2	R121738
3050 EXTRACTABLE METALS											
Aluminum	4470	mg/kg-dry		5		SW6010B	12/30/16 14:19 / sld	12/28/16 09:12	ICP2-HE_161230B	37	35807
Antimony	ND	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Arsenic	ND	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Barium	97	mg/kg-dry		5		SW6010B	12/30/16 14:19 / sld	12/28/16 09:12	ICP2-HE_161230B	37	35807
Beryllium	ND	mg/kg-dry		5		SW6020	01/09/17 12:27 / dck	12/28/16 09:12	ICPMS204-B_170109A	41	35807
Boron	ND	mg/kg-dry		5		SW6020	01/09/17 14:22 / dck	12/28/16 09:12	ICPMS204-B_170109A	74	35807
Cadmium	0.2	mg/kg-dry		0.2		SW6020	01/06/17 13:28 / dck	12/28/16 09:12	ICPMS204-B_170106A	66	35807
Chromium	14	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Cobalt	ND	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Copper	43	mg/kg-dry		5		SW6010B	12/30/16 14:19 / sld	12/28/16 09:12	ICP2-HE_161230B	37	35807
Iron	15500	mg/kg-dry	D	9		SW6010B	12/30/16 14:19 / sld	12/28/16 09:12	ICP2-HE_161230B	37	35807
Lead	18	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Manganese	397	mg/kg-dry		5		SW6010B	12/30/16 14:19 / sld	12/28/16 09:12	ICP2-HE_161230B	37	35807
Molybdenum	ND	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Nickel	ND	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Selenium	ND	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Silver	ND	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Uranium	ND	mg/kg-dry		5		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Vanadium	36	mg/kg-dry	D	3		SW6020	01/05/17 18:52 / dck	12/28/16 09:12	ICPMS204-B_170105B	71	35807
Zinc	185	mg/kg-dry		5		SW6010B	12/30/16 14:19 / sld	12/28/16 09:12	ICP2-HE_161230B	37	35807
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 10:52 / rgk	01/03/17 08:42	HGCV201-H_170104A	17	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-01 Sediment Sieve 1-2mm
Lab ID: H16120305-008
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:45
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.0	wt%		0.2		D2974	12/30/16 10:20 / sld		DRYING OVEN 2_161229C	3	R121691
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	13.6	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	3	R121738
3050 EXTRACTABLE METALS											
Aluminum	2620	mg/kg-dry		5		SW6010B	12/30/16 14:37 / sld	12/28/16 09:13	ICP2-HE_161230B	42	35807
Antimony	ND	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Arsenic	ND	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Barium	37	mg/kg-dry		5		SW6010B	12/30/16 14:37 / sld	12/28/16 09:13	ICP2-HE_161230B	42	35807
Beryllium	ND	mg/kg-dry		5		SW6020	01/09/17 12:48 / dck	12/28/16 09:13	ICPMS204-B_170109A	47	35807
Boron	ND	mg/kg-dry		5		SW6020	01/09/17 14:44 / dck	12/28/16 09:13	ICPMS204-B_170109A	80	35807
Cadmium	ND	mg/kg-dry		0.2		SW6020	01/06/17 13:31 / dck	12/28/16 09:13	ICPMS204-B_170106A	67	35807
Chromium	ND	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Cobalt	ND	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Copper	19	mg/kg-dry		5		SW6010B	12/30/16 14:37 / sld	12/28/16 09:13	ICP2-HE_161230B	42	35807
Iron	4960	mg/kg-dry	D	8		SW6010B	12/30/16 14:37 / sld	12/28/16 09:13	ICP2-HE_161230B	42	35807
Lead	5	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Manganese	144	mg/kg-dry		5		SW6010B	12/30/16 14:37 / sld	12/28/16 09:13	ICP2-HE_161230B	42	35807
Molybdenum	ND	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Nickel	ND	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Selenium	ND	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Silver	ND	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Uranium	ND	mg/kg-dry		5		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Vanadium	7	mg/kg-dry	D	3		SW6020	01/05/17 19:12 / dck	12/28/16 09:13	ICPMS204-B_170105B	77	35807
Zinc	63	mg/kg-dry		5		SW6010B	12/30/16 14:37 / sld	12/28/16 09:13	ICP2-HE_161230B	42	35807
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 10:54 / rgk	01/03/17 08:42	HGCV201-H_170104A	18	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-04 Sediment Sieve <0.065mm
Lab ID: H16120305-009
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:30
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	69.4	wt%		0.2		D2974	12/30/16 10:20 / sld		DRYING OVEN 2_161229C	4	R121691
SIEVE ANALYSIS											
No. 230 (63 um), Passed	14.0	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	4	R121738
3050 EXTRACTABLE METALS											
Arsenic	97	mg/kg-dry		5		SW6020	01/06/17 13:36 / dck	12/28/16 09:13	ICPMS204-B_170106A	69	35807
Cadmium	5	mg/kg-dry	D	2		SW6020	01/05/17 19:42 / dck	12/28/16 09:13	ICPMS204-B_170105B	86	35807
Copper	702	mg/kg-dry		5		SW6010B	12/30/16 15:03 / sld	12/28/16 09:13	ICP2-HE_161230B	49	35807
Lead	320	mg/kg-dry		5		SW6020	01/05/17 19:42 / dck	12/28/16 09:13	ICPMS204-B_170105B	86	35807
Zinc	1320	mg/kg-dry		5		SW6010B	12/30/16 15:03 / sld	12/28/16 09:13	ICP2-HE_161230B	49	35807

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: Slag-01 Sediment Sieve <0.065mm
Lab ID: H16120305-010
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:15
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	63.1	wt%		0.2		D2974	12/30/16 10:20 / sld		DRYING OVEN 2_161229C	5	R121691
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.6	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	5	R121738
3050 EXTRACTABLE METALS											
Arsenic	140	mg/kg-dry		5		SW6020	01/06/17 13:39 / dck	12/28/16 09:13	ICPMS204-B_170106A	70	35807
Cadmium	11.3	mg/kg-dry		0.2		SW6020	01/06/17 13:39 / dck	12/28/16 09:13	ICPMS204-B_170106A	70	35807
Copper	1220	mg/kg-dry		5		SW6010B	12/30/16 15:06 / sld	12/28/16 09:13	ICP2-HE_161230B	50	35807
Lead	862	mg/kg-dry	D	20		SW6010B	12/30/16 15:06 / sld	12/28/16 09:13	ICP2-HE_161230B	50	35807
Zinc	2420	mg/kg-dry		5		SW6010B	12/30/16 15:06 / sld	12/28/16 09:13	ICP2-HE_161230B	50	35807

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve <0.065mm
Lab ID: H16120305-011
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:00
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	61.3	wt%		0.2		D2974	12/30/16 10:20 / sld		DRYING OVEN 2_161229C	6	R121691
SIEVE ANALYSIS											
No. 230 (63 um), Passed	3.8	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	6	R121738
3050 EXTRACTABLE METALS											
Aluminum	18000	mg/kg-dry		10		SW6010B	12/30/16 15:10 / sld	12/28/16 09:13	ICP2-HE_161230B	51	35807
Antimony	ND	mg/kg-dry		5		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Arsenic	258	mg/kg-dry		5		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Barium	388	mg/kg-dry		5		SW6010B	12/30/16 15:10 / sld	12/28/16 09:13	ICP2-HE_161230B	51	35807
Beryllium	ND	mg/kg-dry		5		SW6020	01/09/17 11:42 / dck	12/28/16 09:13	ICPMS204-B_170109A	28	35807
Boron	17	mg/kg-dry		10		SW6020	01/09/17 11:42 / dck	12/28/16 09:13	ICPMS204-B_170109A	28	35807
Cadmium	10	mg/kg-dry	D	2		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Chromium	57	mg/kg-dry		10		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Cobalt	12	mg/kg-dry		5		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Copper	2060	mg/kg-dry		5		SW6010B	12/30/16 15:10 / sld	12/28/16 09:13	ICP2-HE_161230B	51	35807
Iron	38800	mg/kg-dry	D	20		SW6010B	12/30/16 15:10 / sld	12/28/16 09:13	ICP2-HE_161230B	51	35807
Lead	704	mg/kg-dry	D	20		SW6010B	12/30/16 15:10 / sld	12/28/16 09:13	ICP2-HE_161230B	51	35807
Manganese	2800	mg/kg-dry		5		SW6010B	12/30/16 15:10 / sld	12/28/16 09:13	ICP2-HE_161230B	51	35807
Molybdenum	16	mg/kg-dry		5		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Nickel	24	mg/kg-dry		5		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Selenium	ND	mg/kg-dry		5		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Silver	7	mg/kg-dry		5		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Uranium	7	mg/kg-dry		5		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Vanadium	67	mg/kg-dry	D	5		SW6020	01/05/17 19:48 / dck	12/28/16 09:13	ICPMS204-B_170105B	88	35807
Zinc	2050	mg/kg-dry		5		SW6010B	12/30/16 15:10 / sld	12/28/16 09:13	ICP2-HE_161230B	51	35807
METALS, TOTAL											
Mercury	0.89	mg/kg-dry		0.10		SW7471B	01/04/17 10:56 / rgk	01/03/17 08:42	HGCV201-H_170104A	19	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve 0.065-1mm
Lab ID: H16120305-012
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:00
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	19.9	wt%		0.2		D2974	12/30/16 10:20 / sld		DRYING OVEN 2_161229C	7	R121691
SIEVE ANALYSIS											
No. 230 (63 um), Retained	41.8	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	7	R121738
3050 EXTRACTABLE METALS											
Aluminum	4820	mg/kg-dry		5		SW6010B	12/30/16 15:14 / sld	12/28/16 09:13	ICP2-HE_161230B	52	35807
Antimony	ND	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Arsenic	113	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Barium	82	mg/kg-dry		5		SW6010B	12/30/16 15:14 / sld	12/28/16 09:13	ICP2-HE_161230B	52	35807
Beryllium	ND	mg/kg-dry		5		SW6020	01/09/17 11:45 / dck	12/28/16 09:13	ICPMS204-B_170109A	29	35807
Boron	ND	mg/kg-dry		5		SW6020	01/09/17 14:36 / dck	12/28/16 09:13	ICPMS204-B_170109A	78	35807
Cadmium	2.1	mg/kg-dry		0.2		SW6020	01/06/17 13:45 / dck	12/28/16 09:13	ICPMS204-B_170106A	72	35807
Chromium	22	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Cobalt	13	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Copper	775	mg/kg-dry		5		SW6010B	12/30/16 15:14 / sld	12/28/16 09:13	ICP2-HE_161230B	52	35807
Iron	61200	mg/kg-dry	D	9		SW6010B	12/30/16 15:14 / sld	12/28/16 09:13	ICP2-HE_161230B	52	35807
Lead	204	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Manganese	982	mg/kg-dry		5		SW6010B	12/30/16 15:14 / sld	12/28/16 09:13	ICP2-HE_161230B	52	35807
Molybdenum	ND	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Nickel	10	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Selenium	ND	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Silver	ND	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Uranium	ND	mg/kg-dry		5		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Vanadium	64	mg/kg-dry	D	3		SW6020	01/05/17 19:52 / dck	12/28/16 09:13	ICPMS204-B_170105B	89	35807
Zinc	1100	mg/kg-dry		5		SW6010B	12/30/16 15:14 / sld	12/28/16 09:13	ICP2-HE_161230B	52	35807
METALS, TOTAL											
Mercury	0.19	mg/kg-dry		0.10		SW7471B	01/04/17 10:57 / rgk	01/03/17 08:42	HGCV201-H_170104A	20	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Natural Resource Damage Program
Client Sample ID: SS-05A Sediment Sieve 1-2mm
Lab ID: H16120305-013
Matrix: Sediment

Project: Silver Bow Creek Monitoring
Collection Date: 12/15/16 16:00
DateReceived: 12/16/16
Report Date: 01/18/17

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
Moisture	23.8	wt%		0.2		D2974	12/30/16 10:20 / sld		DRYING OVEN 2_161229C	8	R121691
SIEVE ANALYSIS											
No. 18 (1 mm), Retained	17.3	wt%-wet		0.1		SSSA 15-2	12/20/16 11:20 / sah		MISC SOILS_161220A	8	R121738
3050 EXTRACTABLE METALS											
Aluminum	5790	mg/kg-dry		5		SW6010B	12/30/16 15:17 / sld	12/28/16 09:13	ICP2-HE_161230B	53	35807
Antimony	ND	mg/kg-dry		5		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Arsenic	255	mg/kg-dry		5		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Barium	99	mg/kg-dry		5		SW6010B	12/30/16 15:17 / sld	12/28/16 09:13	ICP2-HE_161230B	53	35807
Beryllium	ND	mg/kg-dry		5		SW6020	01/09/17 11:49 / dck	12/28/16 09:13	ICPMS204-B_170109A	30	35807
Boron	9	mg/kg-dry		7		SW6020	01/09/17 11:49 / dck	12/28/16 09:13	ICPMS204-B_170109A	30	35807
Cadmium	1.4	mg/kg-dry		0.2		SW6020	01/06/17 13:48 / dck	12/28/16 09:13	ICPMS204-B_170106A	73	35807
Chromium	13	mg/kg-dry		6		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Cobalt	ND	mg/kg-dry		5		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Copper	579	mg/kg-dry		5		SW6010B	12/30/16 15:17 / sld	12/28/16 09:13	ICP2-HE_161230B	53	35807
Iron	20800	mg/kg-dry	D	9		SW6010B	12/30/16 15:17 / sld	12/28/16 09:13	ICP2-HE_161230B	53	35807
Lead	1290	mg/kg-dry		5		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Manganese	975	mg/kg-dry		5		SW6010B	12/30/16 15:17 / sld	12/28/16 09:13	ICP2-HE_161230B	53	35807
Molybdenum	ND	mg/kg-dry		5		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Nickel	ND	mg/kg-dry		5		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Selenium	ND	mg/kg-dry		5		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Silver	6	mg/kg-dry		5		SW6020	01/06/17 13:48 / dck	12/28/16 09:13	ICPMS204-B_170106A	73	35807
Uranium	ND	mg/kg-dry		5		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Vanadium	33	mg/kg-dry	D	3		SW6020	01/05/17 19:55 / dck	12/28/16 09:13	ICPMS204-B_170105B	90	35807
Zinc	693	mg/kg-dry		5		SW6010B	12/30/16 15:17 / sld	12/28/16 09:13	ICP2-HE_161230B	53	35807
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.10		SW7471B	01/04/17 10:59 / rgk	01/03/17 08:42	HGCV201-H_170104A	21	35858

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161220A-SLDS-VSS-W

Date: *18-Jan-17*

Run ID :Run Order: **MISC WC_161220B: 1** SampType: **Method Blank** Lab ID: **MBLK1_161220A** Method: **A2540 E**

Analysis Date: **12/20/16 09:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	ND	1									

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **MISC WC_161220B: 11** SampType: **Sample Duplicate** Lab ID: **H16120307-004ADUP** Method: **A2540 E**

Analysis Date: **12/20/16 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	9	10		0				9		30	

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **MISC WC_161220B: 13** SampType: **Sample Duplicate** Lab ID: **H16120307-005ADUP** Method: **A2540 E**

Analysis Date: **12/20/16 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Volatile Suspended	13	10		0				11.2	**12**	30	

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 161228wa-hgcv202

Date: *18-Jan-17*

Run ID :Run Order: **HGCV202-H_161228A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **12/28/16 13:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000193	0.00010	0.0002	0	**96**	90	110				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **HGCV202-H_161228A: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **12/28/16 13:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000206	0.00010	0.0002	0	**103**	90	110				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **HGCV202-H_161228A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **12/28/16 14:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000207	0.00010	0.0002	0	**103**	90	110				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 170104sa-201

Date: *18-Jan-17*

Run ID :Run Order: **HGCV201-H_170104A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **01/04/17 10:25** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00100	0.50	0.001	0	100	90	110				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **HGCV201-H_170104A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **01/04/17 10:27** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-011A, H16120305-012A, H16120305-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35748

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_161222A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-35748** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:38** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	13.6	0.30	13.7	0	100	90	110				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A**

Run ID :Run Order: **FIA203-HE_161222A: 12** SampType: **Method Blank** Lab ID: **MB-35748** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:40** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.007									

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A**

Run ID :Run Order: **FIA203-HE_161222A: 14** SampType: **Sample Matrix Spike** Lab ID: **H16120270-011AMS** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:42** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.18	0.10	1	0.1403	104	90	110				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A**

Run ID :Run Order: **FIA203-HE_161222A: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120270-011AMSD** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:43** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.13	0.10	1	0.1403	99	90	110	1.177	4.4	20	

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35749

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_161222A: 27** SampType: **Laboratory Control Sample** Lab ID: **LCS-35749** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:58** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	13.6	0.30	13.7	0	100	90	110				

Associated samples: **H16120305-004A**

Run ID :Run Order: **FIA203-HE_161222A: 28** SampType: **Method Blank** Lab ID: **MB-35749** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:59** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.007									

Associated samples: **H16120305-004A**

Run ID :Run Order: **FIA203-HE_161222A: 30** SampType: **Sample Matrix Spike** Lab ID: **H16120305-004Ams** Method: **A4500 N-C**
Analysis Date: **12/22/16 10:01** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.895	0.10	1	0	89	90	110				S

Associated samples: **H16120305-004A**

Run ID :Run Order: **FIA203-HE_161222A: 31** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-004Amsd** Method: **A4500 N-C**
Analysis Date: **12/22/16 10:02** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.911	0.10	1	0	91	90	110	0.8946	1.9	20	

Associated samples: **H16120305-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35752

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161227C: 34** SampType: **Method Blank** Lab ID: **MB-35752** Method: **E200.7**

Analysis Date: **12/27/16 13:12** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.003									
Calcium	0.05	0.04									
Iron	ND	0.003									
Magnesium	ND	0.01									
Potassium	ND	0.04									
Sodium	0.02	0.02									

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICP2-HE_161227C: 35** SampType: **Laboratory Control Sample** Lab ID: **LCS-35752** Method: **E200.7**

Analysis Date: **12/27/16 13:16** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.501	0.050	0.5	0	100	85	115				
Calcium	25.2	1.0	25	0.04973	100	85	115				
Iron	2.53	0.020	2.5	0	101	85	115				
Magnesium	25.1	1.0	25	0	100	85	115				
Potassium	26.6	1.0	25	0	107	85	115				
Sodium	26.9	1.0	25	0.02111	108	85	115				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICP2-HE_161227C: 48** SampType: **Serial Dilution** Lab ID: **H16120305-001CDIL** Method: **E200.7**

Analysis Date: **12/27/16 14:04** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0218	0.050		0		0	0	0.02107		10	N
Calcium	35.1	1.0		0		0	0	35.46	0.9	10	
Iron	0.932	0.020		0		0	0	0.9548	2.4	10	
Magnesium	9.31	1.0		0		0	0	9.022	3.1	10	
Potassium	2.77	1.0		0		0	0	2.817	1.7	10	
Sodium	12.4	1.0		0		0	0	12.4	0.1	10	

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35752

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161227C: 50** SampType: **Sample Matrix Spike** Lab ID: **H16120305-001CMS3** Method: **E200.7**

Analysis Date: **12/27/16 14:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.513	0.050	0.5	0.02107	98	70	130				
Calcium	60.0	1.0	25	35.46	98	70	130				
Iron	3.50	0.020	2.5	0.9548	102	70	130				
Magnesium	33.9	1.0	25	9.022	100	70	130				
Potassium	29.2	1.0	25	2.817	106	70	130				
Sodium	39.3	1.0	25	12.4	107	70	130				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICP2-HE_161227C: 51** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-001CMSD3** Method: **E200.7**

Analysis Date: **12/27/16 14:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.526	0.050	0.5	0.02107	101	70	130	0.5132	2.4	20	
Calcium	60.0	1.0	25	35.46	98	70	130	60.02	0.1	20	
Iron	3.55	0.020	2.5	0.9548	104	70	130	3.499	1.3	20	
Magnesium	34.0	1.0	25	9.022	100	70	130	33.92	0.2	20	
Potassium	29.5	1.0	25	2.817	107	70	130	29.22	0.9	20	
Sodium	39.6	1.0	25	12.4	109	70	130	39.26	0.8	20	

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35752

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 76** SampType: **Method Blank** Lab ID: **MB-35752** Method: **E200.8**

Analysis Date: **12/29/16 13:10** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	5E-05									
Arsenic	7E-05	6E-05									
Barium	ND	7E-05									
Beryllium	ND	0.0001									
Boron	ND	0.002									
Cadmium	ND	1.0E-05									
Calcium	0.004	0.004									
Chromium	6E-05	5E-05									
Cobalt	ND	1E-05									
Copper	ND	7E-05									
Iron	0.001	0.001									
Lead	ND	9E-06									
Magnesium	-0.001										
Manganese	6E-05	4E-05									
Molybdenum	ND	1E-05									
Nickel	ND	2E-05									
Potassium	0.007	0.004									
Selenium	ND	3E-05									
Silver	ND	1E-05									
Sodium	ND	0.005									
Uranium	3E-06	3E-06									
Vanadium	ND	3E-05									
Zinc	0.0007	0.0005									

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 77** SampType: **Laboratory Control Sample** Lab ID: **LCS-35752** Method: **E200.8**

Analysis Date: **12/29/16 13:12** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.42	0.030	2.5	0	**97**	85	115				
Antimony	0.521	0.0010	0.5	0	**104**	85	115				
Arsenic	0.478	0.0010	0.5	0.0000719	**95**	85	115				
Barium	0.496	0.050	0.5	0	**99**	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35752

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 77** SampType: **Laboratory Control Sample** Lab ID: **LCS-35752** Method: **E200.8**

Analysis Date: **12/29/16 13:12** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.262	0.0010	0.25	0	105	85	115				
Boron	0.527	0.050	0.5	0	105	85	115				
Cadmium	0.246	0.0010	0.25	0	98	85	115				
Calcium	25.8	1.0	25	0.004398	103	85	115				
Chromium	0.518	0.0050	0.5	0.00005651	104	85	115				
Cobalt	0.519	0.0050	0.5	0	104	85	115				
Copper	0.521	0.0050	0.5	0	104	85	115				
Iron	2.56	0.020	2.5	0.001291	102	85	115				
Lead	0.497	0.0010	0.5	0	99	85	115				
Magnesium	26.2	1.0	25	-0.001302	105	85	115				
Manganese	2.48	0.0010	2.5	0.00006205	99	85	115				
Molybdenum	0.526	0.0010	0.5	0	105	85	115				
Nickel	0.504	0.0050	0.5	0	101	85	115				
Potassium	24.5	1.0	25	0.006631	98	85	115				
Selenium	0.473	0.0010	0.5	0	95	85	115				
Silver	0.0442	0.0010	0.05	0	88	85	115				
Sodium	26.2	1.0	25	0	105	85	115				
Uranium	0.481	0.00030	0.5	0.000002857	96	85	115				
Vanadium	0.519	0.010	0.5	0	104	85	115				
Zinc	0.479	0.010	0.5	0.0006651	96	85	115				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 81** SampType: **Sample Matrix Spike** Lab ID: **H16120281-002AMS3** Method: **E200.8**

Analysis Date: **12/29/16 13:20** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.42	0.030	2.5	0.00661	97	70	130				
Antimony	0.522	0.0010	0.5	0.0003148	104	70	130				
Arsenic	0.488	0.0010	0.5	0.001527	97	70	130				
Barium	0.521	0.050	0.5	0.01877	100	70	130				
Beryllium	0.259	0.0010	0.25	0	103	70	130				
Boron	0.512	0.050	0.5	0.006454	101	70	130				
Cadmium	0.248	0.0010	0.25	0.00001336	99	70	130				
Calcium	51.6	1.0	25	25.47	104	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35752

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 81** SampType: **Sample Matrix Spike** Lab ID: **H16120281-002AMS3** Method: **E200.8**

Analysis Date: **12/29/16 13:20** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.519	0.0050	0.5	0.0001029	104	70	130				
Cobalt	0.518	0.0050	0.5	0.002152	103	70	130				
Copper	0.512	0.0050	0.5	0.001021	102	70	130				
Iron	2.58	0.020	2.5	0.04192	102	70	130				
Lead	0.495	0.0010	0.5	0	99	70	130				
Magnesium	32.7	1.0	25	6.777	104	70	130				
Manganese	2.45	0.0010	2.5	0.007467	98	70	130				
Molybdenum	0.535	0.0010	0.5	0.009599	105	70	130				
Nickel	0.498	0.0050	0.5	0.000191	100	70	130				
Potassium	26.8	1.0	25	2.439	97	70	130				
Selenium	0.478	0.0010	0.5	0.0003789	95	70	130				
Silver	0.0446	0.0010	0.05	0	89	70	130				
Sodium	47.4	1.0	25	21.24	105	70	130				
Uranium	0.484	0.00030	0.5	0.0007466	97	70	130				
Vanadium	0.523	0.010	0.5	0.0001612	105	70	130				
Zinc	0.478	0.010	0.5	0.000845	95	70	130				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 82** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120281-002AMSD3** Method: **E200.8**

Analysis Date: **12/29/16 13:22** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.39	0.030	2.5	0.00661	95	70	130	2.42	1.3	20	
Antimony	0.524	0.0010	0.5	0.0003148	105	70	130	0.522	0.3	20	
Arsenic	0.490	0.0010	0.5	0.001527	98	70	130	0.4876	0.5	20	
Barium	0.518	0.050	0.5	0.01877	100	70	130	0.5212	0.7	20	
Beryllium	0.258	0.0010	0.25	0	103	70	130	0.2586	0.0	20	
Boron	0.532	0.050	0.5	0.006454	105	70	130	0.5124	3.7	20	
Cadmium	0.246	0.0010	0.25	0.00001336	99	70	130	0.2482	0.8	20	
Calcium	51.8	1.0	25	25.47	105	70	130	51.55	0.4	20	
Chromium	0.519	0.0050	0.5	0.0001029	104	70	130	0.5193	0.0	20	
Cobalt	0.517	0.0050	0.5	0.002152	103	70	130	0.518	0.2	20	
Copper	0.510	0.0050	0.5	0.001021	102	70	130	0.5118	0.4	20	
Iron	2.58	0.020	2.5	0.04192	102	70	130	2.582	0.1	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35752

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 82** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120281-002AMSD3** Method: **E200.8**

Analysis Date: **12/29/16 13:22** Units: **mg/L** **Prep Info:** Prep Date: **12/21/2016** Prep Method: **E200.2**

Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.488	0.0010	0.5	0	**98**	70	130	0.4949	**1.3**	20	
Magnesium	32.3	1.0	25	6.777	**102**	70	130	32.68	**1.1**	20	
Manganese	2.46	0.0010	2.5	0.007467	**98**	70	130	2.448	**0.3**	20	
Molybdenum	0.540	0.0010	0.5	0.009599	**106**	70	130	0.5353	**0.8**	20	
Nickel	0.496	0.0050	0.5	0.000191	**99**	70	130	0.4981	**0.4**	20	
Potassium	26.7	1.0	25	2.439	**97**	70	130	26.8	**0.3**	20	
Selenium	0.479	0.0010	0.5	0.0003789	**96**	70	130	0.4778	**0.3**	20	
Silver	0.0439	0.0010	0.05	0	**88**	70	130	0.04455	**1.6**	20	
Sodium	46.9	1.0	25	21.24	**103**	70	130	47.43	**1.1**	20	
Uranium	0.485	0.00030	0.5	0.0007466	**97**	70	130	0.4843	**0.2**	20	
Vanadium	0.516	0.010	0.5	0.0001612	**103**	70	130	0.5231	**1.3**	20	
Zinc	0.478	0.010	0.5	0.000845	**95**	70	130	0.4777	**0.0**	20	

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35795

Date: *18-Jan-17*

Run ID :Run Order: **FIA202-HE_161227A: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-35795** Method: **E365.1**
Analysis Date: **12/27/16 13:06** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.423	0.010	0.4	0.00317	**105**	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-005D**

Run ID :Run Order: **FIA202-HE_161227A: 43** SampType: **Method Blank** Lab ID: **MB-35795** Method: **E365.1**
Analysis Date: **12/27/16 13:07** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.003	0.001									

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-005D**

Run ID :Run Order: **FIA202-HE_161227A: 49** SampType: **Sample Matrix Spike** Lab ID: **H16120305-004Dms** Method: **E365.1**
Analysis Date: **12/27/16 13:13** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.222	0.010	0.2	0.00548	**108**	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-005D**

Run ID :Run Order: **FIA202-HE_161227A: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-004Dmsd** Method: **E365.1**
Analysis Date: **12/27/16 13:14** Units: **mg/L** **Prep Info:** Prep Date: **12/20/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.225	0.010	0.2	0.00548	**110**	90	110	0.2221	**1.4**	20	

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-005D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35805

Date: *18-Jan-17*

Run ID :Run Order: **HGCV202-H_161228A: 12** SampType: **Method Blank** Lab ID: **MB-35805** Method: **E245.1**
Analysis Date: **12/28/16 13:48** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **HGCV202-H_161228A: 13** SampType: **Laboratory Control Sample** Lab ID: **LCS-35805** Method: **E245.1**
Analysis Date: **12/28/16 13:50** Units: **mg/L** **Prep Info:** Prep Date: **12/27/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000145	0.00010	0.00015	0	97	90	110				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **HGCV202-H_161228A: 16** SampType: **Sample Matrix Spike** Lab ID: **H16120303-013BMS** Method: **E245.1**
Analysis Date: **12/28/16 13:58** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000147	0.00010	0.00015	0	98	70	130				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **HGCV202-H_161228A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120303-013BMSD** Method: **E245.1**
Analysis Date: **12/28/16 14:01** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000148	0.00010	0.00015	0	99	70	130	0.0001469	0.9	20	

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **HGCV202-H_161228A: 29** SampType: **Sample Matrix Spike** Lab ID: **H16120305-004CMS** Method: **E245.1**
Analysis Date: **12/28/16 14:32** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00014	0.00010	0.00015	0	97	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35805

Date: *18-Jan-17*

Run ID :Run Order: **HGCV202-H_161228A: 29** SampType: **Sample Matrix Spike** Lab ID: **H16120305-004CMS** Method: **E245.1**

Analysis Date: **12/28/16 14:32** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **HGCV202-H_161228A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-004CMSD** Method: **E245.1**

Analysis Date: **12/28/16 14:35** Units: **mg/L** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00014	0.00010	0.00015	0	91	70	130	0.0001447	5.9	20	

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161230B: 19** SampType: **Method Blank** Lab ID: **MB-35807** Method: **SW6010B**

Analysis Date: **12/30/16 13:12** Units: **mg/kg** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.8									
Barium	ND	0.02									
Copper	ND	0.2									
Iron	2	1									
Lead	ND	1									
Manganese	0.05	0.05									
Zinc	0.5	0.3									

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 20** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35807** Method: **SW6010B**

Analysis Date: **12/30/16 13:16** Units: **mg/kg** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	253	5.0	250	0	**101**	80	120				
Barium	49.4	1.0	50	0	**99**	80	120				
Copper	49.2	1.0	50	0	**98**	80	120				
Iron	249	5.0	250	1.914	**99**	80	120				
Lead	48.6	1.2	50	0	**97**	80	120				
Manganese	244	1.0	250	0.05494	**98**	80	120				
Zinc	50.9	1.0	50	0.4777	**101**	80	120				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 21** SampType: **Laboratory Control Sample** Lab ID: **LCS-35807** Method: **SW6010B**

Analysis Date: **12/30/16 13:20** Units: **mg/kg** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9220	5.0	9830	0	**94**	46.3	130.2				
Barium	156	1.0	187	0	**83**	78.6	112.8				
Copper	114	1.0	137	0	**83**	76.6	108.8				
Iron	15100	6.7	16300	1.914	**92**	51.7	131.9				
Lead	88.3	6.3	105	0	**84**	74.4	108.6				
Manganese	385	1.0	434	0.05494	**89**	81.1	116.6				
Zinc	223	1.7	231	0.4777	**96**	75.3	111.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161230B: 21** SampType: **Laboratory Control Sample** Lab ID: **LCS-35807** Method: **SW6010B**
Analysis Date: **12/30/16 13:20** Units: **mg/kg** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 24** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120305-006APDS** Method: **SW6010B**
Analysis Date: **12/30/16 13:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	24800	10	3181	21570		75	125				A
Barium	872	1.0	636.3	292.8	91	75	125				
Copper	927	2.3	636.3	340.6	92	75	125				
Iron	36900	17	3181	33990		75	125				A
Lead	710	16	636.3	141.8	89	75	125				
Manganese	3850	1.0	3181	1061	88	75	125				
Zinc	1120	4.3	636.3	520.5	95	75	125				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 25** SampType: **Sample Matrix Spike** Lab ID: **H16120305-006AMS** Method: **SW6010B**
Analysis Date: **12/30/16 13:34** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	26300	9.9	629.3	21570		75	125				A
Barium	430	1.0	125.9	292.8	109	75	125				
Copper	465	2.2	125.9	340.6	99	75	125				
Iron	36600	17	629.3	33990		75	125				A
Lead	258	16	125.9	141.8	92	75	125				
Manganese	1620	1.0	629.3	1061	89	75	125				
Zinc	659	4.2	125.9	520.5		75	125				A

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 36** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-006AMSD** Method: **SW6010B**
Analysis Date: **12/30/16 14:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25500	9.9	629.3	21570		75	125	26340	3.3	20	A
Barium	419	1.0	125.9	292.8	101	75	125	429.6	2.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161230B: 36** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-006AMSD** Method: **SW6010B**

Analysis Date: **12/30/16 14:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	461	2.2	125.9	340.6	96	75	125	464.9	0.8	20	
Iron	35300	17	629.3	33990		75	125	36650	3.8	20	A
Lead	265	16	125.9	141.8	98	75	125	257.6	3.0	20	
Manganese	1690	1.0	629.3	1061	100	75	125	1621	4.0	20	
Zinc	651	4.2	125.9	520.5		75	125	658.7	1.1	20	A

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 39** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120305-007APDS** Method: **SW6010B**

Analysis Date: **12/30/16 14:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6070	5.3	1667	4472	96	75	125				
Barium	410	1.0	333.5	96.52	94	75	125				
Copper	362	1.2	333.5	43.32	96	75	125				
Iron	16800	8.9	1667	15500		75	125				A
Lead	334	8.3	333.5	17.46	95	75	125				
Manganese	1980	1.0	1667	396.6	95	75	125				
Zinc	512	2.2	333.5	184.8	98	75	125				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 40** SampType: **Sample Matrix Spike** Lab ID: **H16120305-007AMS** Method: **SW6010B**

Analysis Date: **12/30/16 14:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5630	5.1	320.6	4472		75	125				A
Barium	132	1.0	64.11	96.52	55	75	125				S
Copper	110	1.1	64.11	43.32	104	75	125				
Iron	13900	8.6	320.6	15500		75	125				A
Lead	84.9	8.0	64.11	17.46	105	75	125				
Manganese	561	1.0	320.6	396.6	51	75	125				S
Zinc	231	2.2	64.11	184.8	73	75	125				S

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161230B: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-007AMSD** Method: **SW6010B**

Analysis Date: **12/30/16 14:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5670	5.1	320.6	4472		75	125	5629	0.8	20	A
Barium	133	1.0	64.11	96.52	57	75	125	131.8	1.1	20	S
Copper	107	1.1	64.11	43.32	100	75	125	109.9	2.3	20	
Iron	14500	8.6	320.6	15500		75	125	13890	4.2	20	A
Lead	78.2	8.0	64.11	17.46	95	75	125	84.86	8.1	20	
Manganese	586	1.0	320.6	396.6	59	75	125	561.5	4.3	20	S
Zinc	184	2.2	64.11	184.8	-2	75	125	231.4	23	20	SR

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_161230B: 44** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120305-008APDS** Method: **SW6010B**

Analysis Date: **12/30/16 14:44** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4130	5.0	1589	2620	95	75	125				
Barium	335	1.0	317.7	37.09	94	75	125				
Copper	326	1.1	317.7	18.65	97	75	125				
Iron	6260	8.5	1589	4961	82	75	125				
Lead	316	7.9	317.7	0	99	75	125				
Manganese	1680	1.0	1589	144.1	97	75	125				
Zinc	374	2.1	317.7	62.98	98	75	125				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 47** SampType: **Sample Matrix Spike** Lab ID: **H16120305-008AMS** Method: **SW6010B**

Analysis Date: **12/30/16 14:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3740	5.0	308.5	2620		75	125				A
Barium	91.5	1.0	61.69	37.09	88	75	125				
Copper	143	1.1	61.69	18.65	201	75	125				S
Iron	5320	8.2	308.5	4961		75	125				A
Lead	72.2	7.7	61.69	0	117	75	125				
Manganese	447	1.0	308.5	144.1	98	75	125				
Zinc	99.1	2.1	61.69	62.98	59	75	125				S

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161230B: 47** SampType: **Sample Matrix Spike** Lab ID: **H16120305-008AMS** Method: **SW6010B**

Analysis Date: **12/30/16 14:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_161230B: 48** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-008AMSD** Method: **SW6010B**

Analysis Date: **12/30/16 14:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5020	5.0	311.5	2620		75	125	3736	29	20	AR
Barium	122	1.0	62.31	37.09	137	75	125	91.45	29	20	SR
Copper	105	1.1	62.31	18.65	139	75	125	142.8	30	20	SR
Iron	9750	8.3	311.5	4961		75	125	5319	59	20	AR
Lead	73.5	7.8	62.31	0	118	75	125	72.23	1.7	20	
Manganese	495	1.0	311.5	144.1	113	75	125	447	10	20	
Zinc	117	2.1	62.31	62.98	87	75	125	99.09	17	20	

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170105B: 47** SampType: **Method Blank** Lab ID: **MB-35807** Method: **SW6020**

Analysis Date: **01/05/17 17:16** Units: **mg/kg** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.4									
Arsenic	ND	0.2									
Beryllium	ND	0.7									
Boron	ND	10									
Cadmium	ND	0.8									
Chromium	ND	4									
Cobalt	ND	0.2									
Lead	ND	0.5									
Molybdenum	ND	0.5									
Nickel	ND	0.5									
Selenium	ND	0.7									
Silver	ND	0.3									
Uranium	ND	0.3									
Vanadium	ND	2									

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170105B: 48** SampType: **Laboratory Control Sample** Lab ID: **LCS-35807** Method: **SW6020**

Analysis Date: **01/05/17 17:19** Units: **mg/kg** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	63.5	1.0	240	0	**26**	0	92.9				
Arsenic	155	1.0	196	0	**79**	71.4	105.1				
Beryllium	75.5	1.0	83.6	0	**90**	76.2	108				
Boron	108	11	129	0	**84**	59.5	106.2				
Cadmium	87.5	1.0	99	0	**88**	73.9	106.1				
Chromium	103	4.2	117	0	**88**	73.5	108.5				
Cobalt	100	1.0	108	0	**93**	74.2	105.6				
Lead	90.1	1.0	105	0	**86**	74.4	108.6				
Molybdenum	104	1.0	127	0	**82**	66.5	103.1				
Nickel	76.7	1.0	86.2	0	**89**	72.3	105				
Selenium	187	1.0	205	0	**91**	71.2	110.2				
Silver	34.9	1.0	42.1	0	**83**	70.8	111.9				
Uranium	86.4	1.0	99.9	0	**86**	80.1	120.1				
Vanadium	99.5	2.1	114	0	**87**	67	107				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170105B: 48** SampType: **Laboratory Control Sample** Lab ID: **LCS-35807** Method: **SW6020**

Analysis Date: **01/05/17 17:19** Units: **mg/kg** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170105B: 49** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35807** Method: **SW6020**

Analysis Date: **01/05/17 17:23** Units: **mg/kg** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.6	1.0	50	0	**97**	80	120				
Arsenic	47.8	1.0	50	0	**96**	80	120				
Beryllium	25.0	1.0	25	0	**100**	80	120				
Boron	50.2	11	50	0	**101**	80	120				
Cadmium	24.5	1.0	25	0	**98**	80	120				
Chromium	48.6	4.2	50	0	**97**	80	120				
Cobalt	48.7	1.0	50	0	**97**	80	120				
Lead	47.0	1.0	50	0	**94**	80	120				
Molybdenum	45.6	1.0	50	0	**91**	80	120				
Nickel	49.1	1.0	50	0	**98**	80	120				
Selenium	52.7	1.0	50	0	**105**	80	120				
Silver	23.8	1.0	25	0	**95**	80	120				
Uranium	46.8	1.0	50	0	**94**	80	120				
Vanadium	44.4	2.1	50	0	**89**	80	120				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170105B: 64** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120305-006APDS** Method: **SW6020**

Analysis Date: **01/05/17 18:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	5970	1.0	6177	0	**97**	75	125				
Arsenic	5840	1.0	6177	34.68	**94**	75	125				
Beryllium	2680	1.8	3089	0	**87**	75	125				
Boron	5240	27	6177	0	**85**	75	125				
Cadmium	2810	1.9	3089	0	**91**	75	125				
Chromium	5540	10	6177	51.77	**89**	75	125				
Cobalt	5410	1.0	6177	10.84	**87**	75	125				
Lead	5700	1.2	6177	132.4	**90**	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170105B: 64** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120305-006APDS** Method: **SW6020**

Analysis Date: **01/05/17 18:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	5670	1.2	6177	25.19	91	75	125				
Nickel	5310	1.3	6177	23.7	86	75	125				
Selenium	5660	1.7	6177	0	92	75	125				
Silver	2570	1.0	3089	0	83	75	125				
Uranium	5820	1.0	6177	6.375	94	75	125				
Vanadium	5730	5.2	6177	81.6	91	75	125				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170105B: 65** SampType: **Sample Matrix Spike** Lab ID: **H16120305-006AMS** Method: **SW6020**

Analysis Date: **01/05/17 18:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.6	1.0	125.9	0	41	75	125				S
Arsenic	148	1.0	125.9	34.68	90	75	125				
Beryllium	53.3	1.9	62.93	0	85	75	125				
Boron	145	27	125.9	0	115	75	125				
Cadmium	58.7	1.9	62.93	0	93	75	125				
Chromium	165	11	125.9	51.77	90	75	125				
Cobalt	123	1.0	125.9	10.84	89	75	125				
Lead	238	1.2	125.9	132.4	84	75	125				
Molybdenum	150	1.2	125.9	25.19	99	75	125				
Nickel	133	1.3	125.9	23.7	87	75	125				
Selenium	123	1.8	125.9	0	98	75	125				
Silver	63.7	1.0	62.93	0	101	75	125				
Uranium	120	1.0	125.9	6.375	90	75	125				
Vanadium	201	5.3	125.9	81.6	95	75	125				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170105B: 66** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-006AMSD** Method: **SW6020**

Analysis Date: **01/05/17 18:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	45.1	1.0	125.9	0	36	75	125	51.6	14	20	S
Arsenic	148	1.0	125.9	34.68	90	75	125	147.9	0.1	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170105B: 66** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-006AMSD** Method: **SW6020**

Analysis Date: **01/05/17 18:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	54.7	1.9	62.93	0	87	75	125	53.3	2.5	20	
Boron	130	27	125.9	0	103	75	125	144.9	11	20	
Cadmium	58.0	1.9	62.93	0	92	75	125	58.65	1.2	20	
Chromium	167	11	125.9	51.77	91	75	125	165.1	1.1	20	
Cobalt	121	1.0	125.9	10.84	88	75	125	122.7	1.3	20	
Lead	238	1.2	125.9	132.4	84	75	125	238.4	0.3	20	
Molybdenum	138	1.2	125.9	25.19	90	75	125	150.2	8.5	20	
Nickel	135	1.3	125.9	23.7	89	75	125	133.4	1.5	20	
Selenium	122	1.8	125.9	0	97	75	125	122.8	0.6	20	
Silver	59.8	1.0	62.93	0	95	75	125	63.69	6.4	20	
Uranium	114	1.0	125.9	6.375	86	75	125	120	4.7	20	
Vanadium	198	5.3	125.9	81.6	93	75	125	200.7	1.2	20	

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170105B: 73** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120305-007APDS** Method: **SW6020**

Analysis Date: **01/05/17 18:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	3180	1.0	3237	0	98	75	125				
Arsenic	3100	1.0	3237	4.413	96	75	125				
Beryllium	1380	1.0	1619	0	85	75	125				
Boron	2710	14	3237	0	84	75	125				
Cadmium	1500	1.0	1619	0	93	75	125				
Chromium	2970	5.4	3237	13.98	91	75	125				
Cobalt	2880	1.0	3237	4.811	89	75	125				
Lead	3020	1.0	3237	17.66	93	75	125				
Molybdenum	3050	1.0	3237	4.63	94	75	125				
Nickel	2820	1.0	3237	4.578	87	75	125				
Selenium	3060	1.0	3237	0	94	75	125				
Silver	1330	1.0	1619	0	82	75	125				
Uranium	3080	1.0	3237	1.837	95	75	125				
Vanadium	3050	2.7	3237	36.45	93	75	125				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170105B: 74** SampType: **Sample Matrix Spike** Lab ID: **H16120305-007AMS** Method: **SW6020**

Analysis Date: **01/05/17 19:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.8	1.0	64.11	0	73	75	125				S
Arsenic	65.4	1.0	64.11	4.413	95	75	125				
Beryllium	28.0	1.0	32.06	0	87	75	125				
Boron	74.9	14	64.11	0	117	75	125				
Cadmium	30.3	1.0	32.06	0	95	75	125				
Chromium	71.7	5.4	64.11	13.98	90	75	125				
Cobalt	63.2	1.0	64.11	4.811	91	75	125				
Lead	80.5	1.0	64.11	17.66	98	75	125				
Molybdenum	65.7	1.0	64.11	4.63	95	75	125				
Nickel	64.3	1.0	64.11	4.578	93	75	125				
Selenium	67.1	1.0	64.11	0	105	75	125				
Silver	32.7	1.0	32.06	0	102	75	125				
Uranium	61.6	1.0	64.11	1.837	93	75	125				
Vanadium	91.8	2.7	64.11	36.45	86	75	125				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170105B: 75** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-007AMSD** Method: **SW6020**

Analysis Date: **01/05/17 19:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	44.9	1.0	64.11	0	70	75	125	46.8	4.1	20	S
Arsenic	64.4	1.0	64.11	4.413	94	75	125	65.43	1.6	20	
Beryllium	27.8	1.0	32.06	0	87	75	125	27.99	0.6	20	
Boron	65.6	14	64.11	0	102	75	125	74.89	13	20	
Cadmium	29.6	1.0	32.06	0	92	75	125	30.33	2.3	20	
Chromium	71.4	5.4	64.11	13.98	90	75	125	71.68	0.4	20	
Cobalt	62.7	1.0	64.11	4.811	90	75	125	63.15	0.7	20	
Lead	73.3	1.0	64.11	17.66	87	75	125	80.46	9.3	20	
Molybdenum	58.1	1.0	64.11	4.63	83	75	125	65.72	12	20	
Nickel	63.4	1.0	64.11	4.578	92	75	125	64.31	1.4	20	
Selenium	60.7	1.0	64.11	0	95	75	125	67.13	10	20	
Silver	31.1	1.0	32.06	0	97	75	125	32.7	4.9	20	
Uranium	62.5	1.0	64.11	1.837	95	75	125	61.58	1.5	20	
Vanadium	94.0	2.7	64.11	36.45	90	75	125	91.84	2.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170105B: 75** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-007AMSD** Method: **SW6020**

Analysis Date: **01/05/17 19:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170105B: 79** SampType: **Post Digestion/Distillation Spike** Lab ID: **H16120305-008APDS** Method: **SW6020**

Analysis Date: **01/05/17 19:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2970	1.0	3085	0	96	75	125				
Arsenic	2940	1.0	3085	3.43	95	75	125				
Beryllium	1260	1.0	1542	0	82	75	125				
Boron	2560	13	3085	0	83	75	125				
Cadmium	1410	1.0	1542	0	91	75	125				
Chromium	2770	5.2	3085	0	90	75	125				
Cobalt	2710	1.0	3085	1.711	88	75	125				
Lead	2830	1.0	3085	5.006	91	75	125				
Molybdenum	2860	1.0	3085	0.7347	93	75	125				
Nickel	2650	1.0	3085	2.055	86	75	125				
Selenium	2990	1.0	3085	0	97	75	125				
Silver	1210	1.0	1542	1.029	78	75	125				
Uranium	2900	1.0	3085	0.8143	94	75	125				
Vanadium	2870	2.6	3085	7.07	93	75	125				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170105B: 81** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-008AMSD** Method: **SW6020**

Analysis Date: **01/05/17 19:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.4	1.0	62.31	0	84	75	125	44.85	16	20	
Arsenic	84.9	1.0	62.31	3.43	131	75	125	55.65	42	20	SR
Beryllium	26.5	1.0	31.15	0	85	75	125	33.16	22	20	R
Boron	68.5	13	62.31	0	110	75	125	77.92	13	20	
Cadmium	28.1	1.0	31.15	0	90	75	125	29.02	3.4	20	
Chromium	62.7	5.2	62.31	0	101	75	125	67.74	7.7	20	
Cobalt	60.0	1.0	62.31	1.711	94	75	125	62.43	3.9	20	
Lead	65.3	1.0	62.31	5.006	97	75	125	63.3	3.2	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35807

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170105B: 81** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-008AMSD** Method: **SW6020**

Analysis Date: **01/05/17 19:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	64.1	1.0	62.31	0.7347	102	75	125	57.25	11	20	
Nickel	62.8	1.0	62.31	2.055	98	75	125	62.09	1.2	20	
Selenium	58.7	1.0	62.31	0	94	75	125	0		20	
Silver	29.7	1.0	31.15	1.029	92	75	125	28.99	2.3	20	
Uranium	55.7	1.0	62.31	0.8143	88	75	125	59.56	6.7	20	
Vanadium	65.8	2.6	62.31	7.07	94	75	125	79.03	18	20	

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICPMS204-B_170106A: 68** SampType: **Sample Matrix Spike** Lab ID: **H16120305-008AMS** Method: **SW6020**

Analysis Date: **01/06/17 13:34** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/28/2016** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	44.8	1.0	61.69	0.1068	73	75	125				S
Arsenic	55.6	1.0	61.69	4.093	84	75	125				
Beryllium	33.2	1.0	30.85	0.1196	107	75	125				
Boron	77.9	1.3	61.69	0	126	75	125				S
Cadmium	29.0	1.0	30.85	0.1173	94	75	125				
Chromium	67.7	1.0	61.69	3.692	104	75	125				
Cobalt	62.4	1.0	61.69	1.423	99	75	125				
Lead	63.3	1.0	61.69	4.701	95	75	125				
Molybdenum	57.2	1.0	61.69	0.508	92	75	125				
Nickel	62.1	1.0	61.69	1.965	97	75	125				
Silver	29.0	1.0	30.85	0.03526	94	75	125				
Uranium	59.6	1.0	61.69	0.6811	95	75	125				
Vanadium	79.0	1.0	61.69	12.82	107	75	125				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35850

Date: *18-Jan-17*

Run ID :Run Order: **FIA202-HE_161230B: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-35850** Method: **E365.1**
Analysis Date: **12/30/16 18:58** Units: **mg/L** **Prep Info:** Prep Date: **12/30/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.424	0.010	0.4	0.007	104	90	110				

Associated samples: **H16120305-004D**

Run ID :Run Order: **FIA202-HE_161230B: 13** SampType: **Method Blank** Lab ID: **MB-35850** Method: **E365.1**
Analysis Date: **12/30/16 18:59** Units: **mg/L** **Prep Info:** Prep Date: **12/30/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.007	0.001									

Associated samples: **H16120305-004D**

Run ID :Run Order: **FIA202-HE_161230B: 16** SampType: **Sample Matrix Spike** Lab ID: **H16120359-002DMS** Method: **E365.1**
Analysis Date: **12/30/16 19:02** Units: **mg/L** **Prep Info:** Prep Date: **12/30/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.228	0.010	0.2	0	114	90	110				S

Associated samples: **H16120305-004D**

Run ID :Run Order: **FIA202-HE_161230B: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120359-002DMSD** Method: **E365.1**
Analysis Date: **12/30/16 19:03** Units: **mg/L** **Prep Info:** Prep Date: **12/30/2016** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.228	0.010	0.2	0	114	90	110	0.2276	0.1	20	S

Associated samples: **H16120305-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35858

Date: *18-Jan-17*

Run ID :Run Order: **HGCV201-H_170104A: 10** SampType: **Method Blank** Lab ID: **MB-35858** Method: **SW7471B**
Analysis Date: **01/04/17 10:39** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.001									

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **HGCV201-H_170104A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-35858** Method: **SW7471B**
Analysis Date: **01/04/17 10:40** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.1	0.50	5	0	101	71	126.4				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **HGCV201-H_170104A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-35858** Method: **SW7471B**
Analysis Date: **01/04/17 10:42** Units: **mg/kg** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.2	0	103	80	120				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **HGCV201-H_170104A: 15** SampType: **Sample Matrix Spike** Lab ID: **H16120305-006AMS** Method: **SW7471B**
Analysis Date: **01/04/17 10:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.69	0.50	0.488	0.2151	98	80	120				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **HGCV201-H_170104A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-006AMSD** Method: **SW7471B**
Analysis Date: **01/04/17 10:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **1/3/2017** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.68	0.50	0.4829	0.2151	96	80	120	0.6913	1.6	20	

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-011A, H16120305-012A, H16120305-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35953

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_170111A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-35953** Method: **A4500 N-C**
Analysis Date: **01/11/17 08:36** Units: **mg/L** **Prep Info:** Prep Date: **1/10/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	14.1	0.30	13.7	0.01318	**103**	90	110				

Associated samples: **H16120305-005A**

Run ID :Run Order: **FIA203-HE_170111A: 12** SampType: **Method Blank** Lab ID: **MB-35953** Method: **A4500 N-C**
Analysis Date: **01/11/17 08:37** Units: **mg/L** **Prep Info:** Prep Date: **1/10/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.01	0.007									

Associated samples: **H16120305-005A**

Run ID :Run Order: **FIA203-HE_170111A: 14** SampType: **Sample Matrix Spike** Lab ID: **H16120305-005AMS** Method: **A4500 N-C**
Analysis Date: **01/11/17 08:39** Units: **mg/L** **Prep Info:** Prep Date: **1/10/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.12	0.10	1	0.1724	**95**	90	110				

Associated samples: **H16120305-005A**

Run ID :Run Order: **FIA203-HE_170111A: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-005AMSD** Method: **A4500 N-C**
Analysis Date: **01/11/17 08:40** Units: **mg/L** **Prep Info:** Prep Date: **1/10/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.12	0.10	1	0.1724	**95**	90	110	1.124	**0.1**	20	

Associated samples: **H16120305-005A**

Run ID :Run Order: **FIA203-HE_170111A: 16** SampType: **Sample Duplicate** Lab ID: **H16120305-005ADUP** Method: **A4500 N-C**
Analysis Date: **01/11/17 08:42** Units: **mg/L** **Prep Info:** Prep Date: **1/10/2017** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.169	0.10		0				0.1724	**1.9**	20	

Associated samples: **H16120305-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 35996

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170117B: 51** SampType: **Method Blank** Lab ID: **MB-35996** Method: **E200.8**
Analysis Date: **01/17/17 18:19** Units: **mg/L** **Prep Info:** Prep Date: **1/16/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.0002									

Associated samples: **H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS204-B_170117B: 52** SampType: **Laboratory Control Sample** Lab ID: **LCS-35996** Method: **E200.8**
Analysis Date: **01/17/17 18:23** Units: **mg/L** **Prep Info:** Prep Date: **1/16/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	2.44	0.0010	2.5	0	**97**	85	115				

Associated samples: **H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS204-B_170117B: 57** SampType: **Sample Matrix Spike** Lab ID: **H16120305-005CMS3** Method: **E200.8**
Analysis Date: **01/17/17 18:40** Units: **mg/L** **Prep Info:** Prep Date: **1/16/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	2.45	0.0010	2.5	0.002906	**98**	70	130				

Associated samples: **H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS204-B_170117B: 58** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-005CMSD3** Method: **E200.8**
Analysis Date: **01/17/17 18:44** Units: **mg/L** **Prep Info:** Prep Date: **1/16/2017** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	2.40	0.0010	2.5	0.002906	**96**	70	130	2.451	**2.0**	20	

Associated samples: **H16120305-004C, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R218388

Date: *18-Jan-17*

Run ID :Run Order: **SUB-C218388: 1** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV-9269** Method: **A5310 C**
Analysis Date: **12/22/16 10:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.12	0.50	5	0	102	90	110	0			

Associated samples: **H16120305-001E, H16120305-002E, H16120305-003E, H16120305-004E, H16120305-005E**

Run ID :Run Order: **SUB-C218388: 2** SampType: **Method Blank** Lab ID: **MBLK** Method: **A5310 C**
Analysis Date: **12/22/16 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.04									

Associated samples: **H16120305-001E, H16120305-002E, H16120305-003E, H16120305-004E, H16120305-005E**

Run ID :Run Order: **SUB-C218388: 8** SampType: **Sample Matrix Spike** Lab ID: **H16120307-001E** Method: **A5310 C**
Analysis Date: **12/22/16 15:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	21.6	0.50	20	1.561	100	85	115	0			

Associated samples: **H16120305-001E, H16120305-002E, H16120305-003E, H16120305-004E, H16120305-005E**

Run ID :Run Order: **SUB-C218388: 9** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-001E** Method: **A5310 C**
Analysis Date: **12/22/16 15:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	21.7	0.50	20	1.561	101	85	115	21.62	0.5	20	

Associated samples: **H16120305-001E, H16120305-002E, H16120305-003E, H16120305-004E, H16120305-005E**

Run ID :Run Order: **SUB-C218388: 10** SampType: **Laboratory Control Sample** Lab ID: **LCS-9269** Method: **A5310 C**
Analysis Date: **12/22/16 18:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.02	0.50	5	0.1388	98	90	110	0			

Associated samples: **H16120305-001E, H16120305-002E, H16120305-003E, H16120305-004E, H16120305-005E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R218388

Date: *18-Jan-17*

Run ID :Run Order: **SUB-C218388: 22** SampType: **Sample Matrix Spike** Lab ID: **H16120307-010E** Method: **A5310 C**

Analysis Date: **12/22/16 19:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	22.7	0.50	20	2.64	**100**	85	115	0			

Associated samples: **H16120305-001E, H16120305-002E, H16120305-003E, H16120305-004E, H16120305-005E**

Run ID :Run Order: **SUB-C218388: 23** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-010E** Method: **A5310 C**

Analysis Date: **12/22/16 19:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	23.0	0.50	20	2.64	**102**	85	115	22.67	**1.4**	20	

Associated samples: **H16120305-001E, H16120305-002E, H16120305-003E, H16120305-004E, H16120305-005E**

Run ID :Run Order: **SUB-C218388: 31** SampType: **Laboratory Control Sample** Lab ID: **LCS-9269** Method: **A5310 C**

Analysis Date: **12/22/16 22:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.98	0.50	5	0.1388	**97**	90	110	0			

Associated samples: **H16120305-001E, H16120305-002E, H16120305-003E, H16120305-004E, H16120305-005E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121384

Date: *18-Jan-17*

Run ID :Run Order: **PHSC_101-H_161219A: 6** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **12/19/16 09:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.2									

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **PHSC_101-H_161219A: 7** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **12/19/16 09:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	2	**100**	90	110				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **PHSC_101-H_161219A: 10** SampType: **Sample Duplicate** Lab ID: **H16120300-001ADUP** Method: **A2320 B**

Analysis Date: **12/19/16 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	350	4.0		0				348.5	**0.2**	10	
Bicarbonate as HCO3	430	4.0		0				424.6	**0.2**	10	

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **PHSC_101-H_161219A: 32** SampType: **Sample Duplicate** Lab ID: **H16120305-005ADUP** Method: **A2320 B**

Analysis Date: **12/19/16 11:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	100	4.0		0				103.9	**0.8**	10	
Bicarbonate as HCO3	130	4.0		0				126.1	**0.8**	10	

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121433

Date: *18-Jan-17*

Run ID :Run Order: **IC METROHM_161219A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **12/19/16 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.008									
Sulfate	ND	0.08									

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **IC METROHM_161219A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **12/19/16 10:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	96	1.0	100	0	96	90	110				
Sulfate	380	1.0	400	0	96	90	110				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **IC METROHM_161219A: 9** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **12/19/16 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	48	1.0	50	0	97	90	110				
Sulfate	190	1.0	200	0	97	90	110				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **IC METROHM_161219A: 20** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **12/19/16 14:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	100	1.0	100	0	100	90	110				
Sulfate	400	1.0	400	0	100	90	110				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **IC METROHM_161219A: 32** SampType: **Sample Matrix Spike** Lab ID: **H16120305-002AMS** Method: **E300.0**
Analysis Date: **12/19/16 17:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62	1.0	50	12.65	99	90	110				
Sulfate	230	1.0	200	30.61	100	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121433

Date: *18-Jan-17*

Run ID :Run Order: **IC METROHM_161219A: 32** SampType: **Sample Matrix Spike** Lab ID: **H16120305-002AMS** Method: **E300.0**

Analysis Date: **12/19/16 17:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **IC METROHM_161219A: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-002AMSD** Method: **E300.0**

Analysis Date: **12/19/16 18:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62	1.0	50	12.65	**98**	90	110	62.3	**1.1**	20	
Sulfate	230	1.0	200	30.61	**98**	90	110	230.2	**1.7**	20	

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **IC METROHM_161219A: 34** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **12/19/16 18:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	99	1.0	100	0	**99**	90	110				
Sulfate	400	1.0	400	0	**99**	90	110				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121443

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_161220A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **12/20/16 11:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.935	0.010	1	0	94	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D**

Run ID :Run Order: **FIA203-HE_161220A: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **12/20/16 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.001									

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D**

Run ID :Run Order: **FIA203-HE_161220A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **12/20/16 12:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.011	1	0	103	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D**

Run ID :Run Order: **FIA203-HE_161220A: 67** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **12/20/16 13:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.517	0.010	0.5	0	103	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D**

Run ID :Run Order: **FIA203-HE_161220A: 69** SampType: **Sample Matrix Spike** Lab ID: **H16120303-013CMS** Method: **E353.2**
Analysis Date: **12/20/16 13:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.866	0.011	1	0	87	90	110				S

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121443

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_161220A: 70** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120303-013CMSD** Method: **E353.2**

Analysis Date: **12/20/16 13:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.881	0.011	1	0	88	90	110	0.8661	1.7	20	S

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121479

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_161221A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **12/21/16 09:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	15.5	0.50	14.2	0	109	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D, H16120305-005D**

Run ID :Run Order: **FIA203-HE_161221A: 65** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **12/21/16 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	15.1	0.50	14.2	0	106	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D, H16120305-005D**

Run ID :Run Order: **FIA203-HE_161221A: 66** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **12/21/16 11:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	101	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D, H16120305-005D**

Run ID :Run Order: **FIA203-HE_161221A: 67** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **12/21/16 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.547	0.050	0.5	0	109	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D, H16120305-005D**

Run ID :Run Order: **FIA203-HE_161221A: 68** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**
Analysis Date: **12/21/16 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.04	0.02									

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D, H16120305-005D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121479

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_161221A: 71** SampType: **Sample Matrix Spike** Lab ID: **H16120302-001BMS** Method: **E350.1**

Analysis Date: **12/21/16 11:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.963	0.055	1	0	96	80	120				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D, H16120305-005D**

Run ID :Run Order: **FIA203-HE_161221A: 81** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120302-001BMSD** Method: **E350.1**

Analysis Date: **12/21/16 12:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.939	0.055	1	0	94	80	120	0.963	2.5	10	

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-004D, H16120305-005D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121482

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161221A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **12/21/16 08:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.776	0.10	0.8	0	97	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Magnesium	39.0	1.0	40	0	98	95	105				
Potassium	41.0	1.0	40	0	103	95	105				
Sodium	41.0	1.0	40	0	102	95	105				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICP2-HE_161221A: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **12/21/16 08:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	95	105				
Calcium	25.1	1.0	25	0	100	95	105				
Magnesium	24.7	1.0	25	0	99	95	105				
Potassium	25.6	1.0	25	0	102	95	105				
Sodium	25.6	1.0	25	0	102	95	105				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICP2-HE_161221A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/21/16 08:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00546	0.10		0		0	0				
Calcium	462	1.0	500	0	92	80	120				
Magnesium	487	1.0	500	0	97	80	120				
Potassium	-0.0263	1.0		0		0	0				
Sodium	0.0339	1.0		0		0	0				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICP2-HE_161221A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/21/16 09:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.970	0.10	1	0	97	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121482

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161221A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/21/16 09:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	461	1.0	500	0	92	80	120				
Magnesium	490	1.0	500	0	98	80	120				
Potassium	18.9	1.0	20	0	95	80	120				
Sodium	19.0	1.0	20	0	95	80	120				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICP2-HE_161221A: 13** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **12/21/16 09:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.002									
Calcium	ND	0.03									
Magnesium	ND	0.003									
Potassium	ND	0.03									
Sodium	ND	0.02									

Associated samples: **H16120305-001B, H16120305-002B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICP2-HE_161221A: 14** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **12/21/16 09:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.993	0.10	1	0	99	85	115				
Calcium	49.7	1.0	50	0	99	85	115				
Magnesium	49.4	1.0	50	0	99	85	115				
Potassium	50.2	1.0	50	0	100	85	115				
Sodium	50.3	1.0	50	0	101	85	115				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICP2-HE_161221A: 19** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/21/16 09:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.52	0.10	2.5	0	101	90	110				
Calcium	24.8	1.0	25	0	99	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121482

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161221A: 19** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/21/16 09:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	24.3	1.0	25	0	97	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	24.7	1.0	25	0	99	90	110				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICP2-HE_161221A: 34** SampType: **Sample Matrix Spike** Lab ID: **H16120305-005BMS2** Method: **E200.7**

Analysis Date: **12/21/16 10:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.952	0.050	1	0.00715	95	70	130				
Calcium	85.7	1.0	50	38.82	94	70	130				
Magnesium	54.2	1.0	50	7.048	94	70	130				
Potassium	51.8	1.0	50	1.333	101	70	130				
Sodium	55.2	1.0	50	4.538	101	70	130				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICP2-HE_161221A: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-005BMSD2** Method: **E200.7**

Analysis Date: **12/21/16 10:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.976	0.050	1	0.00715	97	70	130	0.9525	2.4	20	
Calcium	87.7	1.0	50	38.82	98	70	130	85.69	2.3	20	
Magnesium	55.6	1.0	50	7.048	97	70	130	54.19	2.5	20	
Potassium	51.5	1.0	50	1.333	100	70	130	51.78	0.5	20	
Sodium	54.9	1.0	50	4.538	101	70	130	55.22	0.6	20	

Associated samples: **H16120305-001B, H16120305-002B, H16120305-004B, H16120305-005B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121519

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_161222A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.500	0.10	0.5	0	100	90	110				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A**

Run ID :Run Order: **FIA203-HE_161222A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.0156	0.10		0		0	0				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A**

Run ID :Run Order: **FIA203-HE_161222A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**
Analysis Date: **12/22/16 09:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.487	0.10	0.5	0	97	90	110				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A**

Run ID :Run Order: **FIA203-HE_161222A: 72** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**
Analysis Date: **12/22/16 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.00179	0.10		0		0	0				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121531

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161222A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **12/22/16 08:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	39.7	1.0	40	0	99	95	105				
Magnesium	39.7	1.0	40	0	99	95	105				
Potassium	39.9	1.0	40	0	100	95	105				
Sodium	39.9	1.0	40	0	100	95	105				

Associated samples: **H16120305-003B**

Run ID :Run Order: **ICP2-HE_161222A: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **12/22/16 08:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.2	1.0	25	0	101	95	105				
Magnesium	25.0	1.0	25	0	100	95	105				
Potassium	24.8	1.0	25	0	99	95	105				
Sodium	24.8	1.0	25	0	99	95	105				

Associated samples: **H16120305-003B**

Run ID :Run Order: **ICP2-HE_161222A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/22/16 08:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	455	1.0	500	0	91	80	120				
Magnesium	478	1.0	500	0	96	80	120				
Potassium	-0.0557	1.0		0		0	0				
Sodium	0.0651	1.0		0		0	0				

Associated samples: **H16120305-003B**

Run ID :Run Order: **ICP2-HE_161222A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/22/16 09:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	454	1.0	500	0	91	80	120				
Magnesium	481	1.0	500	0	96	80	120				
Potassium	19.3	1.0	20	0	97	80	120				
Sodium	19.4	1.0	20	0	97	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121531

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161222A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**
Analysis Date: **12/22/16 09:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-003B**

Run ID :Run Order: **ICP2-HE_161222A: 13** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**
Analysis Date: **12/22/16 09:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.02									
Magnesium	ND	0.003									
Potassium	ND	0.03									
Sodium	0.03	0.02									

Associated samples: **H16120305-003B**

Run ID :Run Order: **ICP2-HE_161222A: 14** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**
Analysis Date: **12/22/16 09:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	49.1	1.0	50	0	**98**	85	115				
Magnesium	48.6	1.0	50	0	**97**	85	115				
Potassium	49.6	1.0	50	0	**99**	85	115				
Sodium	49.9	1.0	50	0.0264	**100**	85	115				

Associated samples: **H16120305-003B**

Run ID :Run Order: **ICP2-HE_161222A: 17** SampType: **Sample Matrix Spike** Lab ID: **H16120305-003BMS2** Method: **E200.7**
Analysis Date: **12/22/16 09:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	88.1	1.0	50	41.16	**94**	70	130				
Magnesium	57.8	1.0	50	10.09	**95**	70	130				
Potassium	54.4	1.0	50	3.308	**102**	70	130				
Sodium	67.8	1.0	50	16.28	**103**	70	130				

Associated samples: **H16120305-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121531

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161222A: 18** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-003BMSD2** Method: **E200.7**

Analysis Date: **12/22/16 09:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	86.8	1.0	50	41.16	**91**	70	130	88.12	**1.5**	20	
Magnesium	56.3	1.0	50	10.09	**93**	70	130	57.83	**2.6**	20	
Potassium	52.4	1.0	50	3.308	**98**	70	130	54.4	**3.8**	20	
Sodium	65.6	1.0	50	16.28	**99**	70	130	67.75	**3.2**	20	

Associated samples: **H16120305-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121594

Date: *18-Jan-17*

Run ID :Run Order: **FIA202-HE_161227A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **12/27/16 12:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.255	0.010	0.25	0	102	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-005D**

Run ID :Run Order: **FIA202-HE_161227A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **12/27/16 12:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00237	0.010		0		0	0				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-005D**

Run ID :Run Order: **FIA202-HE_161227A: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **12/27/16 13:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.101	0.010	0.1	0	101	90	110				

Associated samples: **H16120305-001D, H16120305-002D, H16120305-003D, H16120305-005D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121597

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161227C: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **12/27/16 11:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.778	0.10	0.8	0	97	95	105				
Calcium	39.9	1.0	40	0	100	95	105				
Iron	3.95	0.020	4	0	99	95	105				
Magnesium	39.8	1.0	40	0	100	95	105				
Potassium	40.2	1.0	40	0	100	95	105				
Sodium	40.3	1.0	40	0	101	95	105				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICP2-HE_161227C: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **12/27/16 11:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.48	0.10	2.5	0	99	95	105				
Calcium	25.2	1.0	25	0	101	95	105				
Iron	2.50	0.020	2.5	0	100	95	105				
Magnesium	24.9	1.0	25	0	100	95	105				
Potassium	25.8	1.0	25	0	103	95	105				
Sodium	25.9	1.0	25	0	103	95	105				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICP2-HE_161227C: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/27/16 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00552	0.10		0		0	0				
Calcium	461	1.0	500	0	92	80	120				
Iron	179	0.020	200	0	89	80	120				
Magnesium	497	1.0	500	0	99	80	120				
Potassium	-0.0337	1.0		0		0	0				
Sodium	0.0298	1.0		0		0	0				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121597

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161227C: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/27/16 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.953	0.10	1	0	95	80	120				
Calcium	468	1.0	500	0	94	80	120				
Iron	181	0.020	200	0	91	80	120				
Magnesium	507	1.0	500	0	101	80	120				
Potassium	19.6	1.0	20	0	98	80	120				
Sodium	19.7	1.0	20	0	99	80	120				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICP2-HE_161227C: 43** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/27/16 13:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.45	0.10	2.5	0	98	90	110				
Calcium	24.6	1.0	25	0	99	90	110				
Iron	2.46	0.020	2.5	0	98	90	110				
Magnesium	24.5	1.0	25	0	98	90	110				
Potassium	25.5	1.0	25	0	102	90	110				
Sodium	25.8	1.0	25	0	103	90	110				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICP2-HE_161227C: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/27/16 14:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	90	110				
Calcium	24.6	1.0	25	0	98	90	110				
Iron	2.44	0.020	2.5	0	98	90	110				
Magnesium	24.5	1.0	25	0	98	90	110				
Potassium	25.2	1.0	25	0	101	90	110				
Sodium	25.5	1.0	25	0	102	90	110				

Associated samples: **H16120305-001C, H16120305-002C, H16120305-003C, H16120305-004C, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/29/16 10:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.297	0.10	0.3	0	99	90	110				
Antimony	0.0584	0.050	0.06	0	97	90	110				
Arsenic	0.0602	0.0050	0.06	0	100	90	110				
Barium	0.0590	0.10	0.06	0	98	90	110				
Beryllium	0.0298	0.0010	0.03	0	99	90	110				
Boron	0.0606	0.10	0.06	0	101	90	110				
Cadmium	0.0298	0.0010	0.03	0	99	90	110				
Chromium	0.0595	0.010	0.06	0	99	90	110				
Cobalt	0.0604	0.010	0.06	0	101	90	110				
Copper	0.0612	0.010	0.06	0	102	90	110				
Iron	0.309	0.020	0.3	0	103	90	110				
Lead	0.0587	0.010	0.06	0	98	90	110				
Manganese	0.299	0.010	0.3	0	100	90	110				
Molybdenum	0.0576	0.0050	0.06	0	96	90	110				
Nickel	0.0611	0.010	0.06	0	102	90	110				
Selenium	0.0588	0.0050	0.06	0	98	90	110				
Silver	0.0297	0.0050	0.03	0	99	90	110				
Uranium	0.0602	0.0010	0.06	0	100	90	110				
Vanadium	0.0588	0.10	0.06	0	98	90	110				
Zinc	0.0608	0.010	0.06	0	101	90	110				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/29/16 10:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.9	0.10	40	0	112	70	130				
Antimony	3.01E-05	0.050		0							
Arsenic	2.09E-06	0.0050		0							
Barium	0.000116	0.10		0							
Beryllium	-5.61E-06	0.0010		0							
Boron	0.00164	0.10		0							
Cadmium	2.02E-05	0.0010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/29/16 10:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.00132	0.010		0							
Cobalt	-7.63E-06	0.010		0							
Copper	0.000273	0.010		0							
Iron	113	0.020	100	0	113	70	130				
Lead	0.000217	0.010		0							
Manganese	0.000286	0.010		0							
Molybdenum	0.916	0.0050	0.8	0	115	70	130				
Nickel	2.30E-05	0.010		0							
Selenium	9.07E-05	0.0050		0							
Silver	3.07E-05	0.0050		0							
Uranium	7.44E-06	0.0010		0							
Vanadium	-0.000100	0.10		0							
Zinc	0.000419	0.010		0							

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/29/16 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.2	0.10	40	0	111	70	130				
Antimony	2.02E-05	0.050		0		0	0				
Arsenic	0.0111	0.0050	0.01	0	111	70	130				
Barium	0.000123	0.10		0		0	0				
Beryllium	-1.86E-05	0.0010		0		0	0				
Boron	0.00104	0.10		0		0	0				
Cadmium	0.0110	0.0010	0.01	0	109	70	130				
Chromium	0.0234	0.010	0.02	0	117	70	130				
Cobalt	0.0224	0.010	0.02	0	112	70	130				
Copper	0.0223	0.010	0.02	0	112	70	130				
Iron	111	0.020	100	0	111	70	130				
Lead	0.000207	0.010		0		0	0				
Manganese	0.0222	0.010	0.02	0	111	70	130				
Molybdenum	0.893	0.0050	0.8	0	112	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/29/16 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.0223	0.010	0.02	0	**111**	70	130				
Selenium	0.0118	0.0050	0.01	0	**118**	70	130				
Silver	0.0215	0.0050	0.02	0	**108**	70	130				
Uranium	2.21E-06	0.0010		0		0	0				
Vanadium	0.0221	0.10	0.02	0	**111**	70	130				
Zinc	0.0111	0.010	0.01	0	**111**	70	130				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **12/29/16 11:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.004									
Antimony	ND	1E-05									
Arsenic	ND	1E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0002									
Boron	ND	0.002									
Cadmium	ND	5E-06									
Chromium	ND	2E-05									
Cobalt	ND	9E-06									
Copper	ND	9E-05									
Iron	0.0009	0.0002									
Lead	ND	1E-05									
Manganese	2E-05	2E-05									
Molybdenum	ND	9E-06									
Nickel	ND	2E-05									
Selenium	ND	2E-05									
Silver	ND	3E-06									
Uranium	ND	1E-06									
Vanadium	ND	6E-05									
Zinc	ND	8E-05									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **12/29/16 11:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-001B, H16120305-002B, H16120305-003B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICPMS205-H_161229A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **12/29/16 11:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0484	0.10	0.05	0	97	85	115				
Antimony	0.0484	0.050	0.05	0	97	85	115				
Arsenic	0.0478	0.0050	0.05	0	96	85	115				
Barium	0.0481	0.10	0.05	0	96	85	115				
Beryllium	0.0484	0.0010	0.05	0	97	85	115				
Boron	0.0444	0.10	0.05	0	89	85	115				
Cadmium	0.0485	0.0010	0.05	0	97	85	115				
Chromium	0.0485	0.010	0.05	0	97	85	115				
Cobalt	0.0493	0.010	0.05	0	99	85	115				
Copper	0.0495	0.010	0.05	0	99	85	115				
Iron	0.148	0.020	0.15	0.0009145	98	85	115				
Lead	0.0468	0.010	0.05	0	94	85	115				
Manganese	0.0489	0.010	0.05	0.00002374	98	85	115				
Molybdenum	0.0467	0.0050	0.05	0	93	85	115				
Nickel	0.0500	0.010	0.05	0	100	85	115				
Selenium	0.0477	0.0050	0.05	0	95	85	115				
Silver	0.0192	0.0050	0.02	0	96	85	115				
Uranium	0.0461	0.0010	0.05	0	92	85	115				
Vanadium	0.0479	0.10	0.05	0	96	85	115				
Zinc	0.0498	0.010	0.05	0	100	85	115				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-003B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICPMS205-H_161229A: 120** SampType: **Sample Matrix Spike** Lab ID: **H16120303-010BMS** Method: **E200.8**

Analysis Date: **12/29/16 16:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0493	0.030	0.05	0	99	70	130				
Antimony	0.0484	0.0010	0.05	0.00003136	97	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 120** SampType: **Sample Matrix Spike** Lab ID: **H16120303-010BMS** Method: **E200.8**

Analysis Date: **12/29/16 16:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0490	0.0010	0.05	0.0008948	96	70	130				
Barium	0.123	0.050	0.05	0.07571	94	70	130				
Beryllium	0.0480	0.0010	0.05	0	96	70	130				
Boron	0.273	0.050	0.05	0.2346		70	130				A
Cadmium	0.0476	0.0010	0.05	0	95	70	130				
Chromium	0.0494	0.0050	0.05	0.00006437	99	70	130				
Cobalt	0.0489	0.0050	0.05	0.00003194	98	70	130				
Copper	0.0496	0.0050	0.05	0	99	70	130				
Iron	0.167	0.020	0.15	0.02032	98	70	130				
Lead	0.0472	0.0010	0.05	0	94	70	130				
Manganese	0.0495	0.0010	0.05	0.002289	94	70	130				
Molybdenum	0.0500	0.0010	0.05	0.000334	99	70	130				
Nickel	0.0493	0.0050	0.05	0.0001554	98	70	130				
Selenium	0.0506	0.0010	0.05	0.0002171	101	70	130				
Silver	0.0184	0.0010	0.02	0	92	70	130				
Uranium	0.0547	0.00030	0.05	0.005319	99	70	130				
Vanadium	0.0510	0.010	0.05	0.001902	98	70	130				
Zinc	0.0469	0.010	0.05	0.0003825	93	70	130				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-003B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICPMS205-H_161229A: 121** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120303-010BMSD** Method: **E200.8**

Analysis Date: **12/29/16 17:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0500	0.030	0.05	0	100	70	130	0.04929	1.4	20	
Antimony	0.0481	0.0010	0.05	0.00003136	96	70	130	0.04844	0.7	20	
Arsenic	0.0480	0.0010	0.05	0.0008948	94	70	130	0.04898	1.9	20	
Barium	0.122	0.050	0.05	0.07571	92	70	130	0.1229	0.8	20	
Beryllium	0.0477	0.0010	0.05	0	95	70	130	0.04798	0.6	20	
Boron	0.269	0.050	0.05	0.2346		70	130	0.2731	1.5	20	A
Cadmium	0.0471	0.0010	0.05	0	94	70	130	0.04761	1.1	20	
Chromium	0.0487	0.0050	0.05	0.00006437	97	70	130	0.04943	1.4	20	
Cobalt	0.0488	0.0050	0.05	0.00003194	98	70	130	0.04894	0.3	20	
Copper	0.0488	0.0050	0.05	0	98	70	130	0.04962	1.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 121** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120303-010BMSD** Method: **E200.8**

Analysis Date: **12/29/16 17:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.164	0.020	0.15	0.02032	96	70	130	0.1673	2.1	20	
Lead	0.0469	0.0010	0.05	0	94	70	130	0.0472	0.7	20	
Manganese	0.0488	0.0010	0.05	0.002289	93	70	130	0.0495	1.4	20	
Molybdenum	0.0498	0.0010	0.05	0.000334	99	70	130	0.05003	0.5	20	
Nickel	0.0491	0.0050	0.05	0.0001554	98	70	130	0.04929	0.4	20	
Selenium	0.0510	0.0010	0.05	0.0002171	102	70	130	0.05063	0.8	20	
Silver	0.0185	0.0010	0.02	0	92	70	130	0.01836	0.7	20	
Uranium	0.0542	0.00030	0.05	0.005319	98	70	130	0.05474	0.9	20	
Vanadium	0.0507	0.010	0.05	0.001902	98	70	130	0.05098	0.6	20	
Zinc	0.0462	0.010	0.05	0.0003825	92	70	130	0.04692	1.6	20	

Associated samples: **H16120305-001B, H16120305-002B, H16120305-003B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICPMS205-H_161229A: 138** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/29/16 17:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.306	0.10	0.3	0	102	90	110				
Antimony	0.0608	0.050	0.06	0	101	90	110				
Arsenic	0.0618	0.0050	0.06	0	103	90	110				
Barium	0.0613	0.10	0.06	0	102	90	110				
Beryllium	0.0304	0.0010	0.03	0	101	90	110				
Boron	0.0579	0.10	0.06	0	96	90	110				
Cadmium	0.0306	0.0010	0.03	0	102	90	110				
Chromium	0.0612	0.010	0.06	0	102	90	110				
Cobalt	0.0623	0.010	0.06	0	104	90	110				
Copper	0.0631	0.010	0.06	0	105	90	110				
Iron	0.315	0.020	0.3	0	105	90	110				
Lead	0.0603	0.010	0.06	0	101	90	110				
Manganese	0.309	0.010	0.3	0	103	90	110				
Molybdenum	0.0594	0.0050	0.06	0	99	90	110				
Nickel	0.0628	0.010	0.06	0	105	90	110				
Selenium	0.0598	0.0050	0.06	0	100	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Uranium	0.0636	0.0010	0.06	0	106	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 138** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/29/16 17:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0607	0.10	0.06	0	**101**	90	110				
Zinc	0.0622	0.010	0.06	0	**104**	90	110				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 139** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/29/16 17:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.4	0.10	40	0	**113**	70	130				
Antimony	2.79E-05	0.050		0							
Arsenic	3.82E-06	0.0050		0							
Barium	0.000122	0.10		0							
Beryllium	7.19E-05	0.0010		0							
Boron	0.00265	0.10		0							
Cadmium	3.96E-05	0.0010		0							
Chromium	0.00131	0.010		0							
Cobalt	1.13E-05	0.010		0							
Copper	0.000284	0.010		0							
Iron	112	0.020	100	0	**112**	70	130				
Lead	0.000224	0.010		0							
Manganese	0.000247	0.010		0							
Molybdenum	0.910	0.0050	0.8	0	**114**	70	130				
Nickel	-7.00E-06	0.010		0							
Selenium	6.13E-05	0.0050		0							
Silver	5.30E-07	0.0050		0							
Uranium	5.57E-06	0.0010		0							
Vanadium	-0.000195	0.10		0							
Zinc	0.000521	0.010		0							

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 140** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/29/16 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.9	0.10	40	0	**112**	70	130				
Antimony	1.11E-05	0.050		0		0	0				
Arsenic	0.0112	0.0050	0.01	0	**112**	70	130				
Barium	0.000105	0.10		0		0	0				
Beryllium	5.60E-05	0.0010		0		0	0				
Boron	0.000153	0.10		0		0	0				
Cadmium	0.0110	0.0010	0.01	0	**110**	70	130				
Chromium	0.0234	0.010	0.02	0	**117**	70	130				
Cobalt	0.0222	0.010	0.02	0	**111**	70	130				
Copper	0.0222	0.010	0.02	0	**111**	70	130				
Iron	110	0.020	100	0	**110**	70	130				
Lead	0.000218	0.010		0		0	0				
Manganese	0.0227	0.010	0.02	0	**114**	70	130				
Molybdenum	0.889	0.0050	0.8	0	**111**	70	130				
Nickel	0.0222	0.010	0.02	0	**111**	70	130				
Selenium	0.0111	0.0050	0.01	0	**111**	70	130				
Silver	0.0215	0.0050	0.02	0	**108**	70	130				
Uranium	1.92E-06	0.0010		0		0	0				
Vanadium	0.0221	0.10	0.02	0	**110**	70	130				
Zinc	0.0108	0.010	0.01	0	**108**	70	130				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 199** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/30/16 08:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	48.6	0.10	40	0	**122**	70	130				
Antimony	1.57E-05	0.050		0							
Arsenic	7.03E-05	0.0050		0							
Barium	0.000121	0.10		0							
Beryllium	5.01E-05	0.0010		0							
Boron	-1.82E-05	0.10		0							
Cadmium	3.72E-05	0.0010		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 199** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/30/16 08:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.00134	0.010		0							
Cobalt	1.11E-05	0.010		0							
Copper	0.000300	0.010		0							
Iron	118	0.020	100	0	**118**	70	130				
Lead	0.000231	0.010		0							
Manganese	0.000271	0.010		0							
Molybdenum	0.967	0.0050	0.8	0	**121**	70	130				
Nickel	5.60E-05	0.010		0							
Selenium	0.00195	0.0050		0							
Silver	-3.50E-05	0.0050		0							
Uranium	8.12E-07	0.0010		0							
Vanadium	-0.000227	0.10		0							
Zinc	0.000529	0.010		0							

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 200** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/30/16 08:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	46.1	0.10	40	0	**115**	70	130				
Antimony	1.96E-05	0.050		0		0	0				
Arsenic	0.0114	0.0050	0.01	0	**114**	70	130				
Barium	0.000118	0.10		0		0	0				
Beryllium	1.20E-05	0.0010		0		0	0				
Boron	-0.000928	0.10		0		0	0				
Cadmium	0.0114	0.0010	0.01	0	**114**	70	130				
Chromium	0.0238	0.010	0.02	0	**119**	70	130				
Cobalt	0.0229	0.010	0.02	0	**115**	70	130				
Copper	0.0230	0.010	0.02	0	**115**	70	130				
Iron	112	0.020	100	0	**112**	70	130				
Lead	0.000221	0.010		0		0	0				
Manganese	0.0227	0.010	0.02	0	**113**	70	130				
Molybdenum	0.930	0.0050	0.8	0	**116**	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 200** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/30/16 08:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.0231	0.010	0.02	0	115	70	130				
Selenium	0.0125	0.0050	0.01	0	125	70	130				
Silver	0.0160	0.0050	0.02	0	80	70	130				
Uranium	2.42E-07	0.0010		0		0	0				
Vanadium	0.0226	0.10	0.02	0	113	70	130				
Zinc	0.0112	0.010	0.01	0	112	70	130				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 224** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/30/16 11:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.288	0.10	0.3	0	96	90	110				
Antimony	0.0563	0.050	0.06	0	94	90	110				
Arsenic	0.0579	0.0050	0.06	0	96	90	110				
Barium	0.0566	0.10	0.06	0	94	90	110				
Beryllium	0.0278	0.0010	0.03	0	93	90	110				
Boron	0.0593	0.10	0.06	0	99	90	110				
Cadmium	0.0289	0.0010	0.03	0	96	90	110				
Chromium	0.0574	0.010	0.06	0	96	90	110				
Cobalt	0.0582	0.010	0.06	0	97	90	110				
Copper	0.0587	0.010	0.06	0	98	90	110				
Iron	0.297	0.020	0.3	0	99	90	110				
Lead	0.0563	0.010	0.06	0	94	90	110				
Manganese	0.291	0.010	0.3	0	97	90	110				
Molybdenum	0.0551	0.0050	0.06	0	92	90	110				
Nickel	0.0580	0.010	0.06	0	97	90	110				
Selenium	0.0569	0.0050	0.06	0	95	90	110				
Silver	0.0284	0.0050	0.03	0	95	90	110				
Uranium	0.0577	0.0010	0.06	0	96	90	110				
Vanadium	0.0569	0.10	0.06	0	95	90	110				
Zinc	0.0590	0.010	0.06	0	98	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 224** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/30/16 11:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 225** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/30/16 11:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.6	0.10	40	0	**114**	70	130				
Antimony	2.19E-07	0.050		0							
Arsenic	-1.08E-05	0.0050		0							
Barium	0.000126	0.10		0							
Beryllium	6.39E-05	0.0010		0							
Boron	0.00291	0.10		0							
Cadmium	1.21E-05	0.0010		0							
Chromium	0.00131	0.010		0							
Cobalt	1.20E-05	0.010		0							
Copper	0.000264	0.010		0							
Iron	114	0.020	100	0	**114**	70	130				
Lead	0.000231	0.010		0							
Manganese	0.000244	0.010		0							
Molybdenum	0.904	0.0050	0.8	0	**113**	70	130				
Nickel	2.42E-05	0.010		0							
Selenium	9.10E-05	0.0050		0							
Silver	-0.000284	0.0050		0							
Uranium	8.19E-06	0.0010		0							
Vanadium	-8.96E-05	0.10		0							
Zinc	0.000379	0.010		0							

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 226** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/30/16 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.4	0.10	40	0	**114**	70	130				
Antimony	-2.46E-06	0.050		0		0	0				
Arsenic	0.0112	0.0050	0.01	0	**112**	70	130				
Barium	9.72E-05	0.10		0		0	0				
Beryllium	4.97E-05	0.0010		0		0	0				
Boron	0.00346	0.10		0		0	0				
Cadmium	0.0112	0.0010	0.01	0	**112**	70	130				
Chromium	0.0236	0.010	0.02	0	**118**	70	130				
Cobalt	0.0224	0.010	0.02	0	**112**	70	130				
Copper	0.0222	0.010	0.02	0	**111**	70	130				
Iron	112	0.020	100	0	**112**	70	130				
Lead	0.000228	0.010		0		0	0				
Manganese	0.0231	0.010	0.02	0	**115**	70	130				
Molybdenum	0.898	0.0050	0.8	0	**112**	70	130				
Nickel	0.0220	0.010	0.02	0	**110**	70	130				
Selenium	0.0114	0.0050	0.01	0	**114**	70	130				
Silver	0.0210	0.0050	0.02	0	**105**	70	130				
Uranium	1.28E-06	0.0010		0		0	0				
Vanadium	0.0226	0.10	0.02	0	**113**	70	130				
Zinc	0.0112	0.010	0.01	0	**112**	70	130				

Associated samples: **H16120305-001B, H16120305-001C, H16120305-002B, H16120305-002C, H16120305-003B, H16120305-003C, H16120305-004B, H16120305-004C, H16120305-005B, H16120305-005C**

Run ID :Run Order: **ICPMS205-H_161229A: 275** SampType: **Sample Matrix Spike** Lab ID: **H16120307-001BMS** Method: **E200.8**

Analysis Date: **12/30/16 14:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0506	0.030	0.05	0	**101**	70	130				
Antimony	0.0476	0.0010	0.05	0.0001455	**95**	70	130				
Arsenic	0.0493	0.0010	0.05	0.002395	**94**	70	130				
Barium	0.0956	0.050	0.05	0.04899	**93**	70	130				
Beryllium	0.0454	0.0010	0.05	0	**91**	70	130				
Boron	0.0995	0.050	0.05	0.05859	**82**	70	130				
Cadmium	0.0462	0.0010	0.05	0.00003963	**92**	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 275** SampType: **Sample Matrix Spike** Lab ID: **H16120307-001BMS** Method: **E200.8**

Analysis Date: **12/30/16 14:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0469	0.0050	0.05	0.00007472	94	70	130				
Cobalt	0.0468	0.0050	0.05	0.0003618	93	70	130				
Copper	0.0489	0.0050	0.05	0.002269	93	70	130				
Iron	0.168	0.020	0.15	0.02908	92	70	130				
Lead	0.0458	0.0010	0.05	0.0000697	92	70	130				
Manganese	0.246	0.0010	0.05	0.2012		70	130				A
Molybdenum	0.0515	0.0010	0.05	0.005365	92	70	130				
Nickel	0.0468	0.0050	0.05	0.0007908	92	70	130				
Selenium	0.0476	0.0010	0.05	0.0001601	95	70	130				
Silver	0.0171	0.0010	0.02	0	86	70	130				
Uranium	0.0523	0.00030	0.05	0.005973	93	70	130				
Vanadium	0.0485	0.010	0.05	0.001915	93	70	130				
Zinc	0.0645	0.010	0.05	0.01756	94	70	130				

Associated samples: **H16120305-001B, H16120305-002B, H16120305-003B, H16120305-004B, H16120305-005B**

Run ID :Run Order: **ICPMS205-H_161229A: 276** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-001BMSD** Method: **E200.8**

Analysis Date: **12/30/16 14:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0520	0.030	0.05	0	104	70	130	0.05065	2.7	20	
Antimony	0.0480	0.0010	0.05	0.0001455	96	70	130	0.0476	0.8	20	
Arsenic	0.0498	0.0010	0.05	0.002395	95	70	130	0.04931	1.1	20	
Barium	0.0957	0.050	0.05	0.04899	94	70	130	0.09556	0.2	20	
Beryllium	0.0456	0.0010	0.05	0	91	70	130	0.04537	0.5	20	
Boron	0.105	0.050	0.05	0.05859	92	70	130	0.09947	5.1	20	
Cadmium	0.0468	0.0010	0.05	0.00003963	94	70	130	0.04621	1.3	20	
Chromium	0.0469	0.0050	0.05	0.00007472	94	70	130	0.04693	0.0	20	
Cobalt	0.0469	0.0050	0.05	0.0003618	93	70	130	0.04683	0.1	20	
Copper	0.0492	0.0050	0.05	0.002269	94	70	130	0.04888	0.7	20	
Iron	0.170	0.020	0.15	0.02908	94	70	130	0.1677	1.1	20	
Lead	0.0461	0.0010	0.05	0.0000697	92	70	130	0.04584	0.7	20	
Manganese	0.247	0.0010	0.05	0.2012		70	130	0.2458	0.4	20	A
Molybdenum	0.0518	0.0010	0.05	0.005365	93	70	130	0.05149	0.6	20	
Nickel	0.0474	0.0050	0.05	0.0007908	93	70	130	0.04678	1.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121677

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS205-H_161229A: 276** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120307-001BMSD** Method: **E200.8**

Analysis Date: **12/30/16 14:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0476	0.0010	0.05	0.0001601	**95**	70	130	0.04762	**0.0**	20	
Silver	0.0173	0.0010	0.02	0	**86**	70	130	0.01712	**0.9**	20	
Uranium	0.0529	0.00030	0.05	0.005973	**94**	70	130	0.05231	**1.1**	20	
Vanadium	0.0484	0.010	0.05	0.001915	**93**	70	130	0.04849	**0.1**	20	
Zinc	0.0645	0.010	0.05	0.01756	**94**	70	130	0.06447	**0.0**	20	

Associated samples: **H16120305-001B, H16120305-002B, H16120305-003B, H16120305-004B, H16120305-005B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121691

Date: *18-Jan-17*

Run ID :Run Order: **SOIL DRYING OVEN 2_161229C: 9** SampType: **Sample Duplicate** Lab ID: **H16120305-013ADUP** Method: **D2974**

Analysis Date: **12/30/16 10:20** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	22.6	0.20		0				23.84	5.5	20	

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121718

Date: *18-Jan-17*

Run ID :Run Order: **FIA202-HE_161230B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**
Analysis Date: **12/30/16 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.256	0.010	0.25	0	103	90	110				

Associated samples: **H16120305-004D**

Run ID :Run Order: **FIA202-HE_161230B: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **12/30/16 18:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0977	0.010	0.1	0	98	90	110				

Associated samples: **H16120305-004D**

Run ID :Run Order: **FIA202-HE_161230B: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**
Analysis Date: **12/30/16 18:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.00461	0.010		0		0	0				

Associated samples: **H16120305-004D**

Run ID :Run Order: **FIA202-HE_161230B: 47** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**
Analysis Date: **12/30/16 19:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.251	0.010	0.25	0	100	90	110				

Associated samples: **H16120305-004D**

Run ID :Run Order: **FIA202-HE_161230B: 49** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**
Analysis Date: **12/30/16 20:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.00635	0.010		0		0	0				

Associated samples: **H16120305-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121718

Date: *18-Jan-17*

Run ID :Run Order: **FIA202-HE_161230B: 61** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **12/30/16 20:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.248	0.010	0.25	0	99	90	110				

Associated samples: **H16120305-004D**

Run ID :Run Order: **FIA202-HE_161230B: 63** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **12/30/16 20:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.00463	0.010		0		0	0				

Associated samples: **H16120305-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121734

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161230B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **12/30/16 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.01	0.10	4	0	100	90	110				
Barium	0.789	0.10	0.8	0	99	90	110				
Copper	0.799	0.010	0.8	0	100	90	110				
Iron	3.94	0.030	4	0	99	90	110				
Lead	0.761	0.050	0.8	0	95	90	110				
Manganese	3.96	0.010	4	0	99	90	110				
Zinc	0.795	0.010	0.8	0	99	90	110				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **12/30/16 10:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	503	0.10	500	0	101	80	120				
Barium	0.000260	0.10		0		0	0				
Copper	-0.00552	0.010		0		0	0				
Iron	180	0.030	200	0	90	80	120				
Lead	0.000750	0.050		0		0	0				
Manganese	-0.00662	0.010		0		0	0				
Zinc	0.00283	0.010		0		0	0				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Run ID :Run Order: **ICP2-HE_161230B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/30/16 10:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	504	0.10	500	0	101	80	120				
Barium	0.483	0.10	0.5	0	97	80	120				
Copper	0.496	0.010	0.5	0	99	80	120				
Iron	179	0.030	200	0	90	80	120				
Lead	0.901	0.050	1	0	90	80	120				
Manganese	0.463	0.010	0.5	0	93	80	120				
Zinc	0.981	0.010	1	0	98	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121734

Date: *18-Jan-17*

Run ID :Run Order: **ICP2-HE_161230B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/30/16 10:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-011A, H16120305-012A, H16120305-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121832

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_170106A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**

Analysis Date: **01/06/17 10:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	101	90	110				

Associated samples: **H16120305-005D**

Run ID :Run Order: **FIA203-HE_170106A: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**

Analysis Date: **01/06/17 10:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.001									

Associated samples: **H16120305-005D**

Run ID :Run Order: **FIA203-HE_170106A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**

Analysis Date: **01/06/17 10:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.961	0.011	1	0	96	90	110				

Associated samples: **H16120305-005D**

Run ID :Run Order: **FIA203-HE_170106A: 13** SampType: **Sample Matrix Spike** Lab ID: **H16120305-005DMS** Method: **E353.2**

Analysis Date: **01/06/17 10:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.07	0.011	1	0.1118	96	90	110				

Associated samples: **H16120305-005D**

Run ID :Run Order: **FIA203-HE_170106A: 14** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H16120305-005DMSD** Method: **E353.2**

Analysis Date: **01/06/17 10:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.08	0.011	1	0.1118	97	90	110	1.072	0.6	20	

Associated samples: **H16120305-005D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121834

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170105B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **01/05/17 10:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0568	0.0010	0.06	0	**95**	90	110				
Arsenic	0.0584	0.0010	0.06	0	**97**	90	110				
Beryllium	0.0285	0.0010	0.03	0	**95**	90	110				
Cadmium	0.0296	0.0010	0.03	0	**99**	90	110				
Chromium	0.0581	0.0010	0.06	0	**97**	90	110				
Cobalt	0.0584	0.0010	0.06	0	**97**	90	110				
Lead	0.0567	0.0010	0.06	0	**94**	90	110				
Molybdenum	0.0559	0.0010	0.06	0	**93**	90	110				
Nickel	0.0594	0.0010	0.06	0	**99**	90	110				
Selenium	0.0595	0.0010	0.06	0	**99**	90	110				
Silver	0.0288	0.0010	0.03	0	**96**	90	110				
Uranium	0.0565	0.00030	0.06	0	**94**	90	110				
Vanadium	0.0564	0.0010	0.06	0	**94**	90	110				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-009A, H16120305-011A, H16120305-012A, H16120305-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121846

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170106A: 21** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **01/06/17 10:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0606	0.0010	0.06	0	**101**	90	110				
Cadmium	0.0296	0.0010	0.03	0	**99**	90	110				
Silver	0.0296	0.0010	0.03	0	**99**	90	110				

Associated samples: **H16120305-007A, H16120305-008A, H16120305-009A, H16120305-010A, H16120305-012A, H16120305-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121883

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170109A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **SW6020**

Analysis Date: **01/09/17 09:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0301	0.0010	0.03	0	**100**	90	110				
Boron	0.0628	0.0011	0.06	0	**105**	90	110				

Associated samples: **H16120305-006A, H16120305-007A, H16120305-008A, H16120305-011A, H16120305-012A, H16120305-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R121938

Date: *18-Jan-17*

Run ID :Run Order: **FIA203-HE_170111A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **01/11/17 08:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.491	0.10	0.5	0	98	90	110				

Associated samples: **H16120305-005A**

Run ID :Run Order: **FIA203-HE_170111A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **01/11/17 08:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.0186	0.10		0		0	0				

Associated samples: **H16120305-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R122104

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170117B: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**
Analysis Date: **01/17/17 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.296	0.010	0.3	0	99	90	110				

Associated samples: **H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS204-B_170117B: 13** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **01/17/17 10:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.000143	0.010		0							

Associated samples: **H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS204-B_170117B: 14** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **01/17/17 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0194	0.010	0.02	0	97	70	130				

Associated samples: **H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS204-B_170117B: 40** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV STD** Method: **E200.8**
Analysis Date: **01/17/17 17:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.301	0.010	0.3	0	100	90	110				

Associated samples: **H16120305-004C, H16120305-005C**

Run ID :Run Order: **ICPMS204-B_170117B: 41** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **01/17/17 17:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.000285	0.010		0							

Associated samples: **H16120305-004C, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R122104

Date: *18-Jan-17*

Run ID :Run Order: **ICPMS204-B_170117B: 42** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **01/17/17 17:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0193	0.010	0.02	0	**97**	70	130				

Associated samples: **H16120305-004C, H16120305-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: Natural Resource Damage Program
Work Order: H16120305
Project: Silver Bow Creek Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: TSS161219A

Date: *18-Jan-17*

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 1** SampType: **Method Blank** Lab ID: **MB-1_161219A** Method: **A2540 D**

Analysis Date: **12/19/16 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.1									

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_161219A** Method: **A2540 D**

Analysis Date: **12/19/16 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	102	10	100	0	**102**	80	120				

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 4** SampType: **Sample Duplicate** Lab ID: **H16120281-005ADUP** Method: **A2540 D**

Analysis Date: **12/19/16 11:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	10		0				0		5	

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_161219A: 1** SampType: **Sample Duplicate** Lab ID: **H16120296-001ADUP** Method: **A2540 D**

Analysis Date: **12/19/16 12:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	6.00	10		0				9		5	

Associated samples: **H16120305-001A, H16120305-002A, H16120305-003A, H16120305-004A, H16120305-005A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

Natural Resource Damage Program H16120305

Login completed by: Tracy L. Lorash
Date Received: 12/16/2016
Reviewed by: BL2000\wjohnson
Received by: TLL
Reviewed Date: 12/21/2016
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	°C See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Sample ID on COC is Field Blank #2 (SS-05A) -ID on bottles is Field Blank #2. Logged in with ID from COC. Cooler 1 was received at 0.6°C, Cooler 2 at 5.6°C. Samples were received on wet ice and the temperature was taken from a temperature blank. Sediments in Box 2 were received at 8.2°C. Samples were not received on ice and the temperature was taken from a client sample. tl 12/16/16

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: NRDP/DOJ

Project Name, PWS, Permit, Etc.: Silver Bow Creek Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☑

Report Mail Address (Required):
MT DEQ
P.O. Box 200901-0901
Helena, MT 59620-0901
☐ No Hard Copy Email:

Contact Name: Ben Quinones
Phone/Fax: 444-6593
~~Cell:~~ email bequinones@mt.gov

Sampler: (Please Print) Joe Naughton

Invoice Contact & Phone: Greg Mullen 444-0228

Purchase Order:

Quote/Bottle Order: 1088/22396

Invoice Address (Required):
1501 E. Lockey
Helena, MT 59620
☐ No Hard Copy Email:

Special Report/Formats:
☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Shipped by: Hand delivery

Cooler ID(s): 4

Receipt Temp: See comments

On Ice: Y N

Custody Seal: On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR Metals (See list)	Diss. Metals (See list)	TPN	NH_3N, NO_3NO_2, TP	TSS, VSS	Hardness (TR Ca & Mg)	Total Alk, HCO_3, SO_4, Cl, K, Na	DOC	Total Metals, sediment (dry weight, see list)	SEE ATTACHED
C1	1 SS-01	12-15-16	1645	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓	
C1	2 Field Duplicate #2 (SS-01)	12-15-16	1645	8W	↓	↓	↓	↓	↓	↓	↓	↓		
b2	3 SS-04	12-15-16	1630	1S									↓	
b2	4 Slag-01	12-15-16	1615	1S										
C1	5 SS-05A	12-15-16	1600	8W, 1S	↓	↓	↓	↓	↓	↓	↓	↓	↓	
C1	6 Field Blank #2 (SS-05A)	12-15-16	1530	8W	↓	↓	↓	↓	↓	↓	↓	↓		
C2	7 SS-15G	12-14-16	1315	8W, ~~1S~~	↓	↓	↓	↓	↓	↓	↓	↓	↓	
	8 ~~Sediment Duplicate #1 (SS-15G) 12-14-16~~			~~1S~~										
	9													
	10													

Comments: Diss. metals and DOC were field filtered. Lab to sieve sediment samples into 3 size fractions [illegible] sediment metals dry weight conc's. See exceptions for Sample IDs SS-04 and Slag-01.

Analyze <0.063mm size fraction only, and only Cu, As, Cd, Pb, Zn

C1 = 0.6
C2 = 5.6
C3 = 0.2
C4 = 4.0
Box 1 = 9.3
Box 2 = 8.2
} TB

LABORATORY USE ONLY: H16120305

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Gary L. Ingman	12/16/2016 10:30am	Gary L Ingman			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Crouch	Date/Time: 12/16/16 10:30	Signature: Tracy Crouch

Sample Disposal: Return to Client: ____ Lab Disposal: ____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

RESPEC Bottle Order

[redacted]

DEQ Quote# : H958 DEQ Project: SBC Monitoring -

Required for sampling planned for the week of **12/5/2016** SUBMITTED: 10/17/2016 **Please prepare for pick up no later than 11/30/2016**

Samples will be delivered to Energy Labs in Helena the morning of 12/9/2016

Contact: Joe Naughton 406.214.4478; Gary Ingman 406.439.0508 Quote No.(MDEQ/MDJ-NRDP): H956 (Will be through Ben Quinones, M

Surface Water Parameters	**No. of Samples**	**Container**	**Perservative**	**Holding Time**
Metals at 17 sites + 2 duplicates + 2 blanks:				
Dissolved* for:				
Al, Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, U, Va, Zn	**21**	poly, 250 mL, red cap	HNO_3 to pH<2	180 days
Total Recoverable for:				
Al, Sb, As, Ba, Be, B, Ca, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, U, Va, Zn	**21**	poly, 250 mL, red cap	HNO_3 to pH<2	180 days
Hardness (calculated from TR Ca and Mg)				
Nutrients at 17 sites + 2 duplicates + 2 blanks:				
NH_3, NO_{3+2}, TP	**21**	poly, 500 mL, yellow cap	H_2SO_4 to pH<2	28 days
TPN	**21**	same bottle as common ions	none	30 days
Dissolved Organic Carbon* at 17 sites + 2 duplicates + 2 field blanks:	**21**	40mL X 3, amber glass	H_3PO_4 to pH<2	
Physical / Common Ions at 17 sites + 2 duplicates + 2 blanks:				
K, Na, Cl, SO_4, HCO_3	**21**	poly, 500 mL, white cap	none	
Total Suspended Solids (TSS)	**21**	poly, 1000 mL, white cap		7 days
Volitile Suspended Solids (VSS)		same sample as TSS		7 days
Sediment Parameters				
Metals at 17 sites + 2 duplicates				
Total Extractable as DW, in 3 size fractions[1] for:				
Al, Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, U, Va, Zn	**19**	wide-mouth glass, 1L	none	48 hrs?

[1]size fractions: <0.063mm, 0.063-1mm, 1-2mm

Note:

Please include:

- **2 sets of extra poly sample bottles (glass for sediment), included in totals at right**
- **4 gal. E-pure laboratory DI H_2O** in poly for field blank samples
- **5 gal. E-pure DI H_2O** for equipment rinse (RESPEC will provide carboy)
- **3 gal. of 5% HCl solution in DI H2O for equipment decontamination**
- **4 large coolers**
- **Preservatives for nutrients, DOC, TR metals and dissolved metals**

NOTE: For each preservative type, please package all vials in a single bag

***All samples for dissolved parameters will be filtered in the field.**

Bottles required (23 sets in total, including 2 extras)

polyethylene	**total #**
Red cap, 250 mL	46
White cap, 500 mL	23
White cap, 1000 mL	23
Yellow cap, 500 mL	23

glass	**total #**
Wide-mouth clear, 1L	19 (no blanks)
Scintillation vial, amber, 40mL	66

02827

IDEQ)

Comments
4°C+/-2°C
4°C+/-2°C
4°C+/-2°C
4°C+/-2°C
4°C +/- 2°C
4°C+/-2°C
4°C+/-2°C; lab will sieve[1]

APPENDIX C

SURFACE WATER DATA

Table C1. Surface water concentrations in the Streamside Tailings Operable Unit, 2016.

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-01	Natural Sample	H16030349-001	3/17/2016	Solids, Total Suspended TSS @ 105 C	11	1	mg/L	A2540 D
SS-01	Natural Sample	H16030349-001	3/17/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-01	Natural Sample	H16030349-001	3/17/2016	Alkalinity, Total as CaCO3	78	4	mg/L	A2320 B
SS-01	Natural Sample	H16030349-001	3/17/2016	Bicarbonate Alkalinity as HCO3	95	4	mg/L	A2320 B
SS-01	Natural Sample	H16030349-001	3/17/2016	Chloride	42	1	mg/L	E300.0
SS-01	Natural Sample	H16030349-001	3/17/2016	Sulfate	30	1	mg/L	E300.0
SS-01	Natural Sample	H16030349-001	3/17/2016	Hardness as CaCO3	142	1	mg/L	A2340 B
SS-01	Natural Sample	H16030349-001	3/17/2016	Organic Carbon, Dissolved (DOC)	3.9	0.5	mg/L	A5310 C
SS-01	Natural Sample	H16030349-001	3/17/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-01	Natural Sample	H16030349-001	3/17/2016	NO3+NO2 as N	0.61	0.02	mg/L	E353.2
SS-01	Natural Sample	H16030349-001	3/17/2016	N-Total	1.01	0.05	mg/L	A4500 N-C
SS-01	Natural Sample	H16030349-001	3/17/2016	Phosphorus, Total as P	0.091	0.003	mg/L	E365.1
SS-01	Natural Sample	H16030349-001	3/17/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Arsenic, Dissolved	0.002	0.001	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Barium, Dissolved	0.04	0.003	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-01	Natural Sample	H16030349-001	3/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Copper, Dissolved	0.003	0.001	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Iron, Dissolved	0.27	0.02	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Manganese, Dissolved	0.066	0.001	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-01	Natural Sample	H16030349-001	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-01	Natural Sample	H16030349-001	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Uranium, Dissolved	0.0027	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Aluminum, Total Recoverable	0.264	0.009	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Arsenic, Total Recoverable	0.004	0.001	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Barium, Total Recoverable	0.045	0.003	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-01	Natural Sample	H16030349-001	3/17/2016	Cadmium, Total Recoverable	0.00003	0.00003	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Calcium, Total Recoverable	32	1	mg/L	E200.7
SS-01	Natural Sample	H16030349-001	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Iron, Total Recoverable	0.98	0.02	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Lead, Total Recoverable	0.0012	0.0003	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Magnesium, Total Recoverable	15	1	mg/L	E200.7
SS-01	Natural Sample	H16030349-001	3/17/2016	Manganese, Total Recoverable	0.089	0.001	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Mercury, Total Recoverable	0.000005	0.000005	mg/L	E245.1
SS-01	Natural Sample	H16030349-001	3/17/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-01	Natural Sample	H16030349-001	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Sodium, Total Recoverable	16	1	mg/L	E200.7
SS-01	Natural Sample	H16030349-001	3/17/2016	Uranium, Total Recoverable	0.0031	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-01	Natural Sample	H16030349-001	3/17/2016	Zinc, Total Recoverable	0.009	0.008	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Solids, Total Suspended TSS @	22	1	mg/L	A2540 D

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
				105 C				
SS-05A	Natural Sample	H16030349-003	3/17/2016	Solids, Volatile Suspended	5	1	mg/L	A2540 E
SS-05A	Natural Sample	H16030349-003	3/17/2016	Alkalinity, Total as CaCO3	89	4	mg/L	A2320 B
SS-05A	Natural Sample	H16030349-003	3/17/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-05A	Natural Sample	H16030349-003	3/17/2016	Chloride	90	1	mg/L	E300.0
SS-05A	Natural Sample	H16030349-003	3/17/2016	Sulfate	36	1	mg/L	E300.0
SS-05A	Natural Sample	H16030349-003	3/17/2016	Hardness as CaCO3	213	1	mg/L	A2340 B
SS-05A	Natural Sample	H16030349-003	3/17/2016	Organic Carbon, Dissolved (DOC)	4	0.5	mg/L	A5310 C
SS-05A	Natural Sample	H16030349-003	3/17/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-05A	Natural Sample	H16030349-003	3/17/2016	NO3+NO2 as N	0.77	0.02	mg/L	E353.2
SS-05A	Natural Sample	H16030349-003	3/17/2016	N-Total	1.3	0.05	mg/L	A4500 N-C
SS-05A	Natural Sample	H16030349-003	3/17/2016	Phosphorus, Total as P	0.119	0.003	mg/L	E365.1
SS-05A	Natural Sample	H16030349-003	3/17/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Barium, Dissolved	0.047	0.003	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Boron, Dissolved	0.2	0.1	mg/L	E200.7
SS-05A	Natural Sample	H16030349-003	3/17/2016	Cadmium, Dissolved	0.00004	0.00003	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Copper, Dissolved	0.004	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Iron, Dissolved	0.16	0.02	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Manganese, Dissolved	0.087	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-05A	Natural Sample	H16030349-003	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-05A	Natural Sample	H16030349-003	3/17/2016	Uranium, Dissolved	0.0037	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Zinc, Dissolved	0.011	0.008	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Aluminum, Total Recoverable	0.445	0.009	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Barium, Total Recoverable	0.053	0.003	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Boron, Total Recoverable	0.2	0.1	mg/L	E200.7
SS-05A	Natural Sample	H16030349-003	3/17/2016	Cadmium, Total Recoverable	0.00013	0.00003	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Calcium, Total Recoverable	38	1	mg/L	E200.7
SS-05A	Natural Sample	H16030349-003	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Copper, Total Recoverable	0.013	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Iron, Total Recoverable	1.21	0.02	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Lead, Total Recoverable	0.0038	0.0003	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Magnesium, Total Recoverable	31	1	mg/L	E200.7
SS-05A	Natural Sample	H16030349-003	3/17/2016	Manganese, Total Recoverable	0.113	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Mercury, Total Recoverable	0.000007	0.000005	mg/L	E245.1
SS-05A	Natural Sample	H16030349-003	3/17/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-05A	Natural Sample	H16030349-003	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Sodium, Total Recoverable	17	1	mg/L	E200.7
SS-05A	Natural Sample	H16030349-003	3/17/2016	Uranium, Total Recoverable	0.004	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-05A	Natural Sample	H16030349-003	3/17/2016	Zinc, Total Recoverable	0.029	0.008	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Solids, Total Suspended TSS @ 105 C	20	1	mg/L	A2540 D
SS-06G	Natural Sample	H16030355-001	3/17/2016	Solids, Volatile Suspended	5	1	mg/L	A2540 E

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-06G	Natural Sample	H16030355-001	3/17/2016	Alkalinity, Total as CaCO3	93	4	mg/L	A2320 B
SS-06G	Natural Sample	H16030355-001	3/17/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-06G	Natural Sample	H16030355-001	3/17/2016	Chloride	71	1	mg/L	E300.0
SS-06G	Natural Sample	H16030355-001	3/17/2016	Sulfate	77	1	mg/L	E300.0
SS-06G	Natural Sample	H16030355-001	3/17/2016	Hardness as CaCO3	223	1	mg/L	A2340 B
SS-06G	Natural Sample	H16030355-001	3/17/2016	Organic Carbon, Dissolved (DOC)	3.3	0.5	mg/L	A5310 C
SS-06G	Natural Sample	H16030355-001	3/17/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-06G	Natural Sample	H16030355-001	3/17/2016	NO3+NO2 as N	1.08	0.02	mg/L	E353.2
SS-06G	Natural Sample	H16030355-001	3/17/2016	N-Total	1.53	0.05	mg/L	A4500 N-C
SS-06G	Natural Sample	H16030355-001	3/17/2016	Phosphorus, Total as P	0.099	0.003	mg/L	E365.1
SS-06G	Natural Sample	H16030355-001	3/17/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Barium, Dissolved	0.042	0.003	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Boron, Dissolved	0.1	0.1	mg/L	E200.7
SS-06G	Natural Sample	H16030355-001	3/17/2016	Cadmium, Dissolved	0.00003	0.00003	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Copper, Dissolved	0.004	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Iron, Dissolved	0.09	0.02	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Manganese, Dissolved	0.116	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-06G	Natural Sample	H16030355-001	3/17/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Uranium, Dissolved	0.005	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-06G	Natural Sample	H16030355-001	3/17/2016	Zinc, Dissolved	0.011	0.008	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Aluminum, Total Recoverable	0.435	0.009	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Barium, Total Recoverable	0.051	0.003	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Boron, Total Recoverable	0.1	0.1	mg/L	E200.7
SS-06G	Natural Sample	H16030355-001	3/17/2016	Cadmium, Total Recoverable	0.00014	0.00003	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Calcium, Total Recoverable	47	1	mg/L	E200.7
SS-06G	Natural Sample	H16030355-001	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Copper, Total Recoverable	0.014	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Iron, Total Recoverable	1.02	0.02	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Lead, Total Recoverable	0.0041	0.0003	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Magnesium, Total Recoverable	26	1	mg/L	E200.7
SS-06G	Natural Sample	H16030355-001	3/17/2016	Manganese, Total Recoverable	0.156	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Mercury, Total Recoverable	0.000008	0.000005	mg/L	E245.1
SS-06G	Natural Sample	H16030355-001	3/17/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-06G	Natural Sample	H16030355-001	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Sodium, Total Recoverable	21	1	mg/L	E200.7
SS-06G	Natural Sample	H16030355-001	3/17/2016	Uranium, Total Recoverable	0.0057	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-06G	Natural Sample	H16030355-001	3/17/2016	Zinc, Total Recoverable	0.033	0.008	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Solids, Total Suspended TSS @ 105 C	14	1	mg/L	A2540 D
SS-07	Natural Sample	H16030355-002	3/17/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-07	Natural Sample	H16030355-002	3/17/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-07	Natural Sample	H16030355-002	3/17/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Natural Sample	H16030355-002	3/17/2016	Chloride	85	1	mg/L	E300.0
SS-07	Natural Sample	H16030355-002	3/17/2016	Sulfate	70	1	mg/L	E300.0
SS-07	Natural Sample	H16030355-002	3/17/2016	Hardness as CaCO3	220	1	mg/L	A2340 B
SS-07	Natural Sample	H16030355-002	3/17/2016	Organic Carbon, Dissolved (DOC)	4.3	0.5	mg/L	A5310 C
SS-07	Natural Sample	H16030355-002	3/17/2016	Nitrogen, Ammonia	1.7	0.1	mg/L	E350.1
SS-07	Natural Sample	H16030355-002	3/17/2016	NO3+NO2 as N	2.58	0.02	mg/L	E353.2
SS-07	Natural Sample	H16030355-002	3/17/2016	N-Total	4.9	0.2	mg/L	A4500 N-C
SS-07	Natural Sample	H16030355-002	3/17/2016	Phosphorus, Total as P	0.347	0.003	mg/L	E365.1
SS-07	Natural Sample	H16030355-002	3/17/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Barium, Dissolved	0.04	0.003	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Boron, Dissolved	0.2	0.1	mg/L	E200.7
SS-07	Natural Sample	H16030355-002	3/17/2016	Cadmium, Dissolved	0.00005	0.00003	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Copper, Dissolved	0.005	0.001	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Iron, Dissolved	0.08	0.02	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Manganese, Dissolved	0.102	0.001	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-07	Natural Sample	H16030355-002	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Uranium, Dissolved	0.0042	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Zinc, Dissolved	0.036	0.008	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Aluminum, Total Recoverable	0.265	0.009	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Natural Sample	H16030355-002	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Barium, Total Recoverable	0.045	0.003	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Boron, Total Recoverable	0.2	0.1	mg/L	E200.7
SS-07	Natural Sample	H16030355-002	3/17/2016	Cadmium, Total Recoverable	0.00013	0.00003	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Calcium, Total Recoverable	45	1	mg/L	E200.7
SS-07	Natural Sample	H16030355-002	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Copper, Total Recoverable	0.011	0.001	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Iron, Total Recoverable	0.69	0.02	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Lead, Total Recoverable	0.0026	0.0003	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Magnesium, Total Recoverable	27	1	mg/L	E200.7
SS-07	Natural Sample	H16030355-002	3/17/2016	Manganese, Total Recoverable	0.132	0.001	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-07	Natural Sample	H16030355-002	3/17/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-07	Natural Sample	H16030355-002	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Sodium, Total Recoverable	28	1	mg/L	E200.7
SS-07	Natural Sample	H16030355-002	3/17/2016	Uranium, Total Recoverable	0.0047	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-07	Natural Sample	H16030355-002	3/17/2016	Zinc, Total Recoverable	0.05	0.008	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-08	Natural Sample	H16030355-003	3/17/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-08	Natural Sample	H16030355-003	3/17/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-08	Natural Sample	H16030355-003	3/17/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-08	Natural Sample	H16030355-003	3/17/2016	Chloride	31	1	mg/L	E300.0
SS-08	Natural Sample	H16030355-003	3/17/2016	Sulfate	77	1	mg/L	E300.0

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-08	Natural Sample	H16030355-003	3/17/2016	Hardness as CaCO3	160	1	mg/L	A2340 B
SS-08	Natural Sample	H16030355-003	3/17/2016	Organic Carbon, Dissolved (DOC)	3.6	0.5	mg/L	A5310 C
SS-08	Natural Sample	H16030355-003	3/17/2016	Nitrogen, Ammonia	0.17	0.05	mg/L	E350.1
SS-08	Natural Sample	H16030355-003	3/17/2016	NO3+NO2 as N	1.84	0.02	mg/L	E353.2
SS-08	Natural Sample	H16030355-003	3/17/2016	N-Total	2.57	0.06	mg/L	A4500 N-C
SS-08	Natural Sample	H16030355-003	3/17/2016	Phosphorus, Total as P	0.17	0.003	mg/L	E365.1
SS-08	Natural Sample	H16030355-003	3/17/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Barium, Dissolved	0.038	0.003	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-08	Natural Sample	H16030355-003	3/17/2016	Cadmium, Dissolved	0.00013	0.00003	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Copper, Dissolved	0.007	0.001	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Iron, Dissolved	0.14	0.02	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Manganese, Dissolved	0.159	0.001	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-08	Natural Sample	H16030355-003	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Uranium, Dissolved	0.005	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Zinc, Dissolved	0.054	0.008	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Aluminum, Total Recoverable	0.134	0.009	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Arsenic, Total Recoverable	0.004	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-08	Natural Sample	H16030355-003	3/17/2016	Barium, Total Recoverable	0.039	0.003	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-08	Natural Sample	H16030355-003	3/17/2016	Cadmium, Total Recoverable	0.0002	0.00003	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Calcium, Total Recoverable	45	1	mg/L	E200.7
SS-08	Natural Sample	H16030355-003	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Copper, Total Recoverable	0.014	0.001	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Iron, Total Recoverable	0.51	0.02	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Lead, Total Recoverable	0.0021	0.0003	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-08	Natural Sample	H16030355-003	3/17/2016	Manganese, Total Recoverable	0.176	0.001	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Mercury, Total Recoverable	0.000008	0.000005	mg/L	E245.1
SS-08	Natural Sample	H16030355-003	3/17/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-08	Natural Sample	H16030355-003	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Sodium, Total Recoverable	28	1	mg/L	E200.7
SS-08	Natural Sample	H16030355-003	3/17/2016	Uranium, Total Recoverable	0.0052	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-08	Natural Sample	H16030355-003	3/17/2016	Zinc, Total Recoverable	0.066	0.008	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Solids, Total Suspended TSS @ 105 C	14	1	mg/L	A2540 D
SS-10A	Natural Sample	H16030355-005	3/17/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-10A	Natural Sample	H16030355-005	3/17/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-10A	Natural Sample	H16030355-005	3/17/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-10A	Natural Sample	H16030355-005	3/17/2016	Chloride	28	1	mg/L	E300.0
SS-10A	Natural Sample	H16030355-005	3/17/2016	Sulfate	79	1	mg/L	E300.0
SS-10A	Natural Sample	H16030355-005	3/17/2016	Hardness as CaCO3	161	1	mg/L	A2340 B
SS-10A	Natural Sample	H16030355-005	3/17/2016	Organic Carbon, Dissolved (DOC)	3.5	0.5	mg/L	A5310 C

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10A	Natural Sample	H16030355-005	3/17/2016	Nitrogen, Ammonia	0.06	0.05	mg/L	E350.1
SS-10A	Natural Sample	H16030355-005	3/17/2016	NO3+NO2 as N	1.22	0.02	mg/L	E353.2
SS-10A	Natural Sample	H16030355-005	3/17/2016	N-Total	1.83	0.05	mg/L	A4500 N-C
SS-10A	Natural Sample	H16030355-005	3/17/2016	Phosphorus, Total as P	0.206	0.003	mg/L	E365.1
SS-10A	Natural Sample	H16030355-005	3/17/2016	Aluminum, Dissolved	0.01	0.009	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Barium, Dissolved	0.036	0.003	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-10A	Natural Sample	H16030355-005	3/17/2016	Cadmium, Dissolved	0.00021	0.00003	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Copper, Dissolved	0.017	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Iron, Dissolved	0.14	0.02	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Lead, Dissolved	0.0003	0.0003	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Manganese, Dissolved	0.209	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-10A	Natural Sample	H16030355-005	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Uranium, Dissolved	0.0049	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Zinc, Dissolved	0.079	0.008	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Aluminum, Total Recoverable	0.229	0.009	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Arsenic, Total Recoverable	0.004	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Barium, Total Recoverable	0.042	0.003	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10A	Natural Sample	H16030355-005	3/17/2016	Cadmium, Total Recoverable	0.0004	0.00003	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Calcium, Total Recoverable	45	1	mg/L	E200.7
SS-10A	Natural Sample	H16030355-005	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Copper, Total Recoverable	0.038	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Iron, Total Recoverable	0.74	0.02	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Lead, Total Recoverable	0.0032	0.0003	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Magnesium, Total Recoverable	11	1	mg/L	E200.7
SS-10A	Natural Sample	H16030355-005	3/17/2016	Manganese, Total Recoverable	0.242	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Mercury, Total Recoverable	0.000012	0.000005	mg/L	E245.1
SS-10A	Natural Sample	H16030355-005	3/17/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-10A	Natural Sample	H16030355-005	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Sodium, Total Recoverable	26	1	mg/L	E200.7
SS-10A	Natural Sample	H16030355-005	3/17/2016	Uranium, Total Recoverable	0.0056	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-10A	Natural Sample	H16030355-005	3/17/2016	Zinc, Total Recoverable	0.116	0.008	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Solids, Total Suspended TSS @ 105 C	13	1	mg/L	A2540 D
SS-10B	Natural Sample	H16030355-006	3/17/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-10B	Natural Sample	H16030355-006	3/17/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-10B	Natural Sample	H16030355-006	3/17/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-10B	Natural Sample	H16030355-006	3/17/2016	Chloride	27	1	mg/L	E300.0
SS-10B	Natural Sample	H16030355-006	3/17/2016	Sulfate	79	1	mg/L	E300.0
SS-10B	Natural Sample	H16030355-006	3/17/2016	Hardness as CaCO3	158	1	mg/L	A2340 B
SS-10B	Natural Sample	H16030355-006	3/17/2016	Organic Carbon, Dissolved (DOC)	3.7	0.5	mg/L	A5310 C
SS-10B	Natural Sample	H16030355-006	3/17/2016	Nitrogen, Ammonia	0.08	0.05	mg/L	E350.1
SS-10B	Natural Sample	H16030355-006	3/17/2016	NO3+NO2 as N	1.26	0.02	mg/L	E353.2
SS-10B	Natural Sample	H16030355-006	3/17/2016	N-Total	1.88	0.05	mg/L	A4500 N-C

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10B	Natural Sample	H16030355-006	3/17/2016	Phosphorus, Total as P	0.221	0.003	mg/L	E365.1
SS-10B	Natural Sample	H16030355-006	3/17/2016	Aluminum, Dissolved	0.01	0.009	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Barium, Dissolved	0.037	0.003	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-10B	Natural Sample	H16030355-006	3/17/2016	Cadmium, Dissolved	0.00023	0.00003	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Copper, Dissolved	0.017	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Iron, Dissolved	0.15	0.02	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Manganese, Dissolved	0.214	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-10B	Natural Sample	H16030355-006	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Uranium, Dissolved	0.0049	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Zinc, Dissolved	0.086	0.008	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Aluminum, Total Recoverable	0.196	0.009	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Arsenic, Total Recoverable	0.004	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Barium, Total Recoverable	0.042	0.003	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-10B	Natural Sample	H16030355-006	3/17/2016	Cadmium, Total Recoverable	0.00039	0.00003	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Calcium, Total Recoverable	45	1	mg/L	E200.7
SS-10B	Natural Sample	H16030355-006	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10B	Natural Sample	H16030355-006	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Copper, Total Recoverable	0.035	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Iron, Total Recoverable	0.64	0.02	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Lead, Total Recoverable	0.0027	0.0003	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Magnesium, Total Recoverable	11	1	mg/L	E200.7
SS-10B	Natural Sample	H16030355-006	3/17/2016	Manganese, Total Recoverable	0.242	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Mercury, Total Recoverable	0.000016	0.000005	mg/L	E245.1
SS-10B	Natural Sample	H16030355-006	3/17/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-10B	Natural Sample	H16030355-006	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Sodium, Total Recoverable	25	1	mg/L	E200.7
SS-10B	Natural Sample	H16030355-006	3/17/2016	Uranium, Total Recoverable	0.0054	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-10B	Natural Sample	H16030355-006	3/17/2016	Zinc, Total Recoverable	0.114	0.008	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Solids, Total Suspended TSS @ 105 C	10	1	mg/L	A2540 D
SS-11C	Natural Sample	H16030355-007	3/17/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-11C	Natural Sample	H16030355-007	3/17/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-11C	Natural Sample	H16030355-007	3/17/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-11C	Natural Sample	H16030355-007	3/17/2016	Chloride	52	1	mg/L	E300.0
SS-11C	Natural Sample	H16030355-007	3/17/2016	Sulfate	88	1	mg/L	E300.0
SS-11C	Natural Sample	H16030355-007	3/17/2016	Hardness as CaCO3	203	1	mg/L	A2340 B
SS-11C	Natural Sample	H16030355-007	3/17/2016	Organic Carbon, Dissolved (DOC)	5.5	0.5	mg/L	A5310 C
SS-11C	Natural Sample	H16030355-007	3/17/2016	Nitrogen, Ammonia	0.29	0.05	mg/L	E350.1
SS-11C	Natural Sample	H16030355-007	3/17/2016	NO3+NO2 as N	1.43	0.02	mg/L	E353.2
SS-11C	Natural Sample	H16030355-007	3/17/2016	N-Total	2.31	0.06	mg/L	A4500 N-C
SS-11C	Natural Sample	H16030355-007	3/17/2016	Phosphorus, Total as P	0.262	0.003	mg/L	E365.1
SS-11C	Natural Sample	H16030355-007	3/17/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Natural Sample	H16030355-007	3/17/2016	Arsenic, Dissolved	0.004	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Barium, Dissolved	0.04	0.003	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11C	Natural Sample	H16030355-007	3/17/2016	Cadmium, Dissolved	0.00028	0.00003	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Copper, Dissolved	0.018	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Iron, Dissolved	0.14	0.02	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Lead, Dissolved	0.0003	0.0003	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Manganese, Dissolved	0.28	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-11C	Natural Sample	H16030355-007	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Uranium, Dissolved	0.0051	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Zinc, Dissolved	0.136	0.008	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Aluminum, Total Recoverable	0.132	0.009	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Barium, Total Recoverable	0.045	0.003	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11C	Natural Sample	H16030355-007	3/17/2016	Cadmium, Total Recoverable	0.00047	0.00003	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Calcium, Total Recoverable	60	1	mg/L	E200.7
SS-11C	Natural Sample	H16030355-007	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Copper, Total Recoverable	0.031	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Iron, Total Recoverable	0.49	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Natural Sample	H16030355-007	3/17/2016	Lead, Total Recoverable	0.0018	0.0003	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-11C	Natural Sample	H16030355-007	3/17/2016	Manganese, Total Recoverable	0.313	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Mercury, Total Recoverable	0.000014	0.000005	mg/L	E245.1
SS-11C	Natural Sample	H16030355-007	3/17/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-11C	Natural Sample	H16030355-007	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Sodium, Total Recoverable	30	1	mg/L	E200.7
SS-11C	Natural Sample	H16030355-007	3/17/2016	Uranium, Total Recoverable	0.0057	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-11C	Natural Sample	H16030355-007	3/17/2016	Zinc, Total Recoverable	0.162	0.008	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Solids, Total Suspended TSS @ 105 C	10	1	mg/L	A2540 D
SS-11D	Natural Sample	H16030355-008	3/17/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-11D	Natural Sample	H16030355-008	3/17/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-11D	Natural Sample	H16030355-008	3/17/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-11D	Natural Sample	H16030355-008	3/17/2016	Chloride	51	1	mg/L	E300.0
SS-11D	Natural Sample	H16030355-008	3/17/2016	Sulfate	81	1	mg/L	E300.0
SS-11D	Natural Sample	H16030355-008	3/17/2016	Hardness as CaCO3	187	1	mg/L	A2340 B
SS-11D	Natural Sample	H16030355-008	3/17/2016	Organic Carbon, Dissolved (DOC)	6.3	0.5	mg/L	A5310 C
SS-11D	Natural Sample	H16030355-008	3/17/2016	Nitrogen, Ammonia	0.38	0.05	mg/L	E350.1
SS-11D	Natural Sample	H16030355-008	3/17/2016	NO3+NO2 as N	1.34	0.02	mg/L	E353.2
SS-11D	Natural Sample	H16030355-008	3/17/2016	N-Total	2.51	0.06	mg/L	A4500 N-C
SS-11D	Natural Sample	H16030355-008	3/17/2016	Phosphorus, Total as P	0.266	0.003	mg/L	E365.1
SS-11D	Natural Sample	H16030355-008	3/17/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Barium, Dissolved	0.04	0.003	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11D	Natural Sample	H16030355-008	3/17/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11D	Natural Sample	H16030355-008	3/17/2016	Cadmium, Dissolved	0.00028	0.00003	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Copper, Dissolved	0.017	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Iron, Dissolved	0.14	0.02	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Lead, Dissolved	0.0003	0.0003	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Manganese, Dissolved	0.263	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-11D	Natural Sample	H16030355-008	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Uranium, Dissolved	0.0048	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Zinc, Dissolved	0.133	0.008	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Aluminum, Total Recoverable	0.157	0.009	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Barium, Total Recoverable	0.042	0.003	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11D	Natural Sample	H16030355-008	3/17/2016	Cadmium, Total Recoverable	0.00037	0.00003	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Calcium, Total Recoverable	55	1	mg/L	E200.7
SS-11D	Natural Sample	H16030355-008	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Copper, Total Recoverable	0.028	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Iron, Total Recoverable	0.46	0.02	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Lead, Total Recoverable	0.0017	0.0003	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-11D	Natural Sample	H16030355-008	3/17/2016	Manganese, Total Recoverable	0.279	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11D	Natural Sample	H16030355-008	3/17/2016	Mercury, Total Recoverable	0.000011	0.000005	mg/L	E245.1
SS-11D	Natural Sample	H16030355-008	3/17/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-11D	Natural Sample	H16030355-008	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Sodium, Total Recoverable	27	1	mg/L	E200.7
SS-11D	Natural Sample	H16030355-008	3/17/2016	Uranium, Total Recoverable	0.0049	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-11D	Natural Sample	H16030355-008	3/17/2016	Zinc, Total Recoverable	0.141	0.008	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Solids, Total Suspended TSS @ 105 C	11	1	mg/L	A2540 D
SS-13	Natural Sample	H16030355-009	3/16/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-13	Natural Sample	H16030355-009	3/16/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-13	Natural Sample	H16030355-009	3/16/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-13	Natural Sample	H16030355-009	3/16/2016	Chloride	46	1	mg/L	E300.0
SS-13	Natural Sample	H16030355-009	3/16/2016	Sulfate	94	1	mg/L	E300.0
SS-13	Natural Sample	H16030355-009	3/16/2016	Hardness as CaCO3	194	1	mg/L	A2340 B
SS-13	Natural Sample	H16030355-009	3/16/2016	Organic Carbon, Dissolved (DOC)	3.9	0.5	mg/L	A5310 C
SS-13	Natural Sample	H16030355-009	3/16/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-13	Natural Sample	H16030355-009	3/16/2016	NO3+NO2 as N	1.25	0.02	mg/L	E353.2
SS-13	Natural Sample	H16030355-009	3/16/2016	N-Total	1.82	0.05	mg/L	A4500 N-C
SS-13	Natural Sample	H16030355-009	3/16/2016	Phosphorus, Total as P	0.209	0.003	mg/L	E365.1
SS-13	Natural Sample	H16030355-009	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Barium, Dissolved	0.036	0.003	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-13	Natural Sample	H16030355-009	3/16/2016	Cadmium, Dissolved	0.00016	0.00003	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-13	Natural Sample	H16030355-009	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Copper, Dissolved	0.014	0.001	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Iron, Dissolved	0.09	0.02	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Manganese, Dissolved	0.236	0.001	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-13	Natural Sample	H16030355-009	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Uranium, Dissolved	0.0058	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Zinc, Dissolved	0.048	0.008	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Aluminum, Total Recoverable	0.18	0.009	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Barium, Total Recoverable	0.038	0.003	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-13	Natural Sample	H16030355-009	3/16/2016	Cadmium, Total Recoverable	0.00029	0.00003	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Calcium, Total Recoverable	57	1	mg/L	E200.7
SS-13	Natural Sample	H16030355-009	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Copper, Total Recoverable	0.024	0.001	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Iron, Total Recoverable	0.45	0.02	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Lead, Total Recoverable	0.0018	0.0003	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-13	Natural Sample	H16030355-009	3/16/2016	Manganese, Total Recoverable	0.252	0.001	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Mercury, Total Recoverable	0.000012	0.000005	mg/L	E245.1
SS-13	Natural Sample	H16030355-009	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-13	Natural Sample	H16030355-009	3/16/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-13	Natural Sample	H16030355-009	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Sodium, Total Recoverable	29	1	mg/L	E200.7
SS-13	Natural Sample	H16030355-009	3/16/2016	Uranium, Total Recoverable	0.0058	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-13	Natural Sample	H16030355-009	3/16/2016	Zinc, Total Recoverable	0.076	0.008	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Solids, Total Suspended TSS @ 105 C	12	2	mg/L	A2540 D
SS-14	Natural Sample	H16030355-010	3/16/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-14	Natural Sample	H16030355-010	3/16/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-14	Natural Sample	H16030355-010	3/16/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-14	Natural Sample	H16030355-010	3/16/2016	Chloride	48	1	mg/L	E300.0
SS-14	Natural Sample	H16030355-010	3/16/2016	Sulfate	94	1	mg/L	E300.0
SS-14	Natural Sample	H16030355-010	3/16/2016	Hardness as CaCO3	192	1	mg/L	A2340 B
SS-14	Natural Sample	H16030355-010	3/16/2016	Organic Carbon, Dissolved (DOC)	3.9	0.5	mg/L	A5310 C
SS-14	Natural Sample	H16030355-010	3/16/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-14	Natural Sample	H16030355-010	3/16/2016	NO3+NO2 as N	1.25	0.02	mg/L	E353.2
SS-14	Natural Sample	H16030355-010	3/16/2016	N-Total	1.83	0.05	mg/L	A4500 N-C
SS-14	Natural Sample	H16030355-010	3/16/2016	Phosphorus, Total as P	0.21	0.003	mg/L	E365.1
SS-14	Natural Sample	H16030355-010	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Barium, Dissolved	0.037	0.003	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-14	Natural Sample	H16030355-010	3/16/2016	Cadmium, Dissolved	0.00015	0.00003	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Copper, Dissolved	0.014	0.001	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Iron, Dissolved	0.08	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Natural Sample	H16030355-010	3/16/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Manganese, Dissolved	0.249	0.001	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-14	Natural Sample	H16030355-010	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Uranium, Dissolved	0.0057	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Zinc, Dissolved	0.044	0.008	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Aluminum, Total Recoverable	0.221	0.009	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Barium, Total Recoverable	0.04	0.003	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-14	Natural Sample	H16030355-010	3/16/2016	Cadmium, Total Recoverable	0.00036	0.00003	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Calcium, Total Recoverable	57	1	mg/L	E200.7
SS-14	Natural Sample	H16030355-010	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Copper, Total Recoverable	0.028	0.001	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Iron, Total Recoverable	0.57	0.02	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Lead, Total Recoverable	0.0025	0.0003	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-14	Natural Sample	H16030355-010	3/16/2016	Manganese, Total Recoverable	0.268	0.001	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Mercury, Total Recoverable	0.000018	0.000005	mg/L	E245.1
SS-14	Natural Sample	H16030355-010	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-14	Natural Sample	H16030355-010	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Natural Sample	H16030355-010	3/16/2016	Sodium, Total Recoverable	29	1	mg/L	E200.7
SS-14	Natural Sample	H16030355-010	3/16/2016	Uranium, Total Recoverable	0.0058	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-14	Natural Sample	H16030355-010	3/16/2016	Zinc, Total Recoverable	0.087	0.008	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Solids, Total Suspended TSS @ 105 C	10	1	mg/L	A2540 D
SS-15A	Natural Sample	H16030355-011	3/16/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-15A	Natural Sample	H16030355-011	3/16/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-15A	Natural Sample	H16030355-011	3/16/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-15A	Natural Sample	H16030355-011	3/16/2016	Chloride	47	1	mg/L	E300.0
SS-15A	Natural Sample	H16030355-011	3/16/2016	Sulfate	91	1	mg/L	E300.0
SS-15A	Natural Sample	H16030355-011	3/16/2016	Hardness as CaCO3	190	1	mg/L	A2340 B
SS-15A	Natural Sample	H16030355-011	3/16/2016	Organic Carbon, Dissolved (DOC)	4	0.5	mg/L	A5310 C
SS-15A	Natural Sample	H16030355-011	3/16/2016	Nitrogen, Ammonia	0.06	0.05	mg/L	E350.1
SS-15A	Natural Sample	H16030355-011	3/16/2016	NO3+NO2 as N	1.68	0.02	mg/L	E353.2
SS-15A	Natural Sample	H16030355-011	3/16/2016	N-Total	2.41	0.06	mg/L	A4500 N-C
SS-15A	Natural Sample	H16030355-011	3/16/2016	Phosphorus, Total as P	0.237	0.003	mg/L	E365.1
SS-15A	Natural Sample	H16030355-011	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Barium, Dissolved	0.034	0.003	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15A	Natural Sample	H16030355-011	3/16/2016	Cadmium, Dissolved	0.00015	0.00003	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Copper, Dissolved	0.013	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Iron, Dissolved	0.09	0.02	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Lead, Dissolved	0.0003	0.0003	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Manganese, Dissolved	0.246	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Natural Sample	H16030355-011	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Uranium, Dissolved	0.0048	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Zinc, Dissolved	0.054	0.008	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Aluminum, Total Recoverable	0.16	0.009	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Barium, Total Recoverable	0.037	0.003	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15A	Natural Sample	H16030355-011	3/16/2016	Cadmium, Total Recoverable	0.00031	0.00003	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Calcium, Total Recoverable	56	1	mg/L	E200.7
SS-15A	Natural Sample	H16030355-011	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Copper, Total Recoverable	0.023	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Iron, Total Recoverable	0.48	0.02	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Lead, Total Recoverable	0.0019	0.0003	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-15A	Natural Sample	H16030355-011	3/16/2016	Manganese, Total Recoverable	0.271	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Mercury, Total Recoverable	0.000013	0.000005	mg/L	E245.1
SS-15A	Natural Sample	H16030355-011	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-15A	Natural Sample	H16030355-011	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Sodium, Total Recoverable	30	1	mg/L	E200.7
SS-15A	Natural Sample	H16030355-011	3/16/2016	Uranium, Total Recoverable	0.005	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16030355-011	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Natural Sample	H16030355-011	3/16/2016	Zinc, Total Recoverable	0.09	0.008	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Solids, Total Suspended TSS @ 105 C	14	1	mg/L	A2540 D
SS-15G	Natural Sample	H16030349-004	3/16/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-15G	Natural Sample	H16030349-004	3/16/2016	Alkalinity, Total as CaCO3	90	4	mg/L	A2320 B
SS-15G	Natural Sample	H16030349-004	3/16/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-15G	Natural Sample	H16030349-004	3/16/2016	Chloride	1	1	mg/L	E300.0
SS-15G	Natural Sample	H16030349-004	3/16/2016	Sulfate	33	1	mg/L	E300.0
SS-15G	Natural Sample	H16030349-004	3/16/2016	Hardness as CaCO3	112	1	mg/L	A2340 B
SS-15G	Natural Sample	H16030349-004	3/16/2016	Organic Carbon, Dissolved (DOC)	2.1	0.5	mg/L	A5310 C
SS-15G	Natural Sample	H16030349-004	3/16/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15G	Natural Sample	H16030349-004	3/16/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2
SS-15G	Natural Sample	H16030349-004	3/16/2016	N-Total	0.18	0.05	mg/L	A4500 N-C
SS-15G	Natural Sample	H16030349-004	3/16/2016	Phosphorus, Total as P	0.048	0.003	mg/L	E365.1
SS-15G	Natural Sample	H16030349-004	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Barium, Dissolved	0.022	0.003	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15G	Natural Sample	H16030349-004	3/16/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Manganese, Dissolved	0.003	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15G	Natural Sample	H16030349-004	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15G	Natural Sample	H16030349-004	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Uranium, Dissolved	0.0009	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Aluminum, Total Recoverable	0.286	0.009	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Arsenic, Total Recoverable	0.004	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Barium, Total Recoverable	0.024	0.003	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15G	Natural Sample	H16030349-004	3/16/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Calcium, Total Recoverable	35	1	mg/L	E200.7
SS-15G	Natural Sample	H16030349-004	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Iron, Total Recoverable	0.28	0.02	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Lead, Total Recoverable	0.0004	0.0003	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Magnesium, Total Recoverable	6	1	mg/L	E200.7
SS-15G	Natural Sample	H16030349-004	3/16/2016	Manganese, Total Recoverable	0.017	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-15G	Natural Sample	H16030349-004	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Potassium, Total Recoverable	2	1	mg/L	E200.7
SS-15G	Natural Sample	H16030349-004	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Sodium, Total Recoverable	6	1	mg/L	E200.7
SS-15G	Natural Sample	H16030349-004	3/16/2016	Uranium, Total Recoverable	0.001	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15G	Natural Sample	H16030349-004	3/16/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Solids, Total Suspended TSS @ 105 C	11	1	mg/L	A2540 D

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15B	Natural Sample	H16030355-013	3/16/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-15B	Natural Sample	H16030355-013	3/16/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-15B	Natural Sample	H16030355-013	3/16/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-15B	Natural Sample	H16030355-013	3/16/2016	Chloride	37	1	mg/L	E300.0
SS-15B	Natural Sample	H16030355-013	3/16/2016	Sulfate	78	1	mg/L	E300.0
SS-15B	Natural Sample	H16030355-013	3/16/2016	Hardness as CaCO3	176	1	mg/L	A2340 B
SS-15B	Natural Sample	H16030355-013	3/16/2016	Organic Carbon, Dissolved (DOC)	3.5	0.5	mg/L	A5310 C
SS-15B	Natural Sample	H16030355-013	3/16/2016	Nitrogen, Ammonia	0.08	0.05	mg/L	E350.1
SS-15B	Natural Sample	H16030355-013	3/16/2016	NO3+NO2 as N	1.48	0.02	mg/L	E353.2
SS-15B	Natural Sample	H16030355-013	3/16/2016	N-Total	2.17	0.06	mg/L	A4500 N-C
SS-15B	Natural Sample	H16030355-013	3/16/2016	Phosphorus, Total as P	0.226	0.003	mg/L	E365.1
SS-15B	Natural Sample	H16030355-013	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Barium, Dissolved	0.034	0.003	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15B	Natural Sample	H16030355-013	3/16/2016	Cadmium, Dissolved	0.00014	0.00003	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Copper, Dissolved	0.01	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Iron, Dissolved	0.07	0.02	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Manganese, Dissolved	0.226	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15B	Natural Sample	H16030355-013	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Uranium, Dissolved	0.004	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15B	Natural Sample	H16030355-013	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Zinc, Dissolved	0.066	0.008	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Aluminum, Total Recoverable	0.219	0.009	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Barium, Total Recoverable	0.038	0.003	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15B	Natural Sample	H16030355-013	3/16/2016	Cadmium, Total Recoverable	0.00032	0.00003	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Calcium, Total Recoverable	52	1	mg/L	E200.7
SS-15B	Natural Sample	H16030355-013	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Copper, Total Recoverable	0.021	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Iron, Total Recoverable	0.49	0.02	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Lead, Total Recoverable	0.0019	0.0003	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Magnesium, Total Recoverable	11	1	mg/L	E200.7
SS-15B	Natural Sample	H16030355-013	3/16/2016	Manganese, Total Recoverable	0.251	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Mercury, Total Recoverable	0.000014	0.000005	mg/L	E245.1
SS-15B	Natural Sample	H16030355-013	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-15B	Natural Sample	H16030355-013	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Sodium, Total Recoverable	25	1	mg/L	E200.7
SS-15B	Natural Sample	H16030355-013	3/16/2016	Uranium, Total Recoverable	0.0042	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15B	Natural Sample	H16030355-013	3/16/2016	Zinc, Total Recoverable	0.098	0.008	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-16B	Natural Sample	H16030355-014	3/16/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-16B	Natural Sample	H16030355-014	3/16/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Natural Sample	H16030355-014	3/16/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-16B	Natural Sample	H16030355-014	3/16/2016	Chloride	37	1	mg/L	E300.0
SS-16B	Natural Sample	H16030355-014	3/16/2016	Sulfate	81	1	mg/L	E300.0
SS-16B	Natural Sample	H16030355-014	3/16/2016	Hardness as CaCO3	174	1	mg/L	A2340 B
SS-16B	Natural Sample	H16030355-014	3/16/2016	Organic Carbon, Dissolved (DOC)	3.9	0.5	mg/L	A5310 C
SS-16B	Natural Sample	H16030355-014	3/16/2016	Nitrogen, Ammonia	0.13	0.05	mg/L	E350.1
SS-16B	Natural Sample	H16030355-014	3/16/2016	NO3+NO2 as N	1.82	0.02	mg/L	E353.2
SS-16B	Natural Sample	H16030355-014	3/16/2016	N-Total	2.56	0.06	mg/L	A4500 N-C
SS-16B	Natural Sample	H16030355-014	3/16/2016	Phosphorus, Total as P	0.28	0.003	mg/L	E365.1
SS-16B	Natural Sample	H16030355-014	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Barium, Dissolved	0.034	0.003	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-16B	Natural Sample	H16030355-014	3/16/2016	Cadmium, Dissolved	0.00018	0.00003	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Copper, Dissolved	0.012	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Iron, Dissolved	0.09	0.02	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Lead, Dissolved	0.0003	0.0003	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Manganese, Dissolved	0.268	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-16B	Natural Sample	H16030355-014	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Uranium, Dissolved	0.0042	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Zinc, Dissolved	0.094	0.008	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Natural Sample	H16030355-014	3/16/2016	Aluminum, Total Recoverable	0.157	0.009	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Barium, Total Recoverable	0.038	0.003	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-16B	Natural Sample	H16030355-014	3/16/2016	Cadmium, Total Recoverable	0.00031	0.00003	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Calcium, Total Recoverable	51	1	mg/L	E200.7
SS-16B	Natural Sample	H16030355-014	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Copper, Total Recoverable	0.021	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Iron, Total Recoverable	0.42	0.02	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Lead, Total Recoverable	0.0017	0.0003	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Magnesium, Total Recoverable	11	1	mg/L	E200.7
SS-16B	Natural Sample	H16030355-014	3/16/2016	Manganese, Total Recoverable	0.298	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Mercury, Total Recoverable	0.000012	0.000005	mg/L	E245.1
SS-16B	Natural Sample	H16030355-014	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-16B	Natural Sample	H16030355-014	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Sodium, Total Recoverable	27	1	mg/L	E200.7
SS-16B	Natural Sample	H16030355-014	3/16/2016	Uranium, Total Recoverable	0.0045	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-16B	Natural Sample	H16030355-014	3/16/2016	Zinc, Total Recoverable	0.123	0.008	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Solids, Total Suspended TSS @ 105 C	9	1	mg/L	A2540 D
SS-17D	Natural Sample	H16030355-016	3/16/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-17D	Natural Sample	H16030355-016	3/16/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-17D	Natural Sample	H16030355-016	3/16/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-17D	Natural Sample	H16030355-016	3/16/2016	Chloride	39	1	mg/L	E300.0

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Natural Sample	H16030355-016	3/16/2016	Sulfate	91	1	mg/L	E300.0
SS-17D	Natural Sample	H16030355-016	3/16/2016	Hardness as CaCO3	184	1	mg/L	A2340 B
SS-17D	Natural Sample	H16030355-016	3/16/2016	Organic Carbon, Dissolved (DOC)	3.5	0.5	mg/L	A5310 C
SS-17D	Natural Sample	H16030355-016	3/16/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-17D	Natural Sample	H16030355-016	3/16/2016	NO3+NO2 as N	1.96	0.02	mg/L	E353.2
SS-17D	Natural Sample	H16030355-016	3/16/2016	N-Total	2.61	0.06	mg/L	A4500 N-C
SS-17D	Natural Sample	H16030355-016	3/16/2016	Phosphorus, Total as P	0.22	0.003	mg/L	E365.1
SS-17D	Natural Sample	H16030355-016	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Barium, Dissolved	0.035	0.003	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-17D	Natural Sample	H16030355-016	3/16/2016	Cadmium, Dissolved	0.00026	0.00003	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Copper, Dissolved	0.014	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Iron, Dissolved	0.08	0.02	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Lead, Dissolved	0.0003	0.0003	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Manganese, Dissolved	0.266	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-17D	Natural Sample	H16030355-016	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Uranium, Dissolved	0.0049	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Zinc, Dissolved	0.109	0.008	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Aluminum, Total Recoverable	0.174	0.009	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Natural Sample	H16030355-016	3/16/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Barium, Total Recoverable	0.037	0.003	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-17D	Natural Sample	H16030355-016	3/16/2016	Cadmium, Total Recoverable	0.00037	0.00003	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Calcium, Total Recoverable	54	1	mg/L	E200.7
SS-17D	Natural Sample	H16030355-016	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Copper, Total Recoverable	0.022	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Iron, Total Recoverable	0.38	0.02	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Lead, Total Recoverable	0.0017	0.0003	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-17D	Natural Sample	H16030355-016	3/16/2016	Manganese, Total Recoverable	0.279	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Mercury, Total Recoverable	0.000008	0.000005	mg/L	E245.1
SS-17D	Natural Sample	H16030355-016	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-17D	Natural Sample	H16030355-016	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Sodium, Total Recoverable	29	1	mg/L	E200.7
SS-17D	Natural Sample	H16030355-016	3/16/2016	Uranium, Total Recoverable	0.0048	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-17D	Natural Sample	H16030355-016	3/16/2016	Zinc, Total Recoverable	0.123	0.008	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Solids, Total Suspended TSS @ 105 C	10	1	mg/L	A2540 D
SS-19	Natural Sample	H16030355-017	3/16/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-19	Natural Sample	H16030355-017	3/16/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-19	Natural Sample	H16030355-017	3/16/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-19	Natural Sample	H16030355-017	3/16/2016	Chloride	36	1	mg/L	E300.0
SS-19	Natural Sample	H16030355-017	3/16/2016	Sulfate	90	1	mg/L	E300.0
SS-19	Natural Sample	H16030355-017	3/16/2016	Hardness as CaCO3	184	1	mg/L	A2340 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-19	Natural Sample	H16030355-017	3/16/2016	Organic Carbon, Dissolved (DOC)	3.4	0.5	mg/L	A5310 C
SS-19	Natural Sample	H16030355-017	3/16/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-19	Natural Sample	H16030355-017	3/16/2016	NO3+NO2 as N	1.32	0.02	mg/L	E353.2
SS-19	Natural Sample	H16030355-017	3/16/2016	N-Total	1.82	0.05	mg/L	A4500 N-C
SS-19	Natural Sample	H16030355-017	3/16/2016	Phosphorus, Total as P	0.175	0.003	mg/L	E365.1
SS-19	Natural Sample	H16030355-017	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Barium, Dissolved	0.035	0.003	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-19	Natural Sample	H16030355-017	3/16/2016	Cadmium, Dissolved	0.00029	0.00003	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Copper, Dissolved	0.013	0.001	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Iron, Dissolved	0.06	0.02	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Manganese, Dissolved	0.23	0.001	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-19	Natural Sample	H16030355-017	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Uranium, Dissolved	0.0051	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Zinc, Dissolved	0.099	0.008	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Aluminum, Total Recoverable	0.209	0.009	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Barium, Total Recoverable	0.036	0.003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-19	Natural Sample	H16030355-017	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-19	Natural Sample	H16030355-017	3/16/2016	Cadmium, Total Recoverable	0.00038	0.00003	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Calcium, Total Recoverable	54	1	mg/L	E200.7
SS-19	Natural Sample	H16030355-017	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Copper, Total Recoverable	0.021	0.001	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Iron, Total Recoverable	0.41	0.02	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Lead, Total Recoverable	0.0018	0.0003	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-19	Natural Sample	H16030355-017	3/16/2016	Manganese, Total Recoverable	0.252	0.001	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Mercury, Total Recoverable	0.000007	0.000005	mg/L	E245.1
SS-19	Natural Sample	H16030355-017	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-19	Natural Sample	H16030355-017	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Sodium, Total Recoverable	28	1	mg/L	E200.7
SS-19	Natural Sample	H16030355-017	3/16/2016	Uranium, Total Recoverable	0.0051	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-19	Natural Sample	H16030355-017	3/16/2016	Zinc, Total Recoverable	0.119	0.008	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Chloride	37	1	mg/L	E300.0
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Sulfate	81	1	mg/L	E300.0

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Hardness as CaCO3	173	1	mg/L	A2340 B
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Organic Carbon, Dissolved (DOC)	3.8	0.5	mg/L	A5310 C
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Nitrogen, Ammonia	0.13	0.05	mg/L	E350.1
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	NO3+NO2 as N	1.82	0.02	mg/L	E353.2
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	N-Total	2.59	0.06	mg/L	A4500 N-C
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Phosphorus, Total as P	0.266	0.003	mg/L	E365.1
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Barium, Dissolved	0.035	0.003	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Cadmium, Dissolved	0.00017	0.00003	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Copper, Dissolved	0.012	0.001	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Iron, Dissolved	0.09	0.02	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Lead, Dissolved	0.0003	0.0003	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Manganese, Dissolved	0.273	0.001	mg/L	E200.8
SS-16B	Duplicate	H16030355-015	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Uranium, Dissolved	0.0043	0.0002	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Zinc, Dissolved	0.099	0.008	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Aluminum, Total Recoverable	0.165	0.009	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Barium, Total Recoverable	0.036	0.003	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Cadmium, Total Recoverable	0.00032	0.00003	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Calcium, Total Recoverable	51	1	mg/L	E200.7
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Copper, Total Recoverable	0.02	0.001	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Iron, Total Recoverable	0.4	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Lead, Total Recoverable	0.0016	0.0003	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Magnesium, Total Recoverable	11	1	mg/L	E200.7
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Manganese, Total Recoverable	0.283	0.001	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Mercury, Total Recoverable	0.000009	0.000005	mg/L	E245.1
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Sodium, Total Recoverable	27	1	mg/L	E200.7
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Uranium, Total Recoverable	0.0043	0.0002	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-16B	Duplicate Sample	H16030355-015	3/16/2016	Zinc, Total Recoverable	0.118	0.008	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Solids, Total Suspended TSS @ 105 C	9	1	mg/L	A2540 D
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Alkalinity, Total as CaCO3	78	4	mg/L	A2320 B
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Bicarbonate Alkalinity as HCO3	95	4	mg/L	A2320 B
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Chloride	41	1	mg/L	E300.0
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Sulfate	29	1	mg/L	E300.0
SS-01	Duplicate	H16030349-002	3/17/2016	Hardness as CaCO3	143	1	mg/L	A2340 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Organic Carbon, Dissolved (DOC)	3.9	0.5	mg/L	A5310 C
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-01	Duplicate Sample	H16030349-002	3/17/2016	NO3+NO2 as N	0.61	0.02	mg/L	E353.2
SS-01	Duplicate Sample	H16030349-002	3/17/2016	N-Total	0.95	0.05	mg/L	A4500 N-C
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Phosphorus, Total as P	0.08	0.003	mg/L	E365.1
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Arsenic, Dissolved	0.002	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Barium, Dissolved	0.04	0.003	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Copper, Dissolved	0.003	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Iron, Dissolved	0.22	0.02	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Manganese, Dissolved	0.063	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Uranium, Dissolved	0.0027	0.0002	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Aluminum, Total Recoverable	0.26	0.009	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Arsenic, Total Recoverable	0.004	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Barium, Total Recoverable	0.046	0.003	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Cadmium, Total Recoverable	0.00004	0.00003	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Calcium, Total Recoverable	32	1	mg/L	E200.7
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Iron, Total Recoverable	0.98	0.02	mg/L	E200.8
SS-01	Duplicate	H16030349-002	3/17/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Magnesium, Total Recoverable	15	1	mg/L	E200.7
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Manganese, Total Recoverable	0.087	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Mercury, Total Recoverable	0.000009	0.000005	mg/L	E245.1
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Sodium, Total Recoverable	16	1	mg/L	E200.7
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Uranium, Total Recoverable	0.003	0.0002	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-01	Duplicate Sample	H16030349-002	3/17/2016	Zinc, Total Recoverable	0.011	0.008	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
SS-15A	Field Blank	H16030355-012	3/16/2016	Solids, Volatile Suspended	ND	1	mg/L	A2540 E
SS-15A	Field Blank	H16030355-012	3/16/2016	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
SS-15A	Field Blank	H16030355-012	3/16/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
SS-15A	Field Blank	H16030355-012	3/16/2016	Chloride	ND	1	mg/L	E300.0
SS-15A	Field Blank	H16030355-012	3/16/2016	Sulfate	ND	1	mg/L	E300.0
SS-15A	Field Blank	H16030355-012	3/16/2016	Hardness as CaCO3	ND	1	mg/L	A2340 B
SS-15A	Field Blank	H16030355-012	3/16/2016	Organic Carbon, Dissolved (DOC)	ND	0.5	mg/L	A5310 C
SS-15A	Field Blank	H16030355-012	3/16/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15A	Field Blank	H16030355-012	3/16/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Field Blank	H16030355-012	3/16/2016	N-Total	ND	0.05	mg/L	A4500 N-C
SS-15A	Field Blank	H16030355-012	3/16/2016	Phosphorus, Total as P	ND	0.003	mg/L	E365.1
SS-15A	Field Blank	H16030355-012	3/16/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Arsenic, Dissolved	ND	0.001	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Barium, Dissolved	ND	0.003	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15A	Field Blank	H16030355-012	3/16/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Manganese, Dissolved	ND	0.001	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15A	Field Blank	H16030355-012	3/16/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Uranium, Dissolved	ND	0.0002	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Zinc, Dissolved	0.011	0.008	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Aluminum, Total Recoverable	ND	0.009	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Arsenic, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Barium, Total Recoverable	ND	0.003	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15A	Field Blank	H16030355-012	3/16/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Calcium, Total Recoverable	ND	1	mg/L	E200.7

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Field Blank	H16030355-012	3/16/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Iron, Total Recoverable	ND	0.02	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
SS-15A	Field Blank	H16030355-012	3/16/2016	Manganese, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-15A	Field Blank	H16030355-012	3/16/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Potassium, Total Recoverable	ND	1	mg/L	E200.7
SS-15A	Field Blank	H16030355-012	3/16/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Sodium, Total Recoverable	ND	1	mg/L	E200.7
SS-15A	Field Blank	H16030355-012	3/16/2016	Uranium, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15A	Field Blank	H16030355-012	3/16/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
SS-08	Field Blank	H16030355-004	3/17/2016	Solids, Volatile Suspended	ND	1	mg/L	A2540 E
SS-08	Field Blank	H16030355-004	3/17/2016	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
SS-08	Field Blank	H16030355-004	3/17/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
SS-08	Field Blank	H16030355-004	3/17/2016	Chloride	ND	1	mg/L	E300.0
SS-08	Field Blank	H16030355-004	3/17/2016	Sulfate	ND	1	mg/L	E300.0
SS-08	Field Blank	H16030355-004	3/17/2016	Hardness as CaCO3	ND	1	mg/L	A2340 B
SS-08	Field Blank	H16030355-004	3/17/2016	Organic Carbon, Dissolved (DOC)	ND	0.5	mg/L	A5310 C
SS-08	Field Blank	H16030355-004	3/17/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-08	Field Blank	H16030355-004	3/17/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2
SS-08	Field Blank	H16030355-004	3/17/2016	N-Total	ND	0.05	mg/L	A4500 N-C
SS-08	Field Blank	H16030355-004	3/17/2016	Phosphorus, Total as P	ND	0.003	mg/L	E365.1
SS-08	Field Blank	H16030355-004	3/17/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-08	Field Blank	H16030355-004	3/17/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Arsenic, Dissolved	ND	0.001	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Barium, Dissolved	ND	0.003	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-08	Field Blank	H16030355-004	3/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Manganese, Dissolved	ND	0.001	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-08	Field Blank	H16030355-004	3/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Uranium, Dissolved	ND	0.0002	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Zinc, Dissolved	0.013	0.008	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Aluminum, Total Recoverable	ND	0.009	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Arsenic, Total Recoverable	ND	0.001	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Barium, Total Recoverable	ND	0.003	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-08	Field Blank	H16030355-004	3/17/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Calcium, Total Recoverable	ND	1	mg/L	E200.7
SS-08	Field Blank	H16030355-004	3/17/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-08	Field Blank	H16030355-004	3/17/2016	Iron, Total Recoverable	ND	0.02	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
SS-08	Field Blank	H16030355-004	3/17/2016	Manganese, Total Recoverable	ND	0.001	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-08	Field Blank	H16030355-004	3/17/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Potassium, Total Recoverable	ND	1	mg/L	E200.7
SS-08	Field Blank	H16030355-004	3/17/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Sodium, Total Recoverable	ND	1	mg/L	E200.7
SS-08	Field Blank	H16030355-004	3/17/2016	Uranium, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-08	Field Blank	H16030355-004	3/17/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
SS-01	Natural Sample	H16060098-001	6/3/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-01	Natural Sample	H16060098-001	6/3/2016	Alkalinity, Total as CaCO3	73	4	mg/L	A2320 B
SS-01	Natural Sample	H16060098-001	6/3/2016	Bicarbonate Alkalinity as HCO3	89	4	mg/L	A2320 B
SS-01	Natural Sample	H16060098-001	6/3/2016	Chloride	7	1	mg/L	E300.0
SS-01	Natural Sample	H16060098-001	6/3/2016	Sulfate	21	1	mg/L	E300.0
SS-01	Natural Sample	H16060098-001	6/3/2016	Hardness as CaCO3	84	1	mg/L	A2340 B
SS-01	Natural Sample	H16060098-001	6/3/2016	Organic Carbon, Dissolved (DOC)	5.3	0.5	mg/L	A5310 C
SS-01	Natural Sample	H16060098-001	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-01	Natural Sample	H16060098-001	6/3/2016	NO3+NO2 as N	0.31	0.02	mg/L	E353.2
SS-01	Natural Sample	H16060098-001	6/3/2016	N-Total	0.64	0.05	mg/L	A4500 N-C
SS-01	Natural Sample	H16060098-001	6/3/2016	Phosphorus, Total as P	0.109	0.003	mg/L	E365.1
SS-01	Natural Sample	H16060098-001	6/3/2016	Aluminum, Dissolved	0.009	0.009	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Barium, Dissolved	0.032	0.003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-01	Natural Sample	H16060098-001	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-01	Natural Sample	H16060098-001	6/3/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Copper, Dissolved	0.003	0.001	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Iron, Dissolved	0.34	0.02	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Manganese, Dissolved	0.025	0.001	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-01	Natural Sample	H16060098-001	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Uranium, Dissolved	0.0021	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Zinc, Dissolved	0.008	0.008	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Aluminum, Total Recoverable	0.181	0.009	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Barium, Total Recoverable	0.033	0.003	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-01	Natural Sample	H16060098-001	6/3/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Calcium, Total Recoverable	25	1	mg/L	E200.7
SS-01	Natural Sample	H16060098-001	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Iron, Total Recoverable	0.93	0.02	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Lead, Total Recoverable	0.0008	0.0003	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Magnesium, Total Recoverable	6	1	mg/L	E200.7

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-01	Natural Sample	H16060098-001	6/3/2016	Manganese, Total Recoverable	0.051	0.001	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Mercury, Total Recoverable	0.000007	0.000005	mg/L	E245.1
SS-01	Natural Sample	H16060098-001	6/3/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Potassium, Total Recoverable	2	1	mg/L	E200.7
SS-01	Natural Sample	H16060098-001	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Silver, Total Recoverable	0.0003	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Sodium, Total Recoverable	8	1	mg/L	E200.7
SS-01	Natural Sample	H16060098-001	6/3/2016	Uranium, Total Recoverable	0.0024	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-01	Natural Sample	H16060098-001	6/3/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Solids, Total Suspended TSS @ 105 C	9	1	mg/L	A2540 D
SS-05A	Natural Sample	H16060098-002	6/3/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-05A	Natural Sample	H16060098-002	6/3/2016	Alkalinity, Total as CaCO3	83	4	mg/L	A2320 B
SS-05A	Natural Sample	H16060098-002	6/3/2016	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
SS-05A	Natural Sample	H16060098-002	6/3/2016	Chloride	10	1	mg/L	E300.0
SS-05A	Natural Sample	H16060098-002	6/3/2016	Sulfate	23	1	mg/L	E300.0
SS-05A	Natural Sample	H16060098-002	6/3/2016	Hardness as CaCO3	98	1	mg/L	A2340 B
SS-05A	Natural Sample	H16060098-002	6/3/2016	Organic Carbon, Dissolved (DOC)	4.7	0.5	mg/L	A5310 C
SS-05A	Natural Sample	H16060098-002	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-05A	Natural Sample	H16060098-002	6/3/2016	NO3+NO2 as N	0.45	0.02	mg/L	E353.2
SS-05A	Natural Sample	H16060098-002	6/3/2016	N-Total	0.78	0.05	mg/L	A4500 N-C
SS-05A	Natural Sample	H16060098-002	6/3/2016	Phosphorus, Total as P	0.108	0.003	mg/L	E365.1
SS-05A	Natural Sample	H16060098-002	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Barium, Dissolved	0.036	0.003	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-05A	Natural Sample	H16060098-002	6/3/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-05A	Natural Sample	H16060098-002	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Copper, Dissolved	0.003	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Iron, Dissolved	0.26	0.02	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Manganese, Dissolved	0.047	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-05A	Natural Sample	H16060098-002	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Uranium, Dissolved	0.0028	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Aluminum, Total Recoverable	0.179	0.009	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Barium, Total Recoverable	0.038	0.003	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-05A	Natural Sample	H16060098-002	6/3/2016	Cadmium, Total Recoverable	0.00007	0.00003	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Calcium, Total Recoverable	28	1	mg/L	E200.7
SS-05A	Natural Sample	H16060098-002	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Copper, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Iron, Total Recoverable	0.82	0.02	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Lead, Total Recoverable	0.0016	0.0003	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Magnesium, Total Recoverable	7	1	mg/L	E200.7
SS-05A	Natural Sample	H16060098-002	6/3/2016	Manganese, Total Recoverable	0.063	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Mercury, Total Recoverable	0.00001	0.000005	mg/L	E245.1
SS-05A	Natural Sample	H16060098-002	6/3/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-05A	Natural Sample	H16060098-002	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-05A	Natural Sample	H16060098-002	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Sodium, Total Recoverable	10	1	mg/L	E200.7
SS-05A	Natural Sample	H16060098-002	6/3/2016	Uranium, Total Recoverable	0.003	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-05A	Natural Sample	H16060098-002	6/3/2016	Zinc, Total Recoverable	0.015	0.008	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-06G	Natural Sample	H16060099-001	6/3/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-06G	Natural Sample	H16060099-001	6/3/2016	Alkalinity, Total as CaCO3	83	4	mg/L	A2320 B
SS-06G	Natural Sample	H16060099-001	6/3/2016	Bicarbonate Alkalinity as HCO3	91	4	mg/L	A2320 B
SS-06G	Natural Sample	H16060099-001	6/3/2016	Chloride	15	1	mg/L	E300.0
SS-06G	Natural Sample	H16060099-001	6/3/2016	Sulfate	60	1	mg/L	E300.0
SS-06G	Natural Sample	H16060099-001	6/3/2016	Hardness as CaCO3	131	1	mg/L	A2340 B
SS-06G	Natural Sample	H16060099-001	6/3/2016	Organic Carbon, Dissolved (DOC)	4.2	0.5	mg/L	A5310 C
SS-06G	Natural Sample	H16060099-001	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-06G	Natural Sample	H16060099-001	6/3/2016	NO3+NO2 as N	0.57	0.02	mg/L	E353.2
SS-06G	Natural Sample	H16060099-001	6/3/2016	N-Total	0.9	0.05	mg/L	A4500 N-C
SS-06G	Natural Sample	H16060099-001	6/3/2016	Phosphorus, Total as P	0.091	0.003	mg/L	E365.1
SS-06G	Natural Sample	H16060099-001	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Barium, Dissolved	0.033	0.003	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-06G	Natural Sample	H16060099-001	6/3/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Copper, Dissolved	0.004	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-06G	Natural Sample	H16060099-001	6/3/2016	Iron, Dissolved	0.16	0.02	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Manganese, Dissolved	0.038	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-06G	Natural Sample	H16060099-001	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Uranium, Dissolved	0.0033	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Aluminum, Total Recoverable	0.165	0.009	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Barium, Total Recoverable	0.035	0.003	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-06G	Natural Sample	H16060099-001	6/3/2016	Cadmium, Total Recoverable	0.00008	0.00003	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Calcium, Total Recoverable	37	1	mg/L	E200.7
SS-06G	Natural Sample	H16060099-001	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Copper, Total Recoverable	0.009	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Iron, Total Recoverable	0.7	0.02	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Lead, Total Recoverable	0.0016	0.0003	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-06G	Natural Sample	H16060099-001	6/3/2016	Manganese, Total Recoverable	0.064	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Mercury, Total Recoverable	0.000007	0.000005	mg/L	E245.1
SS-06G	Natural Sample	H16060099-001	6/3/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-06G	Natural Sample	H16060099-001	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-06G	Natural Sample	H16060099-001	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Sodium, Total Recoverable	15	1	mg/L	E200.7
SS-06G	Natural Sample	H16060099-001	6/3/2016	Uranium, Total Recoverable	0.0036	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-06G	Natural Sample	H16060099-001	6/3/2016	Zinc, Total Recoverable	0.016	0.008	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
SS-07	Natural Sample	H16060099-002	6/3/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-07	Natural Sample	H16060099-002	6/3/2016	Alkalinity, Total as CaCO3	83	4	mg/L	A2320 B
SS-07	Natural Sample	H16060099-002	6/3/2016	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
SS-07	Natural Sample	H16060099-002	6/3/2016	Chloride	21	1	mg/L	E300.0
SS-07	Natural Sample	H16060099-002	6/3/2016	Sulfate	58	1	mg/L	E300.0
SS-07	Natural Sample	H16060099-002	6/3/2016	Hardness as CaCO3	127	1	mg/L	A2340 B
SS-07	Natural Sample	H16060099-002	6/3/2016	Organic Carbon, Dissolved (DOC)	4.6	0.5	mg/L	A5310 C
SS-07	Natural Sample	H16060099-002	6/3/2016	Nitrogen, Ammonia	0.25	0.1	mg/L	E350.1
SS-07	Natural Sample	H16060099-002	6/3/2016	NO3+NO2 as N	1.18	0.02	mg/L	E353.2
SS-07	Natural Sample	H16060099-002	6/3/2016	N-Total	1.92	0.2	mg/L	A4500 N-C
SS-07	Natural Sample	H16060099-002	6/3/2016	Phosphorus, Total as P	0.356	0.003	mg/L	E365.1
SS-07	Natural Sample	H16060099-002	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Arsenic, Dissolved	0.004	0.001	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Barium, Dissolved	0.032	0.003	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-07	Natural Sample	H16060099-002	6/3/2016	Cadmium, Dissolved	0.00004	0.00003	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Copper, Dissolved	0.004	0.001	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Iron, Dissolved	0.14	0.02	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Manganese, Dissolved	0.039	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Natural Sample	H16060099-002	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-07	Natural Sample	H16060099-002	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Uranium, Dissolved	0.0028	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Zinc, Dissolved	0.02	0.008	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Aluminum, Total Recoverable	0.121	0.009	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Barium, Total Recoverable	0.031	0.003	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-07	Natural Sample	H16060099-002	6/3/2016	Cadmium, Total Recoverable	0.00009	0.00003	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Calcium, Total Recoverable	36	1	mg/L	E200.7
SS-07	Natural Sample	H16060099-002	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Iron, Total Recoverable	0.57	0.02	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Magnesium, Total Recoverable	9	1	mg/L	E200.7
SS-07	Natural Sample	H16060099-002	6/3/2016	Manganese, Total Recoverable	0.058	0.001	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Mercury, Total Recoverable	0.000006	0.000005	mg/L	E245.1
SS-07	Natural Sample	H16060099-002	6/3/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-07	Natural Sample	H16060099-002	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Sodium, Total Recoverable	19	1	mg/L	E200.7
SS-07	Natural Sample	H16060099-002	6/3/2016	Uranium, Total Recoverable	0.003	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Natural Sample	H16060099-002	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-07	Natural Sample	H16060099-002	6/3/2016	Zinc, Total Recoverable	0.03	0.008	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
SS-08	Natural Sample	H16060099-004	6/3/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-08	Natural Sample	H16060099-004	6/3/2016	Alkalinity, Total as CaCO3	86	4	mg/L	A2320 B
SS-08	Natural Sample	H16060099-004	6/3/2016	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
SS-08	Natural Sample	H16060099-004	6/3/2016	Chloride	21	1	mg/L	E300.0
SS-08	Natural Sample	H16060099-004	6/3/2016	Sulfate	63	1	mg/L	E300.0
SS-08	Natural Sample	H16060099-004	6/3/2016	Hardness as CaCO3	135	1	mg/L	A2340 B
SS-08	Natural Sample	H16060099-004	6/3/2016	Organic Carbon, Dissolved (DOC)	4.4	0.5	mg/L	A5310 C
SS-08	Natural Sample	H16060099-004	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-08	Natural Sample	H16060099-004	6/3/2016	NO3+NO2 as N	0.75	0.02	mg/L	E353.2
SS-08	Natural Sample	H16060099-004	6/3/2016	N-Total	1.21	0.06	mg/L	A4500 N-C
SS-08	Natural Sample	H16060099-004	6/3/2016	Phosphorus, Total as P	0.275	0.003	mg/L	E365.1
SS-08	Natural Sample	H16060099-004	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Arsenic, Dissolved	0.004	0.001	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Barium, Dissolved	0.03	0.003	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-08	Natural Sample	H16060099-004	6/3/2016	Cadmium, Dissolved	0.00007	0.00003	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Copper, Dissolved	0.006	0.001	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Iron, Dissolved	0.12	0.02	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Manganese, Dissolved	0.045	0.001	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-08	Natural Sample	H16060099-004	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-08	Natural Sample	H16060099-004	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Uranium, Dissolved	0.003	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Zinc, Dissolved	0.023	0.008	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Aluminum, Total Recoverable	0.107	0.009	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Barium, Total Recoverable	0.032	0.003	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-08	Natural Sample	H16060099-004	6/3/2016	Cadmium, Total Recoverable	0.00013	0.00003	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Calcium, Total Recoverable	38	1	mg/L	E200.7
SS-08	Natural Sample	H16060099-004	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Copper, Total Recoverable	0.01	0.001	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Iron, Total Recoverable	0.51	0.02	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Lead, Total Recoverable	0.0016	0.0003	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-08	Natural Sample	H16060099-004	6/3/2016	Manganese, Total Recoverable	0.069	0.001	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Mercury, Total Recoverable	0.000008	0.000005	mg/L	E245.1
SS-08	Natural Sample	H16060099-004	6/3/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-08	Natural Sample	H16060099-004	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Sodium, Total Recoverable	21	1	mg/L	E200.7
SS-08	Natural Sample	H16060099-004	6/3/2016	Uranium, Total Recoverable	0.0034	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-08	Natural Sample	H16060099-004	6/3/2016	Zinc, Total Recoverable	0.035	0.008	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Solids, Total Suspended TSS @	5	1	mg/L	A2540 D

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
				105 C				
SS-10A	Natural Sample	H16060099-005	6/3/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-10A	Natural Sample	H16060099-005	6/3/2016	Alkalinity, Total as CaCO3	89	4	mg/L	A2320 B
SS-10A	Natural Sample	H16060099-005	6/3/2016	Bicarbonate Alkalinity as HCO3	99	4	mg/L	A2320 B
SS-10A	Natural Sample	H16060099-005	6/3/2016	Chloride	20	1	mg/L	E300.0
SS-10A	Natural Sample	H16060099-005	6/3/2016	Sulfate	72	1	mg/L	E300.0
SS-10A	Natural Sample	H16060099-005	6/3/2016	Hardness as CaCO3	139	1	mg/L	A2340 B
SS-10A	Natural Sample	H16060099-005	6/3/2016	Organic Carbon, Dissolved (DOC)	4.1	0.5	mg/L	A5310 C
SS-10A	Natural Sample	H16060099-005	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-10A	Natural Sample	H16060099-005	6/3/2016	NO3+NO2 as N	0.42	0.02	mg/L	E353.2
SS-10A	Natural Sample	H16060099-005	6/3/2016	N-Total	0.84	0.05	mg/L	A4500 N-C
SS-10A	Natural Sample	H16060099-005	6/3/2016	Phosphorus, Total as P	0.288	0.003	mg/L	E365.1
SS-10A	Natural Sample	H16060099-005	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Barium, Dissolved	0.032	0.003	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-10A	Natural Sample	H16060099-005	6/3/2016	Cadmium, Dissolved	0.00008	0.00003	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Copper, Dissolved	0.013	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Iron, Dissolved	0.1	0.02	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Manganese, Dissolved	0.074	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-10A	Natural Sample	H16060099-005	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10A	Natural Sample	H16060099-005	6/3/2016	Uranium, Dissolved	0.0035	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Zinc, Dissolved	0.022	0.008	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Aluminum, Total Recoverable	0.107	0.009	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Barium, Total Recoverable	0.034	0.003	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-10A	Natural Sample	H16060099-005	6/3/2016	Cadmium, Total Recoverable	0.00023	0.00003	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Calcium, Total Recoverable	41	1	mg/L	E200.7
SS-10A	Natural Sample	H16060099-005	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Copper, Total Recoverable	0.021	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Iron, Total Recoverable	0.47	0.02	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Lead, Total Recoverable	0.0014	0.0003	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-10A	Natural Sample	H16060099-005	6/3/2016	Manganese, Total Recoverable	0.092	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Mercury, Total Recoverable	0.000007	0.000005	mg/L	E245.1
SS-10A	Natural Sample	H16060099-005	6/3/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-10A	Natural Sample	H16060099-005	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Sodium, Total Recoverable	21	1	mg/L	E200.7
SS-10A	Natural Sample	H16060099-005	6/3/2016	Uranium, Total Recoverable	0.0038	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-10A	Natural Sample	H16060099-005	6/3/2016	Zinc, Total Recoverable	0.044	0.008	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Solids, Total Suspended TSS @ 105 C	4	1	mg/L	A2540 D
SS-10B	Natural Sample	H16060099-006	6/3/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10B	Natural Sample	H16060099-006	6/3/2016	Alkalinity, Total as CaCO3	91	4	mg/L	A2320 B
SS-10B	Natural Sample	H16060099-006	6/3/2016	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
SS-10B	Natural Sample	H16060099-006	6/3/2016	Chloride	21	1	mg/L	E300.0
SS-10B	Natural Sample	H16060099-006	6/3/2016	Sulfate	71	1	mg/L	E300.0
SS-10B	Natural Sample	H16060099-006	6/3/2016	Hardness as CaCO3	137	1	mg/L	A2340 B
SS-10B	Natural Sample	H16060099-006	6/3/2016	Organic Carbon, Dissolved (DOC)	4.1	0.5	mg/L	A5310 C
SS-10B	Natural Sample	H16060099-006	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-10B	Natural Sample	H16060099-006	6/3/2016	NO3+NO2 as N	0.42	0.02	mg/L	E353.2
SS-10B	Natural Sample	H16060099-006	6/3/2016	N-Total	0.8	0.05	mg/L	A4500 N-C
SS-10B	Natural Sample	H16060099-006	6/3/2016	Phosphorus, Total as P	0.282	0.003	mg/L	E365.1
SS-10B	Natural Sample	H16060099-006	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Barium, Dissolved	0.033	0.003	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-10B	Natural Sample	H16060099-006	6/3/2016	Cadmium, Dissolved	0.00011	0.00003	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Copper, Dissolved	0.013	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Iron, Dissolved	0.11	0.02	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Manganese, Dissolved	0.079	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-10B	Natural Sample	H16060099-006	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Uranium, Dissolved	0.0035	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10B	Natural Sample	H16060099-006	6/3/2016	Zinc, Dissolved	0.024	0.008	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Aluminum, Total Recoverable	0.09	0.009	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Barium, Total Recoverable	0.034	0.003	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-10B	Natural Sample	H16060099-006	6/3/2016	Cadmium, Total Recoverable	0.00024	0.00003	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Calcium, Total Recoverable	40	1	mg/L	E200.7
SS-10B	Natural Sample	H16060099-006	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Copper, Total Recoverable	0.021	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Iron, Total Recoverable	0.45	0.02	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-10B	Natural Sample	H16060099-006	6/3/2016	Manganese, Total Recoverable	0.093	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Mercury, Total Recoverable	0.000006	0.000005	mg/L	E245.1
SS-10B	Natural Sample	H16060099-006	6/3/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-10B	Natural Sample	H16060099-006	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Sodium, Total Recoverable	21	1	mg/L	E200.7
SS-10B	Natural Sample	H16060099-006	6/3/2016	Uranium, Total Recoverable	0.0038	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-10B	Natural Sample	H16060099-006	6/3/2016	Zinc, Total Recoverable	0.043	0.008	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
SS-11C	Natural Sample	H16060099-008	6/3/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-11C	Natural Sample	H16060099-008	6/3/2016	Alkalinity, Total as CaCO3	96	4	mg/L	A2320 B
SS-11C	Natural Sample	H16060099-008	6/3/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Natural Sample	H16060099-008	6/3/2016	Chloride	37	1	mg/L	E300.0
SS-11C	Natural Sample	H16060099-008	6/3/2016	Sulfate	80	1	mg/L	E300.0
SS-11C	Natural Sample	H16060099-008	6/3/2016	Hardness as CaCO3	164	1	mg/L	A2340 B
SS-11C	Natural Sample	H16060099-008	6/3/2016	Organic Carbon, Dissolved (DOC)	4.3	0.5	mg/L	A5310 C
SS-11C	Natural Sample	H16060099-008	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-11C	Natural Sample	H16060099-008	6/3/2016	NO3+NO2 as N	0.29	0.02	mg/L	E353.2
SS-11C	Natural Sample	H16060099-008	6/3/2016	N-Total	0.7	0.06	mg/L	A4500 N-C
SS-11C	Natural Sample	H16060099-008	6/3/2016	Phosphorus, Total as P	0.29	0.003	mg/L	E365.1
SS-11C	Natural Sample	H16060099-008	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Barium, Dissolved	0.036	0.003	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11C	Natural Sample	H16060099-008	6/3/2016	Cadmium, Dissolved	0.00016	0.00003	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Copper, Dissolved	0.014	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Iron, Dissolved	0.1	0.02	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Manganese, Dissolved	0.142	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-11C	Natural Sample	H16060099-008	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Uranium, Dissolved	0.0037	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Zinc, Dissolved	0.053	0.008	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Aluminum, Total Recoverable	0.092	0.009	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Natural Sample	H16060099-008	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Barium, Total Recoverable	0.038	0.003	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11C	Natural Sample	H16060099-008	6/3/2016	Cadmium, Total Recoverable	0.00028	0.00003	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Calcium, Total Recoverable	48	1	mg/L	E200.7
SS-11C	Natural Sample	H16060099-008	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Copper, Total Recoverable	0.021	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Iron, Total Recoverable	0.38	0.02	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Lead, Total Recoverable	0.0012	0.0003	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Magnesium, Total Recoverable	11	1	mg/L	E200.7
SS-11C	Natural Sample	H16060099-008	6/3/2016	Manganese, Total Recoverable	0.159	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Mercury, Total Recoverable	0.000007	0.000005	mg/L	E245.1
SS-11C	Natural Sample	H16060099-008	6/3/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-11C	Natural Sample	H16060099-008	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Sodium, Total Recoverable	26	1	mg/L	E200.7
SS-11C	Natural Sample	H16060099-008	6/3/2016	Uranium, Total Recoverable	0.0039	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-11C	Natural Sample	H16060099-008	6/3/2016	Zinc, Total Recoverable	0.067	0.008	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
SS-11D	Natural Sample	H16060099-009	6/3/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-11D	Natural Sample	H16060099-009	6/3/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-11D	Natural Sample	H16060099-009	6/3/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-11D	Natural Sample	H16060099-009	6/3/2016	Chloride	30	1	mg/L	E300.0
SS-11D	Natural Sample	H16060099-009	6/3/2016	Sulfate	69	1	mg/L	E300.0

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11D	Natural Sample	H16060099-009	6/3/2016	Hardness as CaCO3	154	1	mg/L	A2340 B
SS-11D	Natural Sample	H16060099-009	6/3/2016	Organic Carbon, Dissolved (DOC)	5.6	0.5	mg/L	A5310 C
SS-11D	Natural Sample	H16060099-009	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-11D	Natural Sample	H16060099-009	6/3/2016	NO3+NO2 as N	0.25	0.02	mg/L	E353.2
SS-11D	Natural Sample	H16060099-009	6/3/2016	N-Total	0.72	0.06	mg/L	A4500 N-C
SS-11D	Natural Sample	H16060099-009	6/3/2016	Phosphorus, Total as P	0.267	0.003	mg/L	E365.1
SS-11D	Natural Sample	H16060099-009	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Arsenic, Dissolved	0.008	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Barium, Dissolved	0.035	0.003	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11D	Natural Sample	H16060099-009	6/3/2016	Cadmium, Dissolved	0.00015	0.00003	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Copper, Dissolved	0.011	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Iron, Dissolved	0.1	0.02	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Manganese, Dissolved	0.135	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-11D	Natural Sample	H16060099-009	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Uranium, Dissolved	0.003	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Zinc, Dissolved	0.055	0.008	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Aluminum, Total Recoverable	0.194	0.009	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Arsenic, Total Recoverable	0.01	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11D	Natural Sample	H16060099-009	6/3/2016	Barium, Total Recoverable	0.037	0.003	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11D	Natural Sample	H16060099-009	6/3/2016	Cadmium, Total Recoverable	0.00024	0.00003	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Calcium, Total Recoverable	45	1	mg/L	E200.7
SS-11D	Natural Sample	H16060099-009	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Copper, Total Recoverable	0.017	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Iron, Total Recoverable	0.42	0.02	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-11D	Natural Sample	H16060099-009	6/3/2016	Manganese, Total Recoverable	0.16	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Mercury, Total Recoverable	0.000007	0.000005	mg/L	E245.1
SS-11D	Natural Sample	H16060099-009	6/3/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-11D	Natural Sample	H16060099-009	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Sodium, Total Recoverable	27	1	mg/L	E200.7
SS-11D	Natural Sample	H16060099-009	6/3/2016	Uranium, Total Recoverable	0.0032	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-11D	Natural Sample	H16060099-009	6/3/2016	Zinc, Total Recoverable	0.069	0.008	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
SS-13	Natural Sample	H16060099-010	6/2/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-13	Natural Sample	H16060099-010	6/2/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-13	Natural Sample	H16060099-010	6/2/2016	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
SS-13	Natural Sample	H16060099-010	6/2/2016	Chloride	27	1	mg/L	E300.0
SS-13	Natural Sample	H16060099-010	6/2/2016	Sulfate	71	1	mg/L	E300.0
SS-13	Natural Sample	H16060099-010	6/2/2016	Hardness as CaCO3	150	1	mg/L	A2340 B
SS-13	Natural Sample	H16060099-010	6/2/2016	Organic Carbon, Dissolved (DOC)	5.7	0.5	mg/L	A5310 C

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-13	Natural Sample	H16060099-010	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-13	Natural Sample	H16060099-010	6/2/2016	NO3+NO2 as N	0.16	0.02	mg/L	E353.2
SS-13	Natural Sample	H16060099-010	6/2/2016	N-Total	0.66	0.05	mg/L	A4500 N-C
SS-13	Natural Sample	H16060099-010	6/2/2016	Phosphorus, Total as P	0.267	0.003	mg/L	E365.1
SS-13	Natural Sample	H16060099-010	6/2/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Arsenic, Dissolved	0.009	0.001	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Barium, Dissolved	0.028	0.003	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-13	Natural Sample	H16060099-010	6/2/2016	Cadmium, Dissolved	0.00009	0.00003	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Copper, Dissolved	0.011	0.001	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Iron, Dissolved	0.09	0.02	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Manganese, Dissolved	0.08	0.001	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-13	Natural Sample	H16060099-010	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Uranium, Dissolved	0.0036	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Zinc, Dissolved	0.02	0.008	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Aluminum, Total Recoverable	0.191	0.009	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Arsenic, Total Recoverable	0.01	0.001	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Barium, Total Recoverable	0.03	0.003	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-13	Natural Sample	H16060099-010	6/2/2016	Cadmium, Total Recoverable	0.00022	0.00003	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Calcium, Total Recoverable	43	1	mg/L	E200.7
SS-13	Natural Sample	H16060099-010	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Copper, Total Recoverable	0.017	0.001	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Iron, Total Recoverable	0.42	0.02	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-13	Natural Sample	H16060099-010	6/2/2016	Manganese, Total Recoverable	0.11	0.001	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Mercury, Total Recoverable	0.000008	0.000005	mg/L	E245.1
SS-13	Natural Sample	H16060099-010	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-13	Natural Sample	H16060099-010	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Sodium, Total Recoverable	25	1	mg/L	E200.7
SS-13	Natural Sample	H16060099-010	6/2/2016	Uranium, Total Recoverable	0.0038	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-13	Natural Sample	H16060099-010	6/2/2016	Zinc, Total Recoverable	0.042	0.008	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Solids, Total Suspended TSS @ 105 C	9	2	mg/L	A2540 D
SS-14	Natural Sample	H16060099-012	6/2/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-14	Natural Sample	H16060099-012	6/2/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-14	Natural Sample	H16060099-012	6/2/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-14	Natural Sample	H16060099-012	6/2/2016	Chloride	28	1	mg/L	E300.0
SS-14	Natural Sample	H16060099-012	6/2/2016	Sulfate	71	1	mg/L	E300.0
SS-14	Natural Sample	H16060099-012	6/2/2016	Hardness as CaCO3	157	1	mg/L	A2340 B
SS-14	Natural Sample	H16060099-012	6/2/2016	Organic Carbon, Dissolved (DOC)	5.7	0.5	mg/L	A5310 C
SS-14	Natural Sample	H16060099-012	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-14	Natural Sample	H16060099-012	6/2/2016	NO3+NO2 as N	0.12	0.02	mg/L	E353.2
SS-14	Natural Sample	H16060099-012	6/2/2016	N-Total	0.62	0.05	mg/L	A4500 N-C

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Natural Sample	H16060099-012	6/2/2016	Phosphorus, Total as P	0.284	0.003	mg/L	E365.1
SS-14	Natural Sample	H16060099-012	6/2/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Arsenic, Dissolved	0.01	0.001	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Barium, Dissolved	0.03	0.003	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-14	Natural Sample	H16060099-012	6/2/2016	Cadmium, Dissolved	0.00011	0.00003	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Copper, Dissolved	0.011	0.001	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Iron, Dissolved	0.09	0.02	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Manganese, Dissolved	0.086	0.001	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-14	Natural Sample	H16060099-012	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Uranium, Dissolved	0.0036	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Zinc, Dissolved	0.021	0.008	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Aluminum, Total Recoverable	0.208	0.009	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Arsenic, Total Recoverable	0.01	0.001	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Barium, Total Recoverable	0.032	0.003	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-14	Natural Sample	H16060099-012	6/2/2016	Cadmium, Total Recoverable	0.0002	0.00003	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Calcium, Total Recoverable	44	1	mg/L	E200.7
SS-14	Natural Sample	H16060099-012	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Natural Sample	H16060099-012	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Copper, Total Recoverable	0.018	0.001	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Iron, Total Recoverable	0.44	0.02	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Lead, Total Recoverable	0.0014	0.0003	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-14	Natural Sample	H16060099-012	6/2/2016	Manganese, Total Recoverable	0.118	0.001	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Mercury, Total Recoverable	0.00001	0.000005	mg/L	E245.1
SS-14	Natural Sample	H16060099-012	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-14	Natural Sample	H16060099-012	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Sodium, Total Recoverable	25	1	mg/L	E200.7
SS-14	Natural Sample	H16060099-012	6/2/2016	Uranium, Total Recoverable	0.0038	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-14	Natural Sample	H16060099-012	6/2/2016	Zinc, Total Recoverable	0.044	0.008	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
SS-15A	Natural Sample	H16060099-013	6/2/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-15A	Natural Sample	H16060099-013	6/2/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-15A	Natural Sample	H16060099-013	6/2/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-15A	Natural Sample	H16060099-013	6/2/2016	Chloride	28	1	mg/L	E300.0
SS-15A	Natural Sample	H16060099-013	6/2/2016	Sulfate	69	1	mg/L	E300.0
SS-15A	Natural Sample	H16060099-013	6/2/2016	Hardness as CaCO3	156	1	mg/L	A2340 B
SS-15A	Natural Sample	H16060099-013	6/2/2016	Organic Carbon, Dissolved (DOC)	5.7	0.5	mg/L	A5310 C
SS-15A	Natural Sample	H16060099-013	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15A	Natural Sample	H16060099-013	6/2/2016	NO3+NO2 as N	0.06	0.02	mg/L	E353.2
SS-15A	Natural Sample	H16060099-013	6/2/2016	N-Total	0.55	0.06	mg/L	A4500 N-C
SS-15A	Natural Sample	H16060099-013	6/2/2016	Phosphorus, Total as P	0.304	0.003	mg/L	E365.1
SS-15A	Natural Sample	H16060099-013	6/2/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Natural Sample	H16060099-013	6/2/2016	Arsenic, Dissolved	0.01	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Barium, Dissolved	0.03	0.003	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15A	Natural Sample	H16060099-013	6/2/2016	Cadmium, Dissolved	0.00014	0.00003	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Copper, Dissolved	0.013	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Iron, Dissolved	0.1	0.02	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Lead, Dissolved	0.0003	0.0003	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Manganese, Dissolved	0.099	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15A	Natural Sample	H16060099-013	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Uranium, Dissolved	0.0032	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Zinc, Dissolved	0.03	0.008	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Aluminum, Total Recoverable	0.144	0.009	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Arsenic, Total Recoverable	0.01	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Barium, Total Recoverable	0.031	0.003	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15A	Natural Sample	H16060099-013	6/2/2016	Cadmium, Total Recoverable	0.00023	0.00003	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Calcium, Total Recoverable	44	1	mg/L	E200.7
SS-15A	Natural Sample	H16060099-013	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Copper, Total Recoverable	0.018	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Iron, Total Recoverable	0.36	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Natural Sample	H16060099-013	6/2/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-15A	Natural Sample	H16060099-013	6/2/2016	Manganese, Total Recoverable	0.124	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Mercury, Total Recoverable	0.000011	0.000005	mg/L	E245.1
SS-15A	Natural Sample	H16060099-013	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-15A	Natural Sample	H16060099-013	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Sodium, Total Recoverable	26	1	mg/L	E200.7
SS-15A	Natural Sample	H16060099-013	6/2/2016	Uranium, Total Recoverable	0.0033	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15A	Natural Sample	H16060099-013	6/2/2016	Zinc, Total Recoverable	0.05	0.008	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-15G	Natural Sample	H16060098-003	6/2/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-15G	Natural Sample	H16060098-003	6/2/2016	Alkalinity, Total as CaCO3	73	4	mg/L	A2320 B
SS-15G	Natural Sample	H16060098-003	6/2/2016	Bicarbonate Alkalinity as HCO3	88	4	mg/L	A2320 B
SS-15G	Natural Sample	H16060098-003	6/2/2016	Chloride	ND	1	mg/L	E300.0
SS-15G	Natural Sample	H16060098-003	6/2/2016	Sulfate	25	1	mg/L	E300.0
SS-15G	Natural Sample	H16060098-003	6/2/2016	Hardness as CaCO3	91	1	mg/L	A2340 B
SS-15G	Natural Sample	H16060098-003	6/2/2016	Organic Carbon, Dissolved (DOC)	4.6	0.5	mg/L	A5310 C
SS-15G	Natural Sample	H16060098-003	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15G	Natural Sample	H16060098-003	6/2/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2
SS-15G	Natural Sample	H16060098-003	6/2/2016	N-Total	0.2	0.05	mg/L	A4500 N-C
SS-15G	Natural Sample	H16060098-003	6/2/2016	Phosphorus, Total as P	0.023	0.003	mg/L	E365.1
SS-15G	Natural Sample	H16060098-003	6/2/2016	Aluminum, Dissolved	0.022	0.009	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Barium, Dissolved	0.018	0.003	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15G	Natural Sample	H16060098-003	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15G	Natural Sample	H16060098-003	6/2/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Copper, Dissolved	0.001	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Iron, Dissolved	0.02	0.02	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Manganese, Dissolved	0.002	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15G	Natural Sample	H16060098-003	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Uranium, Dissolved	0.0004	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Aluminum, Total Recoverable	0.338	0.009	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Arsenic, Total Recoverable	0.003	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Barium, Total Recoverable	0.02	0.003	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15G	Natural Sample	H16060098-003	6/2/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Calcium, Total Recoverable	29	1	mg/L	E200.7
SS-15G	Natural Sample	H16060098-003	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Iron, Total Recoverable	0.22	0.02	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Magnesium, Total Recoverable	5	1	mg/L	E200.7
SS-15G	Natural Sample	H16060098-003	6/2/2016	Manganese, Total Recoverable	0.009	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15G	Natural Sample	H16060098-003	6/2/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-15G	Natural Sample	H16060098-003	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Potassium, Total Recoverable	1	1	mg/L	E200.7
SS-15G	Natural Sample	H16060098-003	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Sodium, Total Recoverable	3	1	mg/L	E200.7
SS-15G	Natural Sample	H16060098-003	6/2/2016	Uranium, Total Recoverable	0.0004	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15G	Natural Sample	H16060098-003	6/2/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
SS-15B	Natural Sample	H16060099-014	6/2/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-15B	Natural Sample	H16060099-014	6/2/2016	Alkalinity, Total as CaCO3	87	4	mg/L	A2320 B
SS-15B	Natural Sample	H16060099-014	6/2/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-15B	Natural Sample	H16060099-014	6/2/2016	Chloride	11	1	mg/L	E300.0
SS-15B	Natural Sample	H16060099-014	6/2/2016	Sulfate	44	1	mg/L	E300.0
SS-15B	Natural Sample	H16060099-014	6/2/2016	Hardness as CaCO3	119	1	mg/L	A2340 B
SS-15B	Natural Sample	H16060099-014	6/2/2016	Organic Carbon, Dissolved (DOC)	4.9	0.5	mg/L	A5310 C
SS-15B	Natural Sample	H16060099-014	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15B	Natural Sample	H16060099-014	6/2/2016	NO3+NO2 as N	0.03	0.02	mg/L	E353.2
SS-15B	Natural Sample	H16060099-014	6/2/2016	N-Total	0.36	0.06	mg/L	A4500 N-C
SS-15B	Natural Sample	H16060099-014	6/2/2016	Phosphorus, Total as P	0.149	0.003	mg/L	E365.1
SS-15B	Natural Sample	H16060099-014	6/2/2016	Aluminum, Dissolved	0.01	0.009	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Barium, Dissolved	0.024	0.003	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15B	Natural Sample	H16060099-014	6/2/2016	Cadmium, Dissolved	0.00006	0.00003	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15B	Natural Sample	H16060099-014	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Copper, Dissolved	0.006	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Manganese, Dissolved	0.048	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15B	Natural Sample	H16060099-014	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Uranium, Dissolved	0.0015	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Zinc, Dissolved	0.017	0.008	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Aluminum, Total Recoverable	0.271	0.009	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Barium, Total Recoverable	0.026	0.003	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15B	Natural Sample	H16060099-014	6/2/2016	Cadmium, Total Recoverable	0.00013	0.00003	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Calcium, Total Recoverable	35	1	mg/L	E200.7
SS-15B	Natural Sample	H16060099-014	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Copper, Total Recoverable	0.009	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Iron, Total Recoverable	0.29	0.02	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Lead, Total Recoverable	0.0009	0.0003	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Magnesium, Total Recoverable	7	1	mg/L	E200.7
SS-15B	Natural Sample	H16060099-014	6/2/2016	Manganese, Total Recoverable	0.067	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Mercury, Total Recoverable	0.000008	0.000005	mg/L	E245.1
SS-15B	Natural Sample	H16060099-014	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15B	Natural Sample	H16060099-014	6/2/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-15B	Natural Sample	H16060099-014	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Sodium, Total Recoverable	13	1	mg/L	E200.7
SS-15B	Natural Sample	H16060099-014	6/2/2016	Uranium, Total Recoverable	0.0017	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15B	Natural Sample	H16060099-014	6/2/2016	Zinc, Total Recoverable	0.026	0.008	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Solids, Total Suspended TSS @ 105 C	9	1	mg/L	A2540 D
SS-16B	Natural Sample	H16060099-015	6/2/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-16B	Natural Sample	H16060099-015	6/2/2016	Alkalinity, Total as CaCO3	89	4	mg/L	A2320 B
SS-16B	Natural Sample	H16060099-015	6/2/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-16B	Natural Sample	H16060099-015	6/2/2016	Chloride	11	1	mg/L	E300.0
SS-16B	Natural Sample	H16060099-015	6/2/2016	Sulfate	44	1	mg/L	E300.0
SS-16B	Natural Sample	H16060099-015	6/2/2016	Hardness as CaCO3	121	1	mg/L	A2340 B
SS-16B	Natural Sample	H16060099-015	6/2/2016	Organic Carbon, Dissolved (DOC)	5	0.5	mg/L	A5310 C
SS-16B	Natural Sample	H16060099-015	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-16B	Natural Sample	H16060099-015	6/2/2016	NO3+NO2 as N	0.05	0.02	mg/L	E353.2
SS-16B	Natural Sample	H16060099-015	6/2/2016	N-Total	0.4	0.06	mg/L	A4500 N-C
SS-16B	Natural Sample	H16060099-015	6/2/2016	Phosphorus, Total as P	0.167	0.003	mg/L	E365.1
SS-16B	Natural Sample	H16060099-015	6/2/2016	Aluminum, Dissolved	0.01	0.009	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Barium, Dissolved	0.025	0.003	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-16B	Natural Sample	H16060099-015	6/2/2016	Cadmium, Dissolved	0.00006	0.00003	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Copper, Dissolved	0.007	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Natural Sample	H16060099-015	6/2/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Manganese, Dissolved	0.069	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-16B	Natural Sample	H16060099-015	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Uranium, Dissolved	0.0016	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Zinc, Dissolved	0.022	0.008	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Aluminum, Total Recoverable	0.363	0.009	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Barium, Total Recoverable	0.028	0.003	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-16B	Natural Sample	H16060099-015	6/2/2016	Cadmium, Total Recoverable	0.00015	0.00003	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Calcium, Total Recoverable	36	1	mg/L	E200.7
SS-16B	Natural Sample	H16060099-015	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Copper, Total Recoverable	0.013	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Iron, Total Recoverable	0.38	0.02	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Magnesium, Total Recoverable	7	1	mg/L	E200.7
SS-16B	Natural Sample	H16060099-015	6/2/2016	Manganese, Total Recoverable	0.093	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Mercury, Total Recoverable	0.000012	0.000005	mg/L	E245.1
SS-16B	Natural Sample	H16060099-015	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-16B	Natural Sample	H16060099-015	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Natural Sample	H16060099-015	6/2/2016	Sodium, Total Recoverable	13	1	mg/L	E200.7
SS-16B	Natural Sample	H16060099-015	6/2/2016	Uranium, Total Recoverable	0.0017	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-16B	Natural Sample	H16060099-015	6/2/2016	Zinc, Total Recoverable	0.038	0.008	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Solids, Total Suspended TSS @ 105 C	14	2	mg/L	A2540 D
SS-17D	Natural Sample	H16060099-016	6/2/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-17D	Natural Sample	H16060099-016	6/2/2016	Alkalinity, Total as CaCO3	87	4	mg/L	A2320 B
SS-17D	Natural Sample	H16060099-016	6/2/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-17D	Natural Sample	H16060099-016	6/2/2016	Chloride	12	1	mg/L	E300.0
SS-17D	Natural Sample	H16060099-016	6/2/2016	Sulfate	48	1	mg/L	E300.0
SS-17D	Natural Sample	H16060099-016	6/2/2016	Hardness as CaCO3	123	1	mg/L	A2340 B
SS-17D	Natural Sample	H16060099-016	6/2/2016	Organic Carbon, Dissolved (DOC)	5.2	0.5	mg/L	A5310 C
SS-17D	Natural Sample	H16060099-016	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-17D	Natural Sample	H16060099-016	6/2/2016	NO3+NO2 as N	0.12	0.02	mg/L	E353.2
SS-17D	Natural Sample	H16060099-016	6/2/2016	N-Total	0.54	0.06	mg/L	A4500 N-C
SS-17D	Natural Sample	H16060099-016	6/2/2016	Phosphorus, Total as P	0.16	0.003	mg/L	E365.1
SS-17D	Natural Sample	H16060099-016	6/2/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Barium, Dissolved	0.025	0.003	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-17D	Natural Sample	H16060099-016	6/2/2016	Cadmium, Dissolved	0.00007	0.00003	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Manganese, Dissolved	0.069	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Natural Sample	H16060099-016	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Uranium, Dissolved	0.0017	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Zinc, Dissolved	0.028	0.008	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Aluminum, Total Recoverable	0.455	0.009	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Barium, Total Recoverable	0.029	0.003	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-17D	Natural Sample	H16060099-016	6/2/2016	Cadmium, Total Recoverable	0.00019	0.00003	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Calcium, Total Recoverable	37	1	mg/L	E200.7
SS-17D	Natural Sample	H16060099-016	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Copper, Total Recoverable	0.016	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Iron, Total Recoverable	0.49	0.02	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Lead, Total Recoverable	0.002	0.0003	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Magnesium, Total Recoverable	7	1	mg/L	E200.7
SS-17D	Natural Sample	H16060099-016	6/2/2016	Manganese, Total Recoverable	0.108	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Mercury, Total Recoverable	0.000016	0.000005	mg/L	E245.1
SS-17D	Natural Sample	H16060099-016	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-17D	Natural Sample	H16060099-016	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Sodium, Total Recoverable	14	1	mg/L	E200.7
SS-17D	Natural Sample	H16060099-016	6/2/2016	Uranium, Total Recoverable	0.0018	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16060099-016	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Natural Sample	H16060099-016	6/2/2016	Zinc, Total Recoverable	0.052	0.008	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Solids, Total Suspended TSS @ 105 C	15	1	mg/L	A2540 D
SS-19	Natural Sample	H16060099-018	6/2/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-19	Natural Sample	H16060099-018	6/2/2016	Alkalinity, Total as CaCO3	89	4	mg/L	A2320 B
SS-19	Natural Sample	H16060099-018	6/2/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-19	Natural Sample	H16060099-018	6/2/2016	Chloride	11	1	mg/L	E300.0
SS-19	Natural Sample	H16060099-018	6/2/2016	Sulfate	50	1	mg/L	E300.0
SS-19	Natural Sample	H16060099-018	6/2/2016	Hardness as CaCO3	126	1	mg/L	A2340 B
SS-19	Natural Sample	H16060099-018	6/2/2016	Organic Carbon, Dissolved (DOC)	5.1	0.5	mg/L	A5310 C
SS-19	Natural Sample	H16060099-018	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-19	Natural Sample	H16060099-018	6/2/2016	NO3+NO2 as N	0.12	0.02	mg/L	E353.2
SS-19	Natural Sample	H16060099-018	6/2/2016	N-Total	0.59	0.05	mg/L	A4500 N-C
SS-19	Natural Sample	H16060099-018	6/2/2016	Phosphorus, Total as P	0.156	0.003	mg/L	E365.1
SS-19	Natural Sample	H16060099-018	6/2/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Arsenic, Dissolved	0.007	0.001	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Barium, Dissolved	0.025	0.003	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-19	Natural Sample	H16060099-018	6/2/2016	Cadmium, Dissolved	0.00008	0.00003	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Manganese, Dissolved	0.066	0.001	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-19	Natural Sample	H16060099-018	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-19	Natural Sample	H16060099-018	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Uranium, Dissolved	0.0019	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Zinc, Dissolved	0.029	0.008	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Aluminum, Total Recoverable	0.476	0.009	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Arsenic, Total Recoverable	0.008	0.001	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Barium, Total Recoverable	0.031	0.003	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-19	Natural Sample	H16060099-018	6/2/2016	Cadmium, Total Recoverable	0.00021	0.00003	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Calcium, Total Recoverable	38	1	mg/L	E200.7
SS-19	Natural Sample	H16060099-018	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Copper, Total Recoverable	0.018	0.001	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Iron, Total Recoverable	0.52	0.02	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Lead, Total Recoverable	0.0021	0.0003	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Magnesium, Total Recoverable	8	1	mg/L	E200.7
SS-19	Natural Sample	H16060099-018	6/2/2016	Manganese, Total Recoverable	0.113	0.001	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Mercury, Total Recoverable	0.000016	0.000005	mg/L	E245.1
SS-19	Natural Sample	H16060099-018	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-19	Natural Sample	H16060099-018	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Sodium, Total Recoverable	15	1	mg/L	E200.7
SS-19	Natural Sample	H16060099-018	6/2/2016	Uranium, Total Recoverable	0.0021	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-19	Natural Sample	H16060099-018	6/2/2016	Zinc, Total Recoverable	0.057	0.008	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Chloride	28	1	mg/L	E300.0
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Sulfate	71	1	mg/L	E300.0
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Hardness as CaCO3	150	1	mg/L	A2340 B
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Organic Carbon, Dissolved (DOC)	5.7	0.5	mg/L	A5310 C
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-14	Duplicate Sample	H16060099-011	6/2/2016	NO3+NO2 as N	0.12	0.02	mg/L	E353.2
SS-14	Duplicate Sample	H16060099-011	6/2/2016	N-Total	0.64	0.06	mg/L	A4500 N-C
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Phosphorus, Total as P	0.274	0.003	mg/L	E365.1
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Arsenic, Dissolved	0.009	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Barium, Dissolved	0.03	0.003	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Cadmium, Dissolved	0.0001	0.00003	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Duplicate	H16060099-011	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Copper, Dissolved	0.011	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Iron, Dissolved	0.09	0.02	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Manganese, Dissolved	0.086	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Uranium, Dissolved	0.0035	0.0002	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Zinc, Dissolved	0.02	0.008	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Aluminum, Total Recoverable	0.191	0.009	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Arsenic, Total Recoverable	0.01	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Barium, Total Recoverable	0.031	0.003	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Cadmium, Total Recoverable	0.00021	0.00003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Calcium, Total Recoverable	43	1	mg/L	E200.7
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Copper, Total Recoverable	0.017	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Iron, Total Recoverable	0.42	0.02	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Lead, Total Recoverable	0.0014	0.0003	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Manganese, Total Recoverable	0.112	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Mercury, Total Recoverable	0.000009	0.000005	mg/L	E245.1
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Sodium, Total Recoverable	26	1	mg/L	E200.7
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Uranium, Total Recoverable	0.0037	0.0002	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-14	Duplicate Sample	H16060099-011	6/2/2016	Zinc, Total Recoverable	0.043	0.008	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Solids, Total Suspended TSS @ 105 C	4	2	mg/L	A2540 D
SS-11C	Duplicate	H16060099-007	6/3/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Alkalinity, Total as CaCO3	94	4	mg/L	A2320 B
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Chloride	37	1	mg/L	E300.0
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Sulfate	81	1	mg/L	E300.0
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Hardness as CaCO3	164	1	mg/L	A2340 B
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Organic Carbon, Dissolved (DOC)	4.4	0.5	mg/L	A5310 C
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	NO3+NO2 as N	0.29	0.02	mg/L	E353.2
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	N-Total	0.68	0.05	mg/L	A4500 N-C
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Phosphorus, Total as P	0.296	0.003	mg/L	E365.1
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Barium, Dissolved	0.034	0.003	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Cadmium, Dissolved	0.00016	0.00003	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Copper, Dissolved	0.013	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Iron, Dissolved	0.09	0.02	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Manganese, Dissolved	0.132	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Uranium, Dissolved	0.0035	0.0002	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Zinc, Dissolved	0.051	0.008	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Aluminum, Total Recoverable	0.09	0.009	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Barium, Total Recoverable	0.036	0.003	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Cadmium, Total Recoverable	0.00027	0.00003	mg/L	E200.8
SS-11C	Duplicate	H16060099-007	6/3/2016	Calcium, Total Recoverable	48	1	mg/L	E200.7

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Copper, Total Recoverable	0.02	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Iron, Total Recoverable	0.37	0.02	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Lead, Total Recoverable	0.0011	0.0003	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Magnesium, Total Recoverable	11	1	mg/L	E200.7
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Manganese, Total Recoverable	0.153	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Mercury, Total Recoverable	0.000006	0.000005	mg/L	E245.1
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Sodium, Total Recoverable	27	1	mg/L	E200.7
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Uranium, Total Recoverable	0.0038	0.0002	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-11C	Duplicate Sample	H16060099-007	6/3/2016	Zinc, Total Recoverable	0.069	0.008	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
SS-17D	Field Blank	H16060099-017	6/2/2016	Solids, Volatile Suspended	ND	1	mg/L	A2540 E

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Field Blank	H16060099-017	6/2/2016	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
SS-17D	Field Blank	H16060099-017	6/2/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
SS-17D	Field Blank	H16060099-017	6/2/2016	Chloride	ND	1	mg/L	E300.0
SS-17D	Field Blank	H16060099-017	6/2/2016	Sulfate	ND	1	mg/L	E300.0
SS-17D	Field Blank	H16060099-017	6/2/2016	Hardness as CaCO3	ND	1	mg/L	A2340 B
SS-17D	Field Blank	H16060099-017	6/2/2016	Organic Carbon, Dissolved (DOC)	ND	0.5	mg/L	A5310 C
SS-17D	Field Blank	H16060099-017	6/2/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-17D	Field Blank	H16060099-017	6/2/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2
SS-17D	Field Blank	H16060099-017	6/2/2016	N-Total	ND	0.05	mg/L	A4500 N-C
SS-17D	Field Blank	H16060099-017	6/2/2016	Phosphorus, Total as P	ND	0.003	mg/L	E365.1
SS-17D	Field Blank	H16060099-017	6/2/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Arsenic, Dissolved	ND	0.001	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Barium, Dissolved	ND	0.003	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-17D	Field Blank	H16060099-017	6/2/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Manganese, Dissolved	ND	0.001	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-17D	Field Blank	H16060099-017	6/2/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Uranium, Dissolved	ND	0.0002	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Field Blank	H16060099-017	6/2/2016	Zinc, Dissolved	0.009	0.008	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Aluminum, Total Recoverable	ND	0.009	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Arsenic, Total Recoverable	ND	0.001	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Barium, Total Recoverable	ND	0.003	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-17D	Field Blank	H16060099-017	6/2/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Calcium, Total Recoverable	ND	1	mg/L	E200.7
SS-17D	Field Blank	H16060099-017	6/2/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Iron, Total Recoverable	ND	0.02	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
SS-17D	Field Blank	H16060099-017	6/2/2016	Manganese, Total Recoverable	ND	0.001	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-17D	Field Blank	H16060099-017	6/2/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Potassium, Total Recoverable	ND	1	mg/L	E200.7
SS-17D	Field Blank	H16060099-017	6/2/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Sodium, Total Recoverable	ND	1	mg/L	E200.7
SS-17D	Field Blank	H16060099-017	6/2/2016	Uranium, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-17D	Field Blank	H16060099-017	6/2/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
SS-07	Field Blank	H16060099-003	6/3/2016	Solids, Volatile Suspended	ND	1	mg/L	A2540 E
SS-07	Field Blank	H16060099-003	6/3/2016	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
SS-07	Field Blank	H16060099-003	6/3/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Field Blank	H16060099-003	6/3/2016	Chloride	ND	1	mg/L	E300.0
SS-07	Field Blank	H16060099-003	6/3/2016	Sulfate	ND	1	mg/L	E300.0
SS-07	Field Blank	H16060099-003	6/3/2016	Hardness as CaCO3	ND	1	mg/L	A2340 B
SS-07	Field Blank	H16060099-003	6/3/2016	Organic Carbon, Dissolved (DOC)	ND	0.5	mg/L	A5310 C
SS-07	Field Blank	H16060099-003	6/3/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-07	Field Blank	H16060099-003	6/3/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2
SS-07	Field Blank	H16060099-003	6/3/2016	N-Total	ND	0.05	mg/L	A4500 N-C
SS-07	Field Blank	H16060099-003	6/3/2016	Phosphorus, Total as P	ND	0.003	mg/L	E365.1
SS-07	Field Blank	H16060099-003	6/3/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Arsenic, Dissolved	ND	0.001	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Barium, Dissolved	ND	0.003	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-07	Field Blank	H16060099-003	6/3/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Manganese, Dissolved	ND	0.001	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-07	Field Blank	H16060099-003	6/3/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Uranium, Dissolved	ND	0.0002	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Zinc, Dissolved	0.01	0.008	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Aluminum, Total Recoverable	ND	0.009	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Field Blank	H16060099-003	6/3/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Arsenic, Total Recoverable	ND	0.001	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Barium, Total Recoverable	ND	0.003	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-07	Field Blank	H16060099-003	6/3/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Calcium, Total Recoverable	ND	1	mg/L	E200.7
SS-07	Field Blank	H16060099-003	6/3/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Iron, Total Recoverable	ND	0.02	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
SS-07	Field Blank	H16060099-003	6/3/2016	Manganese, Total Recoverable	ND	0.001	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-07	Field Blank	H16060099-003	6/3/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Potassium, Total Recoverable	ND	1	mg/L	E200.7
SS-07	Field Blank	H16060099-003	6/3/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Sodium, Total Recoverable	ND	1	mg/L	E200.7
SS-07	Field Blank	H16060099-003	6/3/2016	Uranium, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-07	Field Blank	H16060099-003	6/3/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Solids, Total Suspended TSS @ 105 C	3	1	mg/L	A2540 D
SS-01	Natural Sample	H16090351-001	9/15/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-01	Natural Sample	H16090351-001	9/15/2016	Alkalinity, Total as CaCO3	99	4	mg/L	A2320 B
SS-01	Natural Sample	H16090351-001	9/15/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-01	Natural Sample	H16090351-001	9/15/2016	Chloride	12	1	mg/L	E300.0
SS-01	Natural Sample	H16090351-001	9/15/2016	Sulfate	31	1	mg/L	E300.0

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-01	Natural Sample	H16090351-001	9/15/2016	Hardness as CaCO3	121	1	mg/L	A2340 B
SS-01	Natural Sample	H16090351-001	9/15/2016	Organic Carbon, Dissolved (DOC)	1.7	0.5	mg/L	A5310 C
SS-01	Natural Sample	H16090351-001	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-01	Natural Sample	H16090351-001	9/15/2016	NO3+NO2 as N	1.25	0.02	mg/L	E353.2
SS-01	Natural Sample	H16090351-001	9/15/2016	N-Total	1.32	0.05	mg/L	A4500 N-C
SS-01	Natural Sample	H16090351-001	9/15/2016	Phosphorus, Total as P	0.089	0.003	mg/L	E365.1
SS-01	Natural Sample	H16090351-001	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Arsenic, Dissolved	0.002	0.001	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Barium, Dissolved	0.057	0.003	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-01	Natural Sample	H16090351-001	9/15/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Copper, Dissolved	0.001	0.001	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Iron, Dissolved	0.07	0.02	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Manganese, Dissolved	0.026	0.001	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-01	Natural Sample	H16090351-001	9/15/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Uranium, Dissolved	0.0039	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Aluminum, Total Recoverable	0.029	0.009	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Arsenic, Total Recoverable	0.003	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-01	Natural Sample	H16090351-001	9/15/2016	Barium, Total Recoverable	0.059	0.003	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-01	Natural Sample	H16090351-001	9/15/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Calcium, Total Recoverable	34	1	mg/L	E200.7
SS-01	Natural Sample	H16090351-001	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Iron, Total Recoverable	0.22	0.02	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Magnesium, Total Recoverable	9	1	mg/L	E200.7
SS-01	Natural Sample	H16090351-001	9/15/2016	Manganese, Total Recoverable	0.031	0.001	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-01	Natural Sample	H16090351-001	9/15/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-01	Natural Sample	H16090351-001	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Sodium, Total Recoverable	12	1	mg/L	E200.7
SS-01	Natural Sample	H16090351-001	9/15/2016	Uranium, Total Recoverable	0.0043	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-01	Natural Sample	H16090351-001	9/15/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-05A	Natural Sample	H16090351-002	9/15/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-05A	Natural Sample	H16090351-002	9/15/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-05A	Natural Sample	H16090351-002	9/15/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-05A	Natural Sample	H16090351-002	9/15/2016	Chloride	18	1	mg/L	E300.0
SS-05A	Natural Sample	H16090351-002	9/15/2016	Sulfate	37	1	mg/L	E300.0
SS-05A	Natural Sample	H16090351-002	9/15/2016	Hardness as CaCO3	142	1	mg/L	A2340 B
SS-05A	Natural Sample	H16090351-002	9/15/2016	Organic Carbon, Dissolved (DOC)	2.1	0.5	mg/L	A5310 C

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-05A	Natural Sample	H16090351-002	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-05A	Natural Sample	H16090351-002	9/15/2016	NO3+NO2 as N	1.3	0.02	mg/L	E353.2
SS-05A	Natural Sample	H16090351-002	9/15/2016	N-Total	1.44	0.05	mg/L	A4500 N-C
SS-05A	Natural Sample	H16090351-002	9/15/2016	Phosphorus, Total as P	0.104	0.003	mg/L	E365.1
SS-05A	Natural Sample	H16090351-002	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Barium, Dissolved	0.058	0.003	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-05A	Natural Sample	H16090351-002	9/15/2016	Cadmium, Dissolved	0.00004	0.00003	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Copper, Dissolved	0.002	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Iron, Dissolved	0.07	0.02	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Manganese, Dissolved	0.061	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-05A	Natural Sample	H16090351-002	9/15/2016	Molybdenum, Dissolved	0.007	0.005	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Uranium, Dissolved	0.0048	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Zinc, Dissolved	0.008	0.008	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Aluminum, Total Recoverable	0.086	0.009	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Barium, Total Recoverable	0.059	0.003	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-05A	Natural Sample	H16090351-002	9/15/2016	Cadmium, Total Recoverable	0.00013	0.00003	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Calcium, Total Recoverable	41	1	mg/L	E200.7
SS-05A	Natural Sample	H16090351-002	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Iron, Total Recoverable	0.35	0.02	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Lead, Total Recoverable	0.002	0.0003	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-05A	Natural Sample	H16090351-002	9/15/2016	Manganese, Total Recoverable	0.081	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-05A	Natural Sample	H16090351-002	9/15/2016	Molybdenum, Total Recoverable	0.007	0.005	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-05A	Natural Sample	H16090351-002	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Sodium, Total Recoverable	16	1	mg/L	E200.7
SS-05A	Natural Sample	H16090351-002	9/15/2016	Uranium, Total Recoverable	0.0052	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-05A	Natural Sample	H16090351-002	9/15/2016	Zinc, Total Recoverable	0.016	0.008	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-06G	Natural Sample	H16090353-001	9/15/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-06G	Natural Sample	H16090353-001	9/15/2016	Alkalinity, Total as CaCO3	98	4	mg/L	A2320 B
SS-06G	Natural Sample	H16090353-001	9/15/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-06G	Natural Sample	H16090353-001	9/15/2016	Chloride	29	1	mg/L	E300.0
SS-06G	Natural Sample	H16090353-001	9/15/2016	Sulfate	121	1	mg/L	E300.0
SS-06G	Natural Sample	H16090353-001	9/15/2016	Hardness as CaCO3	204	1	mg/L	A2340 B
SS-06G	Natural Sample	H16090353-001	9/15/2016	Organic Carbon, Dissolved (DOC)	2	0.5	mg/L	A5310 C
SS-06G	Natural Sample	H16090353-001	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-06G	Natural Sample	H16090353-001	9/15/2016	NO3+NO2 as N	1.53	0.02	mg/L	E353.2
SS-06G	Natural Sample	H16090353-001	9/15/2016	N-Total	1.65	0.05	mg/L	A4500 N-C

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-06G	Natural Sample	H16090353-001	9/15/2016	Phosphorus, Total as P	0.067	0.003	mg/L	E365.1
SS-06G	Natural Sample	H16090353-001	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Arsenic, Dissolved	0.004	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Barium, Dissolved	0.046	0.003	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-06G	Natural Sample	H16090353-001	9/15/2016	Cadmium, Dissolved	0.00004	0.00003	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Copper, Dissolved	0.003	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Manganese, Dissolved	0.036	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-06G	Natural Sample	H16090353-001	9/15/2016	Molybdenum, Dissolved	0.007	0.005	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Uranium, Dissolved	0.0053	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Aluminum, Total Recoverable	0.095	0.009	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Barium, Total Recoverable	0.048	0.003	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-06G	Natural Sample	H16090353-001	9/15/2016	Cadmium, Total Recoverable	0.0001	0.00003	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Calcium, Total Recoverable	58	1	mg/L	E200.7
SS-06G	Natural Sample	H16090353-001	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-06G	Natural Sample	H16090353-001	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Iron, Total Recoverable	0.28	0.02	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Lead, Total Recoverable	0.0022	0.0003	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Magnesium, Total Recoverable	15	1	mg/L	E200.7
SS-06G	Natural Sample	H16090353-001	9/15/2016	Manganese, Total Recoverable	0.075	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Mercury, Total Recoverable	0.000012	0.000005	mg/L	E245.1
SS-06G	Natural Sample	H16090353-001	9/15/2016	Molybdenum, Total Recoverable	0.007	0.005	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-06G	Natural Sample	H16090353-001	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Sodium, Total Recoverable	24	1	mg/L	E200.7
SS-06G	Natural Sample	H16090353-001	9/15/2016	Uranium, Total Recoverable	0.0056	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-06G	Natural Sample	H16090353-001	9/15/2016	Zinc, Total Recoverable	0.019	0.008	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
SS-07	Natural Sample	H16090353-002	9/15/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-07	Natural Sample	H16090353-002	9/15/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-07	Natural Sample	H16090353-002	9/15/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-07	Natural Sample	H16090353-002	9/15/2016	Chloride	33	1	mg/L	E300.0
SS-07	Natural Sample	H16090353-002	9/15/2016	Sulfate	98	1	mg/L	E300.0
SS-07	Natural Sample	H16090353-002	9/15/2016	Hardness as CaCO3	182	1	mg/L	A2340 B
SS-07	Natural Sample	H16090353-002	9/15/2016	Organic Carbon, Dissolved (DOC)	3.1	0.5	mg/L	A5310 C
SS-07	Natural Sample	H16090353-002	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-07	Natural Sample	H16090353-002	9/15/2016	NO3+NO2 as N	1.84	0.02	mg/L	E353.2
SS-07	Natural Sample	H16090353-002	9/15/2016	N-Total	2.14	0.06	mg/L	A4500 N-C
SS-07	Natural Sample	H16090353-002	9/15/2016	Phosphorus, Total as P	0.282	0.003	mg/L	E365.1
SS-07	Natural Sample	H16090353-002	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Natural Sample	H16090353-002	9/15/2016	Arsenic, Dissolved	0.004	0.001	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Barium, Dissolved	0.041	0.003	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-07	Natural Sample	H16090353-002	9/15/2016	Cadmium, Dissolved	0.00005	0.00003	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Copper, Dissolved	0.004	0.001	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Manganese, Dissolved	0.034	0.001	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-07	Natural Sample	H16090353-002	9/15/2016	Molybdenum, Dissolved	0.006	0.005	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Uranium, Dissolved	0.004	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Zinc, Dissolved	0.043	0.008	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Aluminum, Total Recoverable	0.08	0.009	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Arsenic, Total Recoverable	0.004	0.001	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Barium, Total Recoverable	0.04	0.003	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-07	Natural Sample	H16090353-002	9/15/2016	Cadmium, Total Recoverable	0.00012	0.00003	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Calcium, Total Recoverable	52	1	mg/L	E200.7
SS-07	Natural Sample	H16090353-002	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Iron, Total Recoverable	0.22	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Natural Sample	H16090353-002	9/15/2016	Lead, Total Recoverable	0.0018	0.0003	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-07	Natural Sample	H16090353-002	9/15/2016	Manganese, Total Recoverable	0.073	0.001	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-07	Natural Sample	H16090353-002	9/15/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-07	Natural Sample	H16090353-002	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Sodium, Total Recoverable	30	1	mg/L	E200.7
SS-07	Natural Sample	H16090353-002	9/15/2016	Uranium, Total Recoverable	0.0042	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-07	Natural Sample	H16090353-002	9/15/2016	Zinc, Total Recoverable	0.055	0.008	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Solids, Total Suspended TSS @ 105 C	17	1	mg/L	A2540 D
SS-08	Natural Sample	H16090353-003	9/15/2016	Solids, Volatile Suspended	5	1	mg/L	A2540 E
SS-08	Natural Sample	H16090353-003	9/15/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-08	Natural Sample	H16090353-003	9/15/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-08	Natural Sample	H16090353-003	9/15/2016	Chloride	33	1	mg/L	E300.0
SS-08	Natural Sample	H16090353-003	9/15/2016	Sulfate	102	1	mg/L	E300.0
SS-08	Natural Sample	H16090353-003	9/15/2016	Hardness as CaCO3	184	1	mg/L	A2340 B
SS-08	Natural Sample	H16090353-003	9/15/2016	Organic Carbon, Dissolved (DOC)	3.4	0.5	mg/L	A5310 C
SS-08	Natural Sample	H16090353-003	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-08	Natural Sample	H16090353-003	9/15/2016	NO3+NO2 as N	1.08	0.02	mg/L	E353.2
SS-08	Natural Sample	H16090353-003	9/15/2016	N-Total	1.48	0.05	mg/L	A4500 N-C
SS-08	Natural Sample	H16090353-003	9/15/2016	Phosphorus, Total as P	0.402	0.003	mg/L	E365.1
SS-08	Natural Sample	H16090353-003	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Arsenic, Dissolved	0.004	0.001	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Barium, Dissolved	0.041	0.003	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-08	Natural Sample	H16090353-003	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-08	Natural Sample	H16090353-003	9/15/2016	Cadmium, Dissolved	0.00009	0.00003	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Copper, Dissolved	0.005	0.001	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Manganese, Dissolved	0.096	0.001	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-08	Natural Sample	H16090353-003	9/15/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Uranium, Dissolved	0.0044	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Zinc, Dissolved	0.035	0.008	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Aluminum, Total Recoverable	0.28	0.009	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Barium, Total Recoverable	0.048	0.003	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-08	Natural Sample	H16090353-003	9/15/2016	Cadmium, Total Recoverable	0.00025	0.00003	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Calcium, Total Recoverable	52	1	mg/L	E200.7
SS-08	Natural Sample	H16090353-003	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Copper, Total Recoverable	0.016	0.001	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Iron, Total Recoverable	0.56	0.02	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Lead, Total Recoverable	0.0058	0.0003	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-08	Natural Sample	H16090353-003	9/15/2016	Manganese, Total Recoverable	0.163	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-08	Natural Sample	H16090353-003	9/15/2016	Mercury, Total Recoverable	0.000022	0.000005	mg/L	E245.1
SS-08	Natural Sample	H16090353-003	9/15/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-08	Natural Sample	H16090353-003	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Sodium, Total Recoverable	30	1	mg/L	E200.7
SS-08	Natural Sample	H16090353-003	9/15/2016	Uranium, Total Recoverable	0.0047	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-08	Natural Sample	H16090353-003	9/15/2016	Zinc, Total Recoverable	0.073	0.008	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Solids, Total Suspended TSS @ 105 C	9	1	mg/L	A2540 D
SS-10A	Natural Sample	H16090353-004	9/15/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-10A	Natural Sample	H16090353-004	9/15/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-10A	Natural Sample	H16090353-004	9/15/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-10A	Natural Sample	H16090353-004	9/15/2016	Chloride	30	1	mg/L	E300.0
SS-10A	Natural Sample	H16090353-004	9/15/2016	Sulfate	95	1	mg/L	E300.0
SS-10A	Natural Sample	H16090353-004	9/15/2016	Hardness as CaCO3	177	1	mg/L	A2340 B
SS-10A	Natural Sample	H16090353-004	9/15/2016	Organic Carbon, Dissolved (DOC)	4.2	0.5	mg/L	A5310 C
SS-10A	Natural Sample	H16090353-004	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-10A	Natural Sample	H16090353-004	9/15/2016	NO3+NO2 as N	0.92	0.02	mg/L	E353.2
SS-10A	Natural Sample	H16090353-004	9/15/2016	N-Total	1.3	0.05	mg/L	A4500 N-C
SS-10A	Natural Sample	H16090353-004	9/15/2016	Phosphorus, Total as P	0.505	0.003	mg/L	E365.1
SS-10A	Natural Sample	H16090353-004	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Barium, Dissolved	0.039	0.003	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-10A	Natural Sample	H16090353-004	9/15/2016	Cadmium, Dissolved	0.00007	0.00003	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10A	Natural Sample	H16090353-004	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Manganese, Dissolved	0.074	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-10A	Natural Sample	H16090353-004	9/15/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Uranium, Dissolved	0.0036	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Zinc, Dissolved	0.03	0.008	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Aluminum, Total Recoverable	0.113	0.009	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Antimony, Total Recoverable	0.0006	0.0005	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Barium, Total Recoverable	0.043	0.003	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-10A	Natural Sample	H16090353-004	9/15/2016	Cadmium, Total Recoverable	0.0002	0.00003	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Calcium, Total Recoverable	49	1	mg/L	E200.7
SS-10A	Natural Sample	H16090353-004	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Copper, Total Recoverable	0.018	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Iron, Total Recoverable	0.26	0.02	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Lead, Total Recoverable	0.0021	0.0003	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-10A	Natural Sample	H16090353-004	9/15/2016	Manganese, Total Recoverable	0.118	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Mercury, Total Recoverable	0.000009	0.000005	mg/L	E245.1
SS-10A	Natural Sample	H16090353-004	9/15/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10A	Natural Sample	H16090353-004	9/15/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-10A	Natural Sample	H16090353-004	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Sodium, Total Recoverable	30	1	mg/L	E200.7
SS-10A	Natural Sample	H16090353-004	9/15/2016	Uranium, Total Recoverable	0.0038	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-10A	Natural Sample	H16090353-004	9/15/2016	Zinc, Total Recoverable	0.053	0.008	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-10B	Natural Sample	H16090353-006	9/15/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-10B	Natural Sample	H16090353-006	9/15/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-10B	Natural Sample	H16090353-006	9/15/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-10B	Natural Sample	H16090353-006	9/15/2016	Chloride	30	1	mg/L	E300.0
SS-10B	Natural Sample	H16090353-006	9/15/2016	Sulfate	93	1	mg/L	E300.0
SS-10B	Natural Sample	H16090353-006	9/15/2016	Hardness as CaCO3	170	1	mg/L	A2340 B
SS-10B	Natural Sample	H16090353-006	9/15/2016	Organic Carbon, Dissolved (DOC)	4.6	0.5	mg/L	A5310 C
SS-10B	Natural Sample	H16090353-006	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-10B	Natural Sample	H16090353-006	9/15/2016	NO3+NO2 as N	0.94	0.02	mg/L	E353.2
SS-10B	Natural Sample	H16090353-006	9/15/2016	N-Total	1.33	0.05	mg/L	A4500 N-C
SS-10B	Natural Sample	H16090353-006	9/15/2016	Phosphorus, Total as P	0.509	0.003	mg/L	E365.1
SS-10B	Natural Sample	H16090353-006	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Antimony, Dissolved	0.0006	0.0005	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Barium, Dissolved	0.041	0.003	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-10B	Natural Sample	H16090353-006	9/15/2016	Cadmium, Dissolved	0.00009	0.00003	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Copper, Dissolved	0.009	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10B	Natural Sample	H16090353-006	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Manganese, Dissolved	0.08	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-10B	Natural Sample	H16090353-006	9/15/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Uranium, Dissolved	0.0034	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Zinc, Dissolved	0.038	0.008	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Aluminum, Total Recoverable	0.131	0.009	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Antimony, Total Recoverable	0.0007	0.0005	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Barium, Total Recoverable	0.043	0.003	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-10B	Natural Sample	H16090353-006	9/15/2016	Cadmium, Total Recoverable	0.00015	0.00003	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Calcium, Total Recoverable	49	1	mg/L	E200.7
SS-10B	Natural Sample	H16090353-006	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Copper, Total Recoverable	0.018	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Iron, Total Recoverable	0.27	0.02	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Lead, Total Recoverable	0.002	0.0003	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-10B	Natural Sample	H16090353-006	9/15/2016	Manganese, Total Recoverable	0.116	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Mercury, Total Recoverable	0.000009	0.000005	mg/L	E245.1
SS-10B	Natural Sample	H16090353-006	9/15/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-10B	Natural Sample	H16090353-006	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10B	Natural Sample	H16090353-006	9/15/2016	Sodium, Total Recoverable	29	1	mg/L	E200.7
SS-10B	Natural Sample	H16090353-006	9/15/2016	Uranium, Total Recoverable	0.0036	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-10B	Natural Sample	H16090353-006	9/15/2016	Zinc, Total Recoverable	0.055	0.008	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-11C	Natural Sample	H16090353-007	9/15/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-11C	Natural Sample	H16090353-007	9/15/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-11C	Natural Sample	H16090353-007	9/15/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-11C	Natural Sample	H16090353-007	9/15/2016	Chloride	58	1	mg/L	E300.0
SS-11C	Natural Sample	H16090353-007	9/15/2016	Sulfate	95	1	mg/L	E300.0
SS-11C	Natural Sample	H16090353-007	9/15/2016	Hardness as CaCO3	212	1	mg/L	A2340 B
SS-11C	Natural Sample	H16090353-007	9/15/2016	Organic Carbon, Dissolved (DOC)	3.6	0.5	mg/L	A5310 C
SS-11C	Natural Sample	H16090353-007	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-11C	Natural Sample	H16090353-007	9/15/2016	NO3+NO2 as N	0.96	0.02	mg/L	E353.2
SS-11C	Natural Sample	H16090353-007	9/15/2016	N-Total	1.29	0.05	mg/L	A4500 N-C
SS-11C	Natural Sample	H16090353-007	9/15/2016	Phosphorus, Total as P	0.428	0.004	mg/L	E365.1
SS-11C	Natural Sample	H16090353-007	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Antimony, Dissolved	0.0006	0.0005	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Barium, Dissolved	0.043	0.003	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11C	Natural Sample	H16090353-007	9/15/2016	Cadmium, Dissolved	0.00009	0.00003	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Manganese, Dissolved	0.106	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Natural Sample	H16090353-007	9/15/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Uranium, Dissolved	0.0042	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Zinc, Dissolved	0.046	0.008	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Aluminum, Total Recoverable	0.054	0.009	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Antimony, Total Recoverable	0.0005	0.0005	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Barium, Total Recoverable	0.046	0.003	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11C	Natural Sample	H16090353-007	9/15/2016	Cadmium, Total Recoverable	0.00022	0.00003	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Calcium, Total Recoverable	64	1	mg/L	E200.7
SS-11C	Natural Sample	H16090353-007	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Copper, Total Recoverable	0.015	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Iron, Total Recoverable	0.16	0.02	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-11C	Natural Sample	H16090353-007	9/15/2016	Manganese, Total Recoverable	0.15	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Mercury, Total Recoverable	0.000007	0.000005	mg/L	E245.1
SS-11C	Natural Sample	H16090353-007	9/15/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-11C	Natural Sample	H16090353-007	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Sodium, Total Recoverable	33	1	mg/L	E200.7
SS-11C	Natural Sample	H16090353-007	9/15/2016	Uranium, Total Recoverable	0.0045	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16090353-007	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Natural Sample	H16090353-007	9/15/2016	Zinc, Total Recoverable	0.067	0.008	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
SS-11D	Natural Sample	H16090353-009	9/15/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-11D	Natural Sample	H16090353-009	9/15/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-11D	Natural Sample	H16090353-009	9/15/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-11D	Natural Sample	H16090353-009	9/15/2016	Chloride	56	1	mg/L	E300.0
SS-11D	Natural Sample	H16090353-009	9/15/2016	Sulfate	94	1	mg/L	E300.0
SS-11D	Natural Sample	H16090353-009	9/15/2016	Hardness as CaCO3	205	1	mg/L	A2340 B
SS-11D	Natural Sample	H16090353-009	9/15/2016	Organic Carbon, Dissolved (DOC)	3.4	0.5	mg/L	A5310 C
SS-11D	Natural Sample	H16090353-009	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-11D	Natural Sample	H16090353-009	9/15/2016	NO3+NO2 as N	0.96	0.02	mg/L	E353.2
SS-11D	Natural Sample	H16090353-009	9/15/2016	N-Total	1.23	0.06	mg/L	A4500 N-C
SS-11D	Natural Sample	H16090353-009	9/15/2016	Phosphorus, Total as P	0.489	0.003	mg/L	E365.1
SS-11D	Natural Sample	H16090353-009	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Antimony, Dissolved	0.0005	0.0005	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Barium, Dissolved	0.045	0.003	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11D	Natural Sample	H16090353-009	9/15/2016	Cadmium, Dissolved	0.00013	0.00003	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Manganese, Dissolved	0.11	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Mercury, Dissolved	0.000006	0.000005	mg/L	E245.1
SS-11D	Natural Sample	H16090353-009	9/15/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11D	Natural Sample	H16090353-009	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Uranium, Dissolved	0.0041	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Zinc, Dissolved	0.052	0.008	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Aluminum, Total Recoverable	0.099	0.009	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Barium, Total Recoverable	0.046	0.003	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11D	Natural Sample	H16090353-009	9/15/2016	Cadmium, Total Recoverable	0.00021	0.00003	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Calcium, Total Recoverable	61	1	mg/L	E200.7
SS-11D	Natural Sample	H16090353-009	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Copper, Total Recoverable	0.015	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Iron, Total Recoverable	0.2	0.02	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Lead, Total Recoverable	0.0014	0.0003	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-11D	Natural Sample	H16090353-009	9/15/2016	Manganese, Total Recoverable	0.15	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-11D	Natural Sample	H16090353-009	9/15/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-11D	Natural Sample	H16090353-009	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Sodium, Total Recoverable	32	1	mg/L	E200.7
SS-11D	Natural Sample	H16090353-009	9/15/2016	Uranium, Total Recoverable	0.0043	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-11D	Natural Sample	H16090353-009	9/15/2016	Zinc, Total Recoverable	0.069	0.008	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-13	Natural Sample	H16090353-010	9/14/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-13	Natural Sample	H16090353-010	9/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-13	Natural Sample	H16090353-010	9/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-13	Natural Sample	H16090353-010	9/14/2016	Chloride	56	1	mg/L	E300.0
SS-13	Natural Sample	H16090353-010	9/14/2016	Sulfate	105	1	mg/L	E300.0
SS-13	Natural Sample	H16090353-010	9/14/2016	Hardness as CaCO3	212	1	mg/L	A2340 B
SS-13	Natural Sample	H16090353-010	9/14/2016	Organic Carbon, Dissolved (DOC)	2.9	0.5	mg/L	A5310 C
SS-13	Natural Sample	H16090353-010	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-13	Natural Sample	H16090353-010	9/14/2016	NO3+NO2 as N	0.7	0.02	mg/L	E353.2
SS-13	Natural Sample	H16090353-010	9/14/2016	N-Total	0.96	0.05	mg/L	A4500 N-C
SS-13	Natural Sample	H16090353-010	9/14/2016	Phosphorus, Total as P	0.526	0.003	mg/L	E365.1
SS-13	Natural Sample	H16090353-010	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Arsenic, Dissolved	0.007	0.001	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Barium, Dissolved	0.038	0.003	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-13	Natural Sample	H16090353-010	9/14/2016	Cadmium, Dissolved	0.00012	0.00003	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Manganese, Dissolved	0.078	0.001	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-13	Natural Sample	H16090353-010	9/14/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Uranium, Dissolved	0.0049	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-13	Natural Sample	H16090353-010	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Zinc, Dissolved	0.028	0.008	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Aluminum, Total Recoverable	0.094	0.009	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Barium, Total Recoverable	0.039	0.003	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-13	Natural Sample	H16090353-010	9/14/2016	Cadmium, Total Recoverable	0.00022	0.00003	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Calcium, Total Recoverable	63	1	mg/L	E200.7
SS-13	Natural Sample	H16090353-010	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Copper, Total Recoverable	0.014	0.001	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Iron, Total Recoverable	0.19	0.02	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Lead, Total Recoverable	0.0011	0.0003	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-13	Natural Sample	H16090353-010	9/14/2016	Manganese, Total Recoverable	0.141	0.001	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Mercury, Total Recoverable	0.000005	0.000005	mg/L	E245.1
SS-13	Natural Sample	H16090353-010	9/14/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-13	Natural Sample	H16090353-010	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Sodium, Total Recoverable	35	1	mg/L	E200.7
SS-13	Natural Sample	H16090353-010	9/14/2016	Uranium, Total Recoverable	0.0052	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-13	Natural Sample	H16090353-010	9/14/2016	Zinc, Total Recoverable	0.046	0.008	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
SS-14	Natural Sample	H16090353-011	9/14/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-14	Natural Sample	H16090353-011	9/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Natural Sample	H16090353-011	9/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-14	Natural Sample	H16090353-011	9/14/2016	Chloride	57	1	mg/L	E300.0
SS-14	Natural Sample	H16090353-011	9/14/2016	Sulfate	105	1	mg/L	E300.0
SS-14	Natural Sample	H16090353-011	9/14/2016	Hardness as CaCO3	217	1	mg/L	A2340 B
SS-14	Natural Sample	H16090353-011	9/14/2016	Organic Carbon, Dissolved (DOC)	2.9	0.5	mg/L	A5310 C
SS-14	Natural Sample	H16090353-011	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-14	Natural Sample	H16090353-011	9/14/2016	NO3+NO2 as N	0.75	0.02	mg/L	E353.2
SS-14	Natural Sample	H16090353-011	9/14/2016	N-Total	1.04	0.05	mg/L	A4500 N-C
SS-14	Natural Sample	H16090353-011	9/14/2016	Phosphorus, Total as P	0.502	0.003	mg/L	E365.1
SS-14	Natural Sample	H16090353-011	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Arsenic, Dissolved	0.007	0.001	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Barium, Dissolved	0.039	0.003	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-14	Natural Sample	H16090353-011	9/14/2016	Cadmium, Dissolved	0.00011	0.00003	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Manganese, Dissolved	0.086	0.001	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-14	Natural Sample	H16090353-011	9/14/2016	Molybdenum, Dissolved	0.006	0.005	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Uranium, Dissolved	0.0049	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Zinc, Dissolved	0.028	0.008	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Natural Sample	H16090353-011	9/14/2016	Aluminum, Total Recoverable	0.057	0.009	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Barium, Total Recoverable	0.039	0.003	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-14	Natural Sample	H16090353-011	9/14/2016	Cadmium, Total Recoverable	0.0002	0.00003	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Calcium, Total Recoverable	64	1	mg/L	E200.7
SS-14	Natural Sample	H16090353-011	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Copper, Total Recoverable	0.012	0.001	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Iron, Total Recoverable	0.13	0.02	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Lead, Total Recoverable	0.0008	0.0003	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Magnesium, Total Recoverable	14	1	mg/L	E200.7
SS-14	Natural Sample	H16090353-011	9/14/2016	Manganese, Total Recoverable	0.115	0.001	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Mercury, Total Recoverable	0.000007	0.000005	mg/L	E245.1
SS-14	Natural Sample	H16090353-011	9/14/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-14	Natural Sample	H16090353-011	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Sodium, Total Recoverable	35	1	mg/L	E200.7
SS-14	Natural Sample	H16090353-011	9/14/2016	Uranium, Total Recoverable	0.0052	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-14	Natural Sample	H16090353-011	9/14/2016	Zinc, Total Recoverable	0.038	0.008	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Solids, Total Suspended TSS @ 105 C	11	1	mg/L	A2540 D
SS-15A	Natural Sample	H16090353-013	9/14/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-15A	Natural Sample	H16090353-013	9/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-15A	Natural Sample	H16090353-013	9/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-15A	Natural Sample	H16090353-013	9/14/2016	Chloride	53	1	mg/L	E300.0

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Natural Sample	H16090353-013	9/14/2016	Sulfate	107	1	mg/L	E300.0
SS-15A	Natural Sample	H16090353-013	9/14/2016	Hardness as CaCO3	216	1	mg/L	A2340 B
SS-15A	Natural Sample	H16090353-013	9/14/2016	Organic Carbon, Dissolved (DOC)	2.9	0.5	mg/L	A5310 C
SS-15A	Natural Sample	H16090353-013	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15A	Natural Sample	H16090353-013	9/14/2016	NO3+NO2 as N	1.06	0.02	mg/L	E353.2
SS-15A	Natural Sample	H16090353-013	9/14/2016	N-Total	1.29	0.05	mg/L	A4500 N-C
SS-15A	Natural Sample	H16090353-013	9/14/2016	Phosphorus, Total as P	0.372	0.003	mg/L	E365.1
SS-15A	Natural Sample	H16090353-013	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Arsenic, Dissolved	0.007	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Barium, Dissolved	0.037	0.003	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15A	Natural Sample	H16090353-013	9/14/2016	Cadmium, Dissolved	0.00009	0.00003	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Copper, Dissolved	0.007	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Iron, Dissolved	0.02	0.02	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Manganese, Dissolved	0.041	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15A	Natural Sample	H16090353-013	9/14/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Uranium, Dissolved	0.0048	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Zinc, Dissolved	0.028	0.008	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Aluminum, Total Recoverable	0.21	0.009	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Natural Sample	H16090353-013	9/14/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Barium, Total Recoverable	0.042	0.003	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15A	Natural Sample	H16090353-013	9/14/2016	Cadmium, Total Recoverable	0.00024	0.00003	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Calcium, Total Recoverable	64	1	mg/L	E200.7
SS-15A	Natural Sample	H16090353-013	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Copper, Total Recoverable	0.018	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Iron, Total Recoverable	0.3	0.02	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Lead, Total Recoverable	0.0023	0.0003	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Magnesium, Total Recoverable	14	1	mg/L	E200.7
SS-15A	Natural Sample	H16090353-013	9/14/2016	Manganese, Total Recoverable	0.166	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Mercury, Total Recoverable	0.000013	0.000005	mg/L	E245.1
SS-15A	Natural Sample	H16090353-013	9/14/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-15A	Natural Sample	H16090353-013	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Sodium, Total Recoverable	35	1	mg/L	E200.7
SS-15A	Natural Sample	H16090353-013	9/14/2016	Uranium, Total Recoverable	0.0052	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15A	Natural Sample	H16090353-013	9/14/2016	Zinc, Total Recoverable	0.058	0.008	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Solids, Total Suspended TSS @ 105 C	2	1	mg/L	A2540 D
SS-15G	Natural Sample	H16090351-004	9/14/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-15G	Natural Sample	H16090351-004	9/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-15G	Natural Sample	H16090351-004	9/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-15G	Natural Sample	H16090351-004	9/14/2016	Chloride	ND	1	mg/L	E300.0
SS-15G	Natural Sample	H16090351-004	9/14/2016	Sulfate	28	1	mg/L	E300.0
SS-15G	Natural Sample	H16090351-004	9/14/2016	Hardness as CaCO3	136	1	mg/L	A2340 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15G	Natural Sample	H16090351-004	9/14/2016	Organic Carbon, Dissolved (DOC)	1.5	0.5	mg/L	A5310 C
SS-15G	Natural Sample	H16090351-004	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15G	Natural Sample	H16090351-004	9/14/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2
SS-15G	Natural Sample	H16090351-004	9/14/2016	N-Total	ND	0.05	mg/L	A4500 N-C
SS-15G	Natural Sample	H16090351-004	9/14/2016	Phosphorus, Total as P	0.027	0.003	mg/L	E365.1
SS-15G	Natural Sample	H16090351-004	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Barium, Dissolved	0.023	0.003	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15G	Natural Sample	H16090351-004	9/14/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Manganese, Dissolved	0.002	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15G	Natural Sample	H16090351-004	9/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Uranium, Dissolved	0.0006	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Aluminum, Total Recoverable	0.028	0.009	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Arsenic, Total Recoverable	0.003	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Barium, Total Recoverable	0.021	0.003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15G	Natural Sample	H16090351-004	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15G	Natural Sample	H16090351-004	9/14/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Calcium, Total Recoverable	41	1	mg/L	E200.7
SS-15G	Natural Sample	H16090351-004	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Iron, Total Recoverable	0.04	0.02	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Magnesium, Total Recoverable	8	1	mg/L	E200.7
SS-15G	Natural Sample	H16090351-004	9/14/2016	Manganese, Total Recoverable	0.004	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-15G	Natural Sample	H16090351-004	9/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Potassium, Total Recoverable	2	1	mg/L	E200.7
SS-15G	Natural Sample	H16090351-004	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Sodium, Total Recoverable	4	1	mg/L	E200.7
SS-15G	Natural Sample	H16090351-004	9/14/2016	Uranium, Total Recoverable	0.0007	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15G	Natural Sample	H16090351-004	9/14/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Solids, Total Suspended TSS @ 105 C	10	1	mg/L	A2540 D
SS-15B	Natural Sample	H16090353-014	9/14/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-15B	Natural Sample	H16090353-014	9/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-15B	Natural Sample	H16090353-014	9/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-15B	Natural Sample	H16090353-014	9/14/2016	Chloride	41	1	mg/L	E300.0
SS-15B	Natural Sample	H16090353-014	9/14/2016	Sulfate	91	1	mg/L	E300.0
SS-15B	Natural Sample	H16090353-014	9/14/2016	Hardness as CaCO3	197	1	mg/L	A2340 B
SS-15B	Natural Sample	H16090353-014	9/14/2016	Organic Carbon, Dissolved (DOC)	2.4	0.5	mg/L	A5310 C
SS-15B	Natural Sample	H16090353-014	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15B	Natural Sample	H16090353-014	9/14/2016	NO3+NO2 as N	0.76	0.02	mg/L	E353.2
SS-15B	Natural Sample	H16090353-014	9/14/2016	N-Total	0.94	0.05	mg/L	A4500 N-C
SS-15B	Natural Sample	H16090353-014	9/14/2016	Phosphorus, Total as P	0.3	0.003	mg/L	E365.1
SS-15B	Natural Sample	H16090353-014	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Barium, Dissolved	0.035	0.003	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15B	Natural Sample	H16090353-014	9/14/2016	Cadmium, Dissolved	0.00007	0.00003	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Copper, Dissolved	0.006	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Iron, Dissolved	0.02	0.02	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Manganese, Dissolved	0.034	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15B	Natural Sample	H16090353-014	9/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Uranium, Dissolved	0.004	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Zinc, Dissolved	0.022	0.008	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Aluminum, Total Recoverable	0.178	0.009	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Barium, Total Recoverable	0.038	0.003	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15B	Natural Sample	H16090353-014	9/14/2016	Cadmium, Total Recoverable	0.00018	0.00003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15B	Natural Sample	H16090353-014	9/14/2016	Calcium, Total Recoverable	57	1	mg/L	E200.7
SS-15B	Natural Sample	H16090353-014	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Copper, Total Recoverable	0.015	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Iron, Total Recoverable	0.25	0.02	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Lead, Total Recoverable	0.0019	0.0003	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-15B	Natural Sample	H16090353-014	9/14/2016	Manganese, Total Recoverable	0.146	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Mercury, Total Recoverable	0.000011	0.000005	mg/L	E245.1
SS-15B	Natural Sample	H16090353-014	9/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-15B	Natural Sample	H16090353-014	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Sodium, Total Recoverable	27	1	mg/L	E200.7
SS-15B	Natural Sample	H16090353-014	9/14/2016	Uranium, Total Recoverable	0.0042	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15B	Natural Sample	H16090353-014	9/14/2016	Zinc, Total Recoverable	0.049	0.008	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
SS-16B	Natural Sample	H16090353-015	9/14/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-16B	Natural Sample	H16090353-015	9/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-16B	Natural Sample	H16090353-015	9/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-16B	Natural Sample	H16090353-015	9/14/2016	Chloride	43	1	mg/L	E300.0
SS-16B	Natural Sample	H16090353-015	9/14/2016	Sulfate	94	1	mg/L	E300.0
SS-16B	Natural Sample	H16090353-015	9/14/2016	Hardness as CaCO3	198	1	mg/L	A2340 B
SS-16B	Natural Sample	H16090353-015	9/14/2016	Organic Carbon, Dissolved (DOC)	2.3	0.5	mg/L	A5310 C
SS-16B	Natural Sample	H16090353-015	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-16B	Natural Sample	H16090353-015	9/14/2016	NO3+NO2 as N	0.51	0.02	mg/L	E353.2
SS-16B	Natural Sample	H16090353-015	9/14/2016	N-Total	0.69	0.05	mg/L	A4500 N-C
SS-16B	Natural Sample	H16090353-015	9/14/2016	Phosphorus, Total as P	0.312	0.003	mg/L	E365.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Natural Sample	H16090353-015	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Barium, Dissolved	0.036	0.003	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-16B	Natural Sample	H16090353-015	9/14/2016	Cadmium, Dissolved	0.00008	0.00003	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Copper, Dissolved	0.005	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Iron, Dissolved	0.02	0.02	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Manganese, Dissolved	0.077	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-16B	Natural Sample	H16090353-015	9/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Uranium, Dissolved	0.0042	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Zinc, Dissolved	0.024	0.008	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Aluminum, Total Recoverable	0.157	0.009	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Barium, Total Recoverable	0.039	0.003	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-16B	Natural Sample	H16090353-015	9/14/2016	Cadmium, Total Recoverable	0.00023	0.00003	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Calcium, Total Recoverable	59	1	mg/L	E200.7
SS-16B	Natural Sample	H16090353-015	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Natural Sample	H16090353-015	9/14/2016	Copper, Total Recoverable	0.012	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Iron, Total Recoverable	0.21	0.02	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Lead, Total Recoverable	0.0015	0.0003	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-16B	Natural Sample	H16090353-015	9/14/2016	Manganese, Total Recoverable	0.154	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Mercury, Total Recoverable	0.000009	0.000005	mg/L	E245.1
SS-16B	Natural Sample	H16090353-015	9/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-16B	Natural Sample	H16090353-015	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Sodium, Total Recoverable	28	1	mg/L	E200.7
SS-16B	Natural Sample	H16090353-015	9/14/2016	Uranium, Total Recoverable	0.0045	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-16B	Natural Sample	H16090353-015	9/14/2016	Zinc, Total Recoverable	0.04	0.008	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Solids, Total Suspended TSS @ 105 C	10	1	mg/L	A2540 D
SS-17D	Natural Sample	H16090353-016	9/14/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-17D	Natural Sample	H16090353-016	9/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-17D	Natural Sample	H16090353-016	9/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-17D	Natural Sample	H16090353-016	9/14/2016	Chloride	50	1	mg/L	E300.0
SS-17D	Natural Sample	H16090353-016	9/14/2016	Sulfate	96	1	mg/L	E300.0
SS-17D	Natural Sample	H16090353-016	9/14/2016	Hardness as CaCO3	208	1	mg/L	A2340 B
SS-17D	Natural Sample	H16090353-016	9/14/2016	Organic Carbon, Dissolved (DOC)	2.5	0.5	mg/L	A5310 C
SS-17D	Natural Sample	H16090353-016	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-17D	Natural Sample	H16090353-016	9/14/2016	NO3+NO2 as N	0.75	0.02	mg/L	E353.2
SS-17D	Natural Sample	H16090353-016	9/14/2016	N-Total	0.91	0.05	mg/L	A4500 N-C
SS-17D	Natural Sample	H16090353-016	9/14/2016	Phosphorus, Total as P	0.291	0.003	mg/L	E365.1
SS-17D	Natural Sample	H16090353-016	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Arsenic, Dissolved	0.008	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Natural Sample	H16090353-016	9/14/2016	Barium, Dissolved	0.034	0.003	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-17D	Natural Sample	H16090353-016	9/14/2016	Cadmium, Dissolved	0.00015	0.00003	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Manganese, Dissolved	0.044	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-17D	Natural Sample	H16090353-016	9/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Uranium, Dissolved	0.004	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Zinc, Dissolved	0.032	0.008	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Aluminum, Total Recoverable	0.233	0.009	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Barium, Total Recoverable	0.037	0.003	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-17D	Natural Sample	H16090353-016	9/14/2016	Cadmium, Total Recoverable	0.00027	0.00003	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Calcium, Total Recoverable	63	1	mg/L	E200.7
SS-17D	Natural Sample	H16090353-016	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Copper, Total Recoverable	0.017	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Iron, Total Recoverable	0.3	0.02	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Lead, Total Recoverable	0.0023	0.0003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Natural Sample	H16090353-016	9/14/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-17D	Natural Sample	H16090353-016	9/14/2016	Manganese, Total Recoverable	0.161	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Mercury, Total Recoverable	0.000016	0.000005	mg/L	E245.1
SS-17D	Natural Sample	H16090353-016	9/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-17D	Natural Sample	H16090353-016	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Sodium, Total Recoverable	31	1	mg/L	E200.7
SS-17D	Natural Sample	H16090353-016	9/14/2016	Uranium, Total Recoverable	0.0042	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-17D	Natural Sample	H16090353-016	9/14/2016	Zinc, Total Recoverable	0.063	0.008	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Solids, Total Suspended TSS @ 105 C	11	1	mg/L	A2540 D
SS-19	Natural Sample	H16090353-017	9/14/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-19	Natural Sample	H16090353-017	9/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-19	Natural Sample	H16090353-017	9/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-19	Natural Sample	H16090353-017	9/14/2016	Chloride	45	1	mg/L	E300.0
SS-19	Natural Sample	H16090353-017	9/14/2016	Sulfate	96	1	mg/L	E300.0
SS-19	Natural Sample	H16090353-017	9/14/2016	Hardness as CaCO3	205	1	mg/L	A2340 B
SS-19	Natural Sample	H16090353-017	9/14/2016	Organic Carbon, Dissolved (DOC)	2.7	0.5	mg/L	A5310 C
SS-19	Natural Sample	H16090353-017	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-19	Natural Sample	H16090353-017	9/14/2016	NO3+NO2 as N	0.88	0.02	mg/L	E353.2
SS-19	Natural Sample	H16090353-017	9/14/2016	N-Total	1.04	0.05	mg/L	A4500 N-C
SS-19	Natural Sample	H16090353-017	9/14/2016	Phosphorus, Total as P	0.279	0.003	mg/L	E365.1
SS-19	Natural Sample	H16090353-017	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Arsenic, Dissolved	0.008	0.001	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Barium, Dissolved	0.036	0.003	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-19	Natural Sample	H16090353-017	9/14/2016	Cadmium, Dissolved	0.00014	0.00003	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Copper, Dissolved	0.007	0.001	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Manganese, Dissolved	0.047	0.001	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-19	Natural Sample	H16090353-017	9/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Uranium, Dissolved	0.0044	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Zinc, Dissolved	0.038	0.008	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Aluminum, Total Recoverable	0.227	0.009	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Arsenic, Total Recoverable	0.008	0.001	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Barium, Total Recoverable	0.039	0.003	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-19	Natural Sample	H16090353-017	9/14/2016	Cadmium, Total Recoverable	0.00031	0.00003	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Calcium, Total Recoverable	60	1	mg/L	E200.7
SS-19	Natural Sample	H16090353-017	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Copper, Total Recoverable	0.015	0.001	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Iron, Total Recoverable	0.33	0.02	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Lead, Total Recoverable	0.0021	0.0003	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-19	Natural Sample	H16090353-017	9/14/2016	Manganese, Total Recoverable	0.154	0.001	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Mercury, Total Recoverable	0.000012	0.000005	mg/L	E245.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-19	Natural Sample	H16090353-017	9/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-19	Natural Sample	H16090353-017	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Sodium, Total Recoverable	30	1	mg/L	E200.7
SS-19	Natural Sample	H16090353-017	9/14/2016	Uranium, Total Recoverable	0.0046	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-19	Natural Sample	H16090353-017	9/14/2016	Zinc, Total Recoverable	0.064	0.008	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Chloride	57	1	mg/L	E300.0
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Sulfate	105	1	mg/L	E300.0
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Hardness as CaCO3	216	1	mg/L	A2340 B
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Organic Carbon, Dissolved (DOC)	3	0.5	mg/L	A5310 C
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-14	Duplicate Sample	H16090353-012	9/14/2016	NO3+NO2 as N	0.73	0.02	mg/L	E353.2
SS-14	Duplicate Sample	H16090353-012	9/14/2016	N-Total	1.04	0.05	mg/L	A4500 N-C
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Phosphorus, Total as P	0.521	0.003	mg/L	E365.1
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Arsenic, Dissolved	0.007	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Barium, Dissolved	0.037	0.003	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Cadmium, Dissolved	0.00012	0.00003	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Manganese, Dissolved	0.086	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Uranium, Dissolved	0.005	0.0002	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Zinc, Dissolved	0.025	0.008	mg/L	E200.8
SS-14	Duplicate	H16090353-012	9/14/2016	Aluminum, Total Recoverable	0.077	0.009	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Arsenic, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Barium, Total Recoverable	0.04	0.003	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Cadmium, Total Recoverable	0.00018	0.00003	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Calcium, Total Recoverable	64	1	mg/L	E200.7
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Copper, Total Recoverable	0.012	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Iron, Total Recoverable	0.15	0.02	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Lead, Total Recoverable	0.001	0.0003	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Manganese, Total Recoverable	0.118	0.001	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Mercury, Total Recoverable	0.000005	0.000005	mg/L	E245.1
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Sodium, Total Recoverable	35	1	mg/L	E200.7
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Uranium, Total Recoverable	0.0053	0.0002	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-14	Duplicate Sample	H16090353-012	9/14/2016	Zinc, Total Recoverable	0.038	0.008	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Solids, Volatile Suspended	3	1	mg/L	A2540 E
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Chloride	57	1	mg/L	E300.0
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Sulfate	94	1	mg/L	E300.0
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Hardness as CaCO3	209	1	mg/L	A2340 B
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Organic Carbon, Dissolved (DOC)	3.5	0.5	mg/L	A5310 C
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	NO3+NO2 as N	0.96	0.02	mg/L	E353.2
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	N-Total	1.28	0.05	mg/L	A4500 N-C
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Phosphorus, Total as P	0.492	0.003	mg/L	E365.1
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-11C	Duplicate	H16090353-008	9/15/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Barium, Dissolved	0.043	0.003	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Cadmium, Dissolved	0.00013	0.00003	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Iron, Dissolved	0.02	0.02	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Manganese, Dissolved	0.104	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Uranium, Dissolved	0.0043	0.0002	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Zinc, Dissolved	0.047	0.008	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Aluminum, Total Recoverable	0.095	0.009	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Barium, Total Recoverable	0.047	0.003	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Cadmium, Total Recoverable	0.00022	0.00003	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Calcium, Total Recoverable	63	1	mg/L	E200.7
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Copper, Total Recoverable	0.015	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Iron, Total Recoverable	0.2	0.02	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Lead, Total Recoverable	0.0014	0.0003	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Manganese, Total Recoverable	0.15	0.001	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Mercury, Total Recoverable	0.000006	0.000005	mg/L	E245.1
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11C	Duplicate	H16090353-008	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Sodium, Total Recoverable	33	1	mg/L	E200.7
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Uranium, Total Recoverable	0.0045	0.0002	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-11C	Duplicate Sample	H16090353-008	9/15/2016	Zinc, Total Recoverable	0.064	0.008	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
SS-15G	Field Blank	H16090351-003	9/14/2016	Solids, Volatile Suspended	ND	1	mg/L	A2540 E
SS-15G	Field Blank	H16090351-003	9/14/2016	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
SS-15G	Field Blank	H16090351-003	9/14/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
SS-15G	Field Blank	H16090351-003	9/14/2016	Chloride	ND	1	mg/L	E300.0
SS-15G	Field Blank	H16090351-003	9/14/2016	Sulfate	ND	1	mg/L	E300.0
SS-15G	Field Blank	H16090351-003	9/14/2016	Hardness as CaCO3	ND	1	mg/L	A2340 B
SS-15G	Field Blank	H16090351-003	9/14/2016	Organic Carbon, Dissolved (DOC)	ND	0.5	mg/L	A5310 C
SS-15G	Field Blank	H16090351-003	9/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15G	Field Blank	H16090351-003	9/14/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2
SS-15G	Field Blank	H16090351-003	9/14/2016	N-Total	ND	0.05	mg/L	A4500 N-C
SS-15G	Field Blank	H16090351-003	9/14/2016	Phosphorus, Total as P	ND	0.003	mg/L	E365.1
SS-15G	Field Blank	H16090351-003	9/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Arsenic, Dissolved	ND	0.001	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Barium, Dissolved	ND	0.003	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15G	Field Blank	H16090351-003	9/14/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15G	Field Blank	H16090351-003	9/14/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Manganese, Dissolved	ND	0.001	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15G	Field Blank	H16090351-003	9/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Uranium, Dissolved	ND	0.0002	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Zinc, Dissolved	0.013	0.008	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Aluminum, Total Recoverable	ND	0.009	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Arsenic, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Barium, Total Recoverable	ND	0.003	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15G	Field Blank	H16090351-003	9/14/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Calcium, Total Recoverable	ND	1	mg/L	E200.7
SS-15G	Field Blank	H16090351-003	9/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Iron, Total Recoverable	ND	0.02	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
SS-15G	Field Blank	H16090351-003	9/14/2016	Manganese, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-15G	Field Blank	H16090351-003	9/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Potassium, Total Recoverable	ND	1	mg/L	E200.7
SS-15G	Field Blank	H16090351-003	9/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15G	Field Blank	H16090351-003	9/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Sodium, Total Recoverable	ND	1	mg/L	E200.7
SS-15G	Field Blank	H16090351-003	9/14/2016	Uranium, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15G	Field Blank	H16090351-003	9/14/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
SS-10A	Field Blank	H16090353-005	9/15/2016	Solids, Volatile Suspended	ND	1	mg/L	A2540 E
SS-10A	Field Blank	H16090353-005	9/15/2016	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
SS-10A	Field Blank	H16090353-005	9/15/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
SS-10A	Field Blank	H16090353-005	9/15/2016	Chloride	ND	1	mg/L	E300.0
SS-10A	Field Blank	H16090353-005	9/15/2016	Sulfate	ND	1	mg/L	E300.0
SS-10A	Field Blank	H16090353-005	9/15/2016	Hardness as CaCO3	ND	1	mg/L	A2340 B
SS-10A	Field Blank	H16090353-005	9/15/2016	Organic Carbon, Dissolved (DOC)	ND	0.5	mg/L	A5310 C
SS-10A	Field Blank	H16090353-005	9/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-10A	Field Blank	H16090353-005	9/15/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2
SS-10A	Field Blank	H16090353-005	9/15/2016	N-Total	ND	0.05	mg/L	A4500 N-C
SS-10A	Field Blank	H16090353-005	9/15/2016	Phosphorus, Total as P	0.008	0.003	mg/L	E365.1
SS-10A	Field Blank	H16090353-005	9/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Arsenic, Dissolved	ND	0.001	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Barium, Dissolved	0.004	0.003	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-10A	Field Blank	H16090353-005	9/15/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Manganese, Dissolved	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10A	Field Blank	H16090353-005	9/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-10A	Field Blank	H16090353-005	9/15/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Uranium, Dissolved	ND	0.0002	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Zinc, Dissolved	0.016	0.008	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Aluminum, Total Recoverable	ND	0.009	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Arsenic, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Barium, Total Recoverable	ND	0.003	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-10A	Field Blank	H16090353-005	9/15/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Calcium, Total Recoverable	ND	1	mg/L	E200.7
SS-10A	Field Blank	H16090353-005	9/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Iron, Total Recoverable	ND	0.02	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
SS-10A	Field Blank	H16090353-005	9/15/2016	Manganese, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-10A	Field Blank	H16090353-005	9/15/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Potassium, Total Recoverable	ND	1	mg/L	E200.7
SS-10A	Field Blank	H16090353-005	9/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Sodium, Total Recoverable	ND	1	mg/L	E200.7
SS-10A	Field Blank	H16090353-005	9/15/2016	Uranium, Total Recoverable	ND	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10A	Field Blank	H16090353-005	9/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-10A	Field Blank	H16090353-005	9/15/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Solids, Total Suspended TSS @ 105 C	20	1	mg/L	A2540 D
SS-01	Natural Sample	H16120305-001	12/15/2016	Solids, Volatile Suspended	5	1	mg/L	A2540 E
SS-01	Natural Sample	H16120305-001	12/15/2016	Alkalinity, Total as CaCO3	98	4	mg/L	A2320 B
SS-01	Natural Sample	H16120305-001	12/15/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-01	Natural Sample	H16120305-001	12/15/2016	Chloride	13	1	mg/L	E300.0
SS-01	Natural Sample	H16120305-001	12/15/2016	Sulfate	31	1	mg/L	E300.0
SS-01	Natural Sample	H16120305-001	12/15/2016	Hardness as CaCO3	126	1	mg/L	A2340 B
SS-01	Natural Sample	H16120305-001	12/15/2016	Organic Carbon, Dissolved (DOC)	1.3	0.5	mg/L	A5310 C
SS-01	Natural Sample	H16120305-001	12/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-01	Natural Sample	H16120305-001	12/15/2016	NO3+NO2 as N	1.8	0.02	mg/L	E353.2
SS-01	Natural Sample	H16120305-001	12/15/2016	N-Total	1.84	0.05	mg/L	A4500 N-C
SS-01	Natural Sample	H16120305-001	12/15/2016	Phosphorus, Total as P	0.126	0.003	mg/L	E365.1
SS-01	Natural Sample	H16120305-001	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Arsenic, Dissolved	0.001	0.001	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Barium, Dissolved	0.058	0.003	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-01	Natural Sample	H16120305-001	12/15/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Iron, Dissolved	0.04	0.02	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Manganese, Dissolved	0.054	0.001	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-01	Natural Sample	H16120305-001	12/15/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-01	Natural Sample	H16120305-001	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Uranium, Dissolved	0.0037	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Aluminum, Total Recoverable	0.379	0.009	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Arsenic, Total Recoverable	0.002	0.001	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Barium, Total Recoverable	0.066	0.003	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-01	Natural Sample	H16120305-001	12/15/2016	Cadmium, Total Recoverable	0.00004	0.00003	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Calcium, Total Recoverable	35	1	mg/L	E200.7
SS-01	Natural Sample	H16120305-001	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Iron, Total Recoverable	0.95	0.02	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Magnesium, Total Recoverable	9	1	mg/L	E200.7
SS-01	Natural Sample	H16120305-001	12/15/2016	Manganese, Total Recoverable	0.095	0.001	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Mercury, Total Recoverable	0.000009	0.000005	mg/L	E245.1
SS-01	Natural Sample	H16120305-001	12/15/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-01	Natural Sample	H16120305-001	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Sodium, Total Recoverable	12	1	mg/L	E200.7
SS-01	Natural Sample	H16120305-001	12/15/2016	Uranium, Total Recoverable	0.004	0.0002	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-01	Natural Sample	H16120305-001	12/15/2016	Zinc, Total Recoverable	0.009	0.008	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Solids, Total Suspended TSS @	36	1	mg/L	A2540 D

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
				105 C				
SS-05A	Natural Sample	H16120305-003	12/15/2016	Solids, Volatile Suspended	7	1	mg/L	A2540 E
SS-05A	Natural Sample	H16120305-003	12/15/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-05A	Natural Sample	H16120305-003	12/15/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-05A	Natural Sample	H16120305-003	12/15/2016	Chloride	20	1	mg/L	E300.0
SS-05A	Natural Sample	H16120305-003	12/15/2016	Sulfate	34	1	mg/L	E300.0
SS-05A	Natural Sample	H16120305-003	12/15/2016	Hardness as CaCO3	144	1	mg/L	A2340 B
SS-05A	Natural Sample	H16120305-003	12/15/2016	Organic Carbon, Dissolved (DOC)	1.4	0.5	mg/L	A5310 C
SS-05A	Natural Sample	H16120305-003	12/15/2016	Nitrogen, Ammonia	0.06	0.05	mg/L	E350.1
SS-05A	Natural Sample	H16120305-003	12/15/2016	NO3+NO2 as N	1.79	0.02	mg/L	E353.2
SS-05A	Natural Sample	H16120305-003	12/15/2016	N-Total	1.95	0.05	mg/L	A4500 N-C
SS-05A	Natural Sample	H16120305-003	12/15/2016	Phosphorus, Total as P	0.191	0.003	mg/L	E365.1
SS-05A	Natural Sample	H16120305-003	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Arsenic, Dissolved	0.002	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Barium, Dissolved	0.06	0.003	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-05A	Natural Sample	H16120305-003	12/15/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Manganese, Dissolved	0.122	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-05A	Natural Sample	H16120305-003	12/15/2016	Molybdenum, Dissolved	0.006	0.005	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-05A	Natural Sample	H16120305-003	12/15/2016	Uranium, Dissolved	0.0047	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Zinc, Dissolved	0.012	0.008	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Aluminum, Total Recoverable	0.604	0.009	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Barium, Total Recoverable	0.081	0.003	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-05A	Natural Sample	H16120305-003	12/15/2016	Cadmium, Total Recoverable	0.0002	0.00003	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Calcium, Total Recoverable	41	1	mg/L	E200.7
SS-05A	Natural Sample	H16120305-003	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Copper, Total Recoverable	0.018	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Iron, Total Recoverable	1.39	0.02	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Lead, Total Recoverable	0.0066	0.0003	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-05A	Natural Sample	H16120305-003	12/15/2016	Manganese, Total Recoverable	0.166	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Mercury, Total Recoverable	0.000019	0.000005	mg/L	E245.1
SS-05A	Natural Sample	H16120305-003	12/15/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-05A	Natural Sample	H16120305-003	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Sodium, Total Recoverable	17	1	mg/L	E200.7
SS-05A	Natural Sample	H16120305-003	12/15/2016	Uranium, Total Recoverable	0.0051	0.0002	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-05A	Natural Sample	H16120305-003	12/15/2016	Zinc, Total Recoverable	0.047	0.008	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Solids, Total Suspended TSS @ 105 C	26	1	mg/L	A2540 D
SS-06G	Natural Sample	H16120307-001	12/15/2016	Solids, Volatile Suspended	6	1	mg/L	A2540 E

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-06G	Natural Sample	H16120307-001	12/15/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-06G	Natural Sample	H16120307-001	12/15/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-06G	Natural Sample	H16120307-001	12/15/2016	Chloride	31	1	mg/L	E300.0
SS-06G	Natural Sample	H16120307-001	12/15/2016	Sulfate	110	1	mg/L	E300.0
SS-06G	Natural Sample	H16120307-001	12/15/2016	Hardness as CaCO3	218	1	mg/L	A2340 B
SS-06G	Natural Sample	H16120307-001	12/15/2016	Organic Carbon, Dissolved (DOC)	1.4	0.5	mg/L	A5310 C
SS-06G	Natural Sample	H16120307-001	12/15/2016	Nitrogen, Ammonia	0.08	0.05	mg/L	E350.1
SS-06G	Natural Sample	H16120307-001	12/15/2016	NO3+NO2 as N	2.08	0.02	mg/L	E353.2
SS-06G	Natural Sample	H16120307-001	12/15/2016	N-Total	2.3	0.06	mg/L	A4500 N-C
SS-06G	Natural Sample	H16120307-001	12/15/2016	Phosphorus, Total as P	0.134	0.003	mg/L	E365.1
SS-06G	Natural Sample	H16120307-001	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Arsenic, Dissolved	0.002	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Barium, Dissolved	0.049	0.003	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-06G	Natural Sample	H16120307-001	12/15/2016	Cadmium, Dissolved	0.00004	0.00003	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Copper, Dissolved	0.002	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Manganese, Dissolved	0.201	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-06G	Natural Sample	H16120307-001	12/15/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Uranium, Dissolved	0.006	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-06G	Natural Sample	H16120307-001	12/15/2016	Zinc, Dissolved	0.018	0.008	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Aluminum, Total Recoverable	0.453	0.009	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Barium, Total Recoverable	0.058	0.003	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-06G	Natural Sample	H16120307-001	12/15/2016	Cadmium, Total Recoverable	0.00023	0.00003	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Calcium, Total Recoverable	60	1	mg/L	E200.7
SS-06G	Natural Sample	H16120307-001	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Copper, Total Recoverable	0.02	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Iron, Total Recoverable	1.04	0.02	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Lead, Total Recoverable	0.0056	0.0003	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Magnesium, Total Recoverable	16	1	mg/L	E200.7
SS-06G	Natural Sample	H16120307-001	12/15/2016	Manganese, Total Recoverable	0.268	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Mercury, Total Recoverable	0.000012	0.000005	mg/L	E245.1
SS-06G	Natural Sample	H16120307-001	12/15/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Potassium, Total Recoverable	4	1	mg/L	E200.7
SS-06G	Natural Sample	H16120307-001	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Sodium, Total Recoverable	24	1	mg/L	E200.7
SS-06G	Natural Sample	H16120307-001	12/15/2016	Uranium, Total Recoverable	0.0063	0.0002	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-06G	Natural Sample	H16120307-001	12/15/2016	Zinc, Total Recoverable	0.052	0.008	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Solids, Total Suspended TSS @ 105 C	17	1	mg/L	A2540 D
SS-07	Natural Sample	H16120307-002	12/15/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-07	Natural Sample	H16120307-002	12/15/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-07	Natural Sample	H16120307-002	12/15/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Natural Sample	H16120307-002	12/15/2016	Chloride	35	1	mg/L	E300.0
SS-07	Natural Sample	H16120307-002	12/15/2016	Sulfate	84	1	mg/L	E300.0
SS-07	Natural Sample	H16120307-002	12/15/2016	Hardness as CaCO3	183	1	mg/L	A2340 B
SS-07	Natural Sample	H16120307-002	12/15/2016	Organic Carbon, Dissolved (DOC)	3.2	0.5	mg/L	A5310 C
SS-07	Natural Sample	H16120307-002	12/15/2016	Nitrogen, Ammonia	0.08	0.05	mg/L	E350.1
SS-07	Natural Sample	H16120307-002	12/15/2016	NO3+NO2 as N	2.4	0.02	mg/L	E353.2
SS-07	Natural Sample	H16120307-002	12/15/2016	N-Total	2.79	0.06	mg/L	A4500 N-C
SS-07	Natural Sample	H16120307-002	12/15/2016	Phosphorus, Total as P	0.843	0.003	mg/L	E365.1
SS-07	Natural Sample	H16120307-002	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Arsenic, Dissolved	0.002	0.001	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Barium, Dissolved	0.043	0.003	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-07	Natural Sample	H16120307-002	12/15/2016	Cadmium, Dissolved	0.00006	0.00003	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Copper, Dissolved	0.005	0.001	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Iron, Dissolved	0.04	0.02	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Manganese, Dissolved	0.142	0.001	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-07	Natural Sample	H16120307-002	12/15/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Uranium, Dissolved	0.0044	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Zinc, Dissolved	0.054	0.008	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Aluminum, Total Recoverable	0.289	0.009	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-07	Natural Sample	H16120307-002	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Arsenic, Total Recoverable	0.004	0.001	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Barium, Total Recoverable	0.045	0.003	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-07	Natural Sample	H16120307-002	12/15/2016	Cadmium, Total Recoverable	0.00016	0.00003	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Calcium, Total Recoverable	50	1	mg/L	E200.7
SS-07	Natural Sample	H16120307-002	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Copper, Total Recoverable	0.016	0.001	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Iron, Total Recoverable	0.66	0.02	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Lead, Total Recoverable	0.0034	0.0003	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Magnesium, Total Recoverable	14	1	mg/L	E200.7
SS-07	Natural Sample	H16120307-002	12/15/2016	Manganese, Total Recoverable	0.191	0.001	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Mercury, Total Recoverable	0.000009	0.000005	mg/L	E245.1
SS-07	Natural Sample	H16120307-002	12/15/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-07	Natural Sample	H16120307-002	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Sodium, Total Recoverable	35	1	mg/L	E200.7
SS-07	Natural Sample	H16120307-002	12/15/2016	Uranium, Total Recoverable	0.0046	0.0002	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-07	Natural Sample	H16120307-002	12/15/2016	Zinc, Total Recoverable	0.075	0.008	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Solids, Total Suspended TSS @ 105 C	49	1	mg/L	A2540 D
SS-08	Natural Sample	H16120307-003	12/15/2016	Solids, Volatile Suspended	11	1	mg/L	A2540 E
SS-08	Natural Sample	H16120307-003	12/15/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-08	Natural Sample	H16120307-003	12/15/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-08	Natural Sample	H16120307-003	12/15/2016	Chloride	35	1	mg/L	E300.0
SS-08	Natural Sample	H16120307-003	12/15/2016	Sulfate	90	1	mg/L	E300.0

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-08	Natural Sample	H16120307-003	12/15/2016	Hardness as CaCO3	193	1	mg/L	A2340 B
SS-08	Natural Sample	H16120307-003	12/15/2016	Organic Carbon, Dissolved (DOC)	3.1	0.5	mg/L	A5310 C
SS-08	Natural Sample	H16120307-003	12/15/2016	Nitrogen, Ammonia	0.18	0.05	mg/L	E350.1
SS-08	Natural Sample	H16120307-003	12/15/2016	NO3+NO2 as N	1.65	0.02	mg/L	E353.2
SS-08	Natural Sample	H16120307-003	12/15/2016	N-Total	2.31	0.06	mg/L	A4500 N-C
SS-08	Natural Sample	H16120307-003	12/15/2016	Phosphorus, Total as P	0.667	0.003	mg/L	E365.1
SS-08	Natural Sample	H16120307-003	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Barium, Dissolved	0.04	0.003	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-08	Natural Sample	H16120307-003	12/15/2016	Cadmium, Dissolved	0.00008	0.00003	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Copper, Dissolved	0.004	0.001	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Iron, Dissolved	0.04	0.02	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Manganese, Dissolved	0.182	0.001	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-08	Natural Sample	H16120307-003	12/15/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Uranium, Dissolved	0.0053	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Zinc, Dissolved	0.048	0.008	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Aluminum, Total Recoverable	0.801	0.009	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-08	Natural Sample	H16120307-003	12/15/2016	Barium, Total Recoverable	0.057	0.003	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-08	Natural Sample	H16120307-003	12/15/2016	Cadmium, Total Recoverable	0.00049	0.00003	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Calcium, Total Recoverable	53	1	mg/L	E200.7
SS-08	Natural Sample	H16120307-003	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Copper, Total Recoverable	0.04	0.001	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Iron, Total Recoverable	1.56	0.02	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Lead, Total Recoverable	0.0121	0.0003	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Magnesium, Total Recoverable	14	1	mg/L	E200.7
SS-08	Natural Sample	H16120307-003	12/15/2016	Manganese, Total Recoverable	0.302	0.001	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Mercury, Total Recoverable	0.000048	0.000005	mg/L	E245.1
SS-08	Natural Sample	H16120307-003	12/15/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-08	Natural Sample	H16120307-003	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Sodium, Total Recoverable	34	1	mg/L	E200.7
SS-08	Natural Sample	H16120307-003	12/15/2016	Uranium, Total Recoverable	0.0058	0.0002	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-08	Natural Sample	H16120307-003	12/15/2016	Zinc, Total Recoverable	0.155	0.008	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Solids, Total Suspended TSS @ 105 C	33	2	mg/L	A2540 D
SS-10A	Natural Sample	H16120307-004	12/15/2016	Solids, Volatile Suspended	9	1	mg/L	A2540 E
SS-10A	Natural Sample	H16120307-004	12/15/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-10A	Natural Sample	H16120307-004	12/15/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-10A	Natural Sample	H16120307-004	12/15/2016	Chloride	35	1	mg/L	E300.0
SS-10A	Natural Sample	H16120307-004	12/15/2016	Sulfate	94	1	mg/L	E300.0
SS-10A	Natural Sample	H16120307-004	12/15/2016	Hardness as CaCO3	193	1	mg/L	A2340 B
SS-10A	Natural Sample	H16120307-004	12/15/2016	Organic Carbon, Dissolved (DOC)	2.7	0.5	mg/L	A5310 C

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10A	Natural Sample	H16120307-004	12/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-10A	Natural Sample	H16120307-004	12/15/2016	NO3+NO2 as N	1.89	0.02	mg/L	E353.2
SS-10A	Natural Sample	H16120307-004	12/15/2016	N-Total	2.29	0.06	mg/L	A4500 N-C
SS-10A	Natural Sample	H16120307-004	12/15/2016	Phosphorus, Total as P	0.567	0.003	mg/L	E365.1
SS-10A	Natural Sample	H16120307-004	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Barium, Dissolved	0.042	0.003	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-10A	Natural Sample	H16120307-004	12/15/2016	Cadmium, Dissolved	0.00007	0.00003	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Copper, Dissolved	0.009	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Iron, Dissolved	0.04	0.02	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Manganese, Dissolved	0.191	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-10A	Natural Sample	H16120307-004	12/15/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Uranium, Dissolved	0.0055	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Zinc, Dissolved	0.068	0.008	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Aluminum, Total Recoverable	0.596	0.009	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Barium, Total Recoverable	0.053	0.003	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10A	Natural Sample	H16120307-004	12/15/2016	Cadmium, Total Recoverable	0.00048	0.00003	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Calcium, Total Recoverable	54	1	mg/L	E200.7
SS-10A	Natural Sample	H16120307-004	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Copper, Total Recoverable	0.044	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Iron, Total Recoverable	1.08	0.02	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Lead, Total Recoverable	0.0083	0.0003	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Magnesium, Total Recoverable	14	1	mg/L	E200.7
SS-10A	Natural Sample	H16120307-004	12/15/2016	Manganese, Total Recoverable	0.294	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Mercury, Total Recoverable	0.000072	0.000005	mg/L	E245.1
SS-10A	Natural Sample	H16120307-004	12/15/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-10A	Natural Sample	H16120307-004	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Sodium, Total Recoverable	35	1	mg/L	E200.7
SS-10A	Natural Sample	H16120307-004	12/15/2016	Uranium, Total Recoverable	0.0059	0.0002	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-10A	Natural Sample	H16120307-004	12/15/2016	Zinc, Total Recoverable	0.15	0.008	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Solids, Total Suspended TSS @ 105 C	45	2	mg/L	A2540 D
SS-10B	Natural Sample	H16120307-005	12/15/2016	Solids, Volatile Suspended	11	1	mg/L	A2540 E
SS-10B	Natural Sample	H16120307-005	12/15/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-10B	Natural Sample	H16120307-005	12/15/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-10B	Natural Sample	H16120307-005	12/15/2016	Chloride	34	1	mg/L	E300.0
SS-10B	Natural Sample	H16120307-005	12/15/2016	Sulfate	93	1	mg/L	E300.0
SS-10B	Natural Sample	H16120307-005	12/15/2016	Hardness as CaCO3	192	1	mg/L	A2340 B
SS-10B	Natural Sample	H16120307-005	12/15/2016	Organic Carbon, Dissolved (DOC)	2.7	0.5	mg/L	A5310 C
SS-10B	Natural Sample	H16120307-005	12/15/2016	Nitrogen, Ammonia	0.05	0.05	mg/L	E350.1
SS-10B	Natural Sample	H16120307-005	12/15/2016	NO3+NO2 as N	1.84	0.02	mg/L	E353.2
SS-10B	Natural Sample	H16120307-005	12/15/2016	N-Total	2.42	0.06	mg/L	A4500 N-C

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10B	Natural Sample	H16120307-005	12/15/2016	Phosphorus, Total as P	0.696	0.003	mg/L	E365.1
SS-10B	Natural Sample	H16120307-005	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Arsenic, Dissolved	0.004	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Barium, Dissolved	0.043	0.003	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-10B	Natural Sample	H16120307-005	12/15/2016	Cadmium, Dissolved	0.00007	0.00003	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Copper, Dissolved	0.009	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Manganese, Dissolved	0.204	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-10B	Natural Sample	H16120307-005	12/15/2016	Molybdenum, Dissolved	0.006	0.005	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Uranium, Dissolved	0.0059	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Zinc, Dissolved	0.073	0.008	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Aluminum, Total Recoverable	0.845	0.009	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Barium, Total Recoverable	0.059	0.003	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-10B	Natural Sample	H16120307-005	12/15/2016	Cadmium, Total Recoverable	0.0006	0.00003	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Calcium, Total Recoverable	54	1	mg/L	E200.7
SS-10B	Natural Sample	H16120307-005	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-10B	Natural Sample	H16120307-005	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Copper, Total Recoverable	0.056	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Iron, Total Recoverable	1.48	0.02	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Lead, Total Recoverable	0.0107	0.0003	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Magnesium, Total Recoverable	14	1	mg/L	E200.7
SS-10B	Natural Sample	H16120307-005	12/15/2016	Manganese, Total Recoverable	0.349	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Mercury, Total Recoverable	0.000063	0.000005	mg/L	E245.1
SS-10B	Natural Sample	H16120307-005	12/15/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-10B	Natural Sample	H16120307-005	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Sodium, Total Recoverable	34	1	mg/L	E200.7
SS-10B	Natural Sample	H16120307-005	12/15/2016	Uranium, Total Recoverable	0.0059	0.0002	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-10B	Natural Sample	H16120307-005	12/15/2016	Zinc, Total Recoverable	0.182	0.008	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Solids, Total Suspended TSS @ 105 C	16	1	mg/L	A2540 D
SS-11C	Natural Sample	H16120307-006	12/15/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-11C	Natural Sample	H16120307-006	12/15/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-11C	Natural Sample	H16120307-006	12/15/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
SS-11C	Natural Sample	H16120307-006	12/15/2016	Chloride	54	1	mg/L	E300.0
SS-11C	Natural Sample	H16120307-006	12/15/2016	Sulfate	97	1	mg/L	E300.0
SS-11C	Natural Sample	H16120307-006	12/15/2016	Hardness as CaCO3	224	1	mg/L	A2340 B
SS-11C	Natural Sample	H16120307-006	12/15/2016	Organic Carbon, Dissolved (DOC)	2.9	0.5	mg/L	A5310 C
SS-11C	Natural Sample	H16120307-006	12/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-11C	Natural Sample	H16120307-006	12/15/2016	NO3+NO2 as N	2.04	0.02	mg/L	E353.2
SS-11C	Natural Sample	H16120307-006	12/15/2016	N-Total	2.4	0.06	mg/L	A4500 N-C
SS-11C	Natural Sample	H16120307-006	12/15/2016	Phosphorus, Total as P	0.568	0.003	mg/L	E365.1
SS-11C	Natural Sample	H16120307-006	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Natural Sample	H16120307-006	12/15/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Barium, Dissolved	0.046	0.003	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11C	Natural Sample	H16120307-006	12/15/2016	Cadmium, Dissolved	0.00014	0.00003	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Copper, Dissolved	0.01	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Iron, Dissolved	0.04	0.02	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Manganese, Dissolved	0.186	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-11C	Natural Sample	H16120307-006	12/15/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Uranium, Dissolved	0.0057	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Zinc, Dissolved	0.104	0.008	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Aluminum, Total Recoverable	0.309	0.009	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Barium, Total Recoverable	0.048	0.003	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11C	Natural Sample	H16120307-006	12/15/2016	Cadmium, Total Recoverable	0.00042	0.00003	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Calcium, Total Recoverable	65	1	mg/L	E200.7
SS-11C	Natural Sample	H16120307-006	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Copper, Total Recoverable	0.029	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Iron, Total Recoverable	0.55	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11C	Natural Sample	H16120307-006	12/15/2016	Lead, Total Recoverable	0.0036	0.0003	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Magnesium, Total Recoverable	15	1	mg/L	E200.7
SS-11C	Natural Sample	H16120307-006	12/15/2016	Manganese, Total Recoverable	0.257	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Mercury, Total Recoverable	0.00002	0.000005	mg/L	E245.1
SS-11C	Natural Sample	H16120307-006	12/15/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-11C	Natural Sample	H16120307-006	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Sodium, Total Recoverable	39	1	mg/L	E200.7
SS-11C	Natural Sample	H16120307-006	12/15/2016	Uranium, Total Recoverable	0.006	0.0002	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-11C	Natural Sample	H16120307-006	12/15/2016	Zinc, Total Recoverable	0.148	0.008	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Solids, Total Suspended TSS @ 105 C	14	1	mg/L	A2540 D
SS-11D	Natural Sample	H16120307-007	12/15/2016	Solids, Volatile Suspended	4	1	mg/L	A2540 E
SS-11D	Natural Sample	H16120307-007	12/15/2016	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-11D	Natural Sample	H16120307-007	12/15/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-11D	Natural Sample	H16120307-007	12/15/2016	Chloride	62	1	mg/L	E300.0
SS-11D	Natural Sample	H16120307-007	12/15/2016	Sulfate	93	1	mg/L	E300.0
SS-11D	Natural Sample	H16120307-007	12/15/2016	Hardness as CaCO3	211	1	mg/L	A2340 B
SS-11D	Natural Sample	H16120307-007	12/15/2016	Organic Carbon, Dissolved (DOC)	2.7	0.5	mg/L	A5310 C
SS-11D	Natural Sample	H16120307-007	12/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-11D	Natural Sample	H16120307-007	12/15/2016	NO3+NO2 as N	1.97	0.02	mg/L	E353.2
SS-11D	Natural Sample	H16120307-007	12/15/2016	N-Total	2.26	0.06	mg/L	A4500 N-C
SS-11D	Natural Sample	H16120307-007	12/15/2016	Phosphorus, Total as P	0.524	0.003	mg/L	E365.1
SS-11D	Natural Sample	H16120307-007	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Barium, Dissolved	0.04	0.003	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11D	Natural Sample	H16120307-007	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-11D	Natural Sample	H16120307-007	12/15/2016	Cadmium, Dissolved	0.00012	0.00003	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Copper, Dissolved	0.009	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Iron, Dissolved	0.04	0.02	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Manganese, Dissolved	0.174	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-11D	Natural Sample	H16120307-007	12/15/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Uranium, Dissolved	0.0054	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Zinc, Dissolved	0.11	0.008	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Aluminum, Total Recoverable	0.337	0.009	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Barium, Total Recoverable	0.046	0.003	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-11D	Natural Sample	H16120307-007	12/15/2016	Cadmium, Total Recoverable	0.00039	0.00003	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Calcium, Total Recoverable	61	1	mg/L	E200.7
SS-11D	Natural Sample	H16120307-007	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Copper, Total Recoverable	0.026	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Iron, Total Recoverable	0.54	0.02	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Lead, Total Recoverable	0.0033	0.0003	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Magnesium, Total Recoverable	14	1	mg/L	E200.7
SS-11D	Natural Sample	H16120307-007	12/15/2016	Manganese, Total Recoverable	0.241	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-11D	Natural Sample	H16120307-007	12/15/2016	Mercury, Total Recoverable	0.000015	0.000005	mg/L	E245.1
SS-11D	Natural Sample	H16120307-007	12/15/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-11D	Natural Sample	H16120307-007	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Sodium, Total Recoverable	41	1	mg/L	E200.7
SS-11D	Natural Sample	H16120307-007	12/15/2016	Uranium, Total Recoverable	0.0056	0.0002	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-11D	Natural Sample	H16120307-007	12/15/2016	Zinc, Total Recoverable	0.134	0.008	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Solids, Total Suspended TSS @ 105 C	27	1	mg/L	A2540 D
SS-13	Natural Sample	H16120307-008	12/14/2016	Solids, Volatile Suspended	7	1	mg/L	A2540 E
SS-13	Natural Sample	H16120307-008	12/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-13	Natural Sample	H16120307-008	12/14/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
SS-13	Natural Sample	H16120307-008	12/14/2016	Chloride	50	1	mg/L	E300.0
SS-13	Natural Sample	H16120307-008	12/14/2016	Sulfate	93	1	mg/L	E300.0
SS-13	Natural Sample	H16120307-008	12/14/2016	Hardness as CaCO3	221	1	mg/L	A2340 B
SS-13	Natural Sample	H16120307-008	12/14/2016	Organic Carbon, Dissolved (DOC)	2.6	0.5	mg/L	A5310 C
SS-13	Natural Sample	H16120307-008	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-13	Natural Sample	H16120307-008	12/14/2016	NO3+NO2 as N	1.81	0.02	mg/L	E353.2
SS-13	Natural Sample	H16120307-008	12/14/2016	N-Total	2.13	0.06	mg/L	A4500 N-C
SS-13	Natural Sample	H16120307-008	12/14/2016	Phosphorus, Total as P	0.58	0.003	mg/L	E365.1
SS-13	Natural Sample	H16120307-008	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Barium, Dissolved	0.039	0.003	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-13	Natural Sample	H16120307-008	12/14/2016	Cadmium, Dissolved	0.00012	0.00003	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-13	Natural Sample	H16120307-008	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Copper, Dissolved	0.009	0.001	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Manganese, Dissolved	0.152	0.001	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-13	Natural Sample	H16120307-008	12/14/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Uranium, Dissolved	0.0057	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Zinc, Dissolved	0.085	0.008	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Aluminum, Total Recoverable	0.56	0.009	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Barium, Total Recoverable	0.05	0.003	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-13	Natural Sample	H16120307-008	12/14/2016	Cadmium, Total Recoverable	0.0005	0.00003	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Calcium, Total Recoverable	63	1	mg/L	E200.7
SS-13	Natural Sample	H16120307-008	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Copper, Total Recoverable	0.037	0.001	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Iron, Total Recoverable	0.89	0.02	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Lead, Total Recoverable	0.0055	0.0003	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Magnesium, Total Recoverable	15	1	mg/L	E200.7
SS-13	Natural Sample	H16120307-008	12/14/2016	Manganese, Total Recoverable	0.28	0.001	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Mercury, Total Recoverable	0.000027	0.000005	mg/L	E245.1
SS-13	Natural Sample	H16120307-008	12/14/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-13	Natural Sample	H16120307-008	12/14/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-13	Natural Sample	H16120307-008	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Sodium, Total Recoverable	41	1	mg/L	E200.7
SS-13	Natural Sample	H16120307-008	12/14/2016	Uranium, Total Recoverable	0.0061	0.0002	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-13	Natural Sample	H16120307-008	12/14/2016	Zinc, Total Recoverable	0.152	0.008	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Solids, Total Suspended TSS @ 105 C	27	1	mg/L	A2540 D
SS-14	Natural Sample	H16120307-009	12/14/2016	Solids, Volatile Suspended	6	1	mg/L	A2540 E
SS-14	Natural Sample	H16120307-009	12/14/2016	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
SS-14	Natural Sample	H16120307-009	12/14/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
SS-14	Natural Sample	H16120307-009	12/14/2016	Chloride	54	1	mg/L	E300.0
SS-14	Natural Sample	H16120307-009	12/14/2016	Sulfate	94	1	mg/L	E300.0
SS-14	Natural Sample	H16120307-009	12/14/2016	Hardness as CaCO3	226	1	mg/L	A2340 B
SS-14	Natural Sample	H16120307-009	12/14/2016	Organic Carbon, Dissolved (DOC)	2.7	0.5	mg/L	A5310 C
SS-14	Natural Sample	H16120307-009	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-14	Natural Sample	H16120307-009	12/14/2016	NO3+NO2 as N	2	0.2	mg/L	E353.2
SS-14	Natural Sample	H16120307-009	12/14/2016	N-Total	2.2	0.2	mg/L	A4500 N-C
SS-14	Natural Sample	H16120307-009	12/14/2016	Phosphorus, Total as P	0.618	0.003	mg/L	E365.1
SS-14	Natural Sample	H16120307-009	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Barium, Dissolved	0.039	0.003	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-14	Natural Sample	H16120307-009	12/14/2016	Cadmium, Dissolved	0.00014	0.00003	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Copper, Dissolved	0.01	0.001	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Iron, Dissolved	0.03	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Natural Sample	H16120307-009	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Manganese, Dissolved	0.154	0.001	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-14	Natural Sample	H16120307-009	12/14/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Uranium, Dissolved	0.0058	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Zinc, Dissolved	0.087	0.008	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Aluminum, Total Recoverable	0.595	0.009	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Barium, Total Recoverable	0.053	0.003	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-14	Natural Sample	H16120307-009	12/14/2016	Cadmium, Total Recoverable	0.00048	0.00003	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Calcium, Total Recoverable	66	1	mg/L	E200.7
SS-14	Natural Sample	H16120307-009	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Copper, Total Recoverable	0.037	0.001	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Iron, Total Recoverable	0.87	0.02	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Lead, Total Recoverable	0.0052	0.0003	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Magnesium, Total Recoverable	15	1	mg/L	E200.7
SS-14	Natural Sample	H16120307-009	12/14/2016	Manganese, Total Recoverable	0.282	0.001	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Mercury, Total Recoverable	0.000025	0.000005	mg/L	E245.1
SS-14	Natural Sample	H16120307-009	12/14/2016	Molybdenum, Total Recoverable	0.006	0.005	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-14	Natural Sample	H16120307-009	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-14	Natural Sample	H16120307-009	12/14/2016	Sodium, Total Recoverable	42	1	mg/L	E200.7
SS-14	Natural Sample	H16120307-009	12/14/2016	Uranium, Total Recoverable	0.0063	0.0002	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-14	Natural Sample	H16120307-009	12/14/2016	Zinc, Total Recoverable	0.155	0.008	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Solids, Total Suspended TSS @ 105 C	3	1	mg/L	A2540 D
SS-15A	Natural Sample	H16120307-010	12/14/2016	Solids, Volatile Suspended	1	1	mg/L	A2540 E
SS-15A	Natural Sample	H16120307-010	12/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-15A	Natural Sample	H16120307-010	12/14/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
SS-15A	Natural Sample	H16120307-010	12/14/2016	Chloride	55	1	mg/L	E300.0
SS-15A	Natural Sample	H16120307-010	12/14/2016	Sulfate	96	1	mg/L	E300.0
SS-15A	Natural Sample	H16120307-010	12/14/2016	Hardness as CaCO3	230	1	mg/L	A2340 B
SS-15A	Natural Sample	H16120307-010	12/14/2016	Organic Carbon, Dissolved (DOC)	2.5	0.5	mg/L	A5310 C
SS-15A	Natural Sample	H16120307-010	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15A	Natural Sample	H16120307-010	12/14/2016	NO3+NO2 as N	1.81	0.02	mg/L	E353.2
SS-15A	Natural Sample	H16120307-010	12/14/2016	N-Total	1.99	0.06	mg/L	A4500 N-C
SS-15A	Natural Sample	H16120307-010	12/14/2016	Phosphorus, Total as P	0.397	0.003	mg/L	E365.1
SS-15A	Natural Sample	H16120307-010	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Barium, Dissolved	0.039	0.003	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15A	Natural Sample	H16120307-010	12/14/2016	Cadmium, Dissolved	0.00019	0.00003	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Copper, Dissolved	0.011	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Iron, Dissolved	0.02	0.02	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Manganese, Dissolved	0.08	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Natural Sample	H16120307-010	12/14/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Uranium, Dissolved	0.006	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Zinc, Dissolved	0.106	0.008	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Aluminum, Total Recoverable	0.059	0.009	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Barium, Total Recoverable	0.04	0.003	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15A	Natural Sample	H16120307-010	12/14/2016	Cadmium, Total Recoverable	0.00024	0.00003	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Calcium, Total Recoverable	68	1	mg/L	E200.7
SS-15A	Natural Sample	H16120307-010	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Copper, Total Recoverable	0.015	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Iron, Total Recoverable	0.12	0.02	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Lead, Total Recoverable	0.0007	0.0003	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Magnesium, Total Recoverable	15	1	mg/L	E200.7
SS-15A	Natural Sample	H16120307-010	12/14/2016	Manganese, Total Recoverable	0.089	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-15A	Natural Sample	H16120307-010	12/14/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-15A	Natural Sample	H16120307-010	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Sodium, Total Recoverable	41	1	mg/L	E200.7
SS-15A	Natural Sample	H16120307-010	12/14/2016	Uranium, Total Recoverable	0.0061	0.0002	mg/L	E200.8
SS-15A	Natural Sample	H16120307-010	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Natural Sample	H16120307-010	12/14/2016	Zinc, Total Recoverable	0.114	0.008	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Solids, Total Suspended TSS @ 105 C	1	1	mg/L	A2540 D
SS-15G	Natural Sample	H16120305-005	12/14/2016	Solids, Volatile Suspended	1	1	mg/L	A2540 E
SS-15G	Natural Sample	H16120305-005	12/14/2016	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
SS-15G	Natural Sample	H16120305-005	12/14/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SS-15G	Natural Sample	H16120305-005	12/14/2016	Chloride	4.3	1	mg/L	E300.0
SS-15G	Natural Sample	H16120305-005	12/14/2016	Sulfate	27	1	mg/L	E300.0
SS-15G	Natural Sample	H16120305-005	12/14/2016	Hardness as CaCO3	126	1	mg/L	A2340 B
SS-15G	Natural Sample	H16120305-005	12/14/2016	Organic Carbon, Dissolved (DOC)	1.3	0.5	mg/L	A5310 C
SS-15G	Natural Sample	H16120305-005	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15G	Natural Sample	H16120305-005	12/14/2016	NO3+NO2 as N	0.11	0.02	mg/L	E353.2
SS-15G	Natural Sample	H16120305-005	12/14/2016	N-Total	0.17	0.05	mg/L	A4500 N-C
SS-15G	Natural Sample	H16120305-005	12/14/2016	Phosphorus, Total as P	0.042	0.003	mg/L	E365.1
SS-15G	Natural Sample	H16120305-005	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Arsenic, Dissolved	0.003	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Barium, Dissolved	0.02	0.003	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15G	Natural Sample	H16120305-005	12/14/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Manganese, Dissolved	0.001	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15G	Natural Sample	H16120305-005	12/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15G	Natural Sample	H16120305-005	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Uranium, Dissolved	0.0008	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Aluminum, Total Recoverable	0.027	0.009	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Arsenic, Total Recoverable	0.003	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Barium, Total Recoverable	0.019	0.003	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15G	Natural Sample	H16120305-005	12/14/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Calcium, Total Recoverable	38	1	mg/L	E200.7
SS-15G	Natural Sample	H16120305-005	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Iron, Total Recoverable	0.03	0.02	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Magnesium, Total Recoverable	7	1	mg/L	E200.7
SS-15G	Natural Sample	H16120305-005	12/14/2016	Manganese, Total Recoverable	0.003	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-15G	Natural Sample	H16120305-005	12/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Potassium, Total Recoverable	1	1	mg/L	E200.7
SS-15G	Natural Sample	H16120305-005	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Sodium, Total Recoverable	5	1	mg/L	E200.7
SS-15G	Natural Sample	H16120305-005	12/14/2016	Uranium, Total Recoverable	0.0008	0.0002	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15G	Natural Sample	H16120305-005	12/14/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Solids, Total Suspended TSS @ 105 C	1	1	mg/L	A2540 D

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15B	Natural Sample	H16120307-012	12/14/2016	Solids, Volatile Suspended	1	1	mg/L	A2540 E
SS-15B	Natural Sample	H16120307-012	12/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-15B	Natural Sample	H16120307-012	12/14/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SS-15B	Natural Sample	H16120307-012	12/14/2016	Chloride	45	1	mg/L	E300.0
SS-15B	Natural Sample	H16120307-012	12/14/2016	Sulfate	80	1	mg/L	E300.0
SS-15B	Natural Sample	H16120307-012	12/14/2016	Hardness as CaCO3	211	1	mg/L	A2340 B
SS-15B	Natural Sample	H16120307-012	12/14/2016	Organic Carbon, Dissolved (DOC)	2.3	0.5	mg/L	A5310 C
SS-15B	Natural Sample	H16120307-012	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15B	Natural Sample	H16120307-012	12/14/2016	NO3+NO2 as N	1.36	0.02	mg/L	E353.2
SS-15B	Natural Sample	H16120307-012	12/14/2016	N-Total	1.54	0.05	mg/L	A4500 N-C
SS-15B	Natural Sample	H16120307-012	12/14/2016	Phosphorus, Total as P	0.313	0.003	mg/L	E365.1
SS-15B	Natural Sample	H16120307-012	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Barium, Dissolved	0.034	0.003	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15B	Natural Sample	H16120307-012	12/14/2016	Cadmium, Dissolved	0.00016	0.00003	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Iron, Dissolved	0.02	0.02	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Manganese, Dissolved	0.064	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-15B	Natural Sample	H16120307-012	12/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Uranium, Dissolved	0.0048	0.0002	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15B	Natural Sample	H16120307-012	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Zinc, Dissolved	0.088	0.008	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Aluminum, Total Recoverable	0.033	0.009	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Arsenic, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Barium, Total Recoverable	0.034	0.003	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15B	Natural Sample	H16120307-012	12/14/2016	Cadmium, Total Recoverable	0.0002	0.00003	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Calcium, Total Recoverable	59	1	mg/L	E200.7
SS-15B	Natural Sample	H16120307-012	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Copper, Total Recoverable	0.011	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Iron, Total Recoverable	0.08	0.02	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Lead, Total Recoverable	0.0005	0.0003	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Magnesium, Total Recoverable	12	1	mg/L	E200.7
SS-15B	Natural Sample	H16120307-012	12/14/2016	Manganese, Total Recoverable	0.068	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-15B	Natural Sample	H16120307-012	12/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Potassium, Total Recoverable	5	1	mg/L	E200.7
SS-15B	Natural Sample	H16120307-012	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Sodium, Total Recoverable	32	1	mg/L	E200.7
SS-15B	Natural Sample	H16120307-012	12/14/2016	Uranium, Total Recoverable	0.0049	0.0002	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15B	Natural Sample	H16120307-012	12/14/2016	Zinc, Total Recoverable	0.09	0.008	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
SS-16B	Natural Sample	H16120307-013	12/14/2016	Solids, Volatile Suspended	2	1	mg/L	A2540 E
SS-16B	Natural Sample	H16120307-013	12/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Natural Sample	H16120307-013	12/14/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
SS-16B	Natural Sample	H16120307-013	12/14/2016	Chloride	45	1	mg/L	E300.0
SS-16B	Natural Sample	H16120307-013	12/14/2016	Sulfate	83	1	mg/L	E300.0
SS-16B	Natural Sample	H16120307-013	12/14/2016	Hardness as CaCO3	206	1	mg/L	A2340 B
SS-16B	Natural Sample	H16120307-013	12/14/2016	Organic Carbon, Dissolved (DOC)	2.2	0.5	mg/L	A5310 C
SS-16B	Natural Sample	H16120307-013	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-16B	Natural Sample	H16120307-013	12/14/2016	NO3+NO2 as N	1.29	0.02	mg/L	E353.2
SS-16B	Natural Sample	H16120307-013	12/14/2016	N-Total	1.46	0.05	mg/L	A4500 N-C
SS-16B	Natural Sample	H16120307-013	12/14/2016	Phosphorus, Total as P	0.352	0.003	mg/L	E365.1
SS-16B	Natural Sample	H16120307-013	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Barium, Dissolved	0.035	0.003	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-16B	Natural Sample	H16120307-013	12/14/2016	Cadmium, Dissolved	0.00014	0.00003	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Copper, Dissolved	0.008	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Manganese, Dissolved	0.063	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-16B	Natural Sample	H16120307-013	12/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Uranium, Dissolved	0.0049	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Zinc, Dissolved	0.08	0.008	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-16B	Natural Sample	H16120307-013	12/14/2016	Aluminum, Total Recoverable	0.143	0.009	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Barium, Total Recoverable	0.037	0.003	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-16B	Natural Sample	H16120307-013	12/14/2016	Cadmium, Total Recoverable	0.00023	0.00003	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Calcium, Total Recoverable	61	1	mg/L	E200.7
SS-16B	Natural Sample	H16120307-013	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Copper, Total Recoverable	0.013	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Iron, Total Recoverable	0.19	0.02	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Lead, Total Recoverable	0.001	0.0003	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-16B	Natural Sample	H16120307-013	12/14/2016	Manganese, Total Recoverable	0.077	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Mercury, Total Recoverable	0.000006	0.000005	mg/L	E245.1
SS-16B	Natural Sample	H16120307-013	12/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-16B	Natural Sample	H16120307-013	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Sodium, Total Recoverable	32	1	mg/L	E200.7
SS-16B	Natural Sample	H16120307-013	12/14/2016	Uranium, Total Recoverable	0.005	0.0002	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-16B	Natural Sample	H16120307-013	12/14/2016	Zinc, Total Recoverable	0.09	0.008	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Solids, Total Suspended TSS @ 105 C	3	1	mg/L	A2540 D
SS-17D	Natural Sample	H16120307-014	12/14/2016	Solids, Volatile Suspended	1	1	mg/L	A2540 E
SS-17D	Natural Sample	H16120307-014	12/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-17D	Natural Sample	H16120307-014	12/14/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
SS-17D	Natural Sample	H16120307-014	12/14/2016	Chloride	44	1	mg/L	E300.0

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Natural Sample	H16120307-014	12/14/2016	Sulfate	85	1	mg/L	E300.0
SS-17D	Natural Sample	H16120307-014	12/14/2016	Hardness as CaCO3	214	1	mg/L	A2340 B
SS-17D	Natural Sample	H16120307-014	12/14/2016	Organic Carbon, Dissolved (DOC)	2.5	0.5	mg/L	A5310 C
SS-17D	Natural Sample	H16120307-014	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-17D	Natural Sample	H16120307-014	12/14/2016	NO3+NO2 as N	1.69	0.02	mg/L	E353.2
SS-17D	Natural Sample	H16120307-014	12/14/2016	N-Total	1.87	0.05	mg/L	A4500 N-C
SS-17D	Natural Sample	H16120307-014	12/14/2016	Phosphorus, Total as P	0.321	0.003	mg/L	E365.1
SS-17D	Natural Sample	H16120307-014	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Arsenic, Dissolved	0.006	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Barium, Dissolved	0.036	0.003	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-17D	Natural Sample	H16120307-014	12/14/2016	Cadmium, Dissolved	0.0002	0.00003	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Copper, Dissolved	0.012	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Manganese, Dissolved	0.037	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-17D	Natural Sample	H16120307-014	12/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Uranium, Dissolved	0.0046	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Zinc, Dissolved	0.093	0.008	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Aluminum, Total Recoverable	0.083	0.009	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-17D	Natural Sample	H16120307-014	12/14/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Barium, Total Recoverable	0.036	0.003	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-17D	Natural Sample	H16120307-014	12/14/2016	Cadmium, Total Recoverable	0.00026	0.00003	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Calcium, Total Recoverable	62	1	mg/L	E200.7
SS-17D	Natural Sample	H16120307-014	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Copper, Total Recoverable	0.015	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Iron, Total Recoverable	0.14	0.02	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Lead, Total Recoverable	0.0008	0.0003	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-17D	Natural Sample	H16120307-014	12/14/2016	Manganese, Total Recoverable	0.049	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-17D	Natural Sample	H16120307-014	12/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-17D	Natural Sample	H16120307-014	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Sodium, Total Recoverable	34	1	mg/L	E200.7
SS-17D	Natural Sample	H16120307-014	12/14/2016	Uranium, Total Recoverable	0.0047	0.0002	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-17D	Natural Sample	H16120307-014	12/14/2016	Zinc, Total Recoverable	0.099	0.008	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Solids, Total Suspended TSS @ 105 C	3	1	mg/L	A2540 D
SS-19	Natural Sample	H16120307-015	12/14/2016	Solids, Volatile Suspended	1	1	mg/L	A2540 E
SS-19	Natural Sample	H16120307-015	12/14/2016	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-19	Natural Sample	H16120307-015	12/14/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
SS-19	Natural Sample	H16120307-015	12/14/2016	Chloride	43	1	mg/L	E300.0
SS-19	Natural Sample	H16120307-015	12/14/2016	Sulfate	88	1	mg/L	E300.0
SS-19	Natural Sample	H16120307-015	12/14/2016	Hardness as CaCO3	211	1	mg/L	A2340 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-19	Natural Sample	H16120307-015	12/14/2016	Organic Carbon, Dissolved (DOC)	2.6	0.5	mg/L	A5310 C
SS-19	Natural Sample	H16120307-015	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-19	Natural Sample	H16120307-015	12/14/2016	NO3+NO2 as N	1.73	0.02	mg/L	E353.2
SS-19	Natural Sample	H16120307-015	12/14/2016	N-Total	1.89	0.05	mg/L	A4500 N-C
SS-19	Natural Sample	H16120307-015	12/14/2016	Phosphorus, Total as P	0.279	0.003	mg/L	E365.1
SS-19	Natural Sample	H16120307-015	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Barium, Dissolved	0.038	0.003	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-19	Natural Sample	H16120307-015	12/14/2016	Cadmium, Dissolved	0.0002	0.00003	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Copper, Dissolved	0.011	0.001	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Iron, Dissolved	0.02	0.02	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Manganese, Dissolved	0.039	0.001	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-19	Natural Sample	H16120307-015	12/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Uranium, Dissolved	0.005	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Zinc, Dissolved	0.095	0.008	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Aluminum, Total Recoverable	0.084	0.009	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Barium, Total Recoverable	0.039	0.003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-19	Natural Sample	H16120307-015	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-19	Natural Sample	H16120307-015	12/14/2016	Cadmium, Total Recoverable	0.00024	0.00003	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Calcium, Total Recoverable	63	1	mg/L	E200.7
SS-19	Natural Sample	H16120307-015	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Copper, Total Recoverable	0.015	0.001	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Iron, Total Recoverable	0.14	0.02	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Lead, Total Recoverable	0.0008	0.0003	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-19	Natural Sample	H16120307-015	12/14/2016	Manganese, Total Recoverable	0.052	0.001	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-19	Natural Sample	H16120307-015	12/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Potassium, Total Recoverable	6	1	mg/L	E200.7
SS-19	Natural Sample	H16120307-015	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Sodium, Total Recoverable	35	1	mg/L	E200.7
SS-19	Natural Sample	H16120307-015	12/14/2016	Uranium, Total Recoverable	0.0052	0.0002	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-19	Natural Sample	H16120307-015	12/14/2016	Zinc, Total Recoverable	0.1	0.008	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Solids, Total Suspended TSS @ 105 C	2	1	mg/L	A2540 D
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Solids, Volatile Suspended	1	1	mg/L	A2540 E
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Chloride	55	1	mg/L	E300.0
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Sulfate	96	1	mg/L	E300.0

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Hardness as CaCO3	230	1	mg/L	A2340 B
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Organic Carbon, Dissolved (DOC)	2.6	0.5	mg/L	A5310 C
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	NO3+NO2 as N	1.81	0.02	mg/L	E353.2
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	N-Total	2.03	0.06	mg/L	A4500 N-C
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Phosphorus, Total as P	0.414	0.003	mg/L	E365.1
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Arsenic, Dissolved	0.005	0.001	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Barium, Dissolved	0.039	0.003	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Cadmium, Dissolved	0.0002	0.00003	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Copper, Dissolved	0.011	0.001	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Manganese, Dissolved	0.081	0.001	mg/L	E200.8
SS-15A	Duplicate	H16120307-011	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Molybdenum, Dissolved	0.005	0.005	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Uranium, Dissolved	0.006	0.0002	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Zinc, Dissolved	0.108	0.008	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Aluminum, Total Recoverable	0.056	0.009	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Arsenic, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Barium, Total Recoverable	0.039	0.003	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Cadmium, Total Recoverable	0.00025	0.00003	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Calcium, Total Recoverable	68	1	mg/L	E200.7
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Copper, Total Recoverable	0.017	0.001	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Iron, Total Recoverable	0.14	0.02	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Lead, Total Recoverable	0.0007	0.0003	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Magnesium, Total Recoverable	15	1	mg/L	E200.7
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Manganese, Total Recoverable	0.09	0.001	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Molybdenum, Total Recoverable	0.005	0.005	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Nickel, Total Recoverable	0.005	0.002	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Potassium, Total Recoverable	7	1	mg/L	E200.7
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Sodium, Total Recoverable	41	1	mg/L	E200.7
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Uranium, Total Recoverable	0.0061	0.0002	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-15A	Duplicate Sample	H16120307-011	12/14/2016	Zinc, Total Recoverable	0.116	0.008	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Solids, Total Suspended TSS @ 105 C	20	1	mg/L	A2540 D
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Solids, Volatile Suspended	5	1	mg/L	A2540 E
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Alkalinity, Total as CaCO3	98	4	mg/L	A2320 B
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Chloride	13	1	mg/L	E300.0
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Sulfate	31	1	mg/L	E300.0
SS-01	Duplicate	H16120305-002	12/15/2016	Hardness as CaCO3	125	1	mg/L	A2340 B

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Organic Carbon, Dissolved (DOC)	1.2	0.5	mg/L	A5310 C
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-01	Duplicate Sample	H16120305-002	12/15/2016	NO3+NO2 as N	1.8	0.02	mg/L	E353.2
SS-01	Duplicate Sample	H16120305-002	12/15/2016	N-Total	1.82	0.05	mg/L	A4500 N-C
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Phosphorus, Total as P	0.137	0.003	mg/L	E365.1
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Arsenic, Dissolved	0.001	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Barium, Dissolved	0.06	0.003	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Iron, Dissolved	0.05	0.02	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Manganese, Dissolved	0.055	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Uranium, Dissolved	0.0037	0.0002	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Aluminum, Total Recoverable	0.385	0.009	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Arsenic, Total Recoverable	0.002	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Barium, Total Recoverable	0.066	0.003	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Cadmium, Total Recoverable	0.00003	0.00003	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Calcium, Total Recoverable	35	1	mg/L	E200.7
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Iron, Total Recoverable	0.96	0.02	mg/L	E200.8
SS-01	Duplicate	H16120305-002	12/15/2016	Lead, Total Recoverable	0.0013	0.0003	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
	Sample							
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Magnesium, Total Recoverable	9	1	mg/L	E200.7
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Manganese, Total Recoverable	0.097	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Mercury, Total Recoverable	0.000008	0.000005	mg/L	E245.1
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Potassium, Total Recoverable	3	1	mg/L	E200.7
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Sodium, Total Recoverable	12	1	mg/L	E200.7
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Uranium, Total Recoverable	0.004	0.0002	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-01	Duplicate Sample	H16120305-002	12/15/2016	Zinc, Total Recoverable	0.011	0.008	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
SS-19	Field Blank	H16120307-016	12/14/2016	Solids, Volatile Suspended	ND	1	mg/L	A2540 E
SS-19	Field Blank	H16120307-016	12/14/2016	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
SS-19	Field Blank	H16120307-016	12/14/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
SS-19	Field Blank	H16120307-016	12/14/2016	Chloride	ND	1	mg/L	E300.0
SS-19	Field Blank	H16120307-016	12/14/2016	Sulfate	ND	1	mg/L	E300.0
SS-19	Field Blank	H16120307-016	12/14/2016	Hardness as CaCO3	ND	1	mg/L	A2340 B
SS-19	Field Blank	H16120307-016	12/14/2016	Organic Carbon, Dissolved (DOC)	ND	0.5	mg/L	A5310 C
SS-19	Field Blank	H16120307-016	12/14/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-19	Field Blank	H16120307-016	12/14/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-19	Field Blank	H16120307-016	12/14/2016	N-Total	ND	0.05	mg/L	A4500 N-C
SS-19	Field Blank	H16120307-016	12/14/2016	Phosphorus, Total as P	ND	0.003	mg/L	E365.1
SS-19	Field Blank	H16120307-016	12/14/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Arsenic, Dissolved	ND	0.001	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Barium, Dissolved	ND	0.003	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-19	Field Blank	H16120307-016	12/14/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Manganese, Dissolved	ND	0.001	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-19	Field Blank	H16120307-016	12/14/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Uranium, Dissolved	ND	0.0002	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Zinc, Dissolved	0.01	0.008	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Aluminum, Total Recoverable	ND	0.009	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Arsenic, Total Recoverable	ND	0.001	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Barium, Total Recoverable	ND	0.003	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-19	Field Blank	H16120307-016	12/14/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Calcium, Total Recoverable	ND	1	mg/L	E200.7

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-19	Field Blank	H16120307-016	12/14/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Iron, Total Recoverable	ND	0.02	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
SS-19	Field Blank	H16120307-016	12/14/2016	Manganese, Total Recoverable	ND	0.001	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-19	Field Blank	H16120307-016	12/14/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Potassium, Total Recoverable	ND	1	mg/L	E200.7
SS-19	Field Blank	H16120307-016	12/14/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Sodium, Total Recoverable	ND	1	mg/L	E200.7
SS-19	Field Blank	H16120307-016	12/14/2016	Uranium, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-19	Field Blank	H16120307-016	12/14/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
SS-05A	Field Blank	H16120305-004	12/15/2016	Solids, Volatile Suspended	ND	1	mg/L	A2540 E
SS-05A	Field Blank	H16120305-004	12/15/2016	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
SS-05A	Field Blank	H16120305-004	12/15/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
SS-05A	Field Blank	H16120305-004	12/15/2016	Chloride	ND	1	mg/L	E300.0
SS-05A	Field Blank	H16120305-004	12/15/2016	Sulfate	ND	1	mg/L	E300.0
SS-05A	Field Blank	H16120305-004	12/15/2016	Hardness as CaCO3	ND	1	mg/L	A2340 B
SS-05A	Field Blank	H16120305-004	12/15/2016	Organic Carbon, Dissolved (DOC)	ND	0.5	mg/L	A5310 C
SS-05A	Field Blank	H16120305-004	12/15/2016	Nitrogen, Ammonia	ND	0.05	mg/L	E350.1
SS-05A	Field Blank	H16120305-004	12/15/2016	NO3+NO2 as N	ND	0.02	mg/L	E353.2
SS-05A	Field Blank	H16120305-004	12/15/2016	N-Total	ND	0.05	mg/L	A4500 N-C
SS-05A	Field Blank	H16120305-004	12/15/2016	Phosphorus, Total as P	ND	0.003	mg/L	E365.1
SS-05A	Field Blank	H16120305-004	12/15/2016	Aluminum, Dissolved	ND	0.009	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-05A	Field Blank	H16120305-004	12/15/2016	Antimony, Dissolved	ND	0.0005	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Arsenic, Dissolved	ND	0.001	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Barium, Dissolved	ND	0.003	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Beryllium, Dissolved	ND	0.0008	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Boron, Dissolved	ND	0.1	mg/L	E200.7
SS-05A	Field Blank	H16120305-004	12/15/2016	Cadmium, Dissolved	ND	0.00003	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Chromium, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Cobalt, Dissolved	ND	0.01	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Copper, Dissolved	ND	0.001	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Iron, Dissolved	ND	0.02	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Lead, Dissolved	ND	0.0003	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Manganese, Dissolved	ND	0.001	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Mercury, Dissolved	ND	0.000005	mg/L	E245.1
SS-05A	Field Blank	H16120305-004	12/15/2016	Molybdenum, Dissolved	ND	0.005	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Nickel, Dissolved	ND	0.002	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Selenium, Dissolved	ND	0.001	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Silver, Dissolved	ND	0.0002	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Uranium, Dissolved	ND	0.0002	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Vanadium, Dissolved	ND	0.1	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Zinc, Dissolved	ND	0.008	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Aluminum, Total Recoverable	ND	0.009	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Antimony, Total Recoverable	ND	0.0005	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Arsenic, Total Recoverable	ND	0.001	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Barium, Total Recoverable	ND	0.003	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Beryllium, Total Recoverable	ND	0.0008	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Boron, Total Recoverable	ND	0.1	mg/L	E200.7
SS-05A	Field Blank	H16120305-004	12/15/2016	Cadmium, Total Recoverable	ND	0.00003	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Calcium, Total Recoverable	ND	1	mg/L	E200.7
SS-05A	Field Blank	H16120305-004	12/15/2016	Chromium, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Cobalt, Total Recoverable	ND	0.01	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Copper, Total Recoverable	ND	0.001	mg/L	E200.8

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
SS-05A	Field Blank	H16120305-004	12/15/2016	Iron, Total Recoverable	ND	0.02	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Lead, Total Recoverable	ND	0.0003	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
SS-05A	Field Blank	H16120305-004	12/15/2016	Manganese, Total Recoverable	ND	0.001	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Mercury, Total Recoverable	ND	0.000005	mg/L	E245.1
SS-05A	Field Blank	H16120305-004	12/15/2016	Molybdenum, Total Recoverable	ND	0.005	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Nickel, Total Recoverable	ND	0.002	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Potassium, Total Recoverable	ND	1	mg/L	E200.7
SS-05A	Field Blank	H16120305-004	12/15/2016	Selenium, Total Recoverable	ND	0.001	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Silver, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Sodium, Total Recoverable	ND	1	mg/L	E200.7
SS-05A	Field Blank	H16120305-004	12/15/2016	Uranium, Total Recoverable	ND	0.0002	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Vanadium, Total Recoverable	ND	0.1	mg/L	E200.8
SS-05A	Field Blank	H16120305-004	12/15/2016	Zinc, Total Recoverable	ND	0.008	mg/L	E200.8

ND Not detected at analytical reporting limit.

Table C2. Field parameter measurements in the Streamside Tailings Operable Unit, 2016.

Site	Date	Time	pH	Water Temp (C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Conductivity (uS/cm)	Turbidity (NTU)	Flow (ft^3/s; USGS)	Flow (ft^3/s)	Weather	Field Observations
SS-01	3/17/2016	1645	7.55	4.1	10.6	81.3	248.1	9.48		12.6	Snowing lightly.	Plume of stormwater from upstream pipe on left bank, spec. cond. at outfall = 3880 us/cm. Lots of foam form outfall. Creek fairly clear.
SS-05A	3/17/2016	1530	7.84	4.7	11.77	91.7	451.2	14.1		20.01	Mostly cloudy, light snow, calm.	Ice-free banks. Lots of deposited fine sediment. Appears slightly to moderately turbid, dark looking water.
SS-06G	3/17/2016	1430	8.21	4.3	12.79	98.5	497.4	13.2		21.06	Cloudy, calm.	Moderate flow, slight turbidity -- appears dark, no ice.
SS-07	3/17/2016	1400	7.67	5.8	11.45	91.7	536.1	9.19	25 (A		Snow stopped, partly cloudy, calm.	Ice-free banks. Fresh snow (~ 1"). Water appears clear but some visible VSS in turbidity sample.
SS-08	3/17/2016	1300	7.8	4.6	11.42	88.7	407.4	5.96		27.01	Snowing lightly, calm.	Ice-free banks, moderate flow, appears clear.

SS-10A	3/17/2016	1115	7.72	2.8	11.83	87.5	395.8	7.92		25.84	Snowing lightly.	Moderate flow, snowing lightly, appears clear with some visible VSS.
SS-10B	3/17/2016	1045	7.63	2.6	11.26	82.7	396.4	7.04		24.04	Snowing lightly.	Some trash building up at RR trestle again, moderate flow, fairly clear.
SS-11C	3/17/2016	945	7.53	2	11.27	81.6	494.6	7.11		28.83	100% cloud cover, light snow, calm.	Moderate flow, pretty clear. Fresh snow (~ 1") on banks from last night and today.
SS-11D	3/17/2016	900	7.47	1.6	11.07	79.2	459	7.15		36.79	100% cloud cover, cold, calm.	Moderate flow, appears clear, new snow last night, no ice in floodplain or on banks.
SS-13	3/16/2016	1645	8.48	5.6	13.44	107	469.9	5.91		38.2	Mostly cloudy, windy, cold.	No channel ice, no snow in floodplain, moderate flow, slight turbidity at most.
SS-14	3/16/2016	1600	8.55	5.5	14.43	114.6	457.6	5.19		36.52	Cloudy, breezy, snow squalls.	Moderate flow, no ice or snow along banks or in floodplain. Pretty clear but with visible VSS particles in water column.

SS-15A	3/16/2016	1430	8.6	4.3	12.96	99.9	465	5.15		36.71	Mostly cloudy, moderate temperat ure.	Some shelf ice on high banks but creek channel is completely open. Appears clear but some visible TSS/VSS in water column. Moderate to low flow.
SS-15G	3/16/2016	1330	7.97	0.4	12.44	86	210.1	5.66		13.22	Cloudy, warming up, light breeze.	Some shelf ice along banks but channel 95% open. Appears clear but fine TSS is contributiing to slightly elevated turbidity readings -- mid- to high 5 range.
SS-15B	3/16/2016	1300	8.26	2.4	13.23	96.8	415	5.47		44.62	Mostly cloudy, snow showers.	Most of floodplain is ice-free, low and clear. Moderately heavy periphtyon and macrophytes. Water appears dark due to clouds and periphyton coverage but water is clear.

SS-16B	3/16/2016	1115	8.17	1.4	13.85	98.6	432.3	4.91		43.74	Partly cloudy, brisk wind, cold.	Banks 99% ice-free. Low flow, clear. Fairly heavy periphyton growth.
SS-17D	3/16/2016	1015	8.03	1.2	13.01	92.2	459.6	5.69	50 (P)		Partly cloudy, windy, cold.	Creek is low and clear, banks are almost completely ice-free.
SS-19	3/16/2016	900	7.84	0.9	12.79	89.7	450.1	5.82		55.76	Partly cloudy, breezy, cold.	Creek is low and with only a slight hint of turbidity, banks are ice-free.
SS-01	6/3/2016	1630	7.84	16.6	8.5	105	163.6	6.24		16.78	Sunny, slight breeze.	Flow moderately high, slightly turbid.
SS-05A	6/3/2016	1530	8.42	16.7	11.7	145	207.3	5.84		21.1	Sunny, slight breeze.	Flow moderately high, slightly turbid.
SS-06G	6/3/2016	1500	8.87	16.4	12.3	151	280.7	5.71		24.15	Sunny, slight breeze.	Flow moderately high, slightly turbid. WWTP outfall is very clear (new plant fully on-line?).
SS-07	6/3/2016	1430	8.06	15.4	11	132	306.6	4.57	28 (A)		Sunny, slight breeze.	
SS-08	6/3/2016	1300	8.72	15.7	12.1	146	304.7	4.67		32.27	Clear, breezy.	Moderately high flows, very slight turbidity.

SS-10A	6/3/2016	1200	8.92	13.7	12.7	147	300.4	3.75		28.02	Partly cloudy, slight breeze.	Moderately high flow, water clear.
SS-10B	6/3/2016	1100	8.89	13.3	12.6	145	297.6	3.31		24.81	Mostly sunny, slight breeze.	Flow moderately high, water clear, stream bottom covered with aquatic grass.
SS-11C	6/3/2016	1000	8.46	11.8	11.5	127	345.1	3.28		21.65	Mostly sunny, light breeze.	Moderately high flow, water clear.
SS-11D	6/3/2016	900	8.19	11	10	110	324.5	4.89		36.12	Sunny, calm, warm.	Moderate flow, clear. Some macrophytes but not heavy.
SS-13	6/2/2016	1600	9.08	14.8	12	143	333.3	4.22		42.84	Cloudy, breezy.	Moderately high flow, water clear.
SS-14	6/2/2016	1500	9.06	15.1	12.7	152	340.3	5.01		43.84	Cloudy, breezy.	Moderately high flows, very slight turbidity.
SS-15A	6/2/2016	1300	8.95	14.3	11	129	335.5	3.86		42.84	Mostly cloudy, breezy.	Moderately high flow, water clear.
SS-15G	6/2/2016	1230	8.17	8.3	10.1	104	130	3.63		53.25	Mostly cloudy, breezy.	Moderately high flow, water clear.
SS-15B	6/2/2016	1200	8.56	10.5	10.2	110	214.1	3.89		93.69	Mostly cloudy, breezy.	Stage moderately high, water clear.
SS-16B	6/2/2016	1100	8.42	10.4	10.3	110	214.7	5.08		100.93	Cloudy, threatening to shower.	Moderately high flow, water clear.

SS-17D	6/2/2016	1000	8.35	10.9	10.2	110	224.9	7.36	104 (P)		Mostly cloudy, mild, light breeze.	Flow is moderately high, not quite bankfull stage. Slightly turbid but not muddy.
SS-19	6/2/2016	900	8.29	10.9	10.1	109	228.8	7.62		102.9	Mostly cloudy, mild, light breeze.	Near bankfull flow, slight turbidity. Streamflow may have peaked last week.
SS-01	9/15/2016	1730	7.66	12.1	10.3	116	246.1	1.62		4.79	Clouds building, warm, breezy.	Very clear, very low flow.
SS-05A	9/15/2016	1600	8.35	14.4	12.5	148	283.6	4.81		8.71	Clear, sunny, warm.	Low, clear, suspended organic particulate.
SS-06G	9/15/2016	1430	8.68	13.3	13.1	151	418.6	4.84		11.9	Clear, sunny, light breeze, warm.	Low and clear.
SS-07	9/15/2016	1400	7.84	15.1	10.9	131	403.5	2.76	18 (A)		Sunny and warm.	Low and clear. Less septic odor than before WWTP upgrade?
SS-08	9/15/2016	1300	8.27	14.2	11.6	136	414.1	8.47		18.38	Clear, warm, calm.	Slight turbidity from recent rain. Flows low.
SS-10A	9/15/2016	1230	8.26	11.8	12	134	394.3	6.76		15.93	Sunny, warming up.	Low flow conditions, hint of turbidity induced by organics and

												recent rain.
SS-10B	9/15/2016	1130	8.12	11.2	11.4	125	393.7	6.73		15.11	Sunny, warming up.	Lots of organics. Low flow, slight turbidity.
SS-11C	9/15/2016	1045	8.28	9.3	12.5	131	476.1	5.16		16.05	Fog burning off, sunny, calm.	Base flow conditions.
SS-11D	9/15/2016	945	8.09	9	11.3	118	469.3	5.45		22.61	Foggy, light breeze.	Low flow, appears clear. Rain stopped last night, heavy fog this morning.
SS-13	9/14/2016	1630	8.76	10	12.5	134	484.9	4.29		19.44	Steady rain.	Base flow conditions. Suspended plant pieces in water column. Steady rain for several hours now.
SS-14	9/14/2016	1530	8.71	9.8	12.5	133	487.3	2.3		19.25	Steady rain, cool, light breeze.	Low flow and clear appearance.
SS-15A	9/14/2016	1400	8.73	9.5	11.4	120	481.6	4.52		19.14	Rain increasing .	Base flow level, clear, lots of macrophytes. Possibly less septic odor than in the past but still some foam patches on

												water surface.
SS-15G	9/14/2016	1330	8.29	6.5	11.5	112	216.3	0.62		5.06	Light rain drops, cloudy, cool.	Very low and clear.
SS-15B	9/14/2016	1230	8.66	8.8	11.6	120	429	4.84		24.05	100% cloud cover, rain sprinkles.	Base flow conditions. Appears pretty clear. Abundant macrophytes.
SS-16B	9/14/2016	1100	8.42	8.7	11.6	120	432.9	4.47		29	Near 100% cloud cover, cool, calm.	Creek is low and clear.
SS-17D	9/14/2016	1000	8.44	8.6	12.2	124	454.2	6.2	28 (P)		Mostly cloudy, cool.	Flow low and with nthe slightest hitnmof turbidity. Erich Weber recording biologiocal conditions separately during this event combined with his biomonitoring.

SS-19	9/14/2016	900	8.17	8.5	10.9	111	447.7	5.58		28.58	Mostly cloudy, calm, cool.	Flow is low, slight hint of turbidity from organics. Erich Weber is collecting biological samples and recording associated conditions.
SS-01	12/15/2016	1645	7.64	2.9	10.7	98	314.7	8.33		5	Snow stopped, cloudy, cold.	No channel ice, no slush ice. Appears pretty clear.
SS-05A	12/15/2016	1600	7.83	2	11.6	103	368.4	15.3		8.99	Snowing.	Channel open, no slush ice. Snowing large flakes, slight to moderate turbidity.
SS-06G	12/15/2016	1430	8.39	1.1	12.8	112	559.7	13.9		11.54	Snowing, cold.	Channel open, no slush ice. Moderate turbidity.
SS-07	12/15/2016	1400	7.72	4.5	11.4	111	545.8	8.35	17 (P)		Snowing, cold.	Channel is open, no slush ice. Clear water.
SS-08	12/15/2016	1300	8.2	2.3	13.3	120	555.8	18.9		17.47	Snowing, breezy, cold.	Channel is open, no slush ice. Fine TSS/VSS in water column.
SS-10A	12/15/2016	1200	8.06	0.5	13	111	566.2	15.8		15.99	Snowing.	Channel open, no slush ice, moderate turbidity.
SS-10B	12/15/2016	1115	8.02	0.4	12.7	109	565.2	21.8		16.16	Snowing, cold.	Channel is open. Moderate turbidity. No

												slush ice present.
SS-11C	12/15/2016	1000	7.88	0.1	12.3	104	652.2	10.4		20.26	Snowing, breezy, cold.	Channel open. Lots of slush ice coming down river stirring substrate up.
SS-11D	12/15/2016	915	7.85	0.1	12.1	102	623.8	8.53		24.32	Snowing, breezy, cold.	Channel is open, Fine TSS/VSS present.
SS-13	12/14/2016	1545	8.07	0	13.3	110	641.2	13.5			Cloudy, light wind, cold.	Channel iced over. Grab sampled at culvert outlet below road crossing. Did not collect sediment sample.
SS-14	12/14/2016	1445	8	0	13.5	112	654.6	12.5			Cloudy, cold.	Channel iced over. Grab-sampled through an open hole. No sediment collected. Fine VSS, moderately high turbidity.
SS-15A	12/14/2016	1400	7.82	0	12	99	679.1	1.91			High clouds, cold, light breeze.	Channel 99% iced over. Grab-sampled through a hole in the ice. No sediment sample collected.

SS-15G	12/14/2016	1315	8.04	0	14.3	118	141.4	0.83			High cloud cover, cold.	Near 100% ice cover. Grab-sampled through a small hole in the under the RR trestle. Very clear water. Did not colect a sediment sample.
SS-15B	12/14/2016	1245	7.88	0	13.4	110	579.5	1.54			High clouds, light wind, cold.	Channel nearly 100% iced over. Grab sampled through a small open hole. Did not collect a sediment sample.
SS-16B	12/14/2016	1145	7.98	0	13.8	113	593.2	3.1			High clouds, light breeze, cold.	Channel iced over. Grab-sampled through an open hole in the ice. Water appears clear.
SS-17D	12/14/2016	1030	7.91	0	13.7	112	595.7	2.49	Ice (P)		High clouds, light wind, cold.	Channel is mostly iced over. Sampled in a localized open area downstream of the regular cross-section. Water is very clear. Heavy macrophytes.

SS-19	12/14/2016	930	7.77	0	13.2	108	597.5	2.18		28.8	High clouds, light breeze, cold.	Shelf ice along banks, anchor ice present affecting streamflow gauging accuracy. Sampled and gauged flow just upstream of the RR bridge.

APPENDIX D

SEDIMENT DATA

Table D1. Sediment metal concentrations in the Streamside Tailings Operable Unit, 2016.

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Aluminum, Total	29400		mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Arsenic, Total	63	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Barium, Total	416	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Boron, Total	13	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Cadmium, Total	3.1	0.4	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Chromium, Total	79	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Cobalt, Total	15	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Copper, Total	495	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Iron, Total	50900	20	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Lead, Total	202	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Manganese, Total	1710	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Mercury, Total	0.31	0.10	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Molybdenum, Total	31	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Nickel, Total	35	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Uranium, Total	14	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Vanadium, Total	145	2	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16030349-005	3/17/2016	Zinc, Total	576	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Aluminum, Total	3340	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Arsenic, Total	5	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Barium, Total	40	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Cadmium, Total	0.2	0.2	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Chromium, Total	12	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Copper, Total	35	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Iron, Total	16100	8	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Lead, Total	20	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Manganese, Total	203	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Nickel, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Vanadium, Total	48	1	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16030349-006	3/17/2016	Zinc, Total	127	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Aluminum, Total	3640	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Arsenic, Total	6	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Barium, Total	36	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Chromium, Total	5	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Copper, Total	28	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Iron, Total	6180	7	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Lead, Total	8	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Manganese, Total	132	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Vanadium, Total	14	1	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16030349-007	3/17/2016	Zinc, Total	52	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Aluminum, Total	28300	10	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Arsenic, Total	511	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Barium, Total	468	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Boron, Total	17	6	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Cadmium, Total	20.2	0.5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Chromium, Total	78	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Cobalt, Total	20	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Copper, Total	4140	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Iron, Total	65600	20	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Lead, Total	1000	20	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Manganese, Total	2940	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Mercury, Total	1.6	0.10	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Molybdenum, Total	24	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Nickel, Total	32	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Silver, Total	17	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Uranium, Total	15	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Vanadium, Total	135	2	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16030349-011	3/17/2016	Zinc, Total	3860	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Aluminum, Total	4600	9	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Arsenic, Total	134	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Barium, Total	82	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Cadmium, Total	3.5	0.2	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Chromium, Total	29	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Cobalt, Total	15	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Copper, Total	927	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Iron, Total	75700	20	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Lead, Total	194	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Manganese, Total	1390	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Mercury, Total	0.12	0.10	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Molybdenum, Total	7	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Nickel, Total	13	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Vanadium, Total	93	1	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16030349-012	3/17/2016	Zinc, Total	1560	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Aluminum, Total	4470	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Arsenic, Total	101	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Barium, Total	67	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Cadmium, Total	0.9	0.2	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Chromium, Total	8	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Copper, Total	450	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Iron, Total	17500	8	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Lead, Total	65	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Manganese, Total	2230	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Vanadium, Total	24	1	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16030349-013	3/17/2016	Zinc, Total	579	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Aluminum, Total	22600	10	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Arsenic, Total	142	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Barium, Total	575	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Boron, Total	22	6	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Cadmium, Total	13.1	0.5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Chromium, Total	67	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Cobalt, Total	27	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Copper, Total	1030	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Iron, Total	47200	20	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Lead, Total	544	20	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Manganese, Total	11100	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Mercury, Total	1.3	0.10	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Molybdenum, Total	17	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Nickel, Total	40	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Silver, Total	7	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Uranium, Total	9	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Vanadium, Total	151	2	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16030355-018	3/17/2016	Zinc, Total	2990	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Aluminum, Total	4850	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Arsenic, Total	27	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Barium, Total	119	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Cadmium, Total	1	0.2	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Chromium, Total	8	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Cobalt, Total	6	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Copper, Total	182	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Iron, Total	12900	8	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Lead, Total	63	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Manganese, Total	1790	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Mercury, Total	0.13	0.10	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Vanadium, Total	33	1	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16030355-019	3/17/2016	Zinc, Total	471	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Aluminum, Total	4120	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Arsenic, Total	27	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Barium, Total	132	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Boron, Total	5	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Chromium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Copper, Total	88	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Iron, Total	9470	8	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Lead, Total	81	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Manganese, Total	1830	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Mercury, Total	0.16	0.10	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Vanadium, Total	23	1	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16030355-020	3/17/2016	Zinc, Total	260	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Aluminum, Total	19400	10	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Arsenic, Total	115	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Barium, Total	471	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Boron, Total	15	7	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Cadmium, Total	10.6	0.6	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Chromium, Total	70	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Cobalt, Total	19	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Copper, Total	1110	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Iron, Total	40600	20	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Lead, Total	714	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Manganese, Total	6250	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Mercury, Total	0.93	0.10	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Molybdenum, Total	26	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Nickel, Total	40	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Silver, Total	6	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Uranium, Total	11	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Vanadium, Total	105	3	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16030355-021	3/17/2016	Zinc, Total	2900	6	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Aluminum, Total	4480	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Arsenic, Total	27	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Barium, Total	68	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Cadmium, Total	2	0.2	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Chromium, Total	15	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Cobalt, Total	7	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Copper, Total	321	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Iron, Total	32500	9	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Lead, Total	66	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Manganese, Total	715	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Mercury, Total	0.14	0.10	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Nickel, Total	6	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Vanadium, Total	71	1	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16030355-022	3/17/2016	Zinc, Total	807	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Aluminum, Total	3600	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Arsenic, Total	254	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Barium, Total	57	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Chromium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Copper, Total	763	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Iron, Total	9920	8	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Lead, Total	26	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Manganese, Total	500	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Vanadium, Total	19	1	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16030355-023	3/17/2016	Zinc, Total	365	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Aluminum, Total	24100	20	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Arsenic, Total	74	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Barium, Total	367	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Boron, Total	19	8	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Cadmium, Total	12.2	0.7	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Chromium, Total	52	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Cobalt, Total	12	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Copper, Total	956	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Iron, Total	36400	30	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Lead, Total	534	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Manganese, Total	1600	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Mercury, Total	2.4	0.10	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Molybdenum, Total	19	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Nickel, Total	27	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Silver, Total	7	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Uranium, Total	10	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Vanadium, Total	71	3	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16030355-024	3/17/2016	Zinc, Total	2410	7	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Aluminum, Total	6920	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Arsenic, Total	17	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Barium, Total	96	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Cadmium, Total	3.8	0.2	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Chromium, Total	9	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Copper, Total	267	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Iron, Total	15000	9	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Lead, Total	90	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Manganese, Total	466	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Mercury, Total	0.38	0.10	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Vanadium, Total	34	1	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16030355-025	3/17/2016	Zinc, Total	742	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Aluminum, Total	4410	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Arsenic, Total	13	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Barium, Total	74	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Cadmium, Total	1.2	0.2	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Chromium, Total	5	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Copper, Total	161	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Iron, Total	7500	8	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Lead, Total	50	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Manganese, Total	630	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Nickel, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Silver, Total	38	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Vanadium, Total	15	1	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16030355-026	3/17/2016	Zinc, Total	171	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Aluminum, Total	35000	20	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Arsenic, Total	55	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Barium, Total	417	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Boron, Total	20	10	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Cadmium, Total	12.2	0.8	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Chromium, Total	33	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Cobalt, Total	15	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Copper, Total	1000	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Iron, Total	38200	30	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Lead, Total	263	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Manganese, Total	2690	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Mercury, Total	1.1	0.10	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Molybdenum, Total	12	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Nickel, Total	19	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Uranium, Total	8	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Vanadium, Total	73	4	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16030355-027	3/17/2016	Zinc, Total	2310	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Aluminum, Total	12300	6	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Arsenic, Total	14	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Barium, Total	171	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Cadmium, Total	3.6	0.3	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Chromium, Total	12	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Cobalt, Total	6	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Copper, Total	188	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Iron, Total	21400	10	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Lead, Total	54	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Manganese, Total	962	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Mercury, Total	0.29	0.10	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Vanadium, Total	49	1	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16030355-028	3/17/2016	Zinc, Total	504	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Aluminum, Total	6920	6	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Arsenic, Total	16	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Barium, Total	93	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Cadmium, Total	1	0.2	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Chromium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Copper, Total	83	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Iron, Total	8470	10	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Lead, Total	21	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Manganese, Total	716	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Vanadium, Total	13	1	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16030355-029	3/17/2016	Zinc, Total	250	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Aluminum, Total	33300	10	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Arsenic, Total	30	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Barium, Total	347	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Boron, Total	16	6	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Cadmium, Total	6.4	0.5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Chromium, Total	28	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Cobalt, Total	11	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Copper, Total	427	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Iron, Total	31100	20	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Lead, Total	218	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Manganese, Total	2190	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Mercury, Total	0.66	0.10	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Nickel, Total	17	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Vanadium, Total	55	2	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16030355-030	3/17/2016	Zinc, Total	1280	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Aluminum, Total	5850	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Barium, Total	66	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Cadmium, Total	1.4	0.2	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Chromium, Total	19	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Copper, Total	68	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Iron, Total	33100	9	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Lead, Total	20	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Manganese, Total	324	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Vanadium, Total	104	1	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16030355-031	3/17/2016	Zinc, Total	190	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Aluminum, Total	3080	6	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Barium, Total	32	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Cadmium, Total	0.6	0.2	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Chromium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Copper, Total	31	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Iron, Total	4350	9	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Lead, Total	6	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Manganese, Total	193	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Vanadium, Total	10	1	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16030355-032	3/17/2016	Zinc, Total	80	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Aluminum, Total	28400	10	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Arsenic, Total	23	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Barium, Total	564	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Boron, Total	19	6	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Cadmium, Total	8.8	0.4	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Chromium, Total	27	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Cobalt, Total	12	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Copper, Total	410	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Iron, Total	26700	20	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Lead, Total	170	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Manganese, Total	4420	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Mercury, Total	0.34	0.10	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Nickel, Total	18	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Vanadium, Total	70	2	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16030355-033	3/17/2016	Zinc, Total	832	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Aluminum, Total	5060	6	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Barium, Total	98	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Cadmium, Total	1	0.2	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Chromium, Total	10	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Copper, Total	37	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Iron, Total	13600	9	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Lead, Total	83	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Manganese, Total	588	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Vanadium, Total	38	1	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16030355-034	3/17/2016	Zinc, Total	126	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Aluminum, Total	4110	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Barium, Total	70	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Chromium, Total	6	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Copper, Total	18	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Iron, Total	5760	7	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Lead, Total	7	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Manganese, Total	760	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Vanadium, Total	13	1	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16030355-035	3/17/2016	Zinc, Total	70	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Aluminum, Total	27700	10	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Arsenic, Total	31	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Barium, Total	388	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Boron, Total	18	7	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Cadmium, Total	7.8	0.5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Chromium, Total	35	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Cobalt, Total	13	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Copper, Total	389	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Iron, Total	27900	20	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Lead, Total	177	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Manganese, Total	3310	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Mercury, Total	0.62	0.10	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Nickel, Total	21	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Uranium, Total	6	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Vanadium, Total	69	2	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16030355-036	3/17/2016	Zinc, Total	1230	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Aluminum, Total	5680	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Barium, Total	135	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Chromium, Total	9	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Copper, Total	29	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Iron, Total	8790	8	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Lead, Total	12	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Manganese, Total	368	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Uranium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Vanadium, Total	21	1	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16030355-037	3/17/2016	Zinc, Total	117	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Aluminum, Total	5160	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Barium, Total	112	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Chromium, Total	10	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Copper, Total	16	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Iron, Total	6870	8	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Lead, Total	8	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Manganese, Total	458	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Nickel, Total	5	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Vanadium, Total	14	1	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16030355-038	3/17/2016	Zinc, Total	79	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Aluminum, Total	23500	20	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Arsenic, Total	40	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Barium, Total	385	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Boron, Total	18	10	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Cadmium, Total	13.1	0.7	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Chromium, Total	29	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Cobalt, Total	14	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Copper, Total	727	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Iron, Total	28500	30	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Lead, Total	157	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Manganese, Total	2320	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Mercury, Total	0.94	0.10	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Nickel, Total	17	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Uranium, Total	8	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Vanadium, Total	64	4	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16030355-039	3/16/2016	Zinc, Total	2230	7	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Aluminum, Total	6860	6	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Arsenic, Total	8	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Barium, Total	171	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Cadmium, Total	1.4	0.3	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Chromium, Total	10	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Copper, Total	50	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Iron, Total	10700	10	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Lead, Total	19	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Manganese, Total	489	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Nickel, Total	6	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Vanadium, Total	24	1	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16030355-040	3/16/2016	Zinc, Total	206	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Aluminum, Total	5450	6	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Arsenic, Total	5	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Barium, Total	158	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Chromium, Total	9	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Copper, Total	25	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Iron, Total	7230	9	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Lead, Total	10	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Manganese, Total	386	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Nickel, Total	5	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Vanadium, Total	14	1	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16030355-041	3/16/2016	Zinc, Total	145	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Aluminum, Total	25000	10	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Arsenic, Total	30	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Barium, Total	401	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Boron, Total	14	6	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Cadmium, Total	7.3	0.5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Chromium, Total	30	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Cobalt, Total	11	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Copper, Total	498	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Iron, Total	29500	20	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Lead, Total	118	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Manganese, Total	4220	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Mercury, Total	0.72	0.10	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Nickel, Total	17	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Uranium, Total	6	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Vanadium, Total	63	2	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16030355-042	3/16/2016	Zinc, Total	1380	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Aluminum, Total	6970	6	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Arsenic, Total	7	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Barium, Total	148	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Cadmium, Total	1.3	0.2	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Chromium, Total	12	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Copper, Total	64	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Iron, Total	17300	10	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Lead, Total	17	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Manganese, Total	910	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Nickel, Total	5	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Vanadium, Total	48	1	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16030355-043	3/16/2016	Zinc, Total	255	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Aluminum, Total	2710	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Barium, Total	64	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Chromium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Copper, Total	16	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Iron, Total	4950	8	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Lead, Total	8	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Manganese, Total	794	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Nickel, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Vanadium, Total	11	1	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16030355-044	3/16/2016	Zinc, Total	110	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Aluminum, Total	33600	10	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Arsenic, Total	96	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Barium, Total	699	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Boron, Total	16	7	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Cadmium, Total	11	0.5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Chromium, Total	50	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Cobalt, Total	19	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Copper, Total	1270	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Iron, Total	36300	20	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Lead, Total	577	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Manganese, Total	8170	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Mercury, Total	1.8	0.10	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Molybdenum, Total	7	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Nickel, Total	31	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Silver, Total	6	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Uranium, Total	6	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Vanadium, Total	91	3	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16030355-045	3/16/2016	Zinc, Total	1900	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Aluminum, Total	3600	10	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Arsenic, Total	88	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Barium, Total	93	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Cadmium, Total	8	0.2	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Chromium, Total	57	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Cobalt, Total	10	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Copper, Total	358	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Iron, Total	106000	20	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Lead, Total	192	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Manganese, Total	1980	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Mercury, Total	0.71	0.10	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Nickel, Total	9	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Uranium, Total	28	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Vanadium, Total	309	1	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16030355-046	3/16/2016	Zinc, Total	2740	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Aluminum, Total	4290	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Arsenic, Total	44	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Barium, Total	108	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Cadmium, Total	6.6	0.2	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Chromium, Total	17	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Cobalt, Total	6	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Copper, Total	323	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Iron, Total	25400	7	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Lead, Total	142	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Manganese, Total	1810	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Mercury, Total	0.11	0.10	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Nickel, Total	7	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Vanadium, Total	49	1	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16030355-047	3/16/2016	Zinc, Total	2610	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Aluminum, Total	30000	10	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Arsenic, Total	42	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Barium, Total	280	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Boron, Total	11	7	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Cadmium, Total	1.5	0.6	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Chromium, Total	46	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Cobalt, Total	10	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Copper, Total	109	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Iron, Total	26100	20	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Lead, Total	105	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Manganese, Total	877	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Mercury, Total	0.22	0.10	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Nickel, Total	26	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Vanadium, Total	61	3	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16030349-014	3/16/2016	Zinc, Total	136	6	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Aluminum, Total	9440	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Arsenic, Total	35	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Barium, Total	137	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Chromium, Total	16	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Cobalt, Total	5	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Copper, Total	25	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Iron, Total	16000	9	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Lead, Total	9	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Manganese, Total	191	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Nickel, Total	9	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Vanadium, Total	42	1	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16030349-015	3/16/2016	Zinc, Total	36	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Aluminum, Total	9880	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Arsenic, Total	19	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Barium, Total	183	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Chromium, Total	13	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Copper, Total	36	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Iron, Total	13000	9	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Lead, Total	11	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Manganese, Total	226	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Nickel, Total	9	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Uranium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Vanadium, Total	23	1	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16030349-016	3/16/2016	Zinc, Total	161	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Aluminum, Total	33800	9	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Arsenic, Total	92	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Barium, Total	642	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Boron, Total	14	6	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Cadmium, Total	13.1	0.4	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Chromium, Total	53	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Cobalt, Total	16	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Copper, Total	916	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Iron, Total	38300	20	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Lead, Total	361	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Manganese, Total	4360	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Mercury, Total	1.6	0.10	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Nickel, Total	32	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Uranium, Total	5	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Vanadium, Total	83	2	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16030355-048	3/16/2016	Zinc, Total	2020	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Aluminum, Total	7160	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Arsenic, Total	52	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Barium, Total	123	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Cadmium, Total	1.4	0.2	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Chromium, Total	18	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Copper, Total	164	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Iron, Total	25700	8	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Lead, Total	53	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Manganese, Total	563	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Mercury, Total	0.16	0.10	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Nickel, Total	8	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Uranium, Total	13	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Vanadium, Total	69	1	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16030355-049	3/16/2016	Zinc, Total	553	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Aluminum, Total	7190	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Arsenic, Total	28	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Barium, Total	114	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Chromium, Total	15	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Copper, Total	146	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Iron, Total	10900	8	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Lead, Total	35	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Manganese, Total	562	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Nickel, Total	8	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Vanadium, Total	19	1	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16030355-050	3/16/2016	Zinc, Total	162	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Aluminum, Total	31400	9	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Arsenic, Total	55	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Barium, Total	381	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Boron, Total	9	6	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Cadmium, Total	8.3	0.4	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Chromium, Total	50	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Cobalt, Total	16	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Copper, Total	569	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Iron, Total	39100	20	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Lead, Total	251	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Manganese, Total	5180	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Mercury, Total	1.1	0.10	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Nickel, Total	30	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Vanadium, Total	100	2	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16030355-054	3/16/2016	Zinc, Total	1370	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Aluminum, Total	5240	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Arsenic, Total	18	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Barium, Total	84	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Chromium, Total	12	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Copper, Total	107	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Iron, Total	17500	8	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Lead, Total	39	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Manganese, Total	653	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Mercury, Total	0.1	0.10	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Nickel, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Vanadium, Total	50	1	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16030355-055	3/16/2016	Zinc, Total	270	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Aluminum, Total	3740	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Arsenic, Total	9	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Barium, Total	65	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Chromium, Total	7	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Copper, Total	63	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Iron, Total	8110	8	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Lead, Total	23	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Manganese, Total	575	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Nickel, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Vanadium, Total	17	1	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16030355-056	3/16/2016	Zinc, Total	216	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Aluminum, Total	31700	20	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Arsenic, Total	78	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Barium, Total	493	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Boron, Total	14	9	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Cadmium, Total	17.6	0.6	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Chromium, Total	56	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Cobalt, Total	23	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Copper, Total	882	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Iron, Total	46900	30	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Lead, Total	317	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Manganese, Total	9680	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Mercury, Total	1.5	0.10	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Molybdenum, Total	7	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Nickel, Total	35	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Uranium, Total	7	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Vanadium, Total	130	3	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16030355-060	3/16/2016	Zinc, Total	2770	7	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Aluminum, Total	5450	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Arsenic, Total	26	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Barium, Total	119	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Cadmium, Total	1.2	0.2	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Chromium, Total	12	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Copper, Total	110	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Iron, Total	14000	8	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Lead, Total	57	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Manganese, Total	654	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Nickel, Total	5	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Vanadium, Total	39	1	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16030355-061	3/16/2016	Zinc, Total	371	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Aluminum, Total	3720	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Arsenic, Total	13	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Barium, Total	80	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Cadmium, Total	0.5	0.2	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Chromium, Total	8	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Copper, Total	55	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Iron, Total	7990	8	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Lead, Total	23	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Manganese, Total	693	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Nickel, Total	5	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Vanadium, Total	19	1	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16030355-062	3/16/2016	Zinc, Total	170	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Aluminum, Total	28800	10	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Arsenic, Total	156	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Barium, Total	403	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Boron, Total	12	6	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Cadmium, Total	14.1	0.4	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Chromium, Total	78	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Cobalt, Total	17	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Copper, Total	1780	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Iron, Total	54000	20	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Lead, Total	466	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Manganese, Total	2850	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Mercury, Total	1.6	0.10	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Molybdenum, Total	9	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Nickel, Total	45	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Silver, Total	6	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Uranium, Total	11	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Vanadium, Total	115	2	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16030355-063	3/16/2016	Zinc, Total	2460	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Aluminum, Total	3930	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Arsenic, Total	34	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Barium, Total	70	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Cadmium, Total	1.3	0.2	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Chromium, Total	15	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Copper, Total	202	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Iron, Total	23200	8	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Lead, Total	47	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Manganese, Total	479	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Mercury, Total	0.16	0.10	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Molybdenum, Total	7	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Nickel, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Vanadium, Total	61	1	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16030355-064	3/16/2016	Zinc, Total	412	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Aluminum, Total	3710	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Arsenic, Total	37	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Barium, Total	82	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Cadmium, Total	0.9	0.2	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Chromium, Total	7	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Copper, Total	168	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Iron, Total	11300	8	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Lead, Total	39	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Manganese, Total	379	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Nickel, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Vanadium, Total	18	1	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16030355-065	3/16/2016	Zinc, Total	300	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Aluminum, Total	31200	10	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Arsenic, Total	66	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Barium, Total	535	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Boron, Total	14	6	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Cadmium, Total	11.6	0.4	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Chromium, Total	43	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Cobalt, Total	14	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Copper, Total	881	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Iron, Total	32400	20	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Lead, Total	312	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Manganese, Total	3810	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Mercury, Total	1.4	0.10	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Nickel, Total	26	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Uranium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Vanadium, Total	74	2	mg/kg - dry
SS-15B	<0.063 mm	Duplicate Sample	H16030355-051	3/16/2016	Zinc, Total	2020	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Aluminum, Total	7610	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Arsenic, Total	44	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Barium, Total	143	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Cadmium, Total	2.4	0.2	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Chromium, Total	18	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Cobalt, Total	6	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Copper, Total	166	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Iron, Total	24300	8	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Lead, Total	61	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Manganese, Total	703	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Mercury, Total	0.19	0.10	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Nickel, Total	7	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Vanadium, Total	65	1	mg/kg - dry
SS-15B	0.063-1 mm	Duplicate Sample	H16030355-052	3/16/2016	Zinc, Total	910	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Aluminum, Total	7770	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Arsenic, Total	15	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Barium, Total	114	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Boron, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Cadmium, Total	2.2	0.2	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Chromium, Total	15	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Copper, Total	68	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Iron, Total	11000	8	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Lead, Total	30	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Manganese, Total	471	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Nickel, Total	9	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Vanadium, Total	21	1	mg/kg - dry
SS-15B	1-2 mm	Duplicate Sample	H16030355-053	3/16/2016	Zinc, Total	356	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Aluminum, Total	23300	8	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Arsenic, Total	41	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Barium, Total	296	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Boron, Total	10	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Cadmium, Total	2	0.3	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Chromium, Total	71	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Cobalt, Total	12	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Copper, Total	358	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Iron, Total	39000	10	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Lead, Total	207	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Manganese, Total	941	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Mercury, Total	0.21	0.10	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Molybdenum, Total	23	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Nickel, Total	34	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Uranium, Total	11	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Vanadium, Total	116	2	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16030349-008	3/17/2016	Zinc, Total	436	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Aluminum, Total	4800	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Barium, Total	58	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Chromium, Total	12	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Copper, Total	39	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Iron, Total	15800	9	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Lead, Total	13	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Manganese, Total	175	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Vanadium, Total	46	1	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16030349-009	3/17/2016	Zinc, Total	160	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Aluminum, Total	3210	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Barium, Total	41	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Chromium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Copper, Total	14	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Iron, Total	5560	8	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Lead, Total	11	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Manganese, Total	118	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Nickel, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Vanadium, Total	14	1	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16030349-010	3/17/2016	Zinc, Total	29	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16030349-017	3/17/2016	Arsenic, Total	180	9	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16030349-017	3/17/2016	Cadmium, Total	13.9	0.3	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16030349-017	3/17/2016	Copper, Total	1330	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16030349-017	3/17/2016	Lead, Total	720	20	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16030349-017	3/17/2016	Zinc, Total	2320	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16030349-018	3/17/2016	Arsenic, Total	123	7	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16030349-018	3/17/2016	Cadmium, Total	5.9	0.3	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16030349-018	3/17/2016	Copper, Total	803	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16030349-018	3/17/2016	Lead, Total	299	10	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16030349-018	3/17/2016	Zinc, Total	1690	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Aluminum, Total	22800	7	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Arsenic, Total	42	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Barium, Total	301	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Boron, Total	12	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Cadmium, Total	2.5	0.2	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Chromium, Total	126	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Cobalt, Total	14	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Copper, Total	326	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Iron, Total	35500	10	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Lead, Total	161	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Manganese, Total	2350	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Mercury, Total	0.21	0.10	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Molybdenum, Total	17	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Nickel, Total	61	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Uranium, Total	8	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Vanadium, Total	140	1	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16060098-006	6/3/2016	Zinc, Total	404	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Aluminum, Total	3690	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Arsenic, Total	7	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Barium, Total	52	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Chromium, Total	25	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Copper, Total	36	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Iron, Total	28100	8	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Lead, Total	13	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Manganese, Total	233	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Nickel, Total	5	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Silver, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Uranium, Total	7	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Vanadium, Total	98	1	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16060098-007	6/3/2016	Zinc, Total	151	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Aluminum, Total	2610	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Arsenic, Total	6	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Barium, Total	24	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Chromium, Total	6	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Copper, Total	73	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Iron, Total	5130	8	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Lead, Total	6	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Manganese, Total	189	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Nickel, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Vanadium, Total	13	2	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16060098-008	6/3/2016	Zinc, Total	32	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Aluminum, Total	22400	10	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Arsenic, Total	350	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Barium, Total	853	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Boron, Total	15	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Cadmium, Total	15.5	0.2	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Chromium, Total	68	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Cobalt, Total	15	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Copper, Total	2730	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Iron, Total	44500	20	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Lead, Total	741	20	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Manganese, Total	1910	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Mercury, Total	1.1	0.10	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Molybdenum, Total	20	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Nickel, Total	30	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Silver, Total	9	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Uranium, Total	12	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Vanadium, Total	105	1	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16060098-009	6/3/2016	Zinc, Total	3030	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Aluminum, Total	4960	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Arsenic, Total	117	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Barium, Total	107	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Cadmium, Total	3.4	0.2	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Chromium, Total	50	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Cobalt, Total	21	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Copper, Total	1020	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Iron, Total	110000	40	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Lead, Total	183	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Manganese, Total	1530	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Mercury, Total	0.16	0.10	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Nickel, Total	18	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Vanadium, Total	166	1	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16060098-010	6/3/2016	Zinc, Total	1400	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Aluminum, Total	3450	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Arsenic, Total	77	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Barium, Total	112	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Cadmium, Total	1.6	0.2	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Chromium, Total	5	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Copper, Total	269	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Iron, Total	12400	8	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Lead, Total	89	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Manganese, Total	1950	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Nickel, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Vanadium, Total	16	2	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16060098-011	6/3/2016	Zinc, Total	546	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Aluminum, Total	21400	10	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Arsenic, Total	116	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Barium, Total	487	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Boron, Total	16	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Cadmium, Total	11.4	0.2	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Chromium, Total	121	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Cobalt, Total	21	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Copper, Total	862	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Iron, Total	38100	20	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Lead, Total	534	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Manganese, Total	7800	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Mercury, Total	0.96	0.10	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Molybdenum, Total	22	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Nickel, Total	65	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Silver, Total	5	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Uranium, Total	9	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Vanadium, Total	105	1	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16060099-019	6/3/2016	Zinc, Total	2080	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Aluminum, Total	5620	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Arsenic, Total	24	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Barium, Total	130	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Cadmium, Total	1.6	0.2	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Chromium, Total	11	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Cobalt, Total	7	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Copper, Total	115	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Iron, Total	12800	8	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Lead, Total	89	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Manganese, Total	2000	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Mercury, Total	0.11	0.10	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Nickel, Total	5	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Vanadium, Total	30	1	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16060099-020	6/3/2016	Zinc, Total	479	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Aluminum, Total	3620	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Arsenic, Total	23	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Barium, Total	88	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Cadmium, Total	0.5	0.2	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Chromium, Total	6	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Copper, Total	72	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Iron, Total	7830	8	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Lead, Total	29	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Manganese, Total	1270	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Nickel, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Vanadium, Total	17	1	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16060099-021	6/3/2016	Zinc, Total	203	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Aluminum, Total	26200	20	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Arsenic, Total	98	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Barium, Total	353	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Boron, Total	17	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Cadmium, Total	8.3	0.4	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Chromium, Total	79	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Cobalt, Total	16	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Copper, Total	963	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Iron, Total	43800	30	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Lead, Total	386	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Manganese, Total	3450	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Mercury, Total	1.2	0.10	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Molybdenum, Total	18	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Nickel, Total	41	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Silver, Total	6	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Uranium, Total	10	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Vanadium, Total	96	1	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16060099-025	6/3/2016	Zinc, Total	1890	7	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Aluminum, Total	6540	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Arsenic, Total	32	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Barium, Total	113	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Cadmium, Total	2.1	0.2	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Chromium, Total	16	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Cobalt, Total	8	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Copper, Total	305	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Iron, Total	22600	9	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Lead, Total	81	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Manganese, Total	820	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Mercury, Total	0.43	0.10	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Nickel, Total	8	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Vanadium, Total	36	1	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16060099-026	6/3/2016	Zinc, Total	778	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Aluminum, Total	2970	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Arsenic, Total	16	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Barium, Total	58	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Chromium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Copper, Total	75	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Iron, Total	7960	8	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Lead, Total	32	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Manganese, Total	704	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Nickel, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Vanadium, Total	16	1	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16060099-027	6/3/2016	Zinc, Total	288	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Aluminum, Total	27100	20	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Arsenic, Total	73	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Barium, Total	403	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Boron, Total	20	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Cadmium, Total	13.3	0.4	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Chromium, Total	96	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Cobalt, Total	17	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Copper, Total	901	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Iron, Total	41000	30	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Lead, Total	479	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Manganese, Total	3330	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Mercury, Total	1.8	0.10	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Molybdenum, Total	19	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Nickel, Total	55	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Silver, Total	7	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Uranium, Total	10	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Vanadium, Total	89	1	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16060099-028	6/3/2016	Zinc, Total	2290	7	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Aluminum, Total	6400	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Arsenic, Total	21	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Barium, Total	81	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Cadmium, Total	3	0.2	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Chromium, Total	11	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Cobalt, Total	7	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Copper, Total	202	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Iron, Total	13000	9	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Lead, Total	61	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Manganese, Total	438	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Mercury, Total	0.55	0.10	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Nickel, Total	5	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Vanadium, Total	31	1	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16060099-029	6/3/2016	Zinc, Total	450	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Aluminum, Total	4880	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Arsenic, Total	9	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Barium, Total	62	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Cadmium, Total	1.5	0.2	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Chromium, Total	6	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Copper, Total	82	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Iron, Total	8140	8	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Lead, Total	45	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Manganese, Total	542	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Nickel, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Silver, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Vanadium, Total	15	1	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16060099-030	6/3/2016	Zinc, Total	236	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Aluminum, Total	28600	10	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Arsenic, Total	18	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Barium, Total	254	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Boron, Total	11	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Cadmium, Total	4.8	0.2	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Chromium, Total	23	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Cobalt, Total	12	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Copper, Total	206	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Iron, Total	27900	20	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Lead, Total	101	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Manganese, Total	2830	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Mercury, Total	0.25	0.10	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Nickel, Total	14	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Vanadium, Total	59	1	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16060099-031	6/3/2016	Zinc, Total	971	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Aluminum, Total	14200	6	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Arsenic, Total	12	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Barium, Total	214	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Cadmium, Total	1.8	0.3	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Chromium, Total	10	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Cobalt, Total	10	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Copper, Total	98	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Iron, Total	16800	10	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Lead, Total	41	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Manganese, Total	1540	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Mercury, Total	0.18	0.10	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Nickel, Total	5	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Vanadium, Total	35	1	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16060099-032	6/3/2016	Zinc, Total	394	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Aluminum, Total	8250	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Arsenic, Total	6	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Barium, Total	113	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Chromium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Copper, Total	23	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Iron, Total	7870	8	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Lead, Total	19	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Manganese, Total	753	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Vanadium, Total	12	1	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16060099-033	6/3/2016	Zinc, Total	133	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Aluminum, Total	33400	10	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Arsenic, Total	39	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Barium, Total	224	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Boron, Total	13	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Cadmium, Total	6.9	0.3	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Chromium, Total	36	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Cobalt, Total	12	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Copper, Total	429	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Iron, Total	30100	20	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Lead, Total	162	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Manganese, Total	1280	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Mercury, Total	0.5	0.10	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Nickel, Total	21	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Uranium, Total	6	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Vanadium, Total	55	1	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16060099-034	6/3/2016	Zinc, Total	1310	6	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Aluminum, Total	6730	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Arsenic, Total	6	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Barium, Total	75	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Chromium, Total	15	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Copper, Total	44	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Iron, Total	23000	9	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Lead, Total	13	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Manganese, Total	260	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Vanadium, Total	70	1	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16060099-035	6/3/2016	Zinc, Total	121	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Aluminum, Total	3590	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Barium, Total	32	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Chromium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Copper, Total	13	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Iron, Total	4030	9	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Lead, Total	5	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Manganese, Total	105	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Vanadium, Total	8	1	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16060099-036	6/3/2016	Zinc, Total	49	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Aluminum, Total	23500	10	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Arsenic, Total	39	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Barium, Total	476	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Boron, Total	11	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Cadmium, Total	13	0.2	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Chromium, Total	68	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Cobalt, Total	21	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Copper, Total	521	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Iron, Total	27900	20	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Lead, Total	360	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Manganese, Total	7090	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Mercury, Total	0.41	0.10	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Nickel, Total	43	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Uranium, Total	6	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Vanadium, Total	74	1	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16060099-037	6/3/2016	Zinc, Total	1730	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Aluminum, Total	5550	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Arsenic, Total	5	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Barium, Total	111	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Boron, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Cadmium, Total	1.1	0.2	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Chromium, Total	17	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Copper, Total	47	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Iron, Total	22000	8	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Lead, Total	16	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Manganese, Total	416	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Nickel, Total	5	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Vanadium, Total	70	1	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16060099-038	6/3/2016	Zinc, Total	155	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Aluminum, Total	4440	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Barium, Total	91	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Chromium, Total	9	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Copper, Total	19	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Iron, Total	6260	8	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Lead, Total	9	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Manganese, Total	495	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Nickel, Total	5	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Vanadium, Total	15	1	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16060099-039	6/3/2016	Zinc, Total	88	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Aluminum, Total	15100	8	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Arsenic, Total	13	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Barium, Total	192	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Boron, Total	6	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Cadmium, Total	3.8	0.4	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Chromium, Total	28	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Cobalt, Total	8	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Copper, Total	168	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Iron, Total	14100	10	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Lead, Total	64	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Manganese, Total	2230	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Mercury, Total	0.16	0.10	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Nickel, Total	17	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Vanadium, Total	33	1	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16060099-040	6/3/2016	Zinc, Total	492	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Aluminum, Total	7610	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Arsenic, Total	5	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Barium, Total	178	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Cadmium, Total	0.9	0.2	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Chromium, Total	14	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Copper, Total	49	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Iron, Total	11200	9	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Lead, Total	16	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Manganese, Total	672	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Nickel, Total	7	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Vanadium, Total	29	1	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16060099-041	6/3/2016	Zinc, Total	153	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Aluminum, Total	5560	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Barium, Total	109	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Chromium, Total	10	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Copper, Total	18	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Iron, Total	6360	8	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Lead, Total	9	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Manganese, Total	505	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Nickel, Total	5	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Vanadium, Total	14	1	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16060099-042	6/3/2016	Zinc, Total	70	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Aluminum, Total	23400	10	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Arsenic, Total	43	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Barium, Total	292	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Boron, Total	14	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Cadmium, Total	11.7	0.6	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Chromium, Total	38	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Cobalt, Total	15	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Copper, Total	522	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Iron, Total	24400	20	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Lead, Total	151	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Manganese, Total	1310	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Mercury, Total	0.54	0.10	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Molybdenum, Total	7	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Nickel, Total	24	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Silver, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Uranium, Total	9	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Vanadium, Total	59	1	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16060099-043	6/2/2016	Zinc, Total	2170	6	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Aluminum, Total	9680	6	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Arsenic, Total	11	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Barium, Total	184	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Cadmium, Total	3	0.3	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Chromium, Total	19	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Cobalt, Total	8	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Copper, Total	113	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Iron, Total	13400	10	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Lead, Total	31	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Manganese, Total	396	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Mercury, Total	0.15	0.10	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Nickel, Total	11	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Vanadium, Total	37	1	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16060099-044	6/2/2016	Zinc, Total	476	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Aluminum, Total	4890	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Arsenic, Total	5	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Barium, Total	103	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Chromium, Total	12	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Copper, Total	19	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Iron, Total	6060	9	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Lead, Total	11	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Manganese, Total	187	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Nickel, Total	6	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Vanadium, Total	15	1	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16060099-045	6/2/2016	Zinc, Total	102	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Aluminum, Total	21100	10	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Arsenic, Total	32	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Barium, Total	288	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Boron, Total	13	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Cadmium, Total	7.8	0.6	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Chromium, Total	49	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Cobalt, Total	13	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Copper, Total	435	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Iron, Total	22200	20	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Lead, Total	193	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Manganese, Total	4650	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Mercury, Total	0.48	0.10	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Nickel, Total	31	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Vanadium, Total	51	2	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16060099-046	6/2/2016	Zinc, Total	1720	6	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Aluminum, Total	7010	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Arsenic, Total	8	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Barium, Total	186	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Chromium, Total	14	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Copper, Total	48	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Iron, Total	13200	9	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Lead, Total	18	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Manganese, Total	590	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Nickel, Total	6	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Vanadium, Total	33	1	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16060099-047	6/2/2016	Zinc, Total	181	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Aluminum, Total	4490	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Arsenic, Total	8	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Barium, Total	117	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Chromium, Total	13	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Copper, Total	21	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Iron, Total	7940	9	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Lead, Total	13	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Manganese, Total	545	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Nickel, Total	7	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Vanadium, Total	16	1	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16060099-048	6/2/2016	Zinc, Total	129	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Aluminum, Total	25900	20	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Arsenic, Total	98	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Barium, Total	474	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Boron, Total	19	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Cadmium, Total	16.3	0.8	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Chromium, Total	59	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Cobalt, Total	20	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Copper, Total	1360	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Iron, Total	31600	30	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Lead, Total	421	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Manganese, Total	6450	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Mercury, Total	2.2	0.10	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Nickel, Total	39	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Silver, Total	6	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Uranium, Total	5	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Vanadium, Total	66	2	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16060099-052	6/2/2016	Zinc, Total	3130	8	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Aluminum, Total	25900	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Arsenic, Total	98	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Barium, Total	474	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Boron, Total	19	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Cadmium, Total	16.3	0.2	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Chromium, Total	59	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Cobalt, Total	20	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Copper, Total	1360	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Iron, Total	31600	9	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Lead, Total	421	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Manganese, Total	6450	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Mercury, Total	2.2	0.10	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Nickel, Total	39	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Silver, Total	6	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Uranium, Total	5	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Vanadium, Total	66	1	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16060099-053	6/2/2016	Zinc, Total	3130	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Aluminum, Total	5000	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Arsenic, Total	114	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Barium, Total	146	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Boron, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Cadmium, Total	1.5	0.2	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Chromium, Total	12	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Copper, Total	422	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Iron, Total	18100	8	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Lead, Total	120	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Manganese, Total	2280	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Mercury, Total	0.14	0.10	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Nickel, Total	6	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Silver, Total	12	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Vanadium, Total	22	1	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16060099-054	6/2/2016	Zinc, Total	763	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Aluminum, Total	37100	10	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Arsenic, Total	61	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Barium, Total	283	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Boron, Total	11	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Cadmium, Total	1.8	0.3	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Chromium, Total	119	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Cobalt, Total	13	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Copper, Total	126	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Iron, Total	29700	20	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Lead, Total	96	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Manganese, Total	676	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Mercury, Total	0.24	0.10	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Nickel, Total	72	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Vanadium, Total	75	1	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16060098-012	6/2/2016	Zinc, Total	150	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Aluminum, Total	9150	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Arsenic, Total	32	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Barium, Total	133	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Chromium, Total	24	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Cobalt, Total	7	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Copper, Total	20	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Iron, Total	24300	9	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Lead, Total	7	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Manganese, Total	169	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Nickel, Total	10	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Vanadium, Total	87	1	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16060098-013	6/2/2016	Zinc, Total	39	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Aluminum, Total	8120	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Arsenic, Total	24	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Barium, Total	93	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Chromium, Total	14	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Copper, Total	22	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Iron, Total	13600	8	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Lead, Total	7	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Manganese, Total	120	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Nickel, Total	10	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Vanadium, Total	26	1	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16060098-014	6/2/2016	Zinc, Total	60	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Aluminum, Total	24300	9	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Arsenic, Total	88	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Barium, Total	376	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Boron, Total	9	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Cadmium, Total	8.7	0.4	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Chromium, Total	137	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Cobalt, Total	14	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Copper, Total	635	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Iron, Total	29600	20	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Lead, Total	243	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Manganese, Total	4000	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Mercury, Total	1	0.10	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Nickel, Total	72	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Vanadium, Total	65	1	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16060099-055	6/2/2016	Zinc, Total	1330	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Aluminum, Total	6540	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Arsenic, Total	59	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Barium, Total	85	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Cadmium, Total	1.9	0.2	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Chromium, Total	21	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Cobalt, Total	5	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Copper, Total	96	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Iron, Total	28300	8	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Lead, Total	50	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Manganese, Total	545	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Mercury, Total	0.2	0.10	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Nickel, Total	8	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Silver, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Vanadium, Total	81	1	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16060099-056	6/2/2016	Zinc, Total	696	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Aluminum, Total	8400	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Arsenic, Total	39	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Barium, Total	92	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Chromium, Total	14	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Copper, Total	107	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Iron, Total	16000	8	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Lead, Total	29	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Manganese, Total	406	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Mercury, Total	0.11	0.10	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Nickel, Total	9	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Vanadium, Total	25	1	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16060099-057	6/2/2016	Zinc, Total	415	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Aluminum, Total	35500	10	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Arsenic, Total	64	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Barium, Total	323	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Boron, Total	14	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Cadmium, Total	10.7	0.5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Chromium, Total	56	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Cobalt, Total	19	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Copper, Total	643	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Iron, Total	40600	20	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Lead, Total	257	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Manganese, Total	5580	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Mercury, Total	1	0.10	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Nickel, Total	34	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Vanadium, Total	101	1	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16060099-058	6/2/2016	Zinc, Total	1890	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Aluminum, Total	6470	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Arsenic, Total	38	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Barium, Total	134	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Chromium, Total	17	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Cobalt, Total	6	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Copper, Total	160	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Iron, Total	25100	9	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Lead, Total	40	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Manganese, Total	805	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Mercury, Total	0.14	0.10	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Nickel, Total	7	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Uranium, Total	8	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Vanadium, Total	77	1	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16060099-059	6/2/2016	Zinc, Total	280	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Aluminum, Total	3650	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Arsenic, Total	28	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Barium, Total	67	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Cadmium, Total	0.5	0.2	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Chromium, Total	7	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Copper, Total	126	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Iron, Total	12000	8	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Lead, Total	22	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Manganese, Total	527	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Nickel, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Vanadium, Total	28	1	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16060099-060	6/2/2016	Zinc, Total	235	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Aluminum, Total	30500	10	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Arsenic, Total	75	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Barium, Total	260	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Boron, Total	13	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Cadmium, Total	7.8	0.6	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Chromium, Total	46	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Cobalt, Total	12	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Copper, Total	580	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Iron, Total	33100	20	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Lead, Total	215	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Manganese, Total	1920	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Mercury, Total	1.4	0.10	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Nickel, Total	25	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Vanadium, Total	71	1	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16060099-061	6/2/2016	Zinc, Total	1500	6	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Aluminum, Total	8290	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Arsenic, Total	18	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Barium, Total	162	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Cadmium, Total	1	0.2	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Chromium, Total	15	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Cobalt, Total	8	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Copper, Total	99	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Iron, Total	15000	9	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Lead, Total	42	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Manganese, Total	400	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Mercury, Total	0.17	0.10	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Nickel, Total	7	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Vanadium, Total	38	1	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16060099-062	6/2/2016	Zinc, Total	283	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Aluminum, Total	5030	6	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Arsenic, Total	103	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Barium, Total	148	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Cadmium, Total	0.9	0.2	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Chromium, Total	12	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Copper, Total	115	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Iron, Total	11600	10	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Lead, Total	54	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Manganese, Total	263	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Nickel, Total	6	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Vanadium, Total	21	1	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16060099-063	6/2/2016	Zinc, Total	294	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Aluminum, Total	24100	10	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Arsenic, Total	64	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Barium, Total	269	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Boron, Total	11	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Cadmium, Total	12	0.6	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Chromium, Total	56	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Cobalt, Total	15	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Copper, Total	983	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Iron, Total	28000	20	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Lead, Total	240	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Manganese, Total	5330	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Mercury, Total	1.5	0.10	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Nickel, Total	35	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Uranium, Total	5	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Vanadium, Total	71	2	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16060099-064	6/2/2016	Zinc, Total	1870	6	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Aluminum, Total	4540	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Arsenic, Total	26	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Barium, Total	91	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Chromium, Total	9	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Copper, Total	95	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Iron, Total	9620	8	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Lead, Total	33	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Manganese, Total	493	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Mercury, Total	0.28	0.10	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Nickel, Total	5	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Vanadium, Total	23	1	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16060099-065	6/2/2016	Zinc, Total	294	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Aluminum, Total	3200	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Arsenic, Total	13	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Barium, Total	75	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Chromium, Total	7	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Copper, Total	48	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Iron, Total	6320	8	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Lead, Total	19	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Manganese, Total	413	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Nickel, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Vanadium, Total	15	1	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16060099-066	6/2/2016	Zinc, Total	112	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Aluminum, Total	21500	10	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Arsenic, Total	80	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Barium, Total	432	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Boron, Total	13	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Cadmium, Total	12.8	0.5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Chromium, Total	47	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Cobalt, Total	15	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Copper, Total	971	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Iron, Total	23200	20	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Lead, Total	315	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Manganese, Total	4110	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Mercury, Total	1.4	0.10	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Molybdenum, Total	5	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Nickel, Total	29	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Vanadium, Total	49	1	mg/kg - dry
SS-15A	<0.063 mm	Duplicate Sample	H16060099-049	6/2/2016	Zinc, Total	2260	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Aluminum, Total	5440	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Arsenic, Total	95	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Barium, Total	131	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Cadmium, Total	2.6	0.2	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Chromium, Total	21	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Copper, Total	327	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Iron, Total	27100	8	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Lead, Total	119	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Manganese, Total	1570	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Mercury, Total	0.28	0.10	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Nickel, Total	8	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Uranium, Total	12	5	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Vanadium, Total	73	1	mg/kg - dry
SS-15A	0.063-1 mm	Duplicate Sample	H16060099-050	6/2/2016	Zinc, Total	738	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Aluminum, Total	3820	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Arsenic, Total	140	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Barium, Total	79	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Cadmium, Total	1.1	0.2	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Chromium, Total	11	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Copper, Total	1600	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Iron, Total	11700	8	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Lead, Total	85	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Manganese, Total	1630	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Mercury, Total	0.2	0.10	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Nickel, Total	6	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Silver, Total	9	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Vanadium, Total	17	1	mg/kg - dry
SS-15A	1-2 mm	Duplicate Sample	H16060099-051	6/2/2016	Zinc, Total	404	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Aluminum, Total	21600	10	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Arsenic, Total	79	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Barium, Total	307	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Beryllium, Total	<5	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Boron, Total	14	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Cadmium, Total	7.3	0.3	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Chromium, Total	63	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Cobalt, Total	14	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Copper, Total	735	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Iron, Total	35900	20	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Lead, Total	350	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Manganese, Total	3960	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Mercury, Total	0.95	0.10	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Molybdenum, Total	17	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Nickel, Total	32	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Uranium, Total	7	5	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Vanadium, Total	87	1	mg/kg - dry
SS-07	<0.063 mm	Duplicate Sample	H16060099-022	6/3/2016	Zinc, Total	1550	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Aluminum, Total	5400	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Arsenic, Total	27	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Barium, Total	107	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Cadmium, Total	1.4	0.2	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Chromium, Total	10	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Cobalt, Total	9	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Copper, Total	220	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Iron, Total	16400	8	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Lead, Total	87	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Manganese, Total	1140	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Mercury, Total	0.16	0.10	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Nickel, Total	5	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Vanadium, Total	28	1	mg/kg - dry
SS-07	0.063-1 mm	Duplicate Sample	H16060099-023	6/3/2016	Zinc, Total	568	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Aluminum, Total	2750	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Arsenic, Total	15	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Barium, Total	67	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Boron, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Chromium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Copper, Total	69	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Iron, Total	5670	8	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Lead, Total	18	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Manganese, Total	791	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Nickel, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Uranium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Vanadium, Total	12	1	mg/kg - dry
SS-07	1-2 mm	Duplicate Sample	H16060099-024	6/3/2016	Zinc, Total	141	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16060098-004	6/3/2016	Arsenic, Total	200	10	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16060098-004	6/3/2016	Cadmium, Total	14.9	0.4	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16060098-004	6/3/2016	Copper, Total	1410	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16060098-004	6/3/2016	Lead, Total	679	20	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16060098-004	6/3/2016	Zinc, Total	2230	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16060098-005	6/3/2016	Arsenic, Total	104	8	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16060098-005	6/3/2016	Cadmium, Total	5.6	0.2	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16060098-005	6/3/2016	Copper, Total	762	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16060098-005	6/3/2016	Lead, Total	300	10	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16060098-005	6/3/2016	Zinc, Total	1510	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Aluminum, Total	18200	10	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Antimony, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Arsenic, Total	32	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Barium, Total	237	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Boron, Total	12	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Cadmium, Total	10.6	0.4	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Chromium, Total	32	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Cobalt, Total	12	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Copper, Total	553	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Iron, Total	19900	20	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Lead, Total	159	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Manganese, Total	4640	5.00	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Mercury, Total	0.48	0.10	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Nickel, Total	21	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Vanadium, Total	44	1	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16060099-067	6/2/2016	Zinc, Total	1240	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Aluminum, Total	3890	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Arsenic, Total	50	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Barium, Total	199	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Cadmium, Total	2.8	0.2	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Chromium, Total	17	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Cobalt, Total	6	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Copper, Total	202	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Iron, Total	29400	9	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Lead, Total	83	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Manganese, Total	1130	5.00	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Mercury, Total	0.14	0.10	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Nickel, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Vanadium, Total	75	1	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A-2	0.063-1 mm	Natural Sample	H16060099-068	6/2/2016	Zinc, Total	1060	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Aluminum, Total	2420	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Arsenic, Total	30	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Barium, Total	43	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Cadmium, Total	0.9	0.2	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Chromium, Total	8	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Copper, Total	142	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Iron, Total	7430	7	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Lead, Total	31	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Manganese, Total	475	5.00	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Nickel, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Vanadium, Total	11	1	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16060099-069	6/2/2016	Zinc, Total	321	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Aluminum, Total	24200	10	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Arsenic, Total	39	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Barium, Total	343	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Boron, Total	13	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Cadmium, Total	2.2	0.5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Chromium, Total	96	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Cobalt, Total	14	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Copper, Total	357	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Iron, Total	42000	20	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Lead, Total	190	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Manganese, Total	2050	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Mercury, Total	0.2	0.10	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Molybdenum, Total	30	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Nickel, Total	41	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Selenium, Total	6	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Uranium, Total	13	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Vanadium, Total	142	1	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16090351-005	9/15/2016	Zinc, Total	486	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Aluminum, Total	3730	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Arsenic, Total	7	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Barium, Total	47	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Chromium, Total	22	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Cobalt, Total	5	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Copper, Total	51	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Iron, Total	29000	8	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Lead, Total	23	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Manganese, Total	242	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Nickel, Total	6	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Uranium, Total	6	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Vanadium, Total	90	1	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16090351-006	9/15/2016	Zinc, Total	396	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Aluminum, Total	3930	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Barium, Total	61	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Chromium, Total	9	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Copper, Total	29	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Iron, Total	7020	8	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Lead, Total	12	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Manganese, Total	286	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Vanadium, Total	19	1	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16090351-007	9/15/2016	Zinc, Total	184	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Aluminum, Total	24100	10	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Arsenic, Total	279	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Barium, Total	386	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Boron, Total	15	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Cadmium, Total	13.1	0.6	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Chromium, Total	78	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Cobalt, Total	15	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Copper, Total	2440	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Iron, Total	45200	20	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Lead, Total	896	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Manganese, Total	2020	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Mercury, Total	1.6	0.10	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Molybdenum, Total	15	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Nickel, Total	36	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Selenium, Total	5	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Silver, Total	12	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Uranium, Total	11	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Vanadium, Total	98	1	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16090351-008	9/15/2016	Zinc, Total	2830	6	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Aluminum, Total	5190	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Arsenic, Total	96	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Barium, Total	85	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Cadmium, Total	3.3	0.2	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Chromium, Total	31	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Cobalt, Total	17	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Copper, Total	636	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Iron, Total	80000	20	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Lead, Total	191	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Manganese, Total	787	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Mercury, Total	0.14	0.10	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Nickel, Total	13	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Vanadium, Total	101	1	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16090351-009	9/15/2016	Zinc, Total	1170	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Aluminum, Total	4920	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Arsenic, Total	70	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Barium, Total	101	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Boron, Total	19	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Cadmium, Total	1.3	0.2	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Chromium, Total	7	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Copper, Total	217	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Iron, Total	13600	8	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Lead, Total	71	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Manganese, Total	356	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Vanadium, Total	17	1	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16090351-010	9/15/2016	Zinc, Total	533	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Aluminum, Total	23100	20	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Arsenic, Total	128	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Barium, Total	796	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Boron, Total	18	8	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Cadmium, Total	15.4	0.7	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Chromium, Total	98	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Cobalt, Total	29	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Copper, Total	999	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Iron, Total	44100	30	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Lead, Total	672	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Manganese, Total	15100	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Mercury, Total	1	0.10	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Molybdenum, Total	22	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Nickel, Total	63	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Silver, Total	6	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Uranium, Total	9	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Vanadium, Total	112	2	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16090353-018	9/15/2016	Zinc, Total	3330	7	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Aluminum, Total	3900	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Arsenic, Total	31	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Barium, Total	117	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Cadmium, Total	1.3	0.2	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Chromium, Total	9	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Cobalt, Total	5	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Copper, Total	78	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Iron, Total	9060	8	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Lead, Total	63	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Manganese, Total	1690	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Vanadium, Total	19	1	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16090353-019	9/15/2016	Zinc, Total	464	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Aluminum, Total	4250	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Arsenic, Total	19	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Barium, Total	114	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Cadmium, Total	0.7	0.2	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Chromium, Total	6	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Copper, Total	90	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Iron, Total	8620	8	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Lead, Total	67	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Manganese, Total	1810	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Vanadium, Total	17	1	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16090353-020	9/15/2016	Zinc, Total	304	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Aluminum, Total	17000	10	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Arsenic, Total	110	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Barium, Total	367	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Boron, Total	14	7	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Cadmium, Total	10.8	0.5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Chromium, Total	49	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Cobalt, Total	16	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Copper, Total	843	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Iron, Total	34900	20	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Lead, Total	458	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Manganese, Total	4890	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Mercury, Total	1.1	0.10	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Molybdenum, Total	19	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Nickel, Total	25	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Uranium, Total	7	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Vanadium, Total	66	1	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16090353-021	9/15/2016	Zinc, Total	2680	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Aluminum, Total	5070	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Antimony, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Arsenic, Total	24	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Barium, Total	108	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Cadmium, Total	1.3	0.2	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Chromium, Total	10	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Cobalt, Total	6	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Copper, Total	163	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Iron, Total	14100	9	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Lead, Total	72	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Manganese, Total	704	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Mercury, Total	0.28	0.10	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Vanadium, Total	27	1	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16090353-022	9/15/2016	Zinc, Total	463	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Aluminum, Total	3670	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Arsenic, Total	57	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Barium, Total	110	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Boron, Total	6	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Cadmium, Total	0.9	0.2	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Chromium, Total	5	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Copper, Total	144	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Iron, Total	8220	8	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Lead, Total	47	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Manganese, Total	687	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Vanadium, Total	16	1	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-07	1-2 mm	Natural Sample	H16090353-023	9/15/2016	Zinc, Total	317	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Aluminum, Total	20800	10	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Arsenic, Total	62	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Barium, Total	409	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Boron, Total	21	7	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Cadmium, Total	11.6	0.6	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Chromium, Total	66	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Cobalt, Total	12	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Copper, Total	853	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Iron, Total	32400	20	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Lead, Total	461	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Manganese, Total	5990	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Mercury, Total	2.8	0.16	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Molybdenum, Total	12	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Nickel, Total	39	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Silver, Total	8	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Uranium, Total	7	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Vanadium, Total	56	1	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16090353-024	9/15/2016	Zinc, Total	2570	6	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Aluminum, Total	4140	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Arsenic, Total	17	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Barium, Total	64	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Cadmium, Total	2.1	0.2	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Chromium, Total	7	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Copper, Total	147	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Iron, Total	10000	8	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Lead, Total	38	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Manganese, Total	405	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Mercury, Total	0.34	0.10	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Selenium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Vanadium, Total	24	1	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16090353-025	9/15/2016	Zinc, Total	578	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Aluminum, Total	4470	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Arsenic, Total	5	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Barium, Total	60	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Cadmium, Total	0.5	0.2	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Copper, Total	47	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Iron, Total	8410	8	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Lead, Total	28	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Manganese, Total	360	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Mercury, Total	0.27	0.10	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Vanadium, Total	17	1	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16090353-026	9/15/2016	Zinc, Total	211	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Aluminum, Total	31400	10	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Arsenic, Total	83	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Barium, Total	339	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Boron, Total	11	6	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Cadmium, Total	5.3	0.4	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Chromium, Total	30	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Cobalt, Total	15	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Copper, Total	622	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Iron, Total	34300	20	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Lead, Total	291	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Manganese, Total	1560	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Mercury, Total	1.4	0.13	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Nickel, Total	16	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Vanadium, Total	60	1	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16090353-027	9/15/2016	Zinc, Total	1610	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Aluminum, Total	11200	6	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Arsenic, Total	19	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Barium, Total	142	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Cadmium, Total	1.3	0.2	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Chromium, Total	13	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Cobalt, Total	5	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Copper, Total	120	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Iron, Total	20800	10	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Lead, Total	86	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Manganese, Total	642	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Mercury, Total	0.37	0.10	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Nickel, Total	5	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Vanadium, Total	51	1	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16090353-028	9/15/2016	Zinc, Total	350	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Aluminum, Total	13400	6	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Arsenic, Total	12	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Barium, Total	131	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Copper, Total	52	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Iron, Total	11500	10	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Lead, Total	28	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Manganese, Total	519	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Mercury, Total	0.11	0.10	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Vanadium, Total	15	1	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16090353-029	9/15/2016	Zinc, Total	169	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Aluminum, Total	65800	10	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Arsenic, Total	37	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Barium, Total	631	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Boron, Total	10	8	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Cadmium, Total	5.8	0.6	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Chromium, Total	48	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Cobalt, Total	18	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Copper, Total	481	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Iron, Total	52000	20	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Lead, Total	208	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Manganese, Total	2990	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Mercury, Total	0.61	0.10	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Nickel, Total	28	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Uranium, Total	5	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Vanadium, Total	71	2	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16090353-030	9/15/2016	Zinc, Total	1510	6	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Aluminum, Total	5100	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Barium, Total	57	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Cadmium, Total	1.2	0.2	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Chromium, Total	9	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Copper, Total	49	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Iron, Total	13400	9	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Lead, Total	16	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Manganese, Total	237	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Vanadium, Total	37	1	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16090353-031	9/15/2016	Zinc, Total	142	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Aluminum, Total	5860	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Barium, Total	61	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Copper, Total	22	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Iron, Total	6230	8	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Lead, Total	7	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Manganese, Total	210	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Vanadium, Total	12	1	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16090353-032	9/15/2016	Zinc, Total	96	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Aluminum, Total	29500	10	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Arsenic, Total	45	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Barium, Total	639	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Boron, Total	16	8	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Cadmium, Total	14.8	0.6	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Chromium, Total	63	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Cobalt, Total	25	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Copper, Total	694	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Iron, Total	36200	20	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Lead, Total	254	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Manganese, Total	7440	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Mercury, Total	0.67	0.10	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Molybdenum, Total	7	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Nickel, Total	39	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Uranium, Total	5	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Vanadium, Total	78	1	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16090353-033	9/15/2016	Zinc, Total	2230	6	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Aluminum, Total	4220	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Arsenic, Total	5	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Barium, Total	126	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Chromium, Total	14	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Copper, Total	33	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Iron, Total	19800	8	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Lead, Total	14	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Manganese, Total	465	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Nickel, Total	5	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Vanadium, Total	62	1	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16090353-034	9/15/2016	Zinc, Total	110	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Aluminum, Total	5000	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Antimony, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Arsenic, Total	8	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Barium, Total	138	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Chromium, Total	7	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Copper, Total	32	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Iron, Total	5520	8	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Lead, Total	17	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Manganese, Total	714	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Vanadium, Total	12	1	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16090353-035	9/15/2016	Zinc, Total	95	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Aluminum, Total	31300	10	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Arsenic, Total	28	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Barium, Total	513	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Boron, Total	13	8	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Cadmium, Total	10.3	0.6	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Chromium, Total	47	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Cobalt, Total	18	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Copper, Total	532	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Iron, Total	31000	20	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Lead, Total	189	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Manganese, Total	7210	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Mercury, Total	0.58	0.10	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Molybdenum, Total	5	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Nickel, Total	27	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Uranium, Total	8	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Vanadium, Total	71	1	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11D	<0.063 mm	Natural Sample	H16090353-036	9/15/2016	Zinc, Total	1440	6	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Aluminum, Total	5700	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Barium, Total	119	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Cadmium, Total	0.7	0.2	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Chromium, Total	12	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Copper, Total	26	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Iron, Total	10200	8	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Lead, Total	13	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Manganese, Total	579	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Nickel, Total	5	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Vanadium, Total	26	1	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16090353-037	9/15/2016	Zinc, Total	104	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Aluminum, Total	4750	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Barium, Total	101	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Chromium, Total	13	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Copper, Total	27	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Iron, Total	7440	8	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Lead, Total	10	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Manganese, Total	725	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Nickel, Total	8	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Selenium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Vanadium, Total	16	1	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16090353-038	9/15/2016	Zinc, Total	88	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Aluminum, Total	21600	10	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Arsenic, Total	34	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Barium, Total	312	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Boron, Total	14	7	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Cadmium, Total	10.3	0.5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Chromium, Total	35	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Cobalt, Total	12	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Copper, Total	431	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Iron, Total	22700	20	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Lead, Total	136	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Manganese, Total	2810	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Mercury, Total	0.44	0.10	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Nickel, Total	21	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Uranium, Total	7	5	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Vanadium, Total	50	1	mg/kg - dry
SS-13	<0.063 mm	Natural Sample	H16090353-039	9/14/2016	Zinc, Total	2130	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Aluminum, Total	8000	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Arsenic, Total	6	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Barium, Total	194	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Cadmium, Total	1.7	0.2	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Chromium, Total	13	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Cobalt, Total	5	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Copper, Total	61	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Iron, Total	12300	9	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Lead, Total	18	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Manganese, Total	424	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Nickel, Total	7	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Vanadium, Total	31	1	mg/kg - dry
SS-13	0.063-1 mm	Natural Sample	H16090353-040	9/14/2016	Zinc, Total	287	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Aluminum, Total	5310	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Barium, Total	120	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Cadmium, Total	0.5	0.2	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Chromium, Total	11	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Copper, Total	17	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Iron, Total	6880	9	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Lead, Total	8	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Manganese, Total	348	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Nickel, Total	6	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Vanadium, Total	14	1	mg/kg - dry
SS-13	1-2 mm	Natural Sample	H16090353-041	9/14/2016	Zinc, Total	127	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Aluminum, Total	31400	10	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Arsenic, Total	43	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Barium, Total	512	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Boron, Total	16	7	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Cadmium, Total	11	0.5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Chromium, Total	60	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Cobalt, Total	18	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Copper, Total	624	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Iron, Total	33900	20	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Lead, Total	211	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Manganese, Total	4490	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Mercury, Total	0.57	0.10	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Nickel, Total	34	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Uranium, Total	6	5	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Vanadium, Total	72	1	mg/kg - dry
SS-14	<0.063 mm	Natural Sample	H16090353-042	9/14/2016	Zinc, Total	2240	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Aluminum, Total	5840	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Arsenic, Total	7	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Barium, Total	136	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Cadmium, Total	0.9	0.2	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Chromium, Total	13	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Copper, Total	46	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Iron, Total	16400	9	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Lead, Total	11	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Manganese, Total	485	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Vanadium, Total	46	1	mg/kg - dry
SS-14	0.063-1 mm	Natural Sample	H16090353-043	9/14/2016	Zinc, Total	158	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Aluminum, Total	4580	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Arsenic, Total	10	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Barium, Total	137	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Chromium, Total	12	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Copper, Total	42	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Iron, Total	8670	9	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Lead, Total	13	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Manganese, Total	668	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Nickel, Total	7	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Vanadium, Total	15	1	mg/kg - dry
SS-14	1-2 mm	Natural Sample	H16090353-044	9/14/2016	Zinc, Total	143	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Aluminum, Total	28900	10	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Arsenic, Total	99	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Barium, Total	517	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Boron, Total	14	7	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Cadmium, Total	13.4	0.5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Chromium, Total	44	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Cobalt, Total	17	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Copper, Total	1480	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Iron, Total	33900	20	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Lead, Total	349	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Manganese, Total	3660	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Mercury, Total	2.1	0.16	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Molybdenum, Total	5	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Nickel, Total	25	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Silver, Total	6	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Vanadium, Total	58	1	mg/kg - dry
SS-15A	<0.063 mm	Natural Sample	H16090353-045	9/14/2016	Zinc, Total	2990	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Aluminum, Total	6670	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Arsenic, Total	60	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Barium, Total	157	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Cadmium, Total	3.5	0.2	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Chromium, Total	23	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Cobalt, Total	7	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Copper, Total	345	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Iron, Total	36300	9	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Lead, Total	145	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Manganese, Total	1330	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Mercury, Total	0.55	0.10	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Nickel, Total	7	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Vanadium, Total	92	1	mg/kg - dry
SS-15A	0.063-1 mm	Natural Sample	H16090353-046	9/14/2016	Zinc, Total	1180	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Aluminum, Total	5240	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Arsenic, Total	93	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Barium, Total	99	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Cadmium, Total	3.7	0.2	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Chromium, Total	19	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Copper, Total	399	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Iron, Total	16500	8	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Lead, Total	217	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Manganese, Total	2450	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Mercury, Total	0.31	0.10	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Nickel, Total	9	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Silver, Total	11	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Uranium, Total	6	5	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Vanadium, Total	25	1	mg/kg - dry
SS-15A	1-2 mm	Natural Sample	H16090353-047	9/14/2016	Zinc, Total	1850	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Aluminum, Total	34600	20	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Antimony, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Arsenic, Total	51	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Barium, Total	280	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Boron, Total	15	8	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Cadmium, Total	2	1	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Chromium, Total	69	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Cobalt, Total	12	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Copper, Total	173	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Iron, Total	27300	40	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Lead, Total	117	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Manganese, Total	977	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Mercury, Total	0.29	0.10	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Nickel, Total	40	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Vanadium, Total	61	2	mg/kg - dry
SS-15G	<0.063 mm	Natural Sample	H16090351-011	9/14/2016	Zinc, Total	268	10	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Aluminum, Total	9790	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Arsenic, Total	23	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Barium, Total	166	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Chromium, Total	15	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Cobalt, Total	5	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Copper, Total	24	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Iron, Total	14700	9	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Lead, Total	9	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Manganese, Total	146	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Nickel, Total	9	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Vanadium, Total	34	1	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15G	0.063-1 mm	Natural Sample	H16090351-012	9/14/2016	Zinc, Total	69	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Aluminum, Total	12200	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Arsenic, Total	23	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Barium, Total	137	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Chromium, Total	14	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Copper, Total	38	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Iron, Total	15300	8	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Lead, Total	9	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Manganese, Total	208	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Nickel, Total	11	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Vanadium, Total	27	1	mg/kg - dry
SS-15G	1-2 mm	Natural Sample	H16090351-013	9/14/2016	Zinc, Total	92	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Aluminum, Total	25000	10	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Arsenic, Total	135	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Barium, Total	383	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Boron, Total	15	8	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Cadmium, Total	9.8	0.6	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Chromium, Total	58	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Cobalt, Total	13	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Copper, Total	711	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Iron, Total	37700	30	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Lead, Total	284	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Manganese, Total	3000	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Mercury, Total	1.1	0.10	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Nickel, Total	35	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Selenium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Vanadium, Total	58	2	mg/kg - dry
SS-15B	<0.063 mm	Natural Sample	H16090353-048	9/14/2016	Zinc, Total	3130	6	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Aluminum, Total	6910	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Arsenic, Total	41	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Barium, Total	112	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Chromium, Total	15	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Cobalt, Total	5	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Copper, Total	141	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Iron, Total	15500	9	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Lead, Total	29	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Manganese, Total	310	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Mercury, Total	0.12	0.10	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Nickel, Total	8	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Vanadium, Total	33	1	mg/kg - dry
SS-15B	0.063-1 mm	Natural Sample	H16090353-049	9/14/2016	Zinc, Total	308	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Aluminum, Total	7560	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Arsenic, Total	21	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Barium, Total	98	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Cadmium, Total	0.2	0.2	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Chromium, Total	13	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Copper, Total	51	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Iron, Total	12600	8	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Lead, Total	19	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Manganese, Total	279	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Nickel, Total	8	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Vanadium, Total	21	1	mg/kg - dry
SS-15B	1-2 mm	Natural Sample	H16090353-050	9/14/2016	Zinc, Total	244	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Aluminum, Total	36200	20	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Arsenic, Total	54	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Barium, Total	467	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Boron, Total	18	8	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Cadmium, Total	10.8	0.6	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Chromium, Total	51	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Cobalt, Total	17	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Copper, Total	741	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Iron, Total	37700	30	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Lead, Total	242	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Manganese, Total	4190	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Mercury, Total	1	0.10	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Nickel, Total	29	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Vanadium, Total	80	2	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16090353-051	9/14/2016	Zinc, Total	2100	6	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Aluminum, Total	7710	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Arsenic, Total	16	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Barium, Total	148	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Cadmium, Total	1.2	0.2	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Chromium, Total	25	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Cobalt, Total	6	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Copper, Total	110	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Iron, Total	36500	9	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Lead, Total	53	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Manganese, Total	630	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Mercury, Total	0.16	0.10	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Nickel, Total	8	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Vanadium, Total	112	1	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16090353-052	9/14/2016	Zinc, Total	454	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Aluminum, Total	5740	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Arsenic, Total	14	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Barium, Total	102	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Chromium, Total	11	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Copper, Total	101	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Iron, Total	14300	8	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Lead, Total	32	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Manganese, Total	536	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Mercury, Total	0.1	0.10	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Nickel, Total	5	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Vanadium, Total	38	1	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16090353-053	9/14/2016	Zinc, Total	270	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Aluminum, Total	29700	10	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Arsenic, Total	73	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Barium, Total	341	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Boron, Total	11	7	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Cadmium, Total	12.2	0.5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Chromium, Total	50	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Cobalt, Total	18	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Copper, Total	706	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Iron, Total	35300	20	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Lead, Total	246	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Manganese, Total	2940	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Mercury, Total	1.1	0.10	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Nickel, Total	28	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Uranium, Total	6	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Vanadium, Total	81	1	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16090353-057	9/14/2016	Zinc, Total	2480	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Aluminum, Total	5240	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Arsenic, Total	13	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Barium, Total	104	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Cadmium, Total	0.9	0.2	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Chromium, Total	15	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Copper, Total	73	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Iron, Total	17500	8	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Lead, Total	31	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Manganese, Total	379	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Mercury, Total	0.22	0.10	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Nickel, Total	6	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Uranium, Total	13	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Vanadium, Total	50	1	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16090353-058	9/14/2016	Zinc, Total	304	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Aluminum, Total	4360	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Arsenic, Total	11	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Barium, Total	87	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Cadmium, Total	0.7	0.2	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Chromium, Total	7	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Copper, Total	69	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Iron, Total	7960	8	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Lead, Total	26	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Manganese, Total	292	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Vanadium, Total	17	1	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16090353-059	9/14/2016	Zinc, Total	239	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Aluminum, Total	30300	10	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Arsenic, Total	117	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Barium, Total	360	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Boron, Total	11	7	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Cadmium, Total	15	0.6	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Chromium, Total	87	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Cobalt, Total	26	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Copper, Total	979	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Iron, Total	45300	20	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Lead, Total	371	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Manganese, Total	3440	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Mercury, Total	1.3	0.10	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Molybdenum, Total	7	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Nickel, Total	50	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Uranium, Total	10	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Vanadium, Total	111	1	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16090353-060	9/14/2016	Zinc, Total	3140	6	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Aluminum, Total	4830	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Antimony, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Arsenic, Total	23	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Barium, Total	97	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Chromium, Total	9	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Copper, Total	108	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Iron, Total	11300	8	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Lead, Total	38	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Manganese, Total	323	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Vanadium, Total	21	1	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16090353-061	9/14/2016	Zinc, Total	284	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Aluminum, Total	3250	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Arsenic, Total	15	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Barium, Total	60	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Chromium, Total	8	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Copper, Total	64	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Iron, Total	7300	8	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Lead, Total	28	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Manganese, Total	162	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Vanadium, Total	13	1	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-19	1-2 mm	Natural Sample	H16090353-062	9/14/2016	Zinc, Total	120	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Aluminum, Total	36300	20	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Arsenic, Total	52	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Barium, Total	405	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Boron, Total	15	9	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Cadmium, Total	11.3	0.7	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Chromium, Total	56	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Cobalt, Total	24	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Copper, Total	805	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Iron, Total	41600	30	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Lead, Total	326	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Manganese, Total	4000	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Mercury, Total	1.1	0.10	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Nickel, Total	34	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Vanadium, Total	88	2	mg/kg - dry
SS-16B	<0.063 mm	Duplicate Sample	H16090353-054	9/14/2016	Zinc, Total	2190	7	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Aluminum, Total	7270	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Arsenic, Total	17	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Barium, Total	138	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Chromium, Total	17	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Cobalt, Total	5	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Copper, Total	114	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Iron, Total	23700	9	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Lead, Total	39	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Manganese, Total	518	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Mercury, Total	0.15	0.10	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Nickel, Total	7	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Selenium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Vanadium, Total	66	1	mg/kg - dry
SS-16B	0.063-1 mm	Duplicate Sample	H16090353-055	9/14/2016	Zinc, Total	355	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Aluminum, Total	5690	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Arsenic, Total	10	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Barium, Total	100	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Chromium, Total	9	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Copper, Total	61	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Iron, Total	11100	8	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Lead, Total	30	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Manganese, Total	423	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Nickel, Total	5	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Vanadium, Total	25	1	mg/kg - dry
SS-16B	1-2 mm	Duplicate Sample	H16090353-056	9/14/2016	Zinc, Total	165	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Aluminum, Total	25400	10	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Arsenic, Total	42	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Barium, Total	372	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Boron, Total	13	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Cadmium, Total	2	0.4	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Chromium, Total	85	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Cobalt, Total	14	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Copper, Total	435	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Iron, Total	38500	20	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Lead, Total	174	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Manganese, Total	2270	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Mercury, Total	0.2	0.10	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Molybdenum, Total	24	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Nickel, Total	39	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Uranium, Total	11	5	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Vanadium, Total	123	1	mg/kg - dry
SS-01	<0.063 mm	Duplicate Sample	H16090351-014	9/15/2016	Zinc, Total	448	30	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Aluminum, Total	3600	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Arsenic, Total	7	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Barium, Total	48	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Cadmium, Total	0.3	0.2	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Chromium, Total	15	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Copper, Total	52	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Iron, Total	20000	8	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Lead, Total	34	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Manganese, Total	264	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Vanadium, Total	59	1	mg/kg - dry
SS-01	0.063-1 mm	Duplicate Sample	H16090351-015	9/15/2016	Zinc, Total	441	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Aluminum, Total	3970	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Barium, Total	47	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Chromium, Total	8	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Copper, Total	36	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Iron, Total	6490	8	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Lead, Total	10	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Manganese, Total	236	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Vanadium, Total	19	1	mg/kg - dry
SS-01	1-2 mm	Duplicate Sample	H16090351-016	9/15/2016	Zinc, Total	66	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16090351-017	9/15/2016	Arsenic, Total	144	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16090351-017	9/15/2016	Cadmium, Total	15.4	0.4	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16090351-017	9/15/2016	Copper, Total	1250	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16090351-017	9/15/2016	Lead, Total	845	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16090351-017	9/15/2016	Zinc, Total	2390	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16090351-018	9/15/2016	Arsenic, Total	98	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16090351-018	9/15/2016	Cadmium, Total	6	0.4	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16090351-018	9/15/2016	Copper, Total	790	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16090351-018	9/15/2016	Lead, Total	266	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16090351-018	9/15/2016	Zinc, Total	1680	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Aluminum, Total	25800	9	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Arsenic, Total	33	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Barium, Total	449	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Boron, Total	13	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Cadmium, Total	8.1	0.4	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Chromium, Total	29	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Cobalt, Total	13	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Copper, Total	590	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Iron, Total	25600	20	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Lead, Total	148	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Manganese, Total	3360	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Mercury, Total	0.88	0.10	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Nickel, Total	17	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Uranium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Vanadium, Total	50	1	mg/kg - dry
SS-15A-2	<0.063 mm	Natural Sample	H16090353-063	9/14/2016	Zinc, Total	1690	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Aluminum, Total	5670	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Arsenic, Total	44	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Barium, Total	131	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Cadmium, Total	1.3	0.2	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Chromium, Total	17	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Copper, Total	201	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Iron, Total	24500	9	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Lead, Total	73	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Manganese, Total	654	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Mercury, Total	0.23	0.10	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Nickel, Total	6	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Vanadium, Total	58	1	mg/kg - dry
SS-15A-2	0.063-1 mm	Natural Sample	H16090353-064	9/14/2016	Zinc, Total	551	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Aluminum, Total	5300	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Arsenic, Total	50	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Barium, Total	126	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Cadmium, Total	1	0.2	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Chromium, Total	22	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Copper, Total	226	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Iron, Total	15100	8	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Lead, Total	126	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Manganese, Total	1780	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Mercury, Total	0.12	0.10	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Nickel, Total	11	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Vanadium, Total	21	1	mg/kg - dry
SS-15A-2	1-2 mm	Natural Sample	H16090353-065	9/14/2016	Zinc, Total	262	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Aluminum, Total	21600	10	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Arsenic, Total	35	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Barium, Total	293	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Boron, Total	13	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Cadmium, Total	ND	2	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Chromium, Total	52	10	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Cobalt, Total	11	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Copper, Total	341	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Iron, Total	34000	20	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Lead, Total	132	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Manganese, Total	1060	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Mercury, Total	0.22	0.10	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Molybdenum, Total	25	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Nickel, Total	24	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Uranium, Total	6	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Vanadium, Total	82	5	mg/kg - dry
SS-01	<0.063 mm	Natural Sample	H16120305-006	12/15/2016	Zinc, Total	520	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Aluminum, Total	4470	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Barium, Total	97	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Cadmium, Total	0.2	0.2	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Chromium, Total	14	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Copper, Total	43	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Iron, Total	15500	9	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Lead, Total	18	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Manganese, Total	397	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Vanadium, Total	36	3	mg/kg - dry
SS-01	0.063-1 mm	Natural Sample	H16120305-007	12/15/2016	Zinc, Total	185	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Aluminum, Total	2620	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Barium, Total	37	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Copper, Total	19	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Iron, Total	4960	8	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Lead, Total	5	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Manganese, Total	144	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Vanadium, Total	7	3	mg/kg - dry
SS-01	1-2 mm	Natural Sample	H16120305-008	12/15/2016	Zinc, Total	63	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Aluminum, Total	18000	10	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Arsenic, Total	258	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Barium, Total	388	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Boron, Total	17	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Cadmium, Total	10	2	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Chromium, Total	57	10	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Cobalt, Total	12	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Copper, Total	2060	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Iron, Total	38800	20	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Lead, Total	704	20	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Manganese, Total	2800	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Mercury, Total	0.89	0.10	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Molybdenum, Total	16	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Nickel, Total	24	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Silver, Total	7	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Uranium, Total	7	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Vanadium, Total	67	5	mg/kg - dry
SS-05A	<0.063 mm	Natural Sample	H16120305-011	12/15/2016	Zinc, Total	2050	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Aluminum, Total	4820	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Arsenic, Total	113	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Barium, Total	82	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Cadmium, Total	2.1	0.2	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Chromium, Total	22	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Cobalt, Total	13	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Copper, Total	775	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Iron, Total	61200	9	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Lead, Total	204	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Manganese, Total	982	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Mercury, Total	0.19	0.10	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Nickel, Total	10	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Vanadium, Total	64	3	mg/kg - dry
SS-05A	0.063-1 mm	Natural Sample	H16120305-012	12/15/2016	Zinc, Total	1100	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Aluminum, Total	5790	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Arsenic, Total	255	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Barium, Total	99	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Boron, Total	9	7	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Cadmium, Total	1.4	0.2	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Chromium, Total	13	6	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Copper, Total	579	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Iron, Total	20800	9	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Lead, Total	1290	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Manganese, Total	975	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Silver, Total	6	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Vanadium, Total	33	3	mg/kg - dry
SS-05A	1-2 mm	Natural Sample	H16120305-013	12/15/2016	Zinc, Total	693	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Aluminum, Total	18000	10	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Arsenic, Total	138	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Barium, Total	1250	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Boron, Total	16	7	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Cadmium, Total	14.4	0.5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Chromium, Total	116	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Cobalt, Total	53	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Copper, Total	943	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Iron, Total	42600	20	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Lead, Total	595	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Manganese, Total	36100	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Mercury, Total	0.87	0.10	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Molybdenum, Total	31	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Nickel, Total	92	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Silver, Total	5	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Uranium, Total	8	5	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Vanadium, Total	133	1	mg/kg - dry
SS-06G	<0.063 mm	Natural Sample	H16120307-017	12/15/2016	Zinc, Total	3380	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Aluminum, Total	3270	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Arsenic, Total	23	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Barium, Total	100	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Copper, Total	73	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Iron, Total	7880	9	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Lead, Total	74	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Manganese, Total	1820	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Vanadium, Total	18	1	mg/kg - dry
SS-06G	0.063-1 mm	Natural Sample	H16120307-018	12/15/2016	Zinc, Total	374	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Aluminum, Total	3020	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Arsenic, Total	17	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Barium, Total	113	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Chromium, Total	9	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Copper, Total	69	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Iron, Total	6670	9	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Lead, Total	62	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Manganese, Total	1930	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Vanadium, Total	15	1	mg/kg - dry
SS-06G	1-2 mm	Natural Sample	H16120307-019	12/15/2016	Zinc, Total	298	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Aluminum, Total	19400	10	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Arsenic, Total	146	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Barium, Total	440	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Boron, Total	15	7	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Cadmium, Total	10.6	0.6	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Chromium, Total	63	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Cobalt, Total	20	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Copper, Total	1100	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Iron, Total	46700	20	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Lead, Total	554	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Manganese, Total	6580	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Mercury, Total	1.2	0.10	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Molybdenum, Total	21	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Nickel, Total	33	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Silver, Total	6	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Uranium, Total	9	5	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Vanadium, Total	95	1	mg/kg - dry
SS-07	<0.063 mm	Natural Sample	H16120307-020	12/15/2016	Zinc, Total	3410	6	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Aluminum, Total	5170	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Arsenic, Total	17	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Barium, Total	87	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Cadmium, Total	1	0.2	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Chromium, Total	9	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Copper, Total	150	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Iron, Total	16500	9	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Lead, Total	67	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Manganese, Total	826	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Mercury, Total	0.18	0.10	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Uranium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Vanadium, Total	29	1	mg/kg - dry
SS-07	0.063-1 mm	Natural Sample	H16120307-021	12/15/2016	Zinc, Total	591	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Aluminum, Total	3910	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Arsenic, Total	18	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Barium, Total	58	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Copper, Total	49	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Iron, Total	8320	9	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Lead, Total	41	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Manganese, Total	2620	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Vanadium, Total	16	1	mg/kg - dry
SS-07	1-2 mm	Natural Sample	H16120307-022	12/15/2016	Zinc, Total	266	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Aluminum, Total	20300	10	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Arsenic, Total	62	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Barium, Total	363	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Boron, Total	16	7	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Cadmium, Total	11	0.6	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Chromium, Total	59	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Cobalt, Total	12	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Copper, Total	831	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Iron, Total	33100	20	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Lead, Total	351	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Manganese, Total	2460	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Mercury, Total	1.4	0.10	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Molybdenum, Total	16	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Nickel, Total	35	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Silver, Total	6	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Uranium, Total	10	5	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Vanadium, Total	63	1	mg/kg - dry
SS-08	<0.063 mm	Natural Sample	H16120307-023	12/15/2016	Zinc, Total	2360	6	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Aluminum, Total	6150	6	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Arsenic, Total	12	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Barium, Total	88	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Cadmium, Total	2.8	0.3	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Chromium, Total	8	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Copper, Total	165	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Iron, Total	11600	10	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Lead, Total	47	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Manganese, Total	473	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Mercury, Total	0.37	0.10	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Vanadium, Total	25	1	mg/kg - dry
SS-08	0.063-1 mm	Natural Sample	H16120307-024	12/15/2016	Zinc, Total	488	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Aluminum, Total	4310	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Arsenic, Total	12	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Barium, Total	56	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Cadmium, Total	2.5	0.2	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Copper, Total	87	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Iron, Total	7270	9	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Lead, Total	22	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Manganese, Total	463	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Vanadium, Total	14	1	mg/kg - dry
SS-08	1-2 mm	Natural Sample	H16120307-025	12/15/2016	Zinc, Total	195	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Aluminum, Total	29200	10	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Arsenic, Total	20	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Barium, Total	451	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Boron, Total	11	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Cadmium, Total	2.7	0.4	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Chromium, Total	18	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Cobalt, Total	10	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Copper, Total	227	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Iron, Total	26900	20	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Lead, Total	92	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Manganese, Total	2450	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Mercury, Total	0.32	0.10	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Nickel, Total	11	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Vanadium, Total	40	1	mg/kg - dry
SS-10A	<0.063 mm	Natural Sample	H16120307-029	12/15/2016	Zinc, Total	875	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Aluminum, Total	8490	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Arsenic, Total	8	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Barium, Total	141	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Cadmium, Total	1.1	0.2	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Chromium, Total	9	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Copper, Total	64	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Iron, Total	17100	9	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Lead, Total	22	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Manganese, Total	564	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Mercury, Total	0.15	0.10	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Vanadium, Total	42	1	mg/kg - dry
SS-10A	0.063-1 mm	Natural Sample	H16120307-030	12/15/2016	Zinc, Total	245	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Aluminum, Total	11300	6	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Arsenic, Total	6	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Barium, Total	211	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Copper, Total	21	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Iron, Total	9600	10	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Lead, Total	12	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Manganese, Total	850	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Vanadium, Total	14	1	mg/kg - dry
SS-10A	1-2 mm	Natural Sample	H16120307-031	12/15/2016	Zinc, Total	105	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Aluminum, Total	20400	9	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Arsenic, Total	18	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Barium, Total	216	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Boron, Total	9	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Cadmium, Total	3.8	0.4	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Chromium, Total	13	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Cobalt, Total	7	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Copper, Total	295	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Iron, Total	19500	20	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Lead, Total	98	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Manganese, Total	1190	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Mercury, Total	0.38	0.10	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Nickel, Total	8	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Vanadium, Total	34	1	mg/kg - dry
SS-10B	<0.063 mm	Natural Sample	H16120307-032	12/15/2016	Zinc, Total	1120	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Aluminum, Total	8400	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Arsenic, Total	5	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Barium, Total	94	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Cadmium, Total	0.9	0.2	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Chromium, Total	16	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Copper, Total	62	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Iron, Total	27500	9	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Lead, Total	18	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Manganese, Total	407	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Vanadium, Total	80	1	mg/kg - dry
SS-10B	0.063-1 mm	Natural Sample	H16120307-033	12/15/2016	Zinc, Total	207	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Aluminum, Total	4500	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Barium, Total	47	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Cadmium, Total	ND	0.2	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Copper, Total	16	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Iron, Total	6270	9	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Lead, Total	6	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Manganese, Total	358	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Vanadium, Total	13	2	mg/kg - dry
SS-10B	1-2 mm	Natural Sample	H16120307-034	12/15/2016	Zinc, Total	92	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Aluminum, Total	19700	10	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Arsenic, Total	38	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Barium, Total	414	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Boron, Total	12	8	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Cadmium, Total	10.6	0.6	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Chromium, Total	27	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Cobalt, Total	15	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Copper, Total	695	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Iron, Total	26100	20	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Lead, Total	170	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Manganese, Total	7160	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Mercury, Total	0.68	0.10	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Molybdenum, Total	7	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Nickel, Total	18	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Vanadium, Total	48	2	mg/kg - dry
SS-11C	<0.063 mm	Natural Sample	H16120307-035	12/15/2016	Zinc, Total	1920	6	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Aluminum, Total	6040	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Arsenic, Total	7	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Barium, Total	157	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Cadmium, Total	1.2	0.2	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Chromium, Total	10	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Copper, Total	55	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Iron, Total	14600	9	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Lead, Total	18	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Manganese, Total	1210	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Vanadium, Total	39	1	mg/kg - dry
SS-11C	0.063-1 mm	Natural Sample	H16120307-036	12/15/2016	Zinc, Total	221	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Aluminum, Total	4790	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Barium, Total	147	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Cadmium, Total	0.6	0.2	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Chromium, Total	7	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Copper, Total	20	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Iron, Total	5860	8	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Lead, Total	7	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Manganese, Total	1200	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Uranium, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Vanadium, Total	13	1	mg/kg - dry
SS-11C	1-2 mm	Natural Sample	H16120307-037	12/15/2016	Zinc, Total	163	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Aluminum, Total	26900	10	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Arsenic, Total	24	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Barium, Total	452	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Boron, Total	12	7	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Cadmium, Total	7	0.6	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Chromium, Total	42	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Cobalt, Total	13	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Copper, Total	447	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Iron, Total	28500	20	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Lead, Total	122	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Manganese, Total	6340	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Mercury, Total	0.47	0.10	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Molybdenum, Total	5	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Nickel, Total	25	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Uranium, Total	6	5	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Vanadium, Total	59	1	mg/kg - dry
SS-11D	<0.063 mm	Natural Sample	H16120307-038	12/15/2016	Zinc, Total	1340	6	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Aluminum, Total	4390	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Barium, Total	98	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Cadmium, Total	0.5	0.2	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Chromium, Total	9	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Copper, Total	19	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Iron, Total	6900	9	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Lead, Total	9	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Manganese, Total	534	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Nickel, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Vanadium, Total	17	1	mg/kg - dry
SS-11D	0.063-1 mm	Natural Sample	H16120307-039	12/15/2016	Zinc, Total	90	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Aluminum, Total	4970	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Arsenic, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Barium, Total	128	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Chromium, Total	10	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Copper, Total	17	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Iron, Total	6440	9	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Lead, Total	9	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Manganese, Total	936	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Nickel, Total	5	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Vanadium, Total	13	1	mg/kg - dry
SS-11D	1-2 mm	Natural Sample	H16120307-040	12/15/2016	Zinc, Total	116	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Aluminum, Total	30000	10	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Arsenic, Total	85	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Barium, Total	368	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Boron, Total	11	6	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Cadmium, Total	14.5	0.4	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Chromium, Total	39	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Cobalt, Total	16	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Copper, Total	1050	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Iron, Total	36700	20	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Lead, Total	421	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Manganese, Total	4000	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Mercury, Total	1.9	0.10	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Molybdenum, Total	7	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Nickel, Total	23	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Uranium, Total	8	5	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Vanadium, Total	97	1	mg/kg - dry
SS-16B	<0.063 mm	Natural Sample	H16120307-041	12/14/2016	Zinc, Total	2710	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Aluminum, Total	4950	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Arsenic, Total	23	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Barium, Total	96	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Cadmium, Total	0.8	0.2	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Chromium, Total	11	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Copper, Total	95	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Iron, Total	15800	9	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Lead, Total	62	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Manganese, Total	554	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Mercury, Total	0.14	0.10	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Vanadium, Total	44	1	mg/kg - dry
SS-16B	0.063-1 mm	Natural Sample	H16120307-042	12/14/2016	Zinc, Total	324	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Aluminum, Total	3900	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Arsenic, Total	30	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Barium, Total	90	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Cadmium, Total	0.4	0.2	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Chromium, Total	8	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Copper, Total	92	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Iron, Total	7720	9	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Lead, Total	21	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Manganese, Total	670	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Vanadium, Total	18	1	mg/kg - dry
SS-16B	1-2 mm	Natural Sample	H16120307-043	12/14/2016	Zinc, Total	187	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Aluminum, Total	26000	10	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Arsenic, Total	75	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Barium, Total	438	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Boron, Total	11	6	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Cadmium, Total	10.1	0.5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Chromium, Total	53	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Cobalt, Total	18	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Copper, Total	1020	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Iron, Total	35500	20	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Lead, Total	284	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Manganese, Total	6260	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Mercury, Total	1.4	0.10	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Molybdenum, Total	6	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Nickel, Total	32	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Vanadium, Total	84	1	mg/kg - dry
SS-17D	<0.063 mm	Natural Sample	H16120307-044	12/14/2016	Zinc, Total	1890	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Aluminum, Total	4530	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Arsenic, Total	24	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Barium, Total	98	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Cadmium, Total	1.7	0.2	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Chromium, Total	11	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Copper, Total	138	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Iron, Total	15100	9	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Lead, Total	45	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Manganese, Total	585	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Mercury, Total	0.12	0.10	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Vanadium, Total	37	1	mg/kg - dry
SS-17D	0.063-1 mm	Natural Sample	H16120307-045	12/14/2016	Zinc, Total	554	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Aluminum, Total	2940	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Arsenic, Total	46	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Barium, Total	63	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Cadmium, Total	1.8	0.2	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Chromium, Total	7	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Copper, Total	159	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Iron, Total	9310	8	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Lead, Total	47	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Manganese, Total	548	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Vanadium, Total	13	2	mg/kg - dry
SS-17D	1-2 mm	Natural Sample	H16120307-046	12/14/2016	Zinc, Total	591	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Aluminum, Total	17300	10	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Arsenic, Total	53	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Barium, Total	276	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Boron, Total	9	7	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Cadmium, Total	19.2	0.5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Chromium, Total	32	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Cobalt, Total	15	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Copper, Total	619	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Iron, Total	24300	20	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Lead, Total	183	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Manganese, Total	4880	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Mercury, Total	0.91	0.10	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Nickel, Total	21	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Vanadium, Total	57	1	mg/kg - dry
SS-19	<0.063 mm	Natural Sample	H16120307-047	12/14/2016	Zinc, Total	2300	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Aluminum, Total	3780	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Arsenic, Total	12	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Barium, Total	89	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Cadmium, Total	0.7	0.2	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Chromium, Total	7	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Copper, Total	47	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Iron, Total	8670	9	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Lead, Total	46	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Manganese, Total	519	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Vanadium, Total	21	1	mg/kg - dry
SS-19	0.063-1 mm	Natural Sample	H16120307-048	12/14/2016	Zinc, Total	229	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Aluminum, Total	3290	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Antimony, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Arsenic, Total	17	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Barium, Total	84	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Boron, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Cadmium, Total	2.7	0.2	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Chromium, Total	7	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Copper, Total	79	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Iron, Total	6970	8	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Lead, Total	39	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Manganese, Total	495	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Mercury, Total	ND	0.10	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Nickel, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Selenium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Silver, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Uranium, Total	ND	5	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Vanadium, Total	14	1	mg/kg - dry
SS-19	1-2 mm	Natural Sample	H16120307-049	12/14/2016	Zinc, Total	1020	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Aluminum, Total	19700	10	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Arsenic, Total	55	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Barium, Total	305	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Boron, Total	16	7	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Cadmium, Total	13.5	0.5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Chromium, Total	36	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Cobalt, Total	11	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Copper, Total	785	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Iron, Total	28600	20	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Lead, Total	334	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Manganese, Total	2280	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Mercury, Total	1.6	0.10	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Molybdenum, Total	14	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Nickel, Total	18	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Silver, Total	5	5	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Uranium, Total	7	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Vanadium, Total	59	1	mg/kg - dry
SS-08	<0.063 mm	Duplicate Sample	H16120307-026	12/15/2016	Zinc, Total	2730	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Aluminum, Total	5220	6	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Arsenic, Total	36	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Barium, Total	65	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Cadmium, Total	2.4	0.2	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Chromium, Total	6	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Copper, Total	216	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Iron, Total	10100	9	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Lead, Total	169	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Manganese, Total	543	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Mercury, Total	0.33	0.10	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Nickel, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Vanadium, Total	22	1	mg/kg - dry
SS-08	0.063-1 mm	Duplicate Sample	H16120307-027	12/15/2016	Zinc, Total	671	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Aluminum, Total	3520	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Antimony, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Arsenic, Total	15	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Barium, Total	48	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Beryllium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Boron, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Cadmium, Total	1.1	0.2	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Chromium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Cobalt, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Copper, Total	189	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Iron, Total	6570	8	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Lead, Total	36	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Manganese, Total	408	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Mercury, Total	0.14	0.10	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Molybdenum, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Nickel, Total	ND	5	mg/kg - dry

Site	Sieve Size	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Selenium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Silver, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Uranium, Total	ND	5	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Vanadium, Total	13	1	mg/kg - dry
SS-08	1-2 mm	Duplicate Sample	H16120307-028	12/15/2016	Zinc, Total	379	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16120305-010	12/15/2016	Arsenic, Total	140	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16120305-010	12/15/2016	Cadmium, Total	11.3	0.2	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16120305-010	12/15/2016	Copper, Total	1220	5	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16120305-010	12/15/2016	Lead, Total	862	20	mg/kg - dry
SLAG-01	<0.063 mm	Natural Sample	H16120305-010	12/15/2016	Zinc, Total	2420	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16120305-009	12/15/2016	Arsenic, Total	97	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16120305-009	12/15/2016	Cadmium, Total	5	2	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16120305-009	12/15/2016	Copper, Total	702	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16120305-009	12/15/2016	Lead, Total	320	5	mg/kg - dry
SS-04	<0.063 mm	Natural Sample	H16120305-009	12/15/2016	Zinc, Total	1320	5	mg/kg - dry

ND Not detected at analytical reporting limit.

APPENDIX E

GROUNDWATER DATA

Table E1. Groundwater concentrations in the Streamside Tailings Operable Unit, 2016.

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYP-07	Natural Sample	H16050318-007	5/17/2016	Alkalinity, Total as CaCO3	180	4	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Bicarbonate Alkalinity as HCO3	220	4	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Chloride	22	1	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Sulfate	155	1	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Hardness as CaCO3	280	1	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Antimony, Dissolved	0.0033	0.0005	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Arsenic, Dissolved	0.003	0.001	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Barium, Dissolved	0.066	0.003	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Cadmium, Dissolved	0.00003	0.00003	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Calcium, Dissolved	85	1	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Copper, Dissolved	ND	0.001	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Magnesium, Dissolved	17	1	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Manganese, Dissolved	0.168	0.001	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Molybdenum, Dissolved	0.011	0.005	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Nickel, Dissolved	0.005	0.002	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Potassium, Dissolved	6	1	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Selenium, Dissolved	0.003	0.001	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Sodium, Dissolved	33	1	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Uranium, Dissolved	0.0721	0.0002	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYP-07	Natural Sample	H16050318-007	5/17/2016	Zinc, Dissolved	0.043	0.008	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2A	Natural Sample	H16050318-001	5/17/2016	Alkalinity, Total as CaCO3	130	4	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Bicarbonate Alkalinity as HCO3	160	4	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Chloride	4	1	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Sulfate	222	1	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Hardness as CaCO3	287	1	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Arsenic, Dissolved	0.01	0.001	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Barium, Dissolved	0.014	0.003	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Calcium, Dissolved	91	1	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Copper, Dissolved	ND	0.001	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Magnesium, Dissolved	14	1	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Manganese, Dissolved	ND	0.001	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Molybdenum, Dissolved	0.008	0.005	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Potassium, Dissolved	4	1	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Selenium, Dissolved	0.011	0.001	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Sodium, Dissolved	27	1	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Uranium, Dissolved	0.047	0.0002	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2A	Natural Sample	H16050318-001	5/17/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Alkalinity, Total as CaCO3	80	4	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Bicarbonate Alkalinity as HCO3	97	4	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2B	Natural Sample	H16050318-002	5/17/2016	Chloride	24	1	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Sulfate	147	1	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Hardness as CaCO3	210	1	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Arsenic, Dissolved	0.009	0.001	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Barium, Dissolved	0.03	0.003	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Calcium, Dissolved	59	1	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Copper, Dissolved	ND	0.001	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Magnesium, Dissolved	15	1	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Manganese, Dissolved	ND	0.001	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Potassium, Dissolved	4	1	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Selenium, Dissolved	0.002	0.001	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Sodium, Dissolved	24	1	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Uranium, Dissolved	0.0043	0.0002	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2B	Natural Sample	H16050318-002	5/17/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Alkalinity, Total as CaCO3	100	4	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Chloride	24	1	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Sulfate	182	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2C	Natural Sample	H16050318-003	5/17/2016	Hardness as CaCO3	249	1	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Arsenic, Dissolved	0.006	0.001	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Barium, Dissolved	0.021	0.003	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Calcium, Dissolved	72	1	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Copper, Dissolved	ND	0.001	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Magnesium, Dissolved	17	1	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Manganese, Dissolved	ND	0.001	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Potassium, Dissolved	3	1	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Selenium, Dissolved	0.003	0.001	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Sodium, Dissolved	32	1	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Uranium, Dissolved	0.0088	0.0002	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2C	Natural Sample	H16050318-003	5/17/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Alkalinity, Total as CaCO3	150	4	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Bicarbonate Alkalinity as HCO3	180	4	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Chloride	26	1	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Sulfate	199	1	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Hardness as CaCO3	315	1	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2D	Natural Sample	H16050318-005	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Arsenic, Dissolved	0.007	0.001	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Barium, Dissolved	0.044	0.003	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Calcium, Dissolved	93	1	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Copper, Dissolved	ND	0.001	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Magnesium, Dissolved	20	1	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Manganese, Dissolved	ND	0.001	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Molybdenum, Dissolved	0.005	0.005	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Potassium, Dissolved	4	1	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Selenium, Dissolved	0.004	0.001	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Sodium, Dissolved	28	1	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Uranium, Dissolved	0.0526	0.0002	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2D	Natural Sample	H16050318-005	5/17/2016	Zinc, Dissolved	ND	0.008	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Alkalinity, Total as CaCO3	120	4	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Bicarbonate Alkalinity as HCO3	140	4	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Chloride	19	1	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Sulfate	185	1	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Hardness as CaCO3	260	1	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Arsenic, Dissolved	0.007	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Barium, Dissolved	0.03	0.003	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Calcium, Dissolved	77	1	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Copper, Dissolved	ND	0.001	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Magnesium, Dissolved	16	1	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Manganese, Dissolved	ND	0.001	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Molybdenum, Dissolved	0.006	0.005	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Potassium, Dissolved	3	1	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Selenium, Dissolved	0.004	0.001	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Sodium, Dissolved	27	1	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Uranium, Dissolved	0.0368	0.0002	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
1GW-1056	Natural Sample	H16050318-006	5/17/2016	Zinc, Dissolved	0.013	0.008	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Alkalinity, Total as CaCO3	ND	4	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Chloride	ND	1	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Sulfate	ND	1	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Hardness as CaCO3	ND	1	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Arsenic, Dissolved	ND	0.001	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Barium, Dissolved	ND	0.003	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2A	Field Blank	H16050318-008	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Calcium, Dissolved	ND	1	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Copper, Dissolved	ND	0.001	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Magnesium, Dissolved	ND	1	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Manganese, Dissolved	ND	0.001	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Potassium, Dissolved	ND	1	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Selenium, Dissolved	ND	0.001	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Sodium, Dissolved	ND	1	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Uranium, Dissolved	ND	0.0002	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2A	Field Blank	H16050318-008	5/17/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Alkalinity, Total as CaCO3	100	4	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Chloride	24	1	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Sulfate	182	1	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Hardness as CaCO3	250	1	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Arsenic, Dissolved	0.006	0.001	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Barium, Dissolved	0.02	0.003	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Calcium, Dissolved	72	1	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Copper, Dissolved	ND	0.001	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Iron, Dissolved	0.33	0.02	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Magnesium, Dissolved	17	1	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Manganese, Dissolved	0.001	0.001	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Potassium, Dissolved	3	1	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Selenium, Dissolved	0.003	0.001	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Sodium, Dissolved	32	1	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Uranium, Dissolved	0.0089	0.0002	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2C	Field Duplicate	H16050318-004	5/17/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Alkalinity, Total as CaCO3	280	4	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Bicarbonate Alkalinity as HCO3	340	4	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Chloride	21	1	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Sulfate	357	1	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Hardness as CaCO3	329	1	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Aluminum, Dissolved	0.013	0.009	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Arsenic, Dissolved	0.002	0.001	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Barium, Dissolved	0.026	0.003	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Boron, Dissolved	0.1	0.1	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Cadmium, Dissolved	ND	0.00003	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Calcium, Dissolved	100	1	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Copper, Dissolved	ND	0.001	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Magnesium, Dissolved	19	1	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Manganese, Dissolved	0.001	0.001	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Mercury, Dissolved	ND	0.00001	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Molybdenum, Dissolved	0.01	0.005	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Potassium, Dissolved	6	1	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Sodium, Dissolved	138	1	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Uranium, Dissolved	0.0968	0.0002	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-1010R	Natural Sample	H16090457-018	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Alkalinity, Total as CaCO3	120	4	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Chloride	4	1	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Sulfate	217	1	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Hardness as CaCO3	266	1	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Arsenic, Dissolved	0.011	0.001	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Barium, Dissolved	0.012	0.003	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Calcium, Dissolved	86	1	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Copper, Dissolved	ND	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2A	Natural Sample	H16090457-024	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Magnesium, Dissolved	14	1	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Manganese, Dissolved	0.001	0.001	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Molybdenum, Dissolved	0.008	0.005	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Potassium, Dissolved	4	1	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Selenium, Dissolved	0.01	0.001	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Sodium, Dissolved	27	1	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Uranium, Dissolved	0.0434	0.0002	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2A	Natural Sample	H16090457-024	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Alkalinity, Total as CaCO3	94	4	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Chloride	26	1	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Sulfate	164	1	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Hardness as CaCO3	233	1	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Arsenic, Dissolved	0.01	0.001	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Barium, Dissolved	0.033	0.003	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Calcium, Dissolved	66	1	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Copper, Dissolved	0.001	0.001	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Lead, Dissolved	ND	0.0003	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2B	Natural Sample	H16090457-040	9/21/2016	Magnesium, Dissolved	16	1	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Manganese, Dissolved	ND	0.001	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Molybdenum, Dissolved	ND	0.005	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Potassium, Dissolved	4	1	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Selenium, Dissolved	0.002	0.001	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Sodium, Dissolved	25	1	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Uranium, Dissolved	0.0063	0.0002	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2B	Natural Sample	H16090457-040	9/21/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Alkalinity, Total as CaCO3	110	4	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Chloride	25	1	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Sulfate	185	1	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Hardness as CaCO3	254	1	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Arsenic, Dissolved	0.007	0.001	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Barium, Dissolved	0.021	0.003	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Calcium, Dissolved	74	1	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Copper, Dissolved	ND	0.001	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Magnesium, Dissolved	17	1	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Manganese, Dissolved	ND	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2C	Natural Sample	H16090457-041	9/21/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Molybdenum, Dissolved	ND	0.005	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Potassium, Dissolved	3	1	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Selenium, Dissolved	0.002	0.001	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Sodium, Dissolved	32	1	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Uranium, Dissolved	0.0085	0.0002	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2C	Natural Sample	H16090457-041	9/21/2016	Zinc, Dissolved	ND	0.008	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Alkalinity, Total as CaCO3	270	4	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Bicarbonate Alkalinity as HCO3	330	4	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Chloride	29	1	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Sulfate	100	1	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Hardness as CaCO3	316	1	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Antimony, Dissolved	0.0031	0.0005	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Arsenic, Dissolved	0.007	0.001	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Barium, Dissolved	0.074	0.003	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Boron, Dissolved	ND	0.1	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Cadmium, Dissolved	ND	0.00003	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Calcium, Dissolved	97	1	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Chromium, Dissolved	ND	0.01	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Copper, Dissolved	ND	0.001	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Iron, Dissolved	0.06	0.02	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Lead, Dissolved	ND	0.0003	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Magnesium, Dissolved	18	1	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Manganese, Dissolved	1.09	0.001	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Molybdenum, Dissolved	0.023	0.005	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYP-07	Natural Sample	H16090457-044	9/21/2016	Nickel, Dissolved	0.006	0.002	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Potassium, Dissolved	8	1	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Selenium, Dissolved	0.001	0.001	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Silver, Dissolved	ND	0.0002	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Sodium, Dissolved	34	1	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Uranium, Dissolved	0.135	0.0002	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYP-07	Natural Sample	H16090457-044	9/21/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Alkalinity, Total as CaCO3	160	4	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Bicarbonate Alkalinity as HCO3	190	4	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Chloride	26	1	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Sulfate	197	1	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Hardness as CaCO3	317	1	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Arsenic, Dissolved	0.007	0.001	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Barium, Dissolved	0.045	0.003	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Calcium, Dissolved	94	1	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Copper, Dissolved	ND	0.001	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Magnesium, Dissolved	20	1	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Manganese, Dissolved	ND	0.001	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Molybdenum, Dissolved	0.005	0.005	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Potassium, Dissolved	4	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2D	Natural Sample	H16090457-043	9/21/2016	Selenium, Dissolved	0.004	0.001	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Sodium, Dissolved	27	1	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Uranium, Dissolved	0.0533	0.0002	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2D	Natural Sample	H16090457-043	9/21/2016	Zinc, Dissolved	ND	0.008	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Alkalinity, Total as CaCO3	120	4	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Chloride	19	1	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Sulfate	190	1	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Hardness as CaCO3	263	1	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Aluminum, Dissolved	ND	0.009	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Antimony, Dissolved	ND	0.0005	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Arsenic, Dissolved	0.008	0.001	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Barium, Dissolved	0.031	0.003	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Beryllium, Dissolved	ND	0.0008	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Boron, Dissolved	ND	0.1	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Cadmium, Dissolved	0.00018	0.00003	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Calcium, Dissolved	79	1	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Chromium, Dissolved	ND	0.01	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Cobalt, Dissolved	ND	0.01	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Copper, Dissolved	ND	0.001	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Iron, Dissolved	ND	0.02	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Lead, Dissolved	ND	0.0003	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Magnesium, Dissolved	16	1	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Manganese, Dissolved	0.002	0.001	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Molybdenum, Dissolved	0.009	0.005	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Nickel, Dissolved	ND	0.002	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Potassium, Dissolved	3	1	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Selenium, Dissolved	0.005	0.001	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Silver, Dissolved	ND	0.0002	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Sodium, Dissolved	27	1	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Uranium, Dissolved	0.0387	0.0002	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Vanadium, Dissolved	ND	0.1	mg/L
1GW-1056	Natural Sample	H16090457-046	9/21/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Alkalinity, Total as CaCO3	140	4	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Bicarbonate Alkalinity as HCO3	170	4	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Chloride	32	1	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Sulfate	110	1	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Hardness as CaCO3	194	1	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Arsenic, Dissolved	0.006	0.001	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Barium, Dissolved	0.071	0.003	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Cadmium, Dissolved	ND	0.00003	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Calcium, Dissolved	56	1	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Copper, Dissolved	ND	0.001	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Magnesium, Dissolved	13	1	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Manganese, Dissolved	ND	0.001	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Molybdenum, Dissolved	0.012	0.005	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Potassium, Dissolved	5	1	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Sodium, Dissolved	36	1	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Uranium, Dissolved	0.0069	0.0002	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-RK-BG	Natural Sample	H16090457-019	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Alkalinity, Total as CaCO3	17	4	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Bicarbonate Alkalinity as HCO3	21	4	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Chloride	41	1	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Sulfate	156	1	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Hardness as CaCO3	128	1	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Aluminum, Dissolved	0.203	0.009	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Arsenic, Dissolved	ND	0.001	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Barium, Dissolved	0.021	0.003	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Cadmium, Dissolved	0.00363	0.00003	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Calcium, Dissolved	36	1	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Cobalt, Dissolved	0.02	0.01	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Copper, Dissolved	0.128	0.001	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Magnesium, Dissolved	9	1	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Manganese, Dissolved	5.9	0.001	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Molybdenum, Dissolved	ND	0.005	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Nickel, Dissolved	0.008	0.002	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Potassium, Dissolved	5	1	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Sodium, Dissolved	26	1	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Uranium, Dissolved	0.0004	0.0002	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-10	Natural Sample	H16090457-027	9/20/2016	Zinc, Dissolved	3.61	0.008	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-01	Natural Sample	H16090457-032	9/20/2016	Alkalinity, Total as CaCO3	180	4	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Bicarbonate Alkalinity as HCO3	220	4	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Chloride	18	1	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Sulfate	191	1	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Hardness as CaCO3	327	1	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Arsenic, Dissolved	0.012	0.001	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Barium, Dissolved	0.023	0.003	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Boron, Dissolved	0.1	0.1	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Cadmium, Dissolved	0.00082	0.00003	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Calcium, Dissolved	101	1	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Copper, Dissolved	0.071	0.001	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Magnesium, Dissolved	18	1	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Manganese, Dissolved	0.274	0.001	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Molybdenum, Dissolved	ND	0.005	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Potassium, Dissolved	7	1	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Sodium, Dissolved	25	1	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Uranium, Dissolved	0.0091	0.0002	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-01	Natural Sample	H16090457-032	9/20/2016	Zinc, Dissolved	0.132	0.008	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Alkalinity, Total as CaCO3	120	4	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Chloride	12	1	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Sulfate	54	1	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Hardness as CaCO3	111	1	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Arsenic, Dissolved	0.011	0.001	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Barium, Dissolved	0.041	0.003	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Cadmium, Dissolved	ND	0.00003	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Calcium, Dissolved	33	1	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Copper, Dissolved	ND	0.001	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Magnesium, Dissolved	7	1	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Manganese, Dissolved	ND	0.001	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Molybdenum, Dissolved	0.012	0.005	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Potassium, Dissolved	6	1	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Sodium, Dissolved	30	1	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Uranium, Dissolved	0.0031	0.0002	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-1003R	Natural Sample	H16090457-023	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Alkalinity, Total as CaCO3	8	4	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Bicarbonate Alkalinity as HCO3	9	4	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Chloride	60	1	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Sulfate	603	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Hardness as CaCO3	349	1	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Aluminum, Dissolved	0.23	0.009	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Arsenic, Dissolved	ND	0.001	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Barium, Dissolved	0.015	0.003	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Cadmium, Dissolved	0.00089	0.00003	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Calcium, Dissolved	77	1	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Cobalt, Dissolved	0.06	0.01	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Copper, Dissolved	0.026	0.001	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Iron, Dissolved	49.4	0.02	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Lead, Dissolved	0.0062	0.0003	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Magnesium, Dissolved	38	1	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Manganese, Dissolved	27.3	0.001	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Molybdenum, Dissolved	ND	0.005	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Nickel, Dissolved	0.02	0.002	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Potassium, Dissolved	7	1	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Sodium, Dissolved	46	1	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Uranium, Dissolved	ND	0.0002	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-1004A	Natural Sample	H16090457-022	9/20/2016	Zinc, Dissolved	7.03	0.008	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Alkalinity, Total as CaCO3	15	4	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Bicarbonate Alkalinity as HCO3	18	4	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Chloride	54	1	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Sulfate	282	1	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Hardness as CaCO3	223	1	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Aluminum, Dissolved	0.804	0.009	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
P-58A	Natural Sample	H16090457-031	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Arsenic, Dissolved	ND	0.001	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Barium, Dissolved	0.035	0.003	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Cadmium, Dissolved	0.0068	0.00003	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Calcium, Dissolved	67	1	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Cobalt, Dissolved	0.03	0.01	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Copper, Dissolved	0.594	0.001	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Iron, Dissolved	3.13	0.02	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Magnesium, Dissolved	14	1	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Manganese, Dissolved	9.63	0.001	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Molybdenum, Dissolved	ND	0.005	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Nickel, Dissolved	0.012	0.002	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Potassium, Dissolved	8	1	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Sodium, Dissolved	33	1	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Uranium, Dissolved	0.0006	0.0002	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
P-58A	Natural Sample	H16090457-031	9/20/2016	Zinc, Dissolved	5.37	0.008	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Alkalinity, Total as CaCO3	200	4	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Bicarbonate Alkalinity as HCO3	240	4	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Chloride	35	1	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Sulfate	144	1	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Hardness as CaCO3	170	1	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Arsenic, Dissolved	0.003	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
P-114	Natural Sample	H16090457-029	9/20/2016	Barium, Dissolved	0.021	0.003	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Cadmium, Dissolved	ND	0.00003	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Calcium, Dissolved	58	1	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Copper, Dissolved	ND	0.001	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Magnesium, Dissolved	6	1	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Manganese, Dissolved	ND	0.001	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Mercury, Dissolved	0.000016	5.00E-06	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Molybdenum, Dissolved	0.007	0.005	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Potassium, Dissolved	4	1	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Sodium, Dissolved	95	1	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Uranium, Dissolved	0.0029	0.0002	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
P-114	Natural Sample	H16090457-029	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Alkalinity, Total as CaCO3	160	4	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Bicarbonate Alkalinity as HCO3	190	4	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Chloride	142	1	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Sulfate	357	1	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Hardness as CaCO3	439	1	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Arsenic, Dissolved	0.002	0.001	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Barium, Dissolved	0.061	0.003	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
P-37A	Natural Sample	H16090457-021	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Cadmium, Dissolved	0.011	0.00003	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Calcium, Dissolved	139	1	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Copper, Dissolved	0.024	0.001	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Magnesium, Dissolved	24	1	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Manganese, Dissolved	5.51	0.001	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Mercury, Dissolved	0.000014	5.00E-06	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Molybdenum, Dissolved	ND	0.005	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Nickel, Dissolved	0.004	0.002	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Potassium, Dissolved	9	1	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Sodium, Dissolved	90	1	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Uranium, Dissolved	0.0041	0.0002	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
P-37A	Natural Sample	H16090457-021	9/20/2016	Zinc, Dissolved	0.519	0.008	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Alkalinity, Total as CaCO3	320	4	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Bicarbonate Alkalinity as HCO3	390	4	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Chloride	58	1	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Sulfate	280	1	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Hardness as CaCO3	526	1	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Arsenic, Dissolved	0.014	0.001	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Barium, Dissolved	0.115	0.003	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Boron, Dissolved	0.4	0.1	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Cadmium, Dissolved	0.00008	0.00003	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
P-39R	Natural Sample	H16090457-025	9/20/2016	Calcium, Dissolved	163	1	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Copper, Dissolved	0.031	0.001	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Magnesium, Dissolved	29	1	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Manganese, Dissolved	0.003	0.001	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Molybdenum, Dissolved	ND	0.005	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Potassium, Dissolved	13	1	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Selenium, Dissolved	0.002	0.001	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Sodium, Dissolved	85	1	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Uranium, Dissolved	0.0762	0.0002	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
P-39R	Natural Sample	H16090457-025	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Alkalinity, Total as CaCO3	270	4	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Bicarbonate Alkalinity as HCO3	330	4	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Chloride	78	1	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Sulfate	273	1	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Hardness as CaCO3	124	1	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Arsenic, Dissolved	0.036	0.001	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Barium, Dissolved	0.028	0.003	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Cadmium, Dissolved	0.00004	0.00003	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Calcium, Dissolved	36	1	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Copper, Dissolved	ND	0.001	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Magnesium, Dissolved	8	1	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Manganese, Dissolved	0.003	0.001	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Molybdenum, Dissolved	0.05	0.005	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Potassium, Dissolved	5	1	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Sodium, Dissolved	225	1	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Uranium, Dissolved	0.0034	0.0002	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-MC-BG	Natural Sample	H16090457-014	9/19/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Alkalinity, Total as CaCO3	55	4	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Bicarbonate Alkalinity as HCO3	66	4	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Chloride	56	1	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Sulfate	125	1	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Hardness as CaCO3	135	1	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Aluminum, Dissolved	0.018	0.009	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Arsenic, Dissolved	0.001	0.001	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Barium, Dissolved	0.036	0.003	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Cadmium, Dissolved	0.028	0.00003	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Calcium, Dissolved	38	1	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Cobalt, Dissolved	0.01	0.01	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Copper, Dissolved	0.234	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Magnesium, Dissolved	10	1	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Manganese, Dissolved	5.42	0.001	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Mercury, Dissolved	0.000011	5.00E-06	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Molybdenum, Dissolved	0.007	0.005	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Nickel, Dissolved	0.015	0.002	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Potassium, Dissolved	6	1	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Sodium, Dissolved	33	1	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Uranium, Dissolved	0.004	0.0002	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-MC-NS	Natural Sample	H16090457-004	9/19/2016	Zinc, Dissolved	7.14	0.008	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Alkalinity, Total as CaCO3	97	4	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Bicarbonate Alkalinity as HCO3	120	4	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Chloride	56	1	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Sulfate	107	1	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Hardness as CaCO3	172	1	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Arsenic, Dissolved	0.001	0.001	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Barium, Dissolved	0.045	0.003	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Cadmium, Dissolved	0.00715	0.00003	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Calcium, Dissolved	48	1	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Copper, Dissolved	0.029	0.001	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Magnesium, Dissolved	13	1	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Manganese, Dissolved	4.7	0.001	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Mercury, Dissolved	0.000008	5.00E-06	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Molybdenum, Dissolved	0.035	0.005	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Nickel, Dissolved	0.013	0.002	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Potassium, Dissolved	6	1	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Sodium, Dissolved	34	1	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Uranium, Dissolved	0.0017	0.0002	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-MC-SS	Natural Sample	H16090457-001	9/19/2016	Zinc, Dissolved	3.16	0.008	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Alkalinity, Total as CaCO3	47	4	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Bicarbonate Alkalinity as HCO3	57	4	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Chloride	25	1	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Sulfate	119	1	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Hardness as CaCO3	130	1	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Arsenic, Dissolved	0.001	0.001	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Barium, Dissolved	0.043	0.003	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Cadmium, Dissolved	0.00032	0.00003	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Calcium, Dissolved	39	1	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Copper, Dissolved	ND	0.001	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Magnesium, Dissolved	8	1	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Manganese, Dissolved	0.29	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Mercury, Dissolved	0.000009	5.00E-06	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Molybdenum, Dissolved	ND	0.005	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Nickel, Dissolved	0.005	0.002	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Potassium, Dissolved	6	1	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Sodium, Dissolved	25	1	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Uranium, Dissolved	0.0003	0.0002	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-FM-BG	Natural Sample	H16090457-011	9/19/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Alkalinity, Total as CaCO3	130	4	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Chloride	39	1	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Sulfate	85	1	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Hardness as CaCO3	185	1	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Aluminum, Dissolved	0.185	0.009	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Antimony, Dissolved	0.0006	0.0005	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Arsenic, Dissolved	0.002	0.001	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Barium, Dissolved	0.147	0.003	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Cadmium, Dissolved	0.00003	0.00003	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Calcium, Dissolved	55	1	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Copper, Dissolved	0.002	0.001	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Iron, Dissolved	0.26	0.02	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Lead, Dissolved	0.0009	0.0003	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Magnesium, Dissolved	11	1	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Manganese, Dissolved	2.24	0.001	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Molybdenum, Dissolved	0.008	0.005	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Nickel, Dissolved	0.002	0.002	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Potassium, Dissolved	5	1	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Sodium, Dissolved	25	1	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Uranium, Dissolved	0.0057	0.0002	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-FM-WS	Natural Sample	H16090457-002	9/19/2016	Zinc, Dissolved	0.078	0.008	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Alkalinity, Total as CaCO3	110	4	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Chloride	44	1	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Sulfate	87	1	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Hardness as CaCO3	175	1	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Arsenic, Dissolved	0.002	0.001	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Barium, Dissolved	0.046	0.003	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Cadmium, Dissolved	0.00021	0.00003	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Calcium, Dissolved	53	1	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Copper, Dissolved	0.002	0.001	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Magnesium, Dissolved	10	1	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Manganese, Dissolved	1.17	0.001	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Molybdenum, Dissolved	0.006	0.005	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Nickel, Dissolved	0.002	0.002	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Potassium, Dissolved	5	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Sodium, Dissolved	28	1	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Uranium, Dissolved	0.0014	0.0002	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-FM-ES	Natural Sample	H16090457-016	9/19/2016	Zinc, Dissolved	0.333	0.008	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Alkalinity, Total as CaCO3	160	4	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Bicarbonate Alkalinity as HCO3	200	4	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Chloride	22	1	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Sulfate	141	1	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Hardness as CaCO3	53	1	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Antimony, Dissolved	0.0017	0.0005	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Arsenic, Dissolved	0.038	0.001	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Barium, Dissolved	0.015	0.003	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Boron, Dissolved	0.2	0.1	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Cadmium, Dissolved	ND	0.00003	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Calcium, Dissolved	17	1	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Copper, Dissolved	0.002	0.001	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Magnesium, Dissolved	3	1	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Manganese, Dissolved	0.032	0.001	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Mercury, Dissolved	0.000008	5.00E-06	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Molybdenum, Dissolved	0.025	0.005	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Potassium, Dissolved	4	1	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Sodium, Dissolved	125	1	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Uranium, Dissolved	0.0034	0.0002	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-CR-BG	Natural Sample	H16090457-006	9/19/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Alkalinity, Total as CaCO3	120	4	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Bicarbonate Alkalinity as HCO3	150	4	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Chloride	46	1	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Sulfate	104	1	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Hardness as CaCO3	142	1	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Antimony, Dissolved	0.0006	0.0005	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Arsenic, Dissolved	0.005	0.001	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Barium, Dissolved	0.044	0.003	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Boron, Dissolved	0.1	0.1	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Cadmium, Dissolved	0.0336	0.00003	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Calcium, Dissolved	45	1	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Copper, Dissolved	0.054	0.001	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Magnesium, Dissolved	7	1	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Manganese, Dissolved	2.03	0.001	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Mercury, Dissolved	0.000008	5.00E-06	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Molybdenum, Dissolved	0.015	0.005	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Nickel, Dissolved	0.002	0.002	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Potassium, Dissolved	5	1	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Sodium, Dissolved	56	1	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Uranium, Dissolved	0.0051	0.0002	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-CR-WS	Natural Sample	H16090457-008	9/19/2016	Zinc, Dissolved	0.298	0.008	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Alkalinity, Total as CaCO3	90	4	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Chloride	48	1	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Sulfate	117	1	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Hardness as CaCO3	147	1	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Aluminum, Dissolved	0.02	0.009	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Arsenic, Dissolved	ND	0.001	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Barium, Dissolved	0.022	0.003	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Cadmium, Dissolved	0.00208	0.00003	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Calcium, Dissolved	45	1	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Copper, Dissolved	0.003	0.001	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Magnesium, Dissolved	9	1	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Manganese, Dissolved	0.012	0.001	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Molybdenum, Dissolved	ND	0.005	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Nickel, Dissolved	0.003	0.002	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Potassium, Dissolved	3	1	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Sodium, Dissolved	51	1	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Uranium, Dissolved	0.0012	0.0002	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-CR-ES	Natural Sample	H16090457-013	9/19/2016	Zinc, Dissolved	0.455	0.008	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Alkalinity, Total as CaCO3	16	4	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Bicarbonate Alkalinity as HCO3	19	4	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Chloride	50	1	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Sulfate	220	1	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Hardness as CaCO3	233	1	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Aluminum, Dissolved	0.044	0.009	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Arsenic, Dissolved	0.002	0.001	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Barium, Dissolved	0.024	0.003	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Cadmium, Dissolved	0.00146	0.00003	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Calcium, Dissolved	68	1	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Copper, Dissolved	ND	0.001	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Magnesium, Dissolved	16	1	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Manganese, Dissolved	0.402	0.001	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Molybdenum, Dissolved	ND	0.005	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Nickel, Dissolved	0.023	0.002	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Potassium, Dissolved	4	1	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Sodium, Dissolved	23	1	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Uranium, Dissolved	ND	0.0002	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-ST-BG	Natural Sample	H16090457-003	9/19/2016	Zinc, Dissolved	0.868	0.008	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Alkalinity, Total as CaCO3	24	4	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Bicarbonate Alkalinity as HCO3	28	4	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Chloride	42	1	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Sulfate	100	1	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Hardness as CaCO3	109	1	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Aluminum, Dissolved	0.133	0.009	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Arsenic, Dissolved	0.002	0.001	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Barium, Dissolved	0.031	0.003	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Cadmium, Dissolved	0.0271	0.00003	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Calcium, Dissolved	33	1	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Cobalt, Dissolved	0.01	0.01	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Copper, Dissolved	0.153	0.001	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Magnesium, Dissolved	7	1	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Manganese, Dissolved	2.2	0.001	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Molybdenum, Dissolved	ND	0.005	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Nickel, Dissolved	0.016	0.002	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Potassium, Dissolved	5	1	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Sodium, Dissolved	22	1	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Uranium, Dissolved	0.0007	0.0002	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-ST-WS	Natural Sample	H16090457-015	9/19/2016	Zinc, Dissolved	3.92	0.008	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Alkalinity, Total as CaCO3	4	4	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Bicarbonate Alkalinity as HCO3	5	4	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Chloride	40	1	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Sulfate	97	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Hardness as CaCO3	90	1	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Aluminum, Dissolved	0.388	0.009	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Arsenic, Dissolved	ND	0.001	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Barium, Dissolved	0.027	0.003	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Beryllium, Dissolved	0.001	0.0008	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Cadmium, Dissolved	0.0212	0.00003	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Calcium, Dissolved	29	1	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Copper, Dissolved	1.14	0.004	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Lead, Dissolved	0.0011	0.0003	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Magnesium, Dissolved	4	1	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Manganese, Dissolved	1.2	0.001	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Molybdenum, Dissolved	ND	0.005	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Nickel, Dissolved	0.009	0.002	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Potassium, Dissolved	4	1	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Sodium, Dissolved	20	1	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Uranium, Dissolved	0.0017	0.0002	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-ST-ES	Natural Sample	H16090457-012	9/19/2016	Zinc, Dissolved	2.94	0.008	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Alkalinity, Total as CaCO3	230	4	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Bicarbonate Alkalinity as HCO3	280	4	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Chloride	ND	1	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Sulfate	21	1	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Hardness as CaCO3	117	1	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Aluminum, Dissolved	0.139	0.009	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Antimony, Dissolved	0.0011	0.0005	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Arsenic, Dissolved	0.01	0.001	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Barium, Dissolved	0.032	0.003	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Cadmium, Dissolved	0.00005	0.00003	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Calcium, Dissolved	35	1	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Copper, Dissolved	0.003	0.001	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Iron, Dissolved	0.07	0.02	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Magnesium, Dissolved	7	1	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Manganese, Dissolved	0.009	0.001	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Molybdenum, Dissolved	ND	0.005	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Potassium, Dissolved	1	1	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Sodium, Dissolved	8	1	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Uranium, Dissolved	0.005	0.0002	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-FR-BG	Natural Sample	H16090457-007	9/19/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Alkalinity, Total as CaCO3	220	4	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Bicarbonate Alkalinity as HCO3	270	4	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Chloride	ND	1	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Sulfate	24	1	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Hardness as CaCO3	135	1	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Antimony, Dissolved	0.0028	0.0005	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Arsenic, Dissolved	0.009	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Barium, Dissolved	0.056	0.003	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Cadmium, Dissolved	0.00008	0.00003	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Calcium, Dissolved	41	1	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Copper, Dissolved	0.002	0.001	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Magnesium, Dissolved	8	1	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Manganese, Dissolved	0.141	0.001	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Molybdenum, Dissolved	0.007	0.005	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Potassium, Dissolved	2	1	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Sodium, Dissolved	8	1	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Uranium, Dissolved	0.0232	0.0002	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-FR-WS	Natural Sample	H16090457-009	9/19/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Alkalinity, Total as CaCO3	140	4	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Bicarbonate Alkalinity as HCO3	160	4	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Chloride	11	1	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Sulfate	188	1	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Hardness as CaCO3	276	1	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Antimony, Dissolved	0.0005	0.0005	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Arsenic, Dissolved	0.001	0.001	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Barium, Dissolved	0.052	0.003	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Cadmium, Dissolved	0.00007	0.00003	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Calcium, Dissolved	83	1	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Copper, Dissolved	0.001	0.001	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Magnesium, Dissolved	17	1	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Manganese, Dissolved	0.195	0.001	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Molybdenum, Dissolved	0.007	0.005	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Potassium, Dissolved	3	1	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Sodium, Dissolved	16	1	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Uranium, Dissolved	0.0133	0.0002	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-FR-ES	Natural Sample	H16090457-010	9/19/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Alkalinity, Total as CaCO3	200	4	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Bicarbonate Alkalinity as HCO3	250	4	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Chloride	34	1	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Sulfate	372	1	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Hardness as CaCO3	406	1	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Antimony, Dissolved	0.0011	0.0005	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Arsenic, Dissolved	0.005	0.001	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Barium, Dissolved	0.047	0.003	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Boron, Dissolved	0.1	0.1	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Cadmium, Dissolved	0.00008	0.00003	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Calcium, Dissolved	127	1	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Copper, Dissolved	ND	0.001	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Magnesium, Dissolved	21	1	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Manganese, Dissolved	4.04	0.001	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Molybdenum, Dissolved	0.018	0.005	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Nickel, Dissolved	0.003	0.002	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Potassium, Dissolved	8	1	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Sodium, Dissolved	76	1	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Uranium, Dissolved	0.0372	0.0002	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-WG-NS	Natural Sample	H16090457-026	9/20/2016	Zinc, Dissolved	0.806	0.008	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Alkalinity, Total as CaCO3	330	4	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Bicarbonate Alkalinity as HCO3	410	4	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Chloride	26	1	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Sulfate	179	1	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Hardness as CaCO3	182	1	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Antimony, Dissolved	0.0074	0.0005	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Arsenic, Dissolved	0.009	0.001	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Barium, Dissolved	0.021	0.003	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Boron, Dissolved	0.2	0.1	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Cadmium, Dissolved	0.00021	0.00003	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Calcium, Dissolved	59	1	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Copper, Dissolved	ND	0.001	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Magnesium, Dissolved	8	1	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Manganese, Dissolved	0.993	0.001	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Molybdenum, Dissolved	0.063	0.005	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Nickel, Dissolved	0.009	0.002	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Potassium, Dissolved	9	1	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Sodium, Dissolved	74	1	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Uranium, Dissolved	0.0266	0.0002	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-WG-SS	Natural Sample	H16090457-030	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Alkalinity, Total as CaCO3	ND	4	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Chloride	ND	1	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Sulfate	ND	1	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Hardness as CaCO3	ND	1	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Arsenic, Dissolved	ND	0.001	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Barium, Dissolved	ND	0.003	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Cadmium, Dissolved	ND	0.00003	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Calcium, Dissolved	ND	1	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Copper, Dissolved	ND	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Magnesium, Dissolved	ND	1	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Manganese, Dissolved	ND	0.001	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Molybdenum, Dissolved	ND	0.005	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Potassium, Dissolved	ND	1	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Sodium, Dissolved	ND	1	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Uranium, Dissolved	ND	0.0002	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-MC-NS	Field Blank	H16090457-005	9/19/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Alkalinity, Total as CaCO3	ND	4	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Chloride	ND	1	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Sulfate	ND	1	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Hardness as CaCO3	ND	1	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Arsenic, Dissolved	ND	0.001	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Barium, Dissolved	ND	0.003	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Cadmium, Dissolved	ND	0.00003	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Calcium, Dissolved	ND	1	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Copper, Dissolved	ND	0.001	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Magnesium, Dissolved	ND	1	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Manganese, Dissolved	ND	0.001	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Molybdenum, Dissolved	ND	0.005	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Potassium, Dissolved	ND	1	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Sodium, Dissolved	ND	1	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Uranium, Dissolved	ND	0.0002	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-WG-SS	Field Blank	H16090457-028	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Alkalinity, Total as CaCO3	ND	4	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Bicarbonate Alkalinity as HCO3	ND	4	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Chloride	ND	1	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Sulfate	ND	1	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Hardness as CaCO3	ND	1	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Antimony, Dissolved	ND	0.0005	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Arsenic, Dissolved	ND	0.001	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Barium, Dissolved	ND	0.003	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Boron, Dissolved	ND	0.1	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Cadmium, Dissolved	ND	0.00003	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Calcium, Dissolved	ND	1	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Chromium, Dissolved	ND	0.01	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Copper, Dissolved	ND	0.001	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Iron, Dissolved	ND	0.02	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Lead, Dissolved	ND	0.0003	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Magnesium, Dissolved	ND	1	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Manganese, Dissolved	ND	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYP-07	Field Blank	H16090457-045	9/21/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Molybdenum, Dissolved	ND	0.005	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Nickel, Dissolved	ND	0.002	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Potassium, Dissolved	ND	1	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Selenium, Dissolved	ND	0.001	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Silver, Dissolved	ND	0.0002	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Sodium, Dissolved	ND	1	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Uranium, Dissolved	ND	0.0002	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYP-07	Field Blank	H16090457-045	9/21/2016	Zinc, Dissolved	ND	0.008	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Alkalinity, Total as CaCO3	23	4	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Bicarbonate Alkalinity as HCO3	28	4	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Chloride	43	1	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Sulfate	101	1	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Hardness as CaCO3	109	1	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Aluminum, Dissolved	0.116	0.009	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Arsenic, Dissolved	0.001	0.001	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Barium, Dissolved	0.029	0.003	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Boron, Dissolved	ND	0.1	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Cadmium, Dissolved	0.0267	0.00003	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Calcium, Dissolved	33	1	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Cobalt, Dissolved	0.01	0.01	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Copper, Dissolved	0.162	0.001	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Iron, Dissolved	ND	0.02	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Magnesium, Dissolved	7	1	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Manganese, Dissolved	2.2	0.001	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Molybdenum, Dissolved	ND	0.005	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Nickel, Dissolved	0.035	0.002	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Potassium, Dissolved	5	1	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Sodium, Dissolved	23	1	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Uranium, Dissolved	0.0002	0.0002	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-ST-WS	Field Duplicate	H16090457-017	9/19/2016	Zinc, Dissolved	3.93	0.008	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Alkalinity, Total as CaCO3	280	4	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Bicarbonate Alkalinity as HCO3	340	4	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Chloride	21	1	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Sulfate	358	1	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Hardness as CaCO3	327	1	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Arsenic, Dissolved	0.002	0.001	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Barium, Dissolved	0.025	0.003	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Boron, Dissolved	0.1	0.1	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Cadmium, Dissolved	ND	0.00003	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Calcium, Dissolved	99	1	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Copper, Dissolved	ND	0.001	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Magnesium, Dissolved	19	1	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Manganese, Dissolved	ND	0.001	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Molybdenum, Dissolved	0.01	0.005	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Potassium, Dissolved	6	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Selenium, Dissolved	ND	0.001	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Sodium, Dissolved	137	1	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Uranium, Dissolved	0.0954	0.0002	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
GW-1010R	Field Duplicate	H16090457-020	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Alkalinity, Total as CaCO3	110	4	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Bicarbonate Alkalinity as HCO3	130	4	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Chloride	25	1	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Sulfate	182	1	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Hardness as CaCO3	253	1	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Aluminum, Dissolved	ND	0.009	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Antimony, Dissolved	ND	0.0005	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Arsenic, Dissolved	0.007	0.001	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Barium, Dissolved	0.023	0.003	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Beryllium, Dissolved	ND	0.0008	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Boron, Dissolved	ND	0.1	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Cadmium, Dissolved	ND	0.00003	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Calcium, Dissolved	74	1	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Chromium, Dissolved	ND	0.01	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Cobalt, Dissolved	ND	0.01	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Copper, Dissolved	ND	0.001	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Iron, Dissolved	ND	0.02	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Lead, Dissolved	ND	0.0003	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Magnesium, Dissolved	16	1	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Manganese, Dissolved	ND	0.001	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Molybdenum, Dissolved	ND	0.005	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Nickel, Dissolved	ND	0.002	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Potassium, Dissolved	3	1	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Selenium, Dissolved	0.002	0.001	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Silver, Dissolved	ND	0.0002	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Sodium, Dissolved	31	1	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Uranium, Dissolved	0.0085	0.0002	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Vanadium, Dissolved	ND	0.1	mg/L
MW-2C	Field Duplicate	H16090457-042	9/21/2016	Zinc, Dissolved	ND	0.008	mg/L

ND Not detected at analytical reporting limit.

APPENDIX F

VADOSE ZONE WATER DATA

Table F1. Vadose zone water metal concentrations in the Streamside Tailings Operable Unit, 2016.

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-01	Natural Sample	H16050318-009	5/17/2016	Alkalinity, Total as CaCO3	140	4	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Bicarbonate Alkalinity as HCO3	170	4	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Chloride	21	1	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Sulfate	194	1	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Hardness as CaCO3	279	1	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Arsenic, Dissolved	0.003	0.001	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Barium, Dissolved	0.031	0.003	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Calcium, Dissolved	82	1	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Copper, Dissolved	0.006	0.001	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Iron, Dissolved	0.67	0.02	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Magnesium, Dissolved	18	1	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Manganese, Dissolved	0.008	0.001	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Potassium, Dissolved	3	1	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Selenium, Dissolved	0.005	0.001	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Sodium, Dissolved	29	1	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Uranium, Dissolved	0.0527	0.0002	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-01	Natural Sample	H16050318-009	5/17/2016	Zinc, Dissolved	0.023	0.008	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-02	Natural Sample	H16050318-010	5/17/2016	Alkalinity, Total as CaCO3	600	4	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Bicarbonate Alkalinity as HCO3	730	4	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Chloride	48	1	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Sulfate	6560	2	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Hardness as CaCO3	1730	1	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Antimony, Dissolved	0.0007	0.0005	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Arsenic, Dissolved	0.027	0.001	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Barium, Dissolved	0.011	0.003	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Boron, Dissolved	0.4	0.1	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Cadmium, Dissolved	0.0001	0.00003	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Calcium, Dissolved	341	1	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Copper, Dissolved	0.01	0.001	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Magnesium, Dissolved	214	1	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Manganese, Dissolved	ND	0.001	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Molybdenum, Dissolved	0.048	0.005	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Potassium, Dissolved	3	1	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Selenium, Dissolved	0.025	0.001	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Sodium, Dissolved	2330	1	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Uranium, Dissolved	1.13	0.0002	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-02	Natural Sample	H16050318-010	5/17/2016	Zinc, Dissolved	0.009	0.008	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Alkalinity, Total as CaCO3	160	4	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-03	Natural Sample	H16050318-011	5/17/2016	Bicarbonate Alkalinity as HCO3	190	4	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Chloride	ND	1	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Sulfate	90	1	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Hardness as CaCO3	140	1	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Antimony, Dissolved	0.0005	0.001	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Arsenic, Dissolved	0.084	0.001	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Barium, Dissolved	0.028	0.003	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Boron, Dissolved	0.1	0.1	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Calcium, Dissolved	42	1	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Copper, Dissolved	0.002	0.001	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Magnesium, Dissolved	8	1	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Manganese, Dissolved	0.002	0.001	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Molybdenum, Dissolved	0.017	0.005	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Potassium, Dissolved	3	1	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Selenium, Dissolved	ND	0.001	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Sodium, Dissolved	47	1	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Uranium, Dissolved	0.0031	0.0002	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-03	Natural Sample	H16050318-011	5/17/2016	Zinc, Dissolved	0.009	0.008	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Alkalinity, Total as CaCO3	250	4	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Bicarbonate Alkalinity as HCO3	310	4	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-04	Natural Sample	H16050318-012	5/17/2016	Chloride	4	1	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Sulfate	496	1	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Hardness as CaCO3	456	1	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Antimony, Dissolved	0.0014	0.002	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Arsenic, Dissolved	0.069	0.001	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Barium, Dissolved	0.066	0.003	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Boron, Dissolved	ND	0.1	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Cadmium, Dissolved	0.00005	0.00003	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Calcium, Dissolved	116	1	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Copper, Dissolved	0.007	0.001	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Magnesium, Dissolved	40	1	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Manganese, Dissolved	0.002	0.001	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Molybdenum, Dissolved	ND	0.005	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Potassium, Dissolved	13	1	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Selenium, Dissolved	0.003	0.001	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Sodium, Dissolved	164	1	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Uranium, Dissolved	0.0278	0.0002	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-04	Natural Sample	H16050318-012	5/17/2016	Zinc, Dissolved	0.044	0.008	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Alkalinity, Total as CaCO3	260	4	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Bicarbonate Alkalinity as HCO3	320	4	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Chloride	5	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-05	Natural Sample	H16050318-013	5/17/2016	Sulfate	4050	1	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Hardness as CaCO3	1870	1	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Antimony, Dissolved	0.0012	0.002	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Arsenic, Dissolved	0.017	0.001	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Barium, Dissolved	0.014	0.003	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Boron, Dissolved	1.9	0.1	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Cadmium, Dissolved	0.00018	0.00003	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Calcium, Dissolved	508	1	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Copper, Dissolved	0.01	0.001	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Magnesium, Dissolved	147	1	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Manganese, Dissolved	ND	0.001	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Molybdenum, Dissolved	0.025	0.005	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Potassium, Dissolved	22	1	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Selenium, Dissolved	0.009	0.001	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Sodium, Dissolved	1140	1	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Uranium, Dissolved	1.86	0.0002	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-05	Natural Sample	H16050318-013	5/17/2016	Zinc, Dissolved	0.017	0.008	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Alkalinity, Total as CaCO3	53	4	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Bicarbonate Alkalinity as HCO3	64	4	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Chloride	7	1	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Sulfate	1000	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-06	Natural Sample	H16050318-014	5/17/2016	Hardness as CaCO3	529	1	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Arsenic, Dissolved	0.002	0.001	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Barium, Dissolved	0.009	0.003	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Boron, Dissolved	0.2	0.1	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Cadmium, Dissolved	ND	0.00003	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Calcium, Dissolved	168	1	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Copper, Dissolved	0.006	0.001	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Magnesium, Dissolved	27	1	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Manganese, Dissolved	0.002	0.001	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Molybdenum, Dissolved	0.011	0.005	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Potassium, Dissolved	ND	1	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Selenium, Dissolved	ND	0.001	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Sodium, Dissolved	218	1	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Uranium, Dissolved	0.002	0.0002	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-06	Natural Sample	H16050318-014	5/17/2016	Zinc, Dissolved	0.018	0.008	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Alkalinity, Total as CaCO3	DNA	4	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Bicarbonate Alkalinity as HCO3	DNA	4	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Chloride	49	1	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Sulfate	2330	1	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Hardness as CaCO3	953	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-07	Natural Sample	H16050318-015	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Antimony, Dissolved	ND	0.0008	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Arsenic, Dissolved	0.006	0.001	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Barium, Dissolved	0.007	0.003	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Boron, Dissolved	0.2	0.1	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Cadmium, Dissolved	0.00009	0.00003	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Calcium, Dissolved	269	1	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Copper, Dissolved	0.005	0.001	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Magnesium, Dissolved	69	1	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Manganese, Dissolved	0.002	0.001	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Mercury, Dissolved	ND	0.00001	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Molybdenum, Dissolved	0.102	0.005	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Potassium, Dissolved	10	1	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Selenium, Dissolved	0.002	0.001	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Sodium, Dissolved	677	1	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Uranium, Dissolved	0.242	0.0002	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-07	Natural Sample	H16050318-015	5/17/2016	Zinc, Dissolved	0.077	0.008	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Alkalinity, Total as CaCO3	320	4	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Bicarbonate Alkalinity as HCO3	390	4	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Chloride	55	1	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Sulfate	1120	1	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Hardness as CaCO3	1160	1	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Aluminum, Dissolved	ND	0.009	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-08	Natural Sample	H16050318-016	5/17/2016	Antimony, Dissolved	ND	0.0005	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Arsenic, Dissolved	0.005	0.001	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Barium, Dissolved	0.022	0.003	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Boron, Dissolved	0.1	0.1	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Cadmium, Dissolved	0.00004	0.00003	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Calcium, Dissolved	247	1	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Copper, Dissolved	0.001	0.001	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Magnesium, Dissolved	131	1	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Manganese, Dissolved	0.006	0.001	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Molybdenum, Dissolved	0.007	0.005	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Potassium, Dissolved	6	1	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Selenium, Dissolved	0.013	0.001	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Sodium, Dissolved	140	1	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Uranium, Dissolved	0.13	0.0002	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-08	Natural Sample	H16050318-016	5/17/2016	Zinc, Dissolved	0.01	0.008	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Alkalinity, Total as CaCO3	190	4	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Bicarbonate Alkalinity as HCO3	230	4	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Chloride	27	1	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Sulfate	259	1	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Hardness as CaCO3	391	1	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-01	Natural Sample	H16090457-033	9/20/2016	Arsenic, Dissolved	0.004	0.001	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Barium, Dissolved	0.048	0.003	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Boron, Dissolved	ND	0.1	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Cadmium, Dissolved	ND	0.00003	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Calcium, Dissolved	117	1	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Copper, Dissolved	0.001	0.001	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Magnesium, Dissolved	24	1	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Manganese, Dissolved	0.001	0.001	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Molybdenum, Dissolved	ND	0.005	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Potassium, Dissolved	3	1	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Selenium, Dissolved	0.006	0.001	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Sodium, Dissolved	37	1	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Uranium, Dissolved	0.114	0.0002	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-01	Natural Sample	H16090457-033	9/20/2016	Zinc, Dissolved	0.008	0.008	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Alkalinity, Total as CaCO3	930	4	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Bicarbonate Alkalinity as HCO3	1100	4	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Chloride	137	1	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Sulfate	9970	5	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Hardness as CaCO3	2740	1	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Antimony, Dissolved	0.0009	0.0005	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Arsenic, Dissolved	0.041	0.001	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-02	Natural Sample	H16090457-034	9/20/2016	Barium, Dissolved	0.019	0.003	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Boron, Dissolved	0.7	0.1	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Cadmium, Dissolved	0.00014	0.00003	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Calcium, Dissolved	503	1	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Copper, Dissolved	0.011	0.001	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Magnesium, Dissolved	361	1	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Manganese, Dissolved	ND	0.001	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Molybdenum, Dissolved	0.076	0.005	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Potassium, Dissolved	4	1	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Selenium, Dissolved	0.066	0.001	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Sodium, Dissolved	3600	2	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Uranium, Dissolved	2.37	0.0002	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-02	Natural Sample	H16090457-034	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Alkalinity, Total as CaCO3	260	4	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Bicarbonate Alkalinity as HCO3	300	4	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Chloride	ND	1	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Sulfate	220	1	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Hardness as CaCO3	282	1	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Antimony, Dissolved	0.0009	0.0005	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Arsenic, Dissolved	0.142	0.001	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Barium, Dissolved	0.059	0.003	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-03	Natural Sample	H16090457-035	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Boron, Dissolved	0.2	0.1	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Cadmium, Dissolved	0.00005	0.00003	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Calcium, Dissolved	83	1	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Copper, Dissolved	0.002	0.001	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Magnesium, Dissolved	18	1	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Manganese, Dissolved	0.004	0.001	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Mercury, Dissolved	ND	6.00E-06	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Molybdenum, Dissolved	0.038	0.005	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Potassium, Dissolved	3	1	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Selenium, Dissolved	0.002	0.001	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Sodium, Dissolved	80	1	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Uranium, Dissolved	0.0108	0.0002	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-03	Natural Sample	H16090457-035	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Alkalinity, Total as CaCO3	260	4	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Bicarbonate Alkalinity as HCO3	310	4	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Chloride	4	1	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Sulfate	518	1	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Hardness as CaCO3	468	1	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Antimony, Dissolved	0.0018	0.0005	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Arsenic, Dissolved	0.071	0.001	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Barium, Dissolved	0.077	0.003	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-04	Natural Sample	H16090457-036	9/20/2016	Boron, Dissolved	0.1	0.1	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Cadmium, Dissolved	0.00009	0.00003	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Calcium, Dissolved	121	1	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Copper, Dissolved	0.01	0.001	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Lead, Dissolved	0.0003	0.0003	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Magnesium, Dissolved	40	1	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Manganese, Dissolved	0.003	0.001	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Mercury, Dissolved	ND	5.00E-06	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Molybdenum, Dissolved	ND	0.005	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Potassium, Dissolved	14	1	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Selenium, Dissolved	0.002	0.001	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Sodium, Dissolved	161	1	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Uranium, Dissolved	0.0277	0.0002	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-04	Natural Sample	H16090457-036	9/20/2016	Zinc, Dissolved	0.111	0.008	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Alkalinity, Total as CaCO3	270	4	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Bicarbonate Alkalinity as HCO3	330	4	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Chloride	4	1	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Sulfate	3710	1	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Hardness as CaCO3	1690	1	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Antimony, Dissolved	0.0014	0.0005	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Arsenic, Dissolved	0.019	0.001	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Barium, Dissolved	0.016	0.003	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Boron, Dissolved	2.2	0.1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-05	Natural Sample	H16090457-037	9/20/2016	Cadmium, Dissolved	0.00018	0.00003	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Calcium, Dissolved	459	1	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Chromium, Dissolved	0.01	0.01	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Copper, Dissolved	0.012	0.001	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Magnesium, Dissolved	132	1	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Manganese, Dissolved	0.003	0.001	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Mercury, Dissolved	0.000006	0.00002	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Molybdenum, Dissolved	0.026	0.005	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Potassium, Dissolved	22	1	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Selenium, Dissolved	0.009	0.001	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Sodium, Dissolved	1050	1	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Uranium, Dissolved	1.82	0.0002	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-05	Natural Sample	H16090457-037	9/20/2016	Zinc, Dissolved	0.016	0.008	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Alkalinity, Total as CaCO3	88	4	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Bicarbonate Alkalinity as HCO3	110	4	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Chloride	27	1	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Sulfate	811	1	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Hardness as CaCO3	437	1	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Arsenic, Dissolved	0.003	0.001	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Barium, Dissolved	0.013	0.003	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Boron, Dissolved	0.3	0.1	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Cadmium, Dissolved	0.00004	0.00003	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-06	Natural Sample	H16090457-038	9/20/2016	Calcium, Dissolved	131	1	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Copper, Dissolved	0.018	0.001	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Magnesium, Dissolved	26	1	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Manganese, Dissolved	0.011	0.001	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Mercury, Dissolved	ND	0.0001	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Molybdenum, Dissolved	0.024	0.005	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Potassium, Dissolved	ND	1	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Selenium, Dissolved	0.001	0.001	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Sodium, Dissolved	208	1	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Uranium, Dissolved	0.0079	0.0002	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-06	Natural Sample	H16090457-038	9/20/2016	Zinc, Dissolved	0.041	0.008	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Alkalinity, Total as CaCO3		4	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Bicarbonate Alkalinity as HCO3		4	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Chloride	89	1	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Sulfate	2710	1	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Hardness as CaCO3	1060	1	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Aluminum, Dissolved	ND	0.009	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Antimony, Dissolved	ND	0.0005	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Arsenic, Dissolved	0.007	0.001	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Barium, Dissolved	0.007	0.003	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Beryllium, Dissolved	ND	0.0008	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Boron, Dissolved	0.3	0.1	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Cadmium, Dissolved	0.00012	0.00003	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Calcium, Dissolved	304	1	mg/L

Site	Type	Lab ID	Collected Date	Parameter	Results	RL	Units
LYS-07	Natural Sample	H16090457-039	9/20/2016	Chromium, Dissolved	ND	0.01	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Cobalt, Dissolved	ND	0.01	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Copper, Dissolved	0.004	0.001	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Iron, Dissolved	ND	0.02	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Lead, Dissolved	ND	0.0003	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Magnesium, Dissolved	74	1	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Manganese, Dissolved	0.002	0.001	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Mercury, Dissolved	0.000007	5.00E-06	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Molybdenum, Dissolved	0.122	0.005	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Nickel, Dissolved	ND	0.002	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Potassium, Dissolved	10	1	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Selenium, Dissolved	0.004	0.001	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Silver, Dissolved	ND	0.0002	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Sodium, Dissolved	729	1	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Uranium, Dissolved	0.319	0.0002	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Vanadium, Dissolved	ND	0.1	mg/L
LYS-07	Natural Sample	H16090457-039	9/20/2016	Zinc, Dissolved	ND	0.008	mg/L

ND Not detected at analytical reporting limit.

APPENDIX G

MACROINVERTEBRATE DATA

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC001

RAI No.: **CC16SBC001** Sta. Name: **Blacktail Cr. at Fr. Sheehan Park**
Client ID: **SS-01**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	2	0.63%	Yes	Unknown		11	PR
Nemata							
Nemata	3	0.95%	Yes	Unknown		5	UN
Naididae							
Naididae	4	1.26%	Yes	Immature		8	CG
Naididae							
Tubificinae	2	0.63%	Yes	Immature		11	CG
Sphaeriidae							
Pisidium sp.	35	11.04%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	2	0.63%	Yes	Unknown		6	SC
Planorbidae							
Gyraulus sp.	5	1.58%	Yes	Unknown		8	SC
Hydryphantidae							
Thyopsis sp.	1	0.32%	Yes	Adult		11	PR
Hygrobatidae							
Hygrobates sp.	4	1.26%	Yes	Adult		8	PR
Lebertiidae							
Lebertia sp.	12	3.79%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	9	2.84%	Yes	Adult		11	PR
Ephemeroptera							
Baetidae							
Baetis sp.	12	3.79%	Yes	Larva	Damaged	5	CG
Trichoptera							
Brachycentridae							
Brachycentrus americanus	15	4.73%	Yes	Larva		1	CF
Lepidostomatidae							
Lepidostoma sp.	6	1.89%	Yes	Larva		1	SH
Leptoceridae							
Oecetis sp.	1	0.32%	Yes	Larva		8	PR
Coleoptera							
Elmidae							
Cleptelmis addenda	4	1.26%	Yes	Larva		4	CG
Optioservus sp.	3	0.95%	Yes	Adult		5	SC
Optioservus sp.	69	21.77%	No	Larva		5	SC
Diptera							
Empididae							
Neoplasta sp.	1	0.32%	Yes	Larva		5	PR
Muscidae							
Muscidae	2	0.63%	Yes	Larva		10	PR
Simuliidae							
Simulium sp.	2	0.63%	Yes	Larva		6	CF
Tipulidae							
Tipula sp.	3	0.95%	Yes	Larva		4	SH

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC001

RAI No.: **CC16SBC001** Sta. Name: **Blacktail Cr. at Fr. Sheehan Park**
Client ID: **SS-01**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Dicrotendipes sp.	1	0.32%	Yes	Larva		8	CG
Phaenopsectra sp.	4	1.26%	Yes	Larva		7	SC
Diamesinae							
Diamesa sp.	3	0.95%	Yes	Larva		5	CG
Pagastia sp.	3	0.95%	Yes	Larva		1	CG
Potthastia Longimanus Gr.	1	0.32%	Yes	Larva		2	CG
Orthocladiinae							
Brillia sp.	9	2.84%	Yes	Larva		4	SH
Cricotopus (Cricotopus) sp.	3	0.95%	Yes	Larva		7	SH
Diplocladius cultriger	1	0.32%	Yes	Larva		8	CG
Eukiefferiella Brevicalcar Gr.	1	0.32%	Yes	Larva		8	CG
Orthocladius sp.	74	23.34%	Yes	Larva		6	CG
Orthocladius sp.	1	0.32%	No	Pupa		6	CG
Parametriocnemus sp.	2	0.63%	Yes	Larva		5	CG
Prodiamesinae							
Monodiamesa sp.	1	0.32%	Yes	Larva		7	CG
Odontomesa sp.	1	0.32%	Yes	Larva		4	CG
Prodiamesa sp.	13	4.10%	Yes	Larva		3	CG
Tanypodinae							
Radotanypus sp.	1	0.32%	Yes	Larva		7	PR
Thienemannimyia Gr.	1	0.32%	Yes	Larva	Early Instar	5	PR
Sample Count	317						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC002

RAI No.: **CC16SBC002** Sta. Name: **Silver Bow Cr. above Butte Reduction Works**
Client ID: **SS-05A**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	10	3.11%	Yes	Unknown		11	PR
Nemata							
Nemata	6	1.86%	Yes	Unknown		5	UN
Naididae							
Naididae	34	10.56%	Yes	Immature		8	CG
Naididae							
Nais sp.	2	0.62%	Yes	Unknown		8	CG
Ophidonais serpentina	3	0.93%	Yes	Unknown		6	CG
Sphaeriidae							
Pisidium sp.	5	1.55%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	7	2.17%	Yes	Unknown		6	SC
Planorbidae							
Gyraulus sp.	5	1.55%	Yes	Unknown		8	SC
Hygrobatidae							
Hygrobates sp.	63	19.57%	Yes	Adult		8	PR
Lebertiidae							
Lebertia sp.	7	2.17%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	46	14.29%	Yes	Adult		11	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	1	0.31%	Yes	Larva		5	CG
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	10	3.11%	Yes	Larva		3	CG
Brachycentrus occidentalis	1	0.31%	Yes	Larva		2	CF
Hydropsychidae							
Cheumatopsyche sp.	5	1.55%	Yes	Larva		5	CF
Hydropsyche sp.	6	1.86%	Yes	Larva		5	CF
Leptoceridae							
Oecetis sp.	2	0.62%	Yes	Larva		8	PR
Coleoptera							
Dytiscidae							
Oreodytes sp.	1	0.31%	Yes	Adult		5	PR
Elmidae							
Cleptelmis addenda	1	0.31%	Yes	Larva		4	CG
Optioservus sp.	6	1.86%	Yes	Adult		5	SC
Optioservus sp.	67	20.81%	No	Larva		5	SC
Zaitzevia sp.	1	0.31%	Yes	Larva		5	CG

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC002

RAI No.: **CC16SBC002** Sta. Name: **Silver Bow Cr. above Butte Reduction Works**
Client ID: **SS-05A**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Muscidae							
Muscidae	**2**	**0.62%**	**Yes**	**Larva**		**10**	**PR**
Simuliidae							
Simulium sp.	**1**	**0.31%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Tipula sp.	**1**	**0.31%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Chironominae							
Cryptochironomus sp.	**4**	**1.24%**	**Yes**	**Larva**		**8**	**PR**
Phaenopsectra sp.	**1**	**0.31%**	**Yes**	**Larva**		**7**	**SC**
Chironominae							
Micropsectra sp.	**1**	**0.31%**	**Yes**	**Pupa**		**4**	**CG**
Diamesinae							
Pagastia sp.	**3**	**0.93%**	**Yes**	**Larva**		**1**	**CG**
Pagastia sp.	**2**	**0.62%**	**No**	**Pupa**		**1**	**CG**
Orthocladiinae							
Chaetocladius sp.	**1**	**0.31%**	**Yes**	**Larva**		**6**	**CG**
Cricotopus trifascia	**1**	**0.31%**	**Yes**	**Larva**		**7**	**SH**
Orthocladius sp.	**4**	**1.24%**	**Yes**	**Larva**		**6**	**CG**
Tvetenia Bavarica Gr.	**1**	**0.31%**	**Yes**	**Larva**		**5**	**CG**
Prodiamesinae							
Odontomesa sp.	**1**	**0.31%**	**Yes**	**Larva**		**4**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**10**	**3.11%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	322						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC003

RAI No.: **CC16SBC003** Sta. Name: **Silver Bow Cr. above WWTP**
Client ID: **SS-06G**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	3	0.92%	Yes	Unknown		11	PR
Nemata							
Nemata	2	0.61%	Yes	Unknown		5	UN
Naididae							
Naididae	28	8.59%	Yes	Immature		8	CG
Sphaeriidae							
Pisidium sp.	2	0.61%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	12	3.68%	Yes	Unknown		6	SC
Planorbidae							
Gyraulus sp.	2	0.61%	Yes	Unknown		8	SC
Hygrobatidae							
Hygrobates sp.	24	7.36%	Yes	Adult		8	PR
Lebertiidae							
Lebertia sp.	1	0.31%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	4	1.23%	Yes	Adult		11	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	12	3.68%	Yes	Larva		5	CG
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	3	0.92%	Yes	Larva		3	CG
Hydropsychidae							
Cheumatopsyche sp.	24	7.36%	Yes	Larva		5	CF
Hydropsyche sp.	52	15.95%	Yes	Larva		5	CF
Hydroptilidae							
Hydroptila sp.	1	0.31%	Yes	Larva		6	PH
Hydroptilidae	1	0.31%	No	Pupa		4	PH
Leptoceridae							
Oecetis sp.	2	0.61%	Yes	Larva		8	PR
Coleoptera							
Elmidae							
Cleptelmis addenda	1	0.31%	Yes	Larva		4	CG
Optioservus sp.	11	3.37%	Yes	Adult		5	SC
Optioservus sp.	95	29.14%	No	Larva		5	SC
Zaitzevia sp.	3	0.92%	Yes	Adult		5	CG
Diptera							
Empididae							
Neoplasta sp.	1	0.31%	Yes	Larva		5	PR
Simuliidae							
Simulium sp.	8	2.45%	Yes	Larva		6	CF
Tipulidae							
Tipula sp.	5	1.53%	Yes	Larva		4	SH

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC003

RAI No.: **CC16SBC003** Sta. Name: **Silver Bow Cr. above WWTP**
Client ID: **SS-06G**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Micropsectra sp.	**1**	**0.31%**	**Yes**	**Larva**		**4**	**CG**
Micropsectra sp.	**1**	**0.31%**	**No**	**Pupa**		**4**	**CG**
Diamesinae							
Pagastia sp.	**3**	**0.92%**	**Yes**	**Larva**		**1**	**CG**
Potthastia Longimanus Gr.	**1**	**0.31%**	**Yes**	**Larva**		**2**	**CG**
Orthocladiinae							
Cricotopus (Cricotopus) sp.	**5**	**1.53%**	**Yes**	**Larva**		**7**	**SH**
Cricotopus trifascia	**11**	**3.37%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella Brehmi Gr.	**1**	**0.31%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**1**	**0.31%**	**Yes**	**Larva**		**6**	**CG**
Tvetenia Bavarica Gr.	**1**	**0.31%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**4**	**1.23%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	326						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC004

RAI No.: **CC16SBC004** Sta. Name: **Silver Bow Cr. below WWTP**
Client ID: **SS-07**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	2	0.63%	Yes	Unknown		11	PR
Nemata							
Nemata	1	0.31%	Yes	Unknown		5	UN
Erpobdellidae							
Erpobdella dubia	5	1.57%	Yes	Unknown		8	PR
Enchytraeidae							
Enchytraeus sp.	6	1.89%	Yes	Unknown		4	CG
Naididae							
Naididae	23	7.23%	Yes	Immature		8	CG
Naididae							
Tubificinae	4	1.26%	Yes	Immature		11	CG
Sphaeriidae							
Pisidium sp.	5	1.57%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	7	2.20%	Yes	Unknown		6	SC
Planorbidae							
Gyraulus sp.	2	0.63%	Yes	Unknown		8	SC
Hygrobatidae							
Hygrobates sp.	32	10.06%	Yes	Adult		8	PR
Lebertiidae							
Lebertia sp.	1	0.31%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	10	3.14%	Yes	Adult		11	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	7	2.20%	Yes	Larva		5	CG
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	4	1.26%	Yes	Larva		3	CG
Hydropsychidae							
Cheumatopsyche sp.	23	7.23%	Yes	Larva		5	CF
Hydropsyche sp.	38	11.95%	Yes	Larva		5	CF
Leptoceridae							
Oecetis sp.	2	0.63%	Yes	Larva		8	PR
Coleoptera							
Elmidae							
Optioservus sp.	58	18.24%	No	Larva		5	SC
Optioservus sp.	6	1.89%	Yes	Adult		5	SC
Zaitzevia sp.	2	0.63%	Yes	Larva		5	CG

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC004

RAI No.: **CC16SBC004** Sta. Name: **Silver Bow Cr. below WWTP**
Client ID: **SS-07**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Empididae							
Neoplasta sp.	**4**	**1.26%**	**Yes**	**Larva**		**5**	**PR**
Muscidae							
Muscidae	**2**	**0.63%**	**Yes**	**Larva**		**10**	**PR**
Simuliidae							
Simulium sp.	**2**	**0.63%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Tipula sp.	**2**	**0.63%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Chironominae							
Microtendipes sp.	**4**	**1.26%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**2**	**0.63%**	**No**	**Pupa**		**4**	**CG**
Micropsectra sp.	**13**	**4.09%**	**Yes**	**Larva**		**4**	**CG**
Diamesinae							
Pagastia sp.	**3**	**0.94%**	**No**	**Pupa**		**1**	**CG**
Pagastia sp.	**1**	**0.31%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Cricotopus sp.	**1**	**0.31%**	**No**	**Pupa**		**7**	**SH**
Cricotopus (Cricotopus) sp.	**5**	**1.57%**	**Yes**	**Larva**		**7**	**SH**
Cricotopus bicinctus	**2**	**0.63%**	**Yes**	**Larva**		**7**	**SH**
Cricotopus trifascia	**15**	**4.72%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella sp.	**5**	**1.57%**	**No**	**Larva**	**Early Instar**	**8**	**CG**
Eukiefferiella Claripennis Gr.	**4**	**1.26%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**11**	**3.46%**	**Yes**	**Larva**		**6**	**CG**
Tvetenia sp.	**1**	**0.31%**	**Yes**	**Pupa**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**3**	**0.94%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	318						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC005

RAI No.: **CC16SBC005** Sta. Name: **Silver Bow Cr. at Rocker**
Client ID: **SS-08**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata							
Nemata	1	0.32%	Yes	Unknown		5	UN
Erpobdellidae							
Erpobdella sp.	23	7.37%	No	Immature		8	PR
Erpobdella dubia	1	0.32%	Yes	Unknown		8	PR
Glossiphoniidae							
Helobdella stagnalis	3	0.96%	Yes	Unknown		10	PR
Enchytraeidae							
Enchytraeus sp.	9	2.88%	Yes	Unknown		4	CG
Naididae							
Naididae	13	4.17%	Yes	Immature		8	CG
Naididae							
Tubificinae	5	1.60%	Yes	Immature		11	CG
Sphaeriidae							
Pisidium sp.	1	0.32%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	2	0.64%	Yes	Unknown		6	SC
Physidae							
Physella sp.	4	1.28%	Yes	Unknown		8	SC
Aturidae							
Aturus sp.	1	0.32%	Yes	Adult		11	PR
Hygrobatidae							
Hygrobates sp.	29	9.29%	Yes	Adult		8	PR
Lebertiidae							
Lebertia sp.	5	1.60%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	96	30.77%	Yes	Adult		11	PR
Trichoptera							
Hydropsychidae							
Cheumatopsyche sp.	39	12.50%	Yes	Larva		5	CF
Hydropsyche sp.	1	0.32%	Yes	Larva		5	CF
Leptoceridae							
Oecetis sp.	7	2.24%	Yes	Larva		8	PR
Coleoptera							
Elmidae							
Optioservus sp.	4	1.28%	Yes	Adult		5	SC
Optioservus sp.	1	0.32%	No	Larva		5	SC
Diptera							
Muscidae							
Muscidae	1	0.32%	Yes	Larva		10	PR
Psychodidae							
Pericoma / Telmatoscopus	1	0.32%	Yes	Larva		4	CG
Simuliidae							
Simulium sp.	8	2.56%	Yes	Larva		6	CF

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC005

RAI No.: **CC16SBC005** Sta. Name: **Silver Bow Cr. at Rocker**
Client ID: **SS-08**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Cryptotendipes sp.	**3**	**0.96%**	**Yes**	**Larva**		**6**	**CG**
Chironominae							
Micropsectra sp.	**8**	**2.56%**	**Yes**	**Larva**		**4**	**CG**
Rheotanytarsus sp.	**4**	**1.28%**	**Yes**	**Larva**		**6**	**CF**
Orthocladiinae							
Cricotopus sp.	**1**	**0.32%**	**No**	**Pupa**		**7**	**SH**
Cricotopus (Cricotopus) sp.	**1**	**0.32%**	**Yes**	**Larva**		**7**	**SH**
Cricotopus bicinctus	**3**	**0.96%**	**Yes**	**Larva**		**7**	**SH**
Cricotopus trifascia	**9**	**2.88%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella Claripennis Gr.	**1**	**0.32%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**7**	**2.24%**	**Yes**	**Larva**		**6**	**CG**
Parametriocnemus sp.	**1**	**0.32%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**19**	**6.09%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	312						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC006

RAI No.: **CC16SBC006** Sta. Name: **Silver Bow Cr. above Sand Cr.**
Client ID: **SS-10A**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	2	0.67%	Yes	Unknown		11	PR
Glossiphoniidae							
Helobdella elongata	1	0.33%	Yes	Unknown		11	PR
Helobdella stagnalis	1	0.33%	Yes	Unknown		10	PR
Naididae							
Naididae	15	5.00%	No	Immature		8	CG
Naididae							
Rhyacodrilus sp.	1	0.33%	Yes	Unknown		10	CG
Naididae							
Tubificinae	6	2.00%	Yes	Immature		11	CG
Lumbriculidae							
Lumbriculidae	1	0.33%	Yes	Immature		4	CG
Sphaeriidae							
Pisidium sp.	28	9.33%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	4	1.33%	Yes	Unknown		6	SC
Physidae							
Physella sp.	2	0.67%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	5	1.67%	Yes	Unknown		8	SC
Hygrobatidae							
Hygrobates sp.	39	13.00%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	74	24.67%	Yes	Adult		11	PR
Trichoptera							
Hydropsychidae							
Cheumatopsyche sp.	32	10.67%	Yes	Larva		5	CF
Hydroptilidae							
Hydroptilidae	1	0.33%	Yes	Pupa		4	PH
Leptoceridae							
Oecetis sp.	15	5.00%	Yes	Larva		8	PR
Diptera							
Simuliidae							
Simulium sp.	10	3.33%	Yes	Larva		6	CF

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC006

RAI No.: **CC16SBC006** Sta. Name: **Silver Bow Cr. above Sand Cr.**
Client ID: **SS-10A**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Cryptochironomus sp.	**6**	**2.00%**	**Yes**	**Larva**		**8**	**PR**
Microtendipes sp.	**15**	**5.00%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**1**	**0.33%**	**Yes**	**Larva**		**4**	**CG**
Orthocladiinae							
Cricotopus sp.	**1**	**0.33%**	**No**	**Pupa**		**7**	**SH**
Cricotopus bicinctus	**1**	**0.33%**	**Yes**	**Larva**		**7**	**SH**
Cricotopus trifascia	**14**	**4.67%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella Brehmi Gr.	**1**	**0.33%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Claripennis Gr.	**2**	**0.67%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Coerulescens Gr.	**1**	**0.33%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Devonica Gr.	**1**	**0.33%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**3**	**1.00%**	**Yes**	**Larva**		**6**	**CG**
Thienemanniella sp.	**1**	**0.33%**	**Yes**	**Pupa**		**6**	**CG**
Tvetenia Bavarica Gr.	**2**	**0.67%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**14**	**4.67%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	300						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC007

RAI No.: **CC16SBC007** Sta. Name: **Silver Bow Cr. below Sand Cr.**
Client ID: **SS-10B**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	1	0.32%	Yes	Unknown		11	PR
Erpobdellidae							
Erpobdella sp.	8	2.57%	No	Immature		8	PR
Erpobdella dubia	1	0.32%	Yes	Unknown		8	PR
Erpobdella punctata	5	1.61%	Yes	Unknown		8	PR
Glossiphoniidae							
Helobdella elongata	28	9.00%	Yes	Unknown		11	PR
Helobdella stagnalis	30	9.65%	Yes	Unknown		10	PR
Glossiphoniidae							
Theromyzon tessulatum	3	0.96%	Yes	Unknown		11	PR
Naididae							
Tubificinae	7	2.25%	Yes	Immature		11	CG
Sphaeriidae							
Pisidium sp.	14	4.50%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	29	9.32%	Yes	Unknown		6	SC
Physidae							
Physella sp.	9	2.89%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	44	14.15%	Yes	Unknown		8	SC
Amphipoda							
Amphipoda	1	0.32%	Yes	Unknown	Damaged	4	CG
Asellidae							
Caecidotea sp.	4	1.29%	Yes	Unknown		8	CG
Hygrobatidae							
Hygrobates sp.	22	7.07%	Yes	Adult		8	PR
Lebertiidae							
Estelloxus sp.	1	0.32%	Yes	Adult		11	PR
Lebertia sp.	8	2.57%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	16	5.14%	Yes	Adult		11	PR
Odonata							
Coenagrionidae							
Coenagrionidae	4	1.29%	Yes	Larva	Early Instar	7	PR
Ephemeroptera							
Baetidae							
Baetis sp.	1	0.32%	Yes	Larva	Damaged	5	CG
Heteroptera							
Corixidae							
Corixidae	2	0.64%	Yes	Adult	Damaged	10	PH
Trichoptera							
Hydropsychidae							
Cheumatopsyche sp.	22	7.07%	Yes	Larva		5	CF
Leptoceridae							
Oecetis sp.	43	13.83%	Yes	Larva		8	PR

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC007

RAI No.: **CC16SBC007** Sta. Name: **Silver Bow Cr. below Sand Cr.**
Client ID: **SS-10B**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Coleoptera							
Haliplidae							
Haliplus sp.	**2**	**0.64%**	**Yes**	**Larva**		**5**	**PH**
Chironomidae							
Orthocladiinae							
Orthocladius sp.	**1**	**0.32%**	**Yes**	**Larva**		**6**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**5**	**1.61%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	311						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC008

RAI No.: **CC16SBC008** Sta. Name: **Silver Bow Cr. above Browns Gulch**
Client ID: **SS-11C**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Oligochaeta							
Naididae							
Naididae	12	3.79%	Yes	Immature		8	CG
Sphaeriidae							
Pisidium sp.	1	0.32%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	2	0.63%	Yes	Unknown		6	SC
Physidae							
Physella sp.	1	0.32%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	1	0.32%	Yes	Unknown		8	SC
Hygrobatidae							
Hygrobates sp.	29	9.15%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	40	12.62%	Yes	Adult		11	PR
Ephemeroptera							
Baetidae							
Iswaeon sp.	2	0.63%	Yes	Larva		11	UN
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	1	0.32%	Yes	Larva		2	CF
Helicopsychidae							
Helicopsyche sp.	16	5.05%	Yes	Larva		3	SC
Hydropsychidae							
Cheumatopsyche sp.	71	22.40%	Yes	Larva		5	CF
Hydropsyche sp.	35	11.04%	Yes	Larva		5	CF
Leptoceridae							
Nectopsyche sp.	2	0.63%	Yes	Larva		2	SH
Oecetis sp.	5	1.58%	Yes	Larva		8	PR
Lepidoptera							
Crambidae							
Petrophila sp.	1	0.32%	Yes	Larva		5	SC
Coleoptera							
Elmidae							
Optioservus sp.	1	0.32%	Yes	Adult		5	SC
Optioservus sp.	1	0.32%	No	Larva		5	SC
Haliplidae							
Haliplus sp.	1	0.32%	Yes	Larva		5	PH
Diptera							
Simuliidae							
Simulium sp.	8	2.52%	Yes	Larva		6	CF
Tipulidae							
Tipula sp.	2	0.63%	Yes	Larva		4	SH

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC008

RAI No.: **CC16SBC008** Sta. Name: **Silver Bow Cr. above Browns Gulch**
Client ID: **SS-11C**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Cryptochironomus sp.	**1**	**0.32%**	**Yes**	**Larva**		**8**	**PR**
Microtendipes sp.	**60**	**18.93%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**1**	**0.32%**	**Yes**	**Larva**		**4**	**CG**
Diamesinae							
Pagastia sp.	**1**	**0.32%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Cricotopus trifascia	**3**	**0.95%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella Claripennis Gr.	**1**	**0.32%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Devonica Gr.	**1**	**0.32%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**5**	**1.58%**	**Yes**	**Larva**		**6**	**CG**
Parametriocnemus sp.	**1**	**0.32%**	**Yes**	**Larva**		**5**	**CG**
Thienemanniella sp.	**1**	**0.32%**	**Yes**	**Larva**		**6**	**CG**
Tvetenia Bavarica Gr.	**1**	**0.32%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**9**	**2.84%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	317						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC009

RAI No.: **CC16SBC009** Sta. Name: **Silver Bow Cr. below Browns Gulch**
Client ID: **SS-11D**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Erpobdellidae							
Erpobdella sp.	1	0.31%	Yes	Immature		8	PR
Naididae							
Naididae	7	2.15%	Yes	Immature		8	CG
Naididae							
Tubificinae	2	0.62%	Yes	Immature		11	CG
Sphaeriidae							
Pisidium sp.	6	1.85%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	2	0.62%	Yes	Unknown		6	SC
Physidae							
Physella sp.	2	0.62%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	1	0.31%	Yes	Unknown		8	SC
Hyalellidae							
Hyalella sp.	2	0.62%	Yes	Unknown		8	CG
Asellidae							
Caecidotea sp.	2	0.62%	Yes	Unknown		8	CG
Hygrobatidae							
Hygrobates sp.	22	6.77%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	23	7.08%	Yes	Adult		11	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	3	0.92%	Yes	Larva		5	CG
Iswaeon sp.	6	1.85%	Yes	Larva		11	UN
Leptohyphidae							
Tricorythodes sp.	1	0.31%	Yes	Larva		4	CG
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	2	0.62%	Yes	Larva		2	CF
Helicopsychidae							
Helicopsyche sp.	39	12.00%	Yes	Larva		3	SC
Hydropsychidae							
Cheumatopsyche sp.	72	22.15%	Yes	Larva		5	CF
Hydropsyche sp.	31	9.54%	Yes	Larva		5	CF
Lepidostomatidae							
Lepidostoma sp.	1	0.31%	Yes	Larva		1	SH
Leptoceridae							
Oecetis sp.	9	2.77%	Yes	Larva		8	PR
Coleoptera							
Elmidae							
Optioservus sp.	7	2.15%	Yes	Adult		5	SC
Optioservus sp.	5	1.54%	No	Larva		5	SC
Zaitzevia sp.	1	0.31%	Yes	Adult		5	CG

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC009

RAI No.: **CC16SBC009** Sta. Name: **Silver Bow Cr. below Browns Gulch**
Client ID: **SS-11D**
Date Coll.: **9/15/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Simuliidae							
Simulium sp.	**5**	**1.54%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Tipula sp.	**1**	**0.31%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Chironominae							
Microtendipes sp.	**60**	**18.46%**	**Yes**	**Larva**		**6**	**CF**
Diamesinae							
Diamesa sp.	**1**	**0.31%**	**Yes**	**Larva**		**5**	**CG**
Pagastia sp.	**1**	**0.31%**	**Yes**	**Pupa**		**1**	**CG**
Orthocladiinae							
Eukiefferiella Brehmi Gr.	**1**	**0.31%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**5**	**1.54%**	**Yes**	**Larva**		**6**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**4**	**1.23%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	325						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC010

RAI No.: **CC16SBC010** Sta. Name: **Silver Bow Cr. in Reach L**
Client ID: **SS-13**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Erpobdellidae							
Erpobdella sp.	1	0.31%	Yes	Immature		8	PR
Naididae							
Naididae	5	1.57%	Yes	Immature		8	CG
Sphaeriidae							
Pisidium sp.	9	2.83%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	2	0.63%	Yes	Unknown		6	SC
Physidae							
Physella sp.	1	0.31%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	2	0.63%	Yes	Unknown		8	SC
Hyalellidae							
Hyalella sp.	2	0.63%	Yes	Unknown		8	CG
Hygrobatidae							
Hygrobates sp.	9	2.83%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	6	1.89%	Yes	Adult		11	PR
Odonata							
Gomphidae							
Gomphidae	1	0.31%	Yes	Larva	Early Instar	2.5	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	6	1.89%	Yes	Larva		5	CG
Iswaeon sp.	1	0.31%	Yes	Larva		11	UN
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	9	2.83%	Yes	Larva		2	CF
Helicopsychidae							
Helicopsyche sp.	32	10.06%	Yes	Larva		3	SC
Hydropsychidae							
Cheumatopsyche sp.	55	17.30%	Yes	Larva		5	CF
Hydropsyche sp.	93	29.25%	Yes	Larva		5	CF
Lepidostomatidae							
Lepidostoma sp.	2	0.63%	Yes	Larva		1	SH
Coleoptera							
Elmidae							
Optioservus sp.	2	0.63%	Yes	Adult		5	SC
Diptera							
Simuliidae							
Simulium sp.	1	0.31%	Yes	Larva		6	CF
Tipulidae							
Tipula sp.	2	0.63%	Yes	Larva		4	SH

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC010

RAI No.: **CC16SBC010** Sta. Name: **Silver Bow Cr. in Reach L**
Client ID: **SS-13**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Microtendipes sp.	**25**	**7.86%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**8**	**2.52%**	**Yes**	**Larva**		**4**	**CG**
Micropsectra sp.	**2**	**0.63%**	**No**	**Pupa**		**4**	**CG**
Diamesinae							
Pagastia sp.	**4**	**1.26%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Cricotopus sp.	**1**	**0.31%**	**No**	**Pupa**		**7**	**SH**
Cricotopus (Cricotopus) sp.	**3**	**0.94%**	**Yes**	**Larva**		**7**	**SH**
Cricotopus trifascia	**10**	**3.14%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella Claripennis Gr.	**2**	**0.63%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Devonica Gr.	**2**	**0.63%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**8**	**2.52%**	**Yes**	**Larva**		**6**	**CG**
Tvetenia Bavarica Gr.	**3**	**0.94%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**9**	**2.83%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	318						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC011

RAI No.: **CC16SBC011** Sta. Name: **Silver Bow Cr. at Miles Crossing**
Client ID: **SS-14D**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata							
Nemata	3	0.99%	Yes	Unknown		5	UN
Naididae							
Naididae	10	3.29%	Yes	Immature		8	CG
Naididae							
Tubificinae	20	6.58%	Yes	Immature		11	CG
Sphaeriidae							
Pisidium sp.	3	0.99%	Yes	Unknown		5	CF
Lymnaeidae							
Stagnicola sp.	2	0.66%	Yes	Unknown		6	SC
Physidae							
Physella sp.	5	1.64%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	4	1.32%	Yes	Unknown		8	SC
Hyalellidae							
Hyalella sp.	1	0.33%	Yes	Unknown		8	CG
Hygrobatidae							
Hygrobates sp.	3	0.99%	Yes	Adult		8	PR
Odonata							
Gomphidae							
Gomphidae	1	0.33%	No	Larva	Early Instar	2.5	PR
Ophiogomphus sp.	2	0.66%	Yes	Larva		5	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	8	2.63%	Yes	Larva		5	CG
Iswaeon sp.	2	0.66%	Yes	Larva		11	UN
Leptohyphidae							
Tricorythodes sp.	4	1.32%	Yes	Larva		4	CG
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	92	30.26%	Yes	Larva		2	CF
Helicopsychidae							
Helicopsyche sp.	54	17.76%	Yes	Larva		3	SC
Helicopsyche sp.	1	0.33%	No	Pupa		3	SC
Hydropsychidae							
Cheumatopsyche sp.	7	2.30%	Yes	Larva		5	CF
Hydropsyche sp.	47	15.46%	Yes	Larva		5	CF
Leptoceridae							
Oecetis sp.	1	0.33%	Yes	Larva		8	PR
Coleoptera							
Elmidae							
Optioservus sp.	1	0.33%	Yes	Adult		5	SC
Zaitzevia sp.	1	0.33%	Yes	Adult		5	CG
Diptera							
Tipulidae							
Tipula sp.	1	0.33%	Yes	Larva		4	SH

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC011

RAI No.: **CC16SBC011** Sta. Name: **Silver Bow Cr. at Miles Crossing**
Client ID: **SS-14D**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Microtendipes sp.	**17**	**5.59%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**1**	**0.33%**	**Yes**	**Larva**		**4**	**CG**
Micropsectra sp.	**2**	**0.66%**	**No**	**Pupa**		**4**	**CG**
Diamesinae							
Pagastia sp.	**2**	**0.66%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Cricotopus (Cricotopus) sp.	**1**	**0.33%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella Devonica Gr.	**2**	**0.66%**	**Yes**	**Larva**		**8**	**CG**
Orthocladiinae	**1**	**0.33%**	**No**	**Pupa**	**Damaged**	**6**	**CG**
Orthocladius sp.	**1**	**0.33%**	**Yes**	**Larva**		**6**	**CG**
Parametriocnemus sp.	**1**	**0.33%**	**Yes**	**Larva**		**5**	**CG**
Thienemanniella sp.	**1**	**0.33%**	**Yes**	**Larva**		**6**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**2**	**0.66%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	304						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC012

RAI No.: **CC16SBC012** Sta. Name: **Silver Bow Cr. above German Gulch**
Client ID: **SS-15A**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata							
Nemata	1	0.32%	Yes	Unknown		5	UN
Lymnaeidae							
Lymnaeidae	1	0.32%	No	Immature		6	SC
Lymnaeidae							
Galba sp.	2	0.64%	Yes	Unknown		8	SC
Physidae							
Physella sp.	2	0.64%	Yes	Unknown		8	SC
Hygrobatidae							
Hygrobates sp.	4	1.28%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	3	0.96%	Yes	Adult		11	PR
Ephemeroptera							
Baetidae							
Baetis Rhodani Gr.	2	0.64%	Yes	Larva	Damaged	11	CG
Ephemerellidae							
Ephemerella sp.	1	0.32%	Yes	Larva	Early Instar	1.5	SC
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	2	0.64%	Yes	Larva		3	CG
Brachycentrus occidentalis	7	2.24%	Yes	Larva		2	CF
Helicopsychidae							
Helicopsyche sp.	4	1.28%	Yes	Larva		3	SC
Hydropsychidae							
Hydropsyche sp.	24	7.67%	Yes	Larva		5	CF
Lepidostomatidae							
Lepidostoma sp.	78	24.92%	Yes	Larva		1	SH
Leptoceridae							
Oecetis sp.	2	0.64%	Yes	Larva		8	PR
Coleoptera							
Elmidae							
Optioservus sp.	1	0.32%	Yes	Adult		5	SC
Diptera							
Athericidae							
Atherix sp.	7	2.24%	Yes	Larva		2	PR
Simuliidae							
Simulium sp.	12	3.83%	No	Pupa		6	CF
Simulium sp.	142	45.37%	Yes	Larva		6	CF
Tipulidae							
Tipula sp.	1	0.32%	Yes	Larva		4	SH

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC012

RAI No.: **CC16SBC012** Sta. Name: **Silver Bow Cr. above German Gulch**
Client ID: **SS-15A**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Microtendipes sp.	**4**	**1.28%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**1**	**0.32%**	**Yes**	**Larva**		**4**	**CG**
Orthocladiinae							
Cricotopus trifascia	**1**	**0.32%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella Brehmi Gr.	**4**	**1.28%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Claripennis Gr.	**2**	**0.64%**	**Yes**	**Larva**		**8**	**CG**
Tvetenia Bavarica Gr.	**5**	**1.60%**	**Yes**	**Larva**		**5**	**CG**
Sample Count	313						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC013

RAI No.: **CC16SBC013** Sta. Name: **Silver Bow Cr. below German Gulch**
Client ID: **SS-15B**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Oligochaeta							
Naididae							
Naididae	4	1.25%	Yes	Immature		8	CG
Naididae							
Tubificinae	1	0.31%	Yes	Immature		11	CG
Lymnaeidae							
Lymnaeidae	1	0.31%	Yes	Immature		6	SC
Physidae							
Physella sp.	3	0.94%	Yes	Unknown		8	SC
Hygrobatidae							
Hygrobates sp.	3	0.94%	Yes	Adult		8	PR
Lebertiidae							
Lebertia sp.	1	0.31%	Yes	Adult		8	PR
Sperchontidae							
Sperchon sp.	5	1.56%	Yes	Adult		11	PR
Ephemeroptera							
Baetidae							
Baetis Rhodani Gr.	1	0.31%	Yes	Larva	Damaged	11	CG
Ephemerellidae							
Drunella grandis	2	0.63%	Yes	Larva		2	PR
Leptohyphidae							
Tricorythodes sp.	1	0.31%	Yes	Larva		4	CG
Plecoptera							
Perlidae							
Hesperoperla pacifica	6	1.88%	Yes	Larva		1	PR
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	1	0.31%	Yes	Larva		3	CG
Brachycentrus occidentalis	7	2.19%	Yes	Larva		2	CF
Helicopsychidae							
Helicopsyche sp.	10	3.13%	Yes	Larva		3	SC
Helicopsyche sp.	1	0.31%	No	Pupa		3	SC
Hydropsychidae							
Hydropsyche sp.	48	15.00%	Yes	Larva		5	CF
Lepidostomatidae							
Lepidostoma sp.	118	36.88%	Yes	Larva		1	SH
Leptoceridae							
Leptoceridae	1	0.31%	Yes	Larva	Damaged	4	CG
Oecetis sp.	2	0.63%	Yes	Larva		8	PR
Coleoptera							
Elmidae							
Heterlimnius corpulentus	6	1.88%	Yes	Larva		3	CG
Optioservus sp.	4	1.25%	Yes	Adult		5	SC
Optioservus sp.	50	15.63%	No	Larva		5	SC
Zaitzevia sp.	3	0.94%	Yes	Adult		5	CG

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC013

RAI No.: **CC16SBC013** Sta. Name: **Silver Bow Cr. below German Gulch**
Client ID: **SS-15B**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Athericidae							
Atherix sp.	**18**	**5.63%**	**Yes**	**Larva**		**2**	**PR**
Simuliidae							
Simulium sp.	**4**	**1.25%**	**No**	**Pupa**		**6**	**CF**
Simulium sp.	**4**	**1.25%**	**Yes**	**Larva**		**6**	**CF**
Chironomidae							
Chironominae							
Microtendipes sp.	**2**	**0.63%**	**Yes**	**Larva**		**6**	**CF**
Diamesinae							
Pagastia sp.	**1**	**0.31%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Cricotopus trifascia	**2**	**0.63%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella Brehmi Gr.	**7**	**2.19%**	**Yes**	**Larva**		**8**	**CG**
Tvetenia Bavarica Gr.	**2**	**0.63%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**1**	**0.31%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	320						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC014

RAI No.: **CC16SBC014** Sta. Name: **German Gulch near mouth**
Client ID: **SS-15G**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Oligochaeta							
Enchytraeidae							
Mesenchytraeus sp.	2	0.64%	Yes	Unknown		4	CG
Sphaeriidae							
Sphaeriidae	1	0.32%	Yes	Immature		8	CF
Ostracoda							
Ostracoda	4	1.28%	Yes	Unknown		8	CG
Hydryphantidae							
Protzia sp.	3	0.96%	Yes	Adult		11	PR
Torrenticolidae							
Monatractides sp.	1	0.32%	Yes	Adult		11	PR
Ephemeroptera							
Baetidae							
Baetis Rhodani Gr.	20	6.39%	Yes	Larva	Damaged	11	CG
Ephemerellidae							
Drunella doddsii	1	0.32%	Yes	Larva		1	SC
Heptageniidae							
Cinygmula sp.	20	6.39%	Yes	Larva		0	SC
Rhithrogena sp.	1	0.32%	Yes	Larva		0	SC
Plecoptera							
Nemouridae							
Zapada cinctipes	14	4.47%	Yes	Larva		3	SH
Perlidae							
Doroneuria sp.	1	0.32%	Yes	Larva		0	PR
Hesperoperla pacifica	21	6.71%	Yes	Larva		1	PR
Trichoptera							
Brachycentridae							
Brachycentrus americanus	3	0.96%	Yes	Larva		1	CF
Hydropsychidae							
Arctopsyche sp.	7	2.24%	Yes	Larva		2	PR
Hydropsyche sp.	27	8.63%	Yes	Larva		5	CF
Lepidostomatidae							
Lepidostoma sp.	66	21.09%	Yes	Larva		1	SH
Rhyacophilidae							
Rhyacophila Brunnea/Vemna Gr.	1	0.32%	Yes	Larva		2	PR
Coleoptera							
Elmidae							
Cleptelmis addenda	2	0.64%	Yes	Adult		4	CG
Cleptelmis addenda	1	0.32%	No	Larva		4	CG
Elmidae	1	0.32%	No	Adult	Damaged	4	CG
Heterlimnius corpulentus	38	12.14%	Yes	Larva		3	CG
Lara avara	1	0.32%	Yes	Larva		1	SH
Optioservus sp.	11	3.51%	Yes	Larva		5	SC
Zaitzevia sp.	2	0.64%	Yes	Adult		5	CG
Zaitzevia sp.	1	0.32%	No	Larva		5	CG

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC014

RAI No.: **CC16SBC014** Sta. Name: **German Gulch near mouth**
Client ID: **SS-15G**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Athericidae							
Atherix sp.	**7**	**2.24%**	**Yes**	**Larva**		**2**	**PR**
Ceratopogonidae							
Ceratopogoninae	**3**	**0.96%**	**Yes**	**Larva**		**6**	**PR**
Empididae							
Neoplasta sp.	**1**	**0.32%**	**Yes**	**Larva**		**5**	**PR**
Psychodidae							
Pericoma / Telmatoscopus	**1**	**0.32%**	**Yes**	**Larva**		**4**	**CG**
Simuliidae							
Simulium sp.	**3**	**0.96%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Dicranota sp.	**1**	**0.32%**	**Yes**	**Larva**		**3**	**PR**
Hexatoma sp.	**3**	**0.96%**	**Yes**	**Larva**		**2**	**PR**
Limnophila sp.	**1**	**0.32%**	**Yes**	**Larva**		**3**	**PR**
Rhabdomastix sp.	**1**	**0.32%**	**Yes**	**Larva**	**Damaged**	**1**	**PR**
Chironomidae							
Chironominae							
Microtendipes sp.	**1**	**0.32%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**1**	**0.32%**	**Yes**	**Larva**		**4**	**CG**
Stempellina sp.	**1**	**0.32%**	**Yes**	**Larva**		**2**	**CG**
Diamesinae							
Pagastia sp.	**2**	**0.64%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Brillia sp.	**1**	**0.32%**	**Yes**	**Larva**		**4**	**SH**
Eukiefferiella Claripennis Gr.	**1**	**0.32%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**2**	**0.64%**	**Yes**	**Larva**		**6**	**CG**
Tvetenia Bavarica Gr.	**33**	**10.54%**	**Yes**	**Larva**		**5**	**CG**
Sample Count	313						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC015

RAI No.: **CC16SBC015** Sta. Name: **Silver Bow Cr. in Reach P**
Client ID: **SS-16B**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Oligochaeta							
Naididae							
Naididae	6	1.86%	Yes	Immature		8	CG
Lymnaeidae							
Galba sp.	1	0.31%	Yes	Unknown		8	SC
Physidae							
Physella sp.	2	0.62%	Yes	Unknown		8	SC
Hygrobatidae							
Hygrobates sp.	1	0.31%	Yes	Adult		8	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	9	2.79%	Yes	Larva		5	CG
Ephemerellidae							
Drunella grandis	1	0.31%	Yes	Larva		2	PR
Trichoptera							
Brachycentridae							
Brachycentrus americanus	1	0.31%	Yes	Larva		1	CF
Brachycentrus occidentalis	43	13.31%	Yes	Larva		2	CF
Glossosomatidae							
Glossosoma sp.	2	0.62%	Yes	Larva		0	SC
Helicopsychidae							
Helicopsyche sp.	43	13.31%	Yes	Larva		3	SC
Hydropsychidae							
Hydropsyche sp.	33	10.22%	Yes	Larva		5	CF
Lepidostomatidae							
Lepidostoma sp.	1	0.31%	No	Pupa		1	SH
Lepidostoma sp.	110	34.06%	Yes	Larva		1	SH
Coleoptera							
Elmidae							
Cleptelmis addenda	1	0.31%	Yes	Adult		4	CG
Optioservus sp.	28	8.67%	No	Larva		5	SC
Optioservus sp.	6	1.86%	Yes	Adult		5	SC
Diptera							
Athericidae							
Atherix sp.	1	0.31%	Yes	Larva		2	PR
Empididae							
Neoplasta sp.	1	0.31%	Yes	Larva		5	PR
Simuliidae							
Simulium sp.	9	2.79%	Yes	Larva		6	CF

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC015

RAI No.: **CC16SBC015** Sta. Name: **Silver Bow Cr. in Reach P**
Client ID: **SS-16B**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Microtendipes sp.	**8**	**2.48%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**2**	**0.62%**	**Yes**	**Larva**		**4**	**CG**
Diamesinae							
Pagastia sp.	**2**	**0.62%**	**No**	**Pupa**		**1**	**CG**
Pagastia sp.	**8**	**2.48%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Eukiefferiella Brehmi Gr.	**1**	**0.31%**	**Yes**	**Larva**		**8**	**CG**
Tvetenia Bavarica Gr.	**2**	**0.62%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**1**	**0.31%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	323						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC016

RAI No.: **CC16SBC016** Sta. Name: **Silver Bow Cr. below Stewart St.**
Client ID: **SS-17D**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Lymnaeidae							
Stagnicola sp.	1	0.31%	Yes	Unknown		6	SC
Physidae							
Physella sp.	9	2.80%	Yes	Unknown		8	SC
Lebertiidae							
Lebertia sp.	1	0.31%	Yes	Adult		8	PR
Ephemeroptera							
Baetidae							
Baetis Rhodani Gr.	2	0.62%	Yes	Larva	Damaged	11	CG
Plecoptera							
Perlodidae							
Skwala sp.	1	0.31%	Yes	Larva		3	PR
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	70	21.74%	Yes	Larva		2	CF
Glossosomatidae							
Protoptila sp.	1	0.31%	Yes	Larva		1	SC
Helicopsychidae							
Helicopsyche sp.	61	18.94%	Yes	Larva		3	SC
Hydropsychidae							
Hydropsyche sp.	14	4.35%	Yes	Larva		5	CF
Lepidostomatidae							
Lepidostoma sp.	34	10.56%	Yes	Larva		1	SH
Coleoptera							
Elmidae							
Optioservus sp.	5	1.55%	Yes	Adult		5	SC
Optioservus sp.	10	3.11%	No	Larva		5	SC
Diptera							
Simuliidae							
Simulium sp.	3	0.93%	No	Pupa		6	CF
Simulium sp.	90	27.95%	Yes	Larva		6	CF
Chironomidae							
Chironominae							
Microtendipes sp.	14	4.35%	Yes	Larva		6	CF
Chironominae							
Micropsectra sp.	1	0.31%	Yes	Larva		4	CG
Diamesinae							
Pagastia sp.	1	0.31%	No	Pupa		1	CG
Pagastia sp.	3	0.93%	Yes	Larva		1	CG
Orthocladiinae							
Parametriocnemus sp.	1	0.31%	Yes	Larva		5	CG
Sample Count	322						

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC017

RAI No.: **CC16SBC017** Sta. Name: **Silver Bow Cr. at Frontage Rd.**
Client ID: **SS-19**
Date Coll.: **9/14/2016** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Oligochaeta							
Naididae							
Naididae	10	3.13%	Yes	Immature		8	CG
Naididae							
Tubificinae	7	2.19%	Yes	Immature		11	CG
Physidae							
Physella sp.	8	2.50%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	1	0.31%	Yes	Unknown		8	SC
Hyalellidae							
Hyalella sp.	12	3.75%	Yes	Unknown		8	CG
Ephemeroptera							
Baetidae							
Baetis Rhodani Gr.	1	0.31%	Yes	Larva	Damaged	11	CG
Plecoptera							
Perlodidae							
Skwala sp.	2	0.63%	Yes	Larva		3	PR
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	27	8.44%	Yes	Larva		2	CF
Helicopsychidae							
Helicopsyche sp.	92	28.75%	Yes	Larva		3	SC
Hydropsychidae							
Hydropsyche sp.	10	3.13%	Yes	Larva		5	CF
Lepidostomatidae							
Lepidostoma sp.	28	8.75%	Yes	Larva		1	SH
Leptoceridae							
Oecetis sp.	1	0.31%	Yes	Larva		8	PR
Coleoptera							
Elmidae							
Optioservus sp.	15	4.69%	No	Larva		5	SC
Optioservus sp.	2	0.63%	Yes	Adult		5	SC
Diptera							
Simuliidae							
Simulium sp.	1	0.31%	Yes	Larva		6	CF
Chironomidae							
Chironominae							
Microtendipes sp.	97	30.31%	Yes	Larva		6	CF
Diamesinae							
Pagastia sp.	1	0.31%	Yes	Pupa		1	CG
Orthocladiinae							
Parametriocnemus sp.	1	0.31%	No	Pupa		5	CG
Parametriocnemus sp.	1	0.31%	Yes	Larva		5	CG
Tvetenia Bavarica Gr.	1	0.31%	Yes	Larva		5	CG
Tvetenia tshernovskii	1	0.31%	Yes	Larva		5	CG
Tanypodinae							
Thienemannimyia Gr.	1	0.31%	Yes	Larva	Early Instar	5	PR

Taxa Listing

Project ID: CC16SBC
RAI No.: CC16SBC017

RAI No.:	**CC16SBC017**			Sta. Name:	**Silver Bow Cr. at Frontage Rd.**
Client ID:	**SS-19**				
Date Coll.:	**9/14/2016**	No. Jars:	**1**	STORET ID:	

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Sample Count	320						

Metrics Report

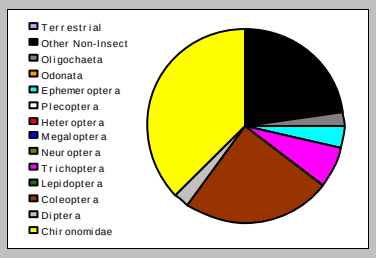
Project ID: CC16SBC
RAI No.: CC16SBC001
Sta. Name: Blacktail Cr. at Fr. Sheehan Park
Client ID: SS-01
STORET ID
Coll. Date: 9/15/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 317
Sample Abundance: 500.53 63.33% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	9	73	23.03%
Oligochaeta	2	6	1.89%
Odonata			
Ephemeroptera	1	12	3.79%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	3	22	6.94%
Lepidoptera			
Coleoptera	2	76	23.97%
Diptera	4	8	2.52%
Chironomidae	16	120	37.85%

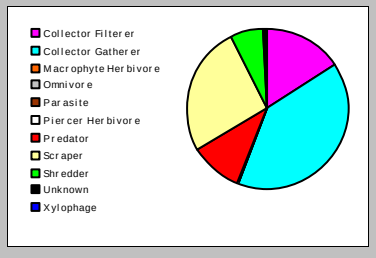


Dominant Taxa

Category	A	PRA
Orthocladius	75	23.66%
Optioservus	72	22.71%
Pisidium	35	11.04%
Brachycentrus americanus	15	4.73%
Prodiamesa	13	4.10%
Lebertia	12	3.79%
Baetis	12	3.79%
Sperchon	9	2.84%
Brillia	9	2.84%
Lepidostoma	6	1.89%
Gyraulus	5	1.58%
Phaenopsectra	4	1.26%
Naididae	4	1.26%
Hygrobates	4	1.26%
Cleptelmis addenda	4	1.26%

Functional Composition

Category	R	A	PRA
Predator	10	34	10.73%
Parasite			
Collector Gatherer	15	124	39.12%
Collector Filterer	3	52	16.40%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	4	83	26.18%
Shredder	4	21	6.62%
Omnivore			
Unknown	1	3	0.95%

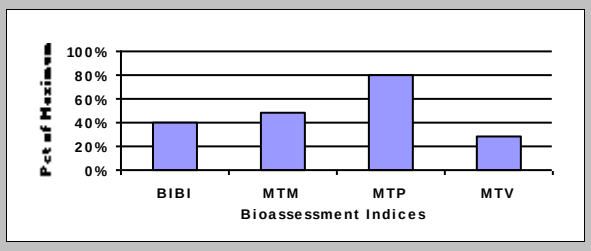


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	37
E Richness	1
P Richness	0
T Richness	3
EPT Richness	4
EPT Percent	10.73%
All Non-Insect Abundance	79
All Non-Insect Richness	11
All Non-Insect Percent	24.92%
Oligochaeta+Hirudinea Percent	1.89%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.000
Dominance	
Dominant Taxon Percent	23.66%
Dominant Taxa (2) Percent	46.37%
Dominant Taxa (3) Percent	57.41%
Dominant Taxa (10) Percent	81.39%
Diversity	
Shannon H (loge)	2.735
Shannon H (log2)	3.946
Margalef D	6.534
Simpson D	0.124
Evenness	0.056
Function	
Predator Richness	10
Predator Percent	10.73%
Filterer Richness	3
Filterer Percent	16.40%
Collector Percent	55.52%
Scraper+Shredder Percent	32.81%
Scraper/Filterer	1.596
Scraper/Scraper+Filterer	0.615
Habit	
Burrower Richness	4
Burrower Percent	4.42%
Swimmer Richness	1
Swimmer Percent	3.79%
Clinger Richness	7
Clinger Percent	31.86%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	4
Hemoglobin Bearer Percent	3.47%
Air Breather Richness	1
Air Breather Percent	0.95%
Voltinism	
Univoltine Richness	10
Semivoltine Richness	3
Multivoltine Percent	49.53%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	3.15%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.632
Pollution Sensitive Richness	1
Pollution Tolerant Percent	26.18%
Hilsenhoff Biotic Index	5.172
Intolerant Percent	7.89%
Supertolerant Percent	9.78%
CTQa	95.250

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	20	40.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	24	80.00%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	5	27.78%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	10	47.62%	Moderate



Friday, October 14, 2016

Metrics Report

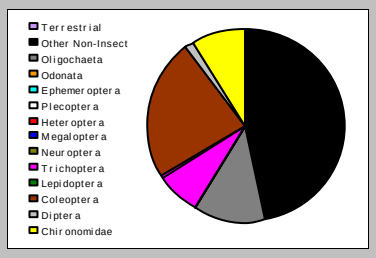
Project ID: CC16SBC
RAI No.: CC16SBC002
Sta. Name: Silver Bow Cr. above Butte Reduction Works
Client ID: SS-05A
STORET ID
Coll. Date: 9/15/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 322
Sample Abundance: 2,415.00 13.33% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	8	149	46.27%
Oligochaeta	3	39	12.11%
Odonata			
Ephemeroptera	1	1	0.31%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	5	24	7.45%
Lepidoptera			
Coleoptera	4	76	23.60%
Diptera	3	4	1.24%
Chironomidae	10	29	9.01%

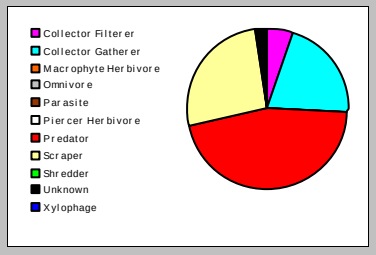


Dominant Taxa

Category	A	PRA
Optioservus	73	22.67%
Hygrobates	63	19.57%
Sperchon	46	14.29%
Naididae	34	10.56%
Trepaxonemata	10	3.11%
Thienemannimyia Gr.	10	3.11%
Amiocentrus aspilus	10	3.11%
Stagnicola	7	2.17%
Lebertia	7	2.17%
Nemata	6	1.86%
Hydropsyche	6	1.86%
Pisidium	5	1.55%
Pagastia	5	1.55%
Gyraulus	5	1.55%
Cheumatopsyche	5	1.55%

Functional Composition

Category	R	A	PRA
Predator	9	145	45.03%
Parasite			
Collector Gatherer	13	65	20.19%
Collector Filterer	5	18	5.59%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	4	86	26.71%
Shredder	2	2	0.62%
Omnivore			
Unknown	1	6	1.86%

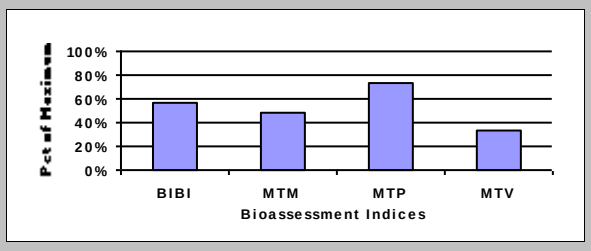


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	34
E Richness	1
P Richness	0
T Richness	5
EPT Richness	6
EPT Percent	7.76%
All Non-Insect Abundance	188
All Non-Insect Richness	11
All Non-Insect Percent	58.39%
Oligochaeta+Hirudinea Percent	12.11%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.458
Dominance	
Dominant Taxon Percent	22.67%
Dominant Taxa (2) Percent	42.24%
Dominant Taxa (3) Percent	56.52%
Dominant Taxa (10) Percent	82.61%
Diversity	
Shannon H (loge)	2.642
Shannon H (log2)	3.811
Margalef D	5.964
Simpson D	0.120
Evenness	0.061
Function	
Predator Richness	9
Predator Percent	45.03%
Filterer Richness	5
Filterer Percent	5.59%
Collector Percent	25.78%
Scraper+Shredder Percent	27.33%
Scraper/Filterer	4.778
Scraper/Scraper+Filterer	0.827
Habit	
Burrower Richness	1
Burrower Percent	0.31%
Swimmer Richness	2
Swimmer Percent	0.62%
Clinger Richness	11
Clinger Percent	31.68%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	3
Hemoglobin Bearer Percent	3.11%
Air Breather Richness	2
Air Breather Percent	0.62%
Voltinism	
Univoltine Richness	13
Semivoltine Richness	5
Multivoltine Percent	45.03%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	4.04%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.680
Pollution Sensitive Richness	0
Pollution Tolerant Percent	30.75%
Hilsenhoff Biotic Index	6.256
Intolerant Percent	1.86%
Supertolerant Percent	36.96%
CTQa	96.667

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	28	56.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	22	73.33%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	6	33.33%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	10	47.62%	Moderate



Friday, October 14, 2016

Metrics Report

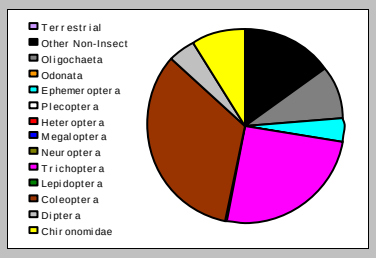
Project ID: CC16SBC
RAI No.: CC16SBC003
Sta. Name: Silver Bow Cr. above WWTP
Client ID: SS-06G
STORET ID
Coll. Date: 9/15/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 326
Sample Abundance: 4,890.00 6.67% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	8	50	15.34%
Oligochaeta	1	28	8.59%
Odonata			
Ephemeroptera	1	12	3.68%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	5	83	25.46%
Lepidoptera			
Coleoptera	3	110	33.74%
Diptera	3	14	4.29%
Chironomidae	9	29	8.90%

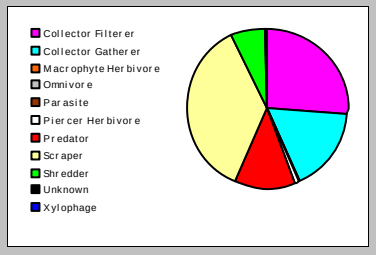


Dominant Taxa

Category	A	PRA
Optioservus	106	32.52%
Hydropsyche	52	15.95%
Naididae	28	8.59%
Hygrobates	24	7.36%
Cheumatopsyche	24	7.36%
Stagnicola	12	3.68%
Baetis tricaudatus complex	12	3.68%
Cricotopus trifascia	11	3.37%
Simulium	8	2.45%
Tipula	5	1.53%
Cricotopus (Cricotopus)	5	1.53%
Thienemannimyia Gr.	4	1.23%
Sperchon	4	1.23%
Trepaxonemata	3	0.92%
Amiocentrus aspilus	3	0.92%

Functional Composition

Category	R	A	PRA
Predator	7	39	11.96%
Parasite			
Collector Gatherer	11	56	17.18%
Collector Filterer	4	86	26.38%
Macrophyte Herbivore			
Piercer Herbivore	1	2	0.61%
Xylophage			
Scraper	3	120	36.81%
Shredder	3	21	6.44%
Omnivore			
Unknown	1	2	0.61%

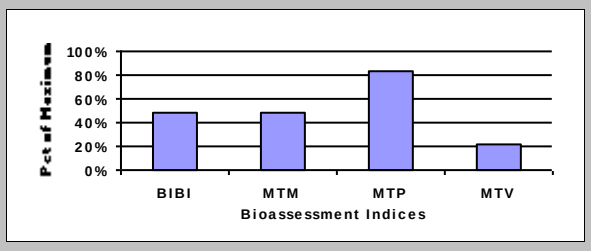


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	30
E Richness	1
P Richness	0
T Richness	5
EPT Richness	6
EPT Percent	29.14%
All Non-Insect Abundance	78
All Non-Insect Richness	9
All Non-Insect Percent	23.93%
Oligochaeta+Hirudinea Percent	8.59%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.916
Dominance	
Dominant Taxon Percent	32.52%
Dominant Taxa (2) Percent	48.47%
Dominant Taxa (3) Percent	57.06%
Dominant Taxa (10) Percent	86.50%
Diversity	
Shannon H (loge)	2.699
Shannon H (log2)	3.894
Margalef D	5.337
Simpson D	0.099
Evenness	0.060
Function	
Predator Richness	7
Predator Percent	11.96%
Filterer Richness	4
Filterer Percent	26.38%
Collector Percent	43.56%
Scraper+Shredder Percent	43.25%
Scraper/Filterer	1.395
Scraper/Scraper+Filterer	0.583
Habit	
Burrower Richness	2
Burrower Percent	1.84%
Swimmer Richness	1
Swimmer Percent	3.68%
Clinger Richness	11
Clinger Percent	66.56%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	0.61%
Air Breather Richness	1
Air Breather Percent	1.53%
Voltinism	
Univoltine Richness	11
Semivoltine Richness	3
Multivoltine Percent	18.40%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	5.83%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.823
Pollution Sensitive Richness	1
Pollution Tolerant Percent	46.01%
Hilsenhoff Biotic Index	5.621
Intolerant Percent	1.23%
Supertolerant Percent	17.79%
CTQa	97.783

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	24	48.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	25	83.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	10	47.62%	Moderate



Friday, October 14, 2016

Metrics Report

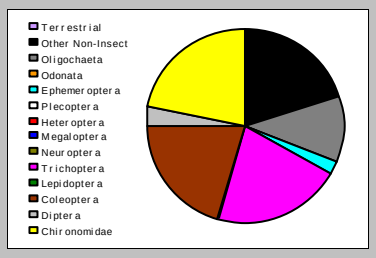
Project ID: CC16SBC
RAI No.: CC16SBC004
Sta. Name: Silver Bow Cr. below WWTP
Client ID: SS-07
STORET ID
Coll. Date: 9/15/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 318
Sample Abundance: 4,770.00 6.67% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	9	65	20.44%
Oligochaeta	3	33	10.38%
Odonata			
Ephemeroptera	1	7	2.20%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	4	67	21.07%
Lepidoptera			
Coleoptera	2	66	20.75%
Diptera	4	10	3.14%
Chironomidae	10	70	22.01%

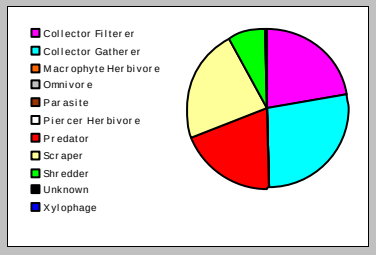


Dominant Taxa

Category	A	PRA
Optioservus	64	20.13%
Hydropsyche	38	11.95%
Hygrobates	32	10.06%
Naididae	23	7.23%
Cheumatopsyche	23	7.23%
Micropsectra	15	4.72%
Cricotopus trifascia	15	4.72%
Orthocladius	11	3.46%
Sperchon	10	3.14%
Stagnicola	7	2.20%
Baetis tricaudatus complex	7	2.20%
Enchytraeus	6	1.89%
Eukiefferiella	5	1.57%
Erpobdella dubia	5	1.57%
Cricotopus (Cricotopus)	5	1.57%

Functional Composition

Category	R	A	PRA
Predator	9	61	19.18%
Parasite			
Collector Gatherer	11	86	27.04%
Collector Filterer	5	72	22.64%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	3	73	22.96%
Shredder	4	25	7.86%
Omnivore			
Unknown	1	1	0.31%

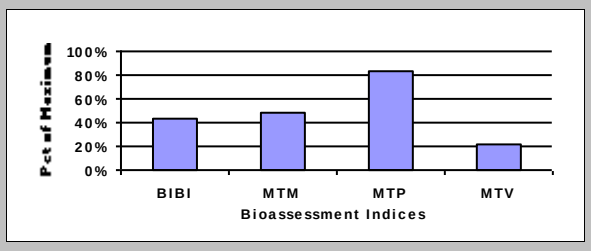


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	33
E Richness	1
P Richness	0
T Richness	4
EPT Richness	5
EPT Percent	23.27%
All Non-Insect Abundance	98
All Non-Insect Richness	12
All Non-Insect Percent	30.82%
Oligochaeta+Hirudinea Percent	11.95%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.910
Dominance	
Dominant Taxon Percent	20.13%
Dominant Taxa (2) Percent	32.08%
Dominant Taxa (3) Percent	42.14%
Dominant Taxa (10) Percent	74.84%
Diversity	
Shannon H (loge)	2.980
Shannon H (log2)	4.300
Margalef D	5.800
Simpson D	0.069
Evenness	0.049
Function	
Predator Richness	9
Predator Percent	19.18%
Filterer Richness	5
Filterer Percent	22.64%
Collector Percent	49.69%
Scraper+Shredder Percent	30.82%
Scraper/Filterer	1.014
Scraper/Scraper+Filterer	0.503
Habit	
Burrower Richness	2
Burrower Percent	1.89%
Swimmer Richness	1
Swimmer Percent	2.20%
Clinger Richness	11
Clinger Percent	50.94%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	2
Hemoglobin Bearer Percent	1.89%
Air Breather Richness	1
Air Breather Percent	0.63%
Voltinism	
Univoltine Richness	13
Semivoltine Richness	2
Multivoltine Percent	35.53%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	3.46%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.686
Pollution Sensitive Richness	0
Pollution Tolerant Percent	32.08%
Hilsenhoff Biotic Index	5.844
Intolerant Percent	1.26%
Supertolerant Percent	23.90%
CTQa	97.500

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	22	44.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	25	83.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	10	47.62%	Moderate



Friday, October 14, 2016

Metrics Report

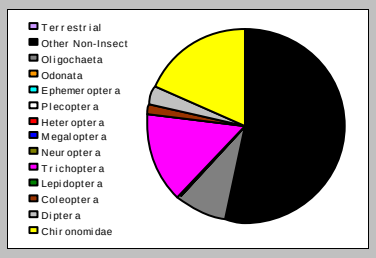
Project ID: CC16SBC
RAI No.: CC16SBC005
Sta. Name: Silver Bow Cr. at Rocker
Client ID: SS-08
STORET ID
Coll. Date: 9/15/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 312
Sample Abundance: 9,360.00 3.33% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	10	166	53.21%
Oligochaeta	3	27	8.65%
Odonata			
Ephemeroptera			
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	3	47	15.06%
Lepidoptera			
Coleoptera	1	5	1.60%
Diptera	3	10	3.21%
Chironomidae	10	57	18.27%

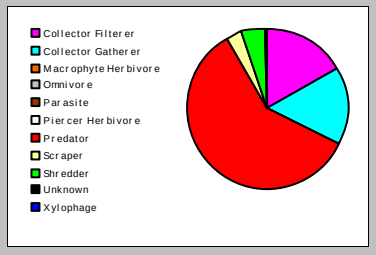


Dominant Taxa

Category	A	PRA
Sperchon	96	30.77%
Cheumatopsyche	39	12.50%
Hygrobates	29	9.29%
Erpobdella	23	7.37%
Thienemannimyia Gr.	19	6.09%
Naididae	13	4.17%
Enchytraeus	9	2.88%
Cricotopus trifascia	9	2.88%
Simulium	8	2.56%
Micropsectra	8	2.56%
Orthocladius	7	2.24%
Oecetis	7	2.24%
Tubificinae	5	1.60%
Optioservus	5	1.60%
Lebertia	5	1.60%

Functional Composition

Category	R	A	PRA
Predator	9	185	59.29%
Parasite			
Collector Gatherer	9	48	15.38%
Collector Filterer	5	53	16.99%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	3	11	3.53%
Shredder	3	14	4.49%
Omnivore			
Unknown	1	1	0.32%

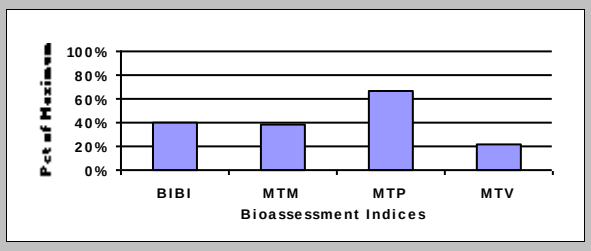


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	30
E Richness	0
P Richness	0
T Richness	3
EPT Richness	3
EPT Percent	15.06%
All Non-Insect Abundance	193
All Non-Insect Richness	13
All Non-Insect Percent	61.86%
Oligochaeta+Hirudinea Percent	17.31%
Baetidae/Ephemeroptera	0.000
Hydropsychidae/Trichoptera	0.851
Dominance	
Dominant Taxon Percent	30.77%
Dominant Taxa (2) Percent	43.27%
Dominant Taxa (3) Percent	52.56%
Dominant Taxa (10) Percent	81.09%
Diversity	
Shannon H (loge)	2.482
Shannon H (log2)	3.580
Margalef D	5.124
Simpson D	0.150
Evenness	0.066
Function	
Predator Richness	9
Predator Percent	59.29%
Filterer Richness	5
Filterer Percent	16.99%
Collector Percent	32.37%
Scraper+Shredder Percent	8.01%
Scraper/Filterer	0.208
Scraper/Scraper+Filterer	0.172
Habit	
Burrower Richness	1
Burrower Percent	0.32%
Swimmer Richness	0
Swimmer Percent	0.00%
Clinger Richness	9
Clinger Percent	25.00%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	0.96%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	11
Semivoltine Richness	1
Multivoltine Percent	59.94%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	1.92%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.324
Pollution Sensitive Richness	0
Pollution Tolerant Percent	20.51%
Hilsenhoff Biotic Index	6.443
Intolerant Percent	0.00%
Supertolerant Percent	27.88%
CTQa	104.947

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	20	40.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	20	66.67%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	8	38.10%	Moderate



Friday, October 14, 2016

Metrics Report

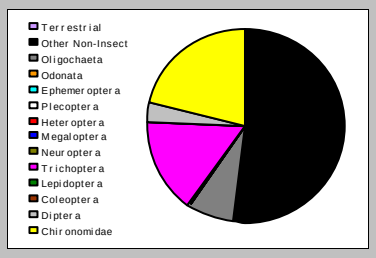
Project ID: CC16SBC
RAI No.: CC16SBC006
Sta. Name: Silver Bow Cr. above Sand Cr.
Client ID: SS-10A
STORET ID
Coll. Date: 9/15/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 300
Sample Abundance: 1,800.00 16.67% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	9	156	52.00%
Oligochaeta	3	23	7.67%
Odonata			
Ephemeroptera			
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	3	48	16.00%
Lepidoptera			
Coleoptera			
Diptera	1	10	3.33%
Chironomidae	13	63	21.00%

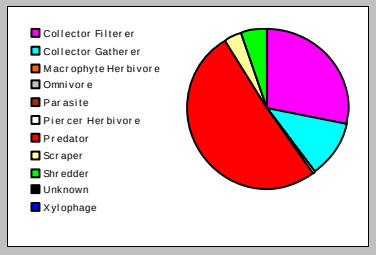


Dominant Taxa

Category	A	PRA
Sperchon	74	24.67%
Hygrobates	39	13.00%
Cheumatopsyche	32	10.67%
Pisidium	28	9.33%
Oecetis	15	5.00%
Naididae	15	5.00%
Microtendipes	15	5.00%
Thienemannimyia Gr.	14	4.67%
Cricotopus trifascia	14	4.67%
Simulium	10	3.33%
Tubificinae	6	2.00%
Cryptochironomus	6	2.00%
Gyraulus	5	1.67%
Stagnicola	4	1.33%
Orthocladius	3	1.00%

Functional Composition

Category	R	A	PRA
Predator	8	152	50.67%
Parasite			
Collector Gatherer	11	35	11.67%
Collector Filterer	4	85	28.33%
Macrophyte Herbivore			
Piercer Herbivore	1	1	0.33%
Xylophage			
Scraper	3	11	3.67%
Shredder	2	16	5.33%
Omnivore			
Unknown			

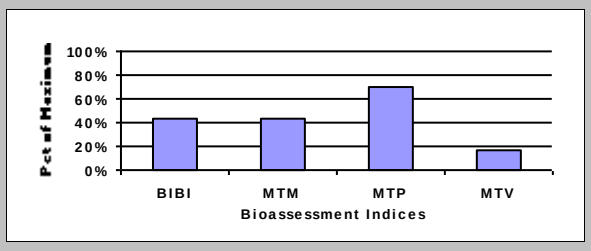


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	29
E Richness	0
P Richness	0
T Richness	3
EPT Richness	3
EPT Percent	16.00%
All Non-Insect Abundance	179
All Non-Insect Richness	12
All Non-Insect Percent	59.67%
Oligochaeta+Hirudinea Percent	8.33%
Baetidae/Ephemeroptera	0.000
Hydropsychidae/Trichoptera	0.667
Dominance	
Dominant Taxon Percent	24.67%
Dominant Taxa (2) Percent	37.67%
Dominant Taxa (3) Percent	48.33%
Dominant Taxa (10) Percent	85.33%
Diversity	
Shannon H (loge)	2.523
Shannon H (log2)	3.640
Margalef D	4.957
Simpson D	0.120
Evenness	0.066
Function	
Predator Richness	8
Predator Percent	50.67%
Filterer Richness	4
Filterer Percent	28.33%
Collector Percent	40.00%
Scraper+Shredder Percent	9.00%
Scraper/Filterer	0.129
Scraper/Scraper+Filterer	0.115
Habit	
Burrower Richness	1
Burrower Percent	0.33%
Swimmer Richness	0
Swimmer Percent	0.00%
Clinger Richness	7
Clinger Percent	29.67%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	4
Hemoglobin Bearer Percent	9.00%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	9
Semivoltine Richness	0
Multivoltine Percent	59.00%
Tolerance	
Sediment Tolerant Richness	4
Sediment Tolerant Percent	4.00%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.389
Pollution Sensitive Richness	0
Pollution Tolerant Percent	21.67%
Hilsenhoff Biotic Index	6.535
Intolerant Percent	0.00%
Supertolerant Percent	29.67%
CTQa	104.824

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	22	44.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	21	70.00%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	3	16.67%	Severe
MTM	Montana DEQ Mountains (Bukantis 1998)	9	42.86%	Moderate



Friday, October 14, 2016

Metrics Report

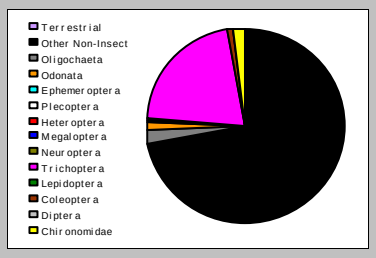
Project ID: CC16SBC
RAI No.: CC16SBC007
Sta. Name: Silver Bow Cr. below Sand Cr.
Client ID: SS-10B
STORET ID
Coll. Date: 9/15/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 311
Sample Abundance: 548.82 56.67% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	16	224	72.03%
Oligochaeta	1	7	2.25%
Odonata	1	4	1.29%
Ephemeroptera	1	1	0.32%
Plecoptera			
Heteroptera	1	2	0.64%
Megaloptera			
Neuroptera			
Trichoptera	2	65	20.90%
Lepidoptera			
Coleoptera	1	2	0.64%
Diptera			
Chironomidae	2	6	1.93%

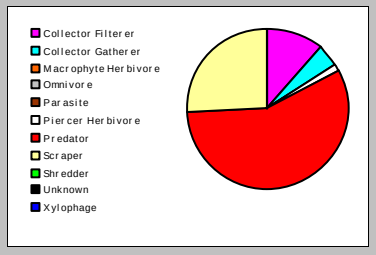


Dominant Taxa

Category	A	PRA
Gyraulus	44	14.15%
Oecetis	43	13.83%
Helobdella stagnalis	30	9.65%
Stagnicola	29	9.32%
Helobdella elongata	28	9.00%
Hygrobates	22	7.07%
Cheumatopsyche	22	7.07%
Sperchon	16	5.14%
Pisidium	14	4.50%
Physella	9	2.89%
Lebertia	8	2.57%
Erpobdella	8	2.57%
Tubificinae	7	2.25%
Thienemannimyia Gr.	5	1.61%
Erpobdella punctata	5	1.61%

Functional Composition

Category	R	A	PRA
Predator	13	175	56.27%
Parasite			
Collector Gatherer	5	14	4.50%
Collector Filterer	2	36	11.58%
Macrophyte Herbivore			
Piercer Herbivore	2	4	1.29%
Xylophage			
Scraper	3	82	26.37%
Shredder			
Omnivore			
Unknown			

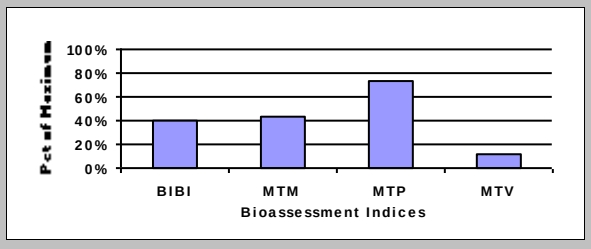


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	25
E Richness	1
P Richness	0
T Richness	2
EPT Richness	3
EPT Percent	21.22%
All Non-Insect Abundance	231
All Non-Insect Richness	17
All Non-Insect Percent	74.28%
Oligochaeta+Hirudinea Percent	26.37%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.338
Dominance	
Dominant Taxon Percent	14.15%
Dominant Taxa (2) Percent	27.97%
Dominant Taxa (3) Percent	37.62%
Dominant Taxa (10) Percent	82.64%
Diversity	
Shannon H (loge)	2.671
Shannon H (log2)	3.854
Margalef D	4.200
Simpson D	0.084
Evenness	0.062
Function	
Predator Richness	13
Predator Percent	56.27%
Filterer Richness	2
Filterer Percent	11.58%
Collector Percent	16.08%
Scraper+Shredder Percent	26.37%
Scraper/Filterer	2.278
Scraper/Scraper+Filterer	0.695
Habit	
Burrower Richness	0
Burrower Percent	0.00%
Swimmer Richness	3
Swimmer Percent	1.61%
Clinger Richness	2
Clinger Percent	20.90%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	14.15%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	12
Semivoltine Richness	1
Multivoltine Percent	17.36%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	26.37%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	3.519
Pollution Sensitive Richness	0
Pollution Tolerant Percent	60.13%
Hilsenhoff Biotic Index	7.467
Intolerant Percent	0.00%
Supertolerant Percent	56.59%
CTQa	98.400

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	20	40.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	22	73.33%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	2	11.11%	Severe
MTM	Montana DEQ Mountains (Bukantis 1998)	9	42.86%	Moderate



Friday, October 14, 2016

Metrics Report

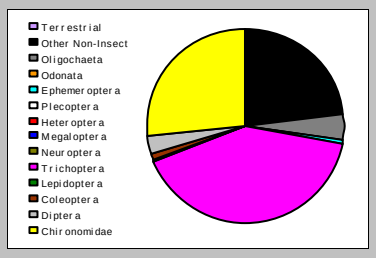
Project ID: CC16SBC
RAI No.: CC16SBC008
Sta. Name: Silver Bow Cr. above Browns Gulch
Client ID: SS-11C
STORET ID
Coll. Date: 9/15/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 317
Sample Abundance: 2,377.50 13.33% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	6	74	23.34%
Oligochaeta	1	12	3.79%
Odonata			
Ephemeroptera	1	2	0.63%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	6	130	41.01%
Lepidoptera	1	1	0.32%
Coleoptera	2	3	0.95%
Diptera	2	10	3.15%
Chironomidae	12	85	26.81%

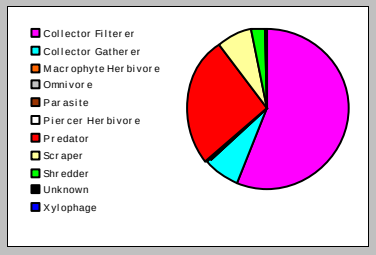


Dominant Taxa

Category	A	PRA
Cheumatopsyche	71	22.40%
Microtendipes	60	18.93%
Sperchon	40	12.62%
Hydropsyche	35	11.04%
Hygrobates	29	9.15%
Helicopsyche	16	5.05%
Naididae	12	3.79%
Thienemannimyia Gr.	9	2.84%
Simulium	8	2.52%
Orthocladius	5	1.58%
Oecetis	5	1.58%
Cricotopus trifascia	3	0.95%
Tipula	2	0.63%
Optioservus	2	0.63%
Iswaeon	2	0.63%

Functional Composition

Category	R	A	PRA
Predator	5	84	26.50%
Parasite			
Collector Gatherer	9	24	7.57%
Collector Filterer	6	176	55.52%
Macrophyte Herbivore			
Piercer Herbivore	1	1	0.32%
Xylophage			
Scraper	6	23	7.26%
Shredder	3	7	2.21%
Omnivore			
Unknown	1	2	0.63%

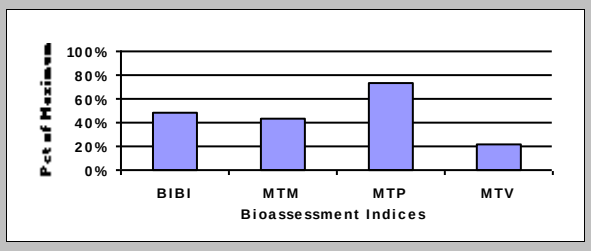


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	31
E Richness	1
P Richness	0
T Richness	6
EPT Richness	7
EPT Percent	41.64%
All Non-Insect Abundance	86
All Non-Insect Richness	7
All Non-Insect Percent	27.13%
Oligochaeta+Hirudinea Percent	3.79%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.815
Dominance	
Dominant Taxon Percent	22.40%
Dominant Taxa (2) Percent	41.32%
Dominant Taxa (3) Percent	53.94%
Dominant Taxa (10) Percent	89.91%
Diversity	
Shannon H (loge)	2.422
Shannon H (log2)	3.494
Margalef D	5.212
Simpson D	0.127
Evenness	0.069
Function	
Predator Richness	5
Predator Percent	26.50%
Filterer Richness	6
Filterer Percent	55.52%
Collector Percent	63.09%
Scraper+Shredder Percent	9.46%
Scraper/Filterer	0.131
Scraper/Scraper+Filterer	0.116
Habit	
Burrower Richness	1
Burrower Percent	0.63%
Swimmer Richness	2
Swimmer Percent	0.95%
Clinger Richness	10
Clinger Percent	63.72%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	3
Hemoglobin Bearer Percent	19.56%
Air Breather Richness	1
Air Breather Percent	0.63%
Voltinism	
Univoltine Richness	13
Semivoltine Richness	3
Multivoltine Percent	49.21%
Tolerance	
Sediment Tolerant Richness	4
Sediment Tolerant Percent	1.89%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.483
Pollution Sensitive Richness	0
Pollution Tolerant Percent	32.49%
Hilsenhoff Biotic Index	5.680
Intolerant Percent	1.26%
Supertolerant Percent	16.09%
CTQa	90.080

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	24	48.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	22	73.33%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	9	42.86%	Moderate



Friday, October 14, 2016

Metrics Report

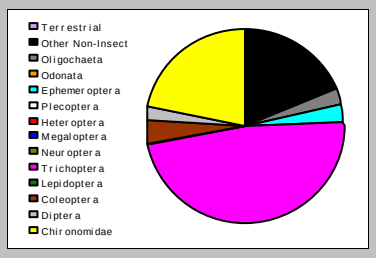
Project ID: CC16SBC
RAI No.: CC16SBC009
Sta. Name: Silver Bow Cr. below Browns Gulch
Client ID: SS-11D
STORET ID
Coll. Date: 9/15/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 325
Sample Abundance: 2,437.50 13.33% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	9	61	18.77%
Oligochaeta	2	9	2.77%
Odonata			
Ephemeroptera	3	10	3.08%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	6	154	47.38%
Lepidoptera			
Coleoptera	2	13	4.00%
Diptera	2	6	1.85%
Chironomidae	6	72	22.15%

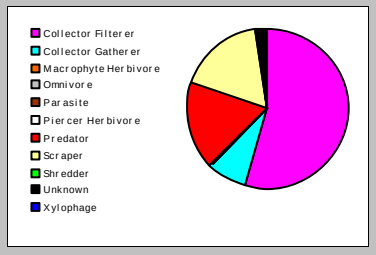


Dominant Taxa

Category	A	PRA
Cheumatopsyche	72	22.15%
Microtendipes	60	18.46%
Helicopsyche	39	12.00%
Hydropsyche	31	9.54%
Sperchon	23	7.08%
Hygrobates	22	6.77%
Optioservus	12	3.69%
Oecetis	9	2.77%
Naididae	7	2.15%
Pisidium	6	1.85%
Iswaeon	6	1.85%
Simulium	5	1.54%
Orthocladius	5	1.54%
Thienemannimyia Gr.	4	1.23%
Baetis tricaudatus complex	3	0.92%

Functional Composition

Category	R	A	PRA
Predator	5	59	18.15%
Parasite			
Collector Gatherer	11	26	8.00%
Collector Filterer	6	176	54.15%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	5	56	17.23%
Shredder	2	2	0.62%
Omnivore			
Unknown	1	6	1.85%

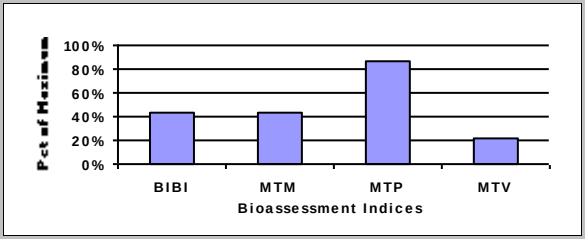


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	30
E Richness	3
P Richness	0
T Richness	6
EPT Richness	9
EPT Percent	50.46%
All Non-Insect Abundance	70
All Non-Insect Richness	11
All Non-Insect Percent	21.54%
Oligochaeta+Hirudinea Percent	3.08%
Baetidae/Ephemeroptera	0.900
Hydropsychidae/Trichoptera	0.669
Dominance	
Dominant Taxon Percent	22.15%
Dominant Taxa (2) Percent	40.62%
Dominant Taxa (3) Percent	52.62%
Dominant Taxa (10) Percent	86.46%
Diversity	
Shannon H (loge)	2.503
Shannon H (log2)	3.612
Margalef D	5.027
Simpson D	0.121
Evenness	0.067
Function	
Predator Richness	5
Predator Percent	18.15%
Filterer Richness	6
Filterer Percent	54.15%
Collector Percent	62.15%
Scraper+Shredder Percent	17.85%
Scraper/Filterer	0.318
Scraper/Scraper+Filterer	0.241
Habit	
Burrower Richness	1
Burrower Percent	0.31%
Swimmer Richness	1
Swimmer Percent	0.92%
Clinger Richness	9
Clinger Percent	71.08%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	2
Hemoglobin Bearer Percent	18.77%
Air Breather Richness	1
Air Breather Percent	0.31%
Voltinism	
Univoltine Richness	16
Semivoltine Richness	3
Multivoltine Percent	37.85%
Tolerance	
Sediment Tolerant Richness	5
Sediment Tolerant Percent	2.15%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.344
Pollution Sensitive Richness	0
Pollution Tolerant Percent	43.38%
Hilsenhoff Biotic Index	5.405
Intolerant Percent	1.23%
Supertolerant Percent	14.46%
CTQa	89.909

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	22	44.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	26	86.67%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	9	42.86%	Moderate



Friday, October 14, 2016

Metrics Report

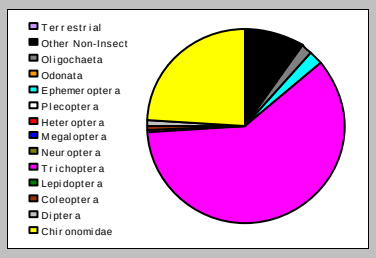
Project ID: CC16SBC
RAI No.: CC16SBC010
Sta. Name: Silver Bow Cr. in Reach L
Client ID: SS-13
STORET ID
Coll. Date: 9/14/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 318
Sample Abundance: 9,540.00 3.33% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	8	32	10.06%
Oligochaeta	1	5	1.57%
Odonata	1	1	0.31%
Ephemeroptera	2	7	2.20%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	5	191	60.06%
Lepidoptera			
Coleoptera	1	2	0.63%
Diptera	2	3	0.94%
Chironomidae	10	77	24.21%

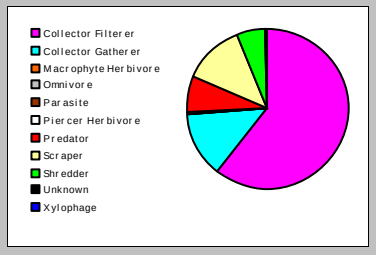


Dominant Taxa

Category	A	PRA
Hydropsyche	93	29.25%
Cheumatopsyche	55	17.30%
Helicopsyche	32	10.06%
Microtendipes	25	7.86%
Micropsectra	10	3.14%
Cricotopus trifascia	10	3.14%
Thienemannimyia Gr.	9	2.83%
Pisidium	9	2.83%
Hygrobates	9	2.83%
Brachycentrus occidentalis	9	2.83%
Orthocladius	8	2.52%
Sperchon	6	1.89%
Baetis tricaudatus complex	6	1.89%
Naididae	5	1.57%
Pagastia	4	1.26%

Functional Composition

Category	R	A	PRA
Predator	5	26	8.18%
Parasite			
Collector Gatherer	9	42	13.21%
Collector Filterer	6	192	60.38%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	5	39	12.26%
Shredder	4	18	5.66%
Omnivore			
Unknown	1	1	0.31%

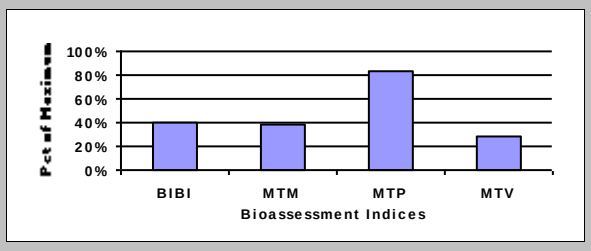


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	30
E Richness	2
P Richness	0
T Richness	5
EPT Richness	7
EPT Percent	62.26%
All Non-Insect Abundance	37
All Non-Insect Richness	9
All Non-Insect Percent	11.64%
Oligochaeta+Hirudinea Percent	1.89%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.775
Dominance	
Dominant Taxon Percent	29.25%
Dominant Taxa (2) Percent	46.54%
Dominant Taxa (3) Percent	56.60%
Dominant Taxa (10) Percent	82.08%
Diversity	
Shannon H (loge)	2.510
Shannon H (log2)	3.621
Margalef D	5.041
Simpson D	0.139
Evenness	0.067
Function	
Predator Richness	5
Predator Percent	8.18%
Filterer Richness	6
Filterer Percent	60.38%
Collector Percent	73.58%
Scraper+Shredder Percent	17.92%
Scraper/Filterer	0.203
Scraper/Scraper+Filterer	0.169
Habit	
Burrower Richness	2
Burrower Percent	0.94%
Swimmer Richness	1
Swimmer Percent	1.89%
Clinger Richness	9
Clinger Percent	72.64%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	2
Hemoglobin Bearer Percent	8.49%
Air Breather Richness	1
Air Breather Percent	0.63%
Voltinism	
Univoltine Richness	13
Semivoltine Richness	3
Multivoltine Percent	29.25%
Tolerance	
Sediment Tolerant Richness	4
Sediment Tolerant Percent	2.20%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.447
Pollution Sensitive Richness	0
Pollution Tolerant Percent	29.56%
Hilsenhoff Biotic Index	5.021
Intolerant Percent	4.72%
Supertolerant Percent	7.55%
CTQa	91.000

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	20	40.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	25	83.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	5	27.78%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	8	38.10%	Moderate



Friday, October 14, 2016

Metrics Report

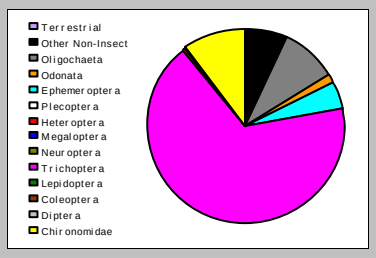
Project ID: CC16SBC
RAI No.: CC16SBC011
Sta. Name: Silver Bow Cr. at Miles Crossing
Client ID: SS-14D
STORET ID
Coll. Date: 9/14/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 304
Sample Abundance: 3,648.00 8.33% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	7	21	6.91%
Oligochaeta	2	30	9.87%
Odonata	1	3	0.99%
Ephemeroptera	3	14	4.61%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	5	202	66.45%
Lepidoptera			
Coleoptera	2	2	0.66%
Diptera	1	1	0.33%
Chironomidae	9	31	10.20%

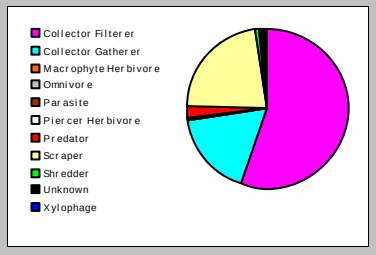


Dominant Taxa

Category	A	PRA
Brachycentrus occidentalis	92	30.26%
Helicopsyche	55	18.09%
Hydropsyche	47	15.46%
Tubificinae	20	6.58%
Microtendipes	17	5.59%
Naididae	10	3.29%
Baetis tricaudatus complex	8	2.63%
Cheumatopsyche	7	2.30%
Physella	5	1.64%
Tricorythodes	4	1.32%
Gyraulus	4	1.32%
Pisidium	3	0.99%
Nemata	3	0.99%
Micropsectra	3	0.99%
Hygrobates	3	0.99%

Functional Composition

Category	R	A	PRA
Predator	4	9	2.96%
Parasite			
Collector Gatherer	12	55	18.09%
Collector Filterer	5	166	54.61%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	5	67	22.04%
Shredder	2	2	0.66%
Omnivore			
Unknown	2	5	1.64%

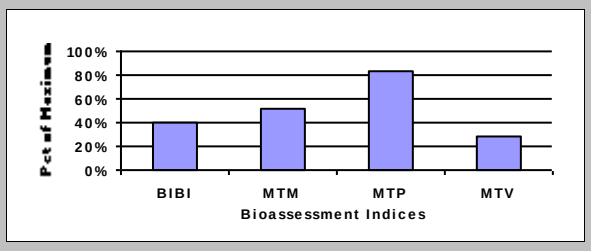


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	30
E Richness	3
P Richness	0
T Richness	5
EPT Richness	8
EPT Percent	71.05%
All Non-Insect Abundance	51
All Non-Insect Richness	9
All Non-Insect Percent	16.78%
Oligochaeta+Hirudinea Percent	9.87%
Baetidae/Ephemeroptera	0.714
Hydropsychidae/Trichoptera	0.267
Dominance	
Dominant Taxon Percent	30.26%
Dominant Taxa (2) Percent	48.36%
Dominant Taxa (3) Percent	63.82%
Dominant Taxa (10) Percent	87.17%
Diversity	
Shannon H (loge)	2.319
Shannon H (log2)	3.346
Margalef D	5.087
Simpson D	0.161
Evenness	0.073
Function	
Predator Richness	4
Predator Percent	2.96%
Filterer Richness	5
Filterer Percent	54.61%
Collector Percent	72.70%
Scraper+Shredder Percent	22.70%
Scraper/Filterer	0.404
Scraper/Scraper+Filterer	0.288
Habit	
Burrower Richness	2
Burrower Percent	1.32%
Swimmer Richness	1
Swimmer Percent	2.63%
Clinger Richness	9
Clinger Percent	73.03%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	2
Hemoglobin Bearer Percent	6.91%
Air Breather Richness	1
Air Breather Percent	0.33%
Voltinism	
Univoltine Richness	12
Semivoltine Richness	4
Multivoltine Percent	11.84%
Tolerance	
Sediment Tolerant Richness	6
Sediment Tolerant Percent	5.92%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	3.737
Pollution Sensitive Richness	0
Pollution Tolerant Percent	26.97%
Hilsenhoff Biotic Index	3.927
Intolerant Percent	30.92%
Supertolerant Percent	8.55%
CTQa	94.000

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	20	40.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	25	83.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	5	27.78%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	11	52.38%	Moderate



Friday, October 14, 2016

Metrics Report

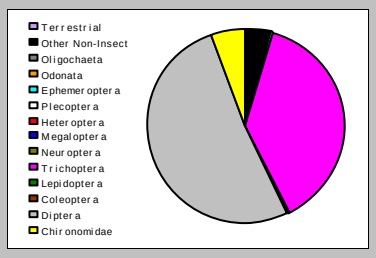
Project ID: CC16SBC
RAI No.: CC16SBC012
Sta. Name: Silver Bow Cr. above German Gulch
Client ID: SS-15A
STORET ID
Coll. Date: 9/14/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 313
Sample Abundance: 12,520.00 2.50% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	5	13	4.15%
Oligochaeta			
Odonata			
Ephemeroptera	2	3	0.96%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	6	117	37.38%
Lepidoptera			
Coleoptera	1	1	0.32%
Diptera	3	162	51.76%
Chironomidae	6	17	5.43%

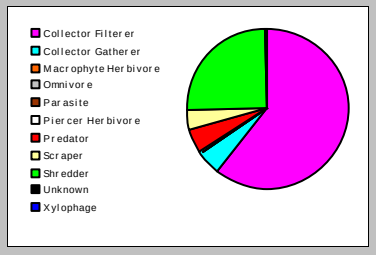


Dominant Taxa

Category	A	PRA
Simulium	154	49.20%
Lepidostoma	78	24.92%
Hydropsyche	24	7.67%
Brachycentrus occidentalis	7	2.24%
Atherix	7	2.24%
Tvetenia Bavarica Gr.	5	1.60%
Microtendipes	4	1.28%
Hygrobates	4	1.28%
Helicopsyche	4	1.28%
Eukiefferiella Brehmi Gr.	4	1.28%
Sperchon	3	0.96%
Galba	2	0.64%
Eukiefferiella Claripennis Gr.	2	0.64%
Baetis Rhodani Gr.	2	0.64%
Amiocentrus aspilus	2	0.64%

Functional Composition

Category	R	A	PRA
Predator	4	16	5.11%
Parasite			
Collector Gatherer	6	16	5.11%
Collector Filterer	4	189	60.38%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	5	11	3.51%
Shredder	3	80	25.56%
Omnivore			
Unknown	1	1	0.32%

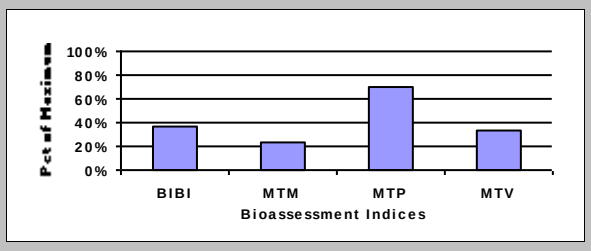


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	23
E Richness	2
P Richness	0
T Richness	6
EPT Richness	8
EPT Percent	38.34%
All Non-Insect Abundance	13
All Non-Insect Richness	5
All Non-Insect Percent	4.15%
Oligochaeta+Hirudinea Percent	0.00%
Baetidae/Ephemeroptera	0.667
Hydropsychidae/Trichoptera	0.205
Dominance	
Dominant Taxon Percent	49.20%
Dominant Taxa (2) Percent	74.12%
Dominant Taxa (3) Percent	81.79%
Dominant Taxa (10) Percent	92.97%
Diversity	
Shannon H (loge)	1.741
Shannon H (log2)	2.511
Margalef D	3.857
Simpson D	0.298
Evenness	0.091
Function	
Predator Richness	4
Predator Percent	5.11%
Filterer Richness	4
Filterer Percent	60.38%
Collector Percent	65.50%
Scraper+Shredder Percent	29.07%
Scraper/Filterer	0.058
Scraper/Scraper+Filterer	0.055
Habit	
Burrower Richness	1
Burrower Percent	0.32%
Swimmer Richness	1
Swimmer Percent	0.64%
Clinger Richness	10
Clinger Percent	63.90%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	1.28%
Air Breather Richness	1
Air Breather Percent	0.32%
Voltinism	
Univoltine Richness	10
Semivoltine Richness	2
Multivoltine Percent	7.67%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	1.28%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	3.758
Pollution Sensitive Richness	0
Pollution Tolerant Percent	5.43%
Hilsenhoff Biotic Index	4.472
Intolerant Percent	29.71%
Supertolerant Percent	5.11%
CTQa	73.444

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	18	36.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	21	70.00%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	6	33.33%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	5	23.81%	Moderate



Friday, October 14, 2016

Metrics Report

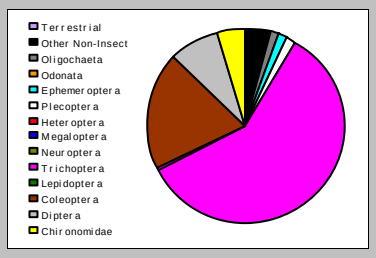
Project ID: CC16SBC
RAI No.: CC16SBC013
Sta. Name: Silver Bow Cr. below German Gulch
Client ID: SS-15B
STORET ID
Coll. Date: 9/14/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 320
Sample Abundance: 3,200.00 10.00% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	5	13	4.06%
Oligochaeta	2	5	1.56%
Odonata			
Ephemeroptera	3	4	1.25%
Plecoptera	1	6	1.88%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	7	188	58.75%
Lepidoptera			
Coleoptera	3	63	19.69%
Diptera	2	26	8.13%
Chironomidae	6	15	4.69%

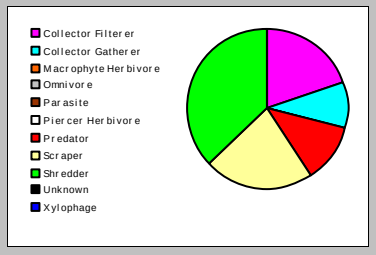


Dominant Taxa

Category	A	PRA
Lepidostoma	118	36.88%
Optioservus	54	16.88%
Hydropsyche	48	15.00%
Atherix	18	5.63%
Helicopsyche	11	3.44%
Simulium	8	2.50%
Eukiefferiella Brehmi Gr.	7	2.19%
Brachycentrus occidentalis	7	2.19%
Heterlimnius corpulentus	6	1.88%
Hesperoperla pacifica	6	1.88%
Sperchon	5	1.56%
Naididae	4	1.25%
Zaitzevia	3	0.94%
Physella	3	0.94%
Hygrobates	3	0.94%

Functional Composition

Category	R	A	PRA
Predator	8	38	11.88%
Parasite			
Collector Gatherer	11	28	8.75%
Collector Filterer	4	65	20.31%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	4	69	21.56%
Shredder	2	120	37.50%
Omnivore			
Unknown			

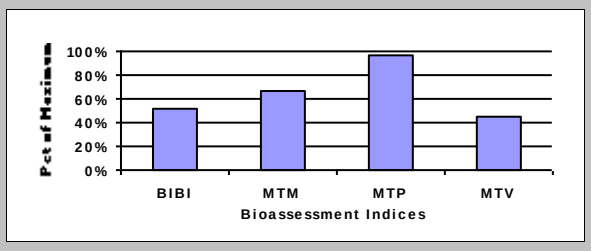


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	29
E Richness	3
P Richness	1
T Richness	7
EPT Richness	11
EPT Percent	61.88%
All Non-Insect Abundance	18
All Non-Insect Richness	7
All Non-Insect Percent	5.63%
Oligochaeta+Hirudinea Percent	1.56%
Baetidae/Ephemeroptera	0.250
Hydropsychidae/Trichoptera	0.255
Dominance	
Dominant Taxon Percent	36.88%
Dominant Taxa (2) Percent	53.75%
Dominant Taxa (3) Percent	68.75%
Dominant Taxa (10) Percent	88.44%
Diversity	
Shannon H (loge)	2.130
Shannon H (log2)	3.074
Margalef D	5.018
Simpson D	0.239
Evenness	0.074
Function	
Predator Richness	8
Predator Percent	11.88%
Filterer Richness	4
Filterer Percent	20.31%
Collector Percent	29.06%
Scraper+Shredder Percent	59.06%
Scraper/Filterer	1.062
Scraper/Scraper+Filterer	0.515
Habit	
Burrower Richness	0
Burrower Percent	0.00%
Swimmer Richness	1
Swimmer Percent	0.31%
Clinger Richness	13
Clinger Percent	47.50%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	0.63%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	13
Semivoltine Richness	5
Multivoltine Percent	7.50%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	1.56%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	3.116
Pollution Sensitive Richness	1
Pollution Tolerant Percent	29.06%
Hilsenhoff Biotic Index	3.262
Intolerant Percent	47.50%
Supertolerant Percent	6.25%
CTQa	78.957

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	26	52.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	29	96.67%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	8	44.44%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	14	66.67%	Slight



Friday, October 14, 2016

Metrics Report

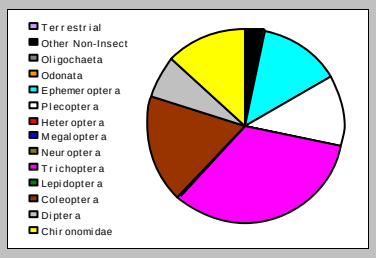
Project ID: CC16SBC
RAI No.: CC16SBC014
Sta. Name: German Gulch near mouth
Client ID: SS-15G
STORET ID
Coll. Date: 9/14/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 313
Sample Abundance: 1,043.33 30.00% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	4	9	2.88%
Oligochaeta	1	2	0.64%
Odonata			
Ephemeroptera	4	42	13.42%
Plecoptera	3	36	11.50%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	5	104	33.23%
Lepidoptera			
Coleoptera	5	57	18.21%
Diptera	9	21	6.71%
Chironomidae	8	42	13.42%

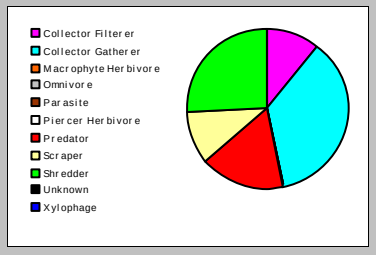


Dominant Taxa

Category	A	PRA
Lepidostoma	66	21.09%
Heterlimnius corpulentus	38	12.14%
Tvetenia Bavarica Gr.	33	10.54%
Hydropsyche	27	8.63%
Hesperoperla pacifica	21	6.71%
Cinygmula	20	6.39%
Baetis Rhodani Gr.	20	6.39%
Zapada cinctipes	14	4.47%
Optioservus	11	3.51%
Atherix	7	2.24%
Arctopsyche	7	2.24%
Ostracoda	4	1.28%
Zaitzevia	3	0.96%
Protzia	3	0.96%
Hexatoma	3	0.96%

Functional Composition

Category	R	A	PRA
Predator	13	51	16.29%
Parasite			
Collector Gatherer	13	112	35.78%
Collector Filterer	5	35	11.18%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	4	33	10.54%
Shredder	4	82	26.20%
Omnivore			
Unknown			

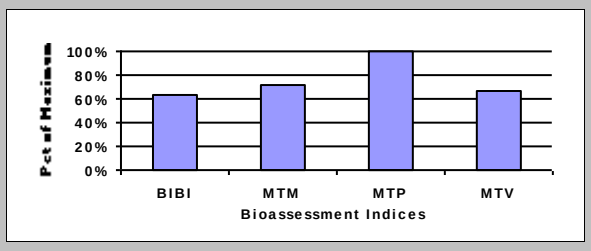


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	39
E Richness	4
P Richness	3
T Richness	5
EPT Richness	12
EPT Percent	58.15%
All Non-Insect Abundance	11
All Non-Insect Richness	5
All Non-Insect Percent	3.51%
Oligochaeta+Hirudinea Percent	0.64%
Baetidae/Ephemeroptera	0.476
Hydropsychidae/Trichoptera	0.327
Dominance	
Dominant Taxon Percent	21.09%
Dominant Taxa (2) Percent	33.23%
Dominant Taxa (3) Percent	43.77%
Dominant Taxa (10) Percent	82.11%
Diversity	
Shannon H (loge)	2.761
Shannon H (log2)	3.983
Margalef D	6.624
Simpson D	0.095
Evenness	0.055
Function	
Predator Richness	13
Predator Percent	16.29%
Filterer Richness	5
Filterer Percent	11.18%
Collector Percent	46.96%
Scraper+Shredder Percent	36.74%
Scraper/Filterer	0.943
Scraper/Scraper+Filterer	0.485
Habit	
Burrower Richness	6
Burrower Percent	2.56%
Swimmer Richness	1
Swimmer Percent	6.39%
Clinger Richness	16
Clinger Percent	49.84%
Characteristics	
Cold Stenotherm Richness	2
Cold Stenotherm Percent	0.64%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	0.32%
Air Breather Richness	4
Air Breather Percent	1.92%
Voltinism	
Univoltine Richness	17
Semivoltine Richness	8
Multivoltine Percent	15.66%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	1.60%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	2.24%
Metals Tolerance Index	2.633
Pollution Sensitive Richness	3
Pollution Tolerant Percent	6.71%
Hilsenhoff Biotic Index	2.796
Intolerant Percent	43.45%
Supertolerant Percent	1.92%
CTQa	72.484

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	32	64.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	30	100.00%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	12	66.67%	Slight
MTM	Montana DEQ Mountains (Bukantis 1998)	15	71.43%	Slight



Friday, October 14, 2016

Metrics Report

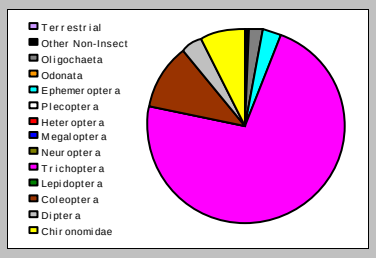
Project ID: CC16SBC
RAI No.: CC16SBC015
Sta. Name: Silver Bow Cr. in Reach P
Client ID: SS-16B
STORET ID
Coll. Date: 9/14/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 323
Sample Abundance: 9,690.00 3.33% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	3	4	1.24%
Oligochaeta	1	6	1.86%
Odonata			
Ephemeroptera	2	10	3.10%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	6	233	72.14%
Lepidoptera			
Coleoptera	2	35	10.84%
Diptera	3	11	3.41%
Chironomidae	6	24	7.43%

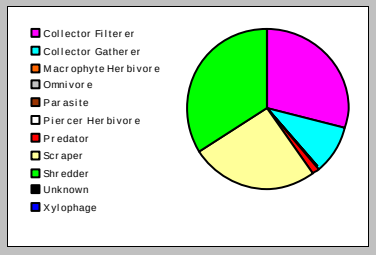


Dominant Taxa

Category	A	PRA
Lepidostoma	111	34.37%
Helicopsyche	43	13.31%
Brachycentrus occidentalis	43	13.31%
Optioservus	34	10.53%
Hydropsyche	33	10.22%
Pagastia	10	3.10%
Simulium	9	2.79%
Baetis tricaudatus complex	9	2.79%
Microtendipes	8	2.48%
Naididae	6	1.86%
Tvetenia Bavarica Gr.	2	0.62%
Physella	2	0.62%
Micropsectra	2	0.62%
Glossosoma	2	0.62%
Thienemannimyia Gr.	1	0.31%

Functional Composition

Category	R	A	PRA
Predator	5	5	1.55%
Parasite			
Collector Gatherer	7	31	9.60%
Collector Filterer	5	94	29.10%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	5	82	25.39%
Shredder	1	111	34.37%
Omnivore			
Unknown			

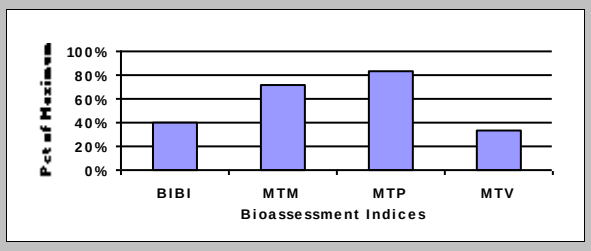


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	23
E Richness	2
P Richness	0
T Richness	6
EPT Richness	8
EPT Percent	75.23%
All Non-Insect Abundance	10
All Non-Insect Richness	4
All Non-Insect Percent	3.10%
Oligochaeta+Hirudinea Percent	1.86%
Baetidae/Ephemeroptera	0.900
Hydropsychidae/Trichoptera	0.142
Dominance	
Dominant Taxon Percent	34.37%
Dominant Taxa (2) Percent	47.68%
Dominant Taxa (3) Percent	60.99%
Dominant Taxa (10) Percent	94.74%
Diversity	
Shannon H (loge)	2.061
Shannon H (log2)	2.974
Margalef D	3.875
Simpson D	0.200
Evenness	0.085
Function	
Predator Richness	5
Predator Percent	1.55%
Filterer Richness	5
Filterer Percent	29.10%
Collector Percent	38.70%
Scraper+Shredder Percent	59.75%
Scraper/Filterer	0.872
Scraper/Scraper+Filterer	0.466
Habit	
Burrower Richness	1
Burrower Percent	0.31%
Swimmer Richness	1
Swimmer Percent	2.79%
Clinger Richness	10
Clinger Percent	54.18%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	2.48%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	10
Semivoltine Richness	4
Multivoltine Percent	7.74%
Tolerance	
Sediment Tolerant Richness	1
Sediment Tolerant Percent	0.62%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.62%
Metals Tolerance Index	3.082
Pollution Sensitive Richness	1
Pollution Tolerant Percent	24.77%
Hilsenhoff Biotic Index	2.920
Intolerant Percent	52.32%
Supertolerant Percent	3.41%
CTQa	76.950

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	20	40.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	25	83.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	6	33.33%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	15	71.43%	Slight



Friday, October 14, 2016

Metrics Report

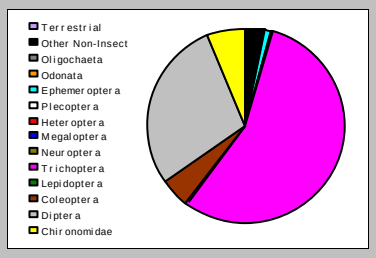
Project ID: CC16SBC
RAI No.: CC16SBC016
Sta. Name: Silver Bow Cr. below Stewart St.
Client ID: SS-17D
STORET ID
Coll. Date: 9/14/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 322
Sample Abundance: 3,220.00 10.00% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	3	11	3.42%
Oligochaeta			
Odonata			
Ephemeroptera	1	2	0.62%
Plecoptera	1	1	0.31%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	5	180	55.90%
Lepidoptera			
Coleoptera	1	15	4.66%
Diptera	1	93	28.88%
Chironomidae	4	20	6.21%

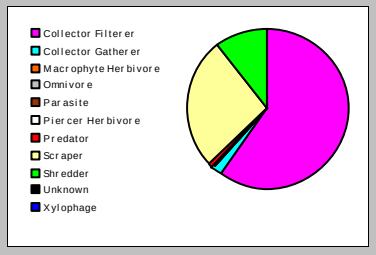


Dominant Taxa

Category	A	PRA
Simulium	93	28.88%
Brachycentrus occidentalis	70	21.74%
Helicopsyche	61	18.94%
Lepidostoma	34	10.56%
Optioservus	15	4.66%
Microtendipes	14	4.35%
Hydropsyche	14	4.35%
Physella	9	2.80%
Pagastia	4	1.24%
Baetis Rhodani Gr.	2	0.62%
Stagnicola	1	0.31%
Skwala	1	0.31%
Protoptila	1	0.31%
Parametriocnemus	1	0.31%
Lebertia	1	0.31%

Functional Composition

Category	R	A	PRA
Predator	2	2	0.62%
Parasite			
Collector Gatherer	4	8	2.48%
Collector Filterer	4	191	59.32%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	5	87	27.02%
Shredder	1	34	10.56%
Omnivore			
Unknown			

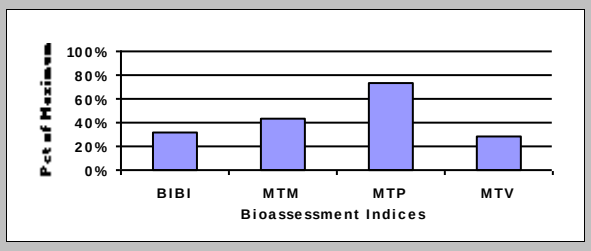


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	16
E Richness	1
P Richness	1
T Richness	5
EPT Richness	7
EPT Percent	56.83%
All Non-Insect Abundance	11
All Non-Insect Richness	3
All Non-Insect Percent	3.42%
Oligochaeta+Hirudinea Percent	0.00%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.078
Dominance	
Dominant Taxon Percent	28.88%
Dominant Taxa (2) Percent	50.62%
Dominant Taxa (3) Percent	69.57%
Dominant Taxa (10) Percent	98.14%
Diversity	
Shannon H (loge)	1.901
Shannon H (log2)	2.742
Margalef D	2.618
Simpson D	0.191
Evenness	0.105
Function	
Predator Richness	2
Predator Percent	0.62%
Filterer Richness	4
Filterer Percent	59.32%
Collector Percent	61.80%
Scraper+Shredder Percent	37.58%
Scraper/Filterer	0.455
Scraper/Scraper+Filterer	0.313
Habit	
Burrower Richness	0
Burrower Percent	0.00%
Swimmer Richness	1
Swimmer Percent	0.62%
Clinger Richness	8
Clinger Percent	83.54%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	4.35%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	8
Semivoltine Richness	2
Multivoltine Percent	6.52%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	3.11%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	3.693
Pollution Sensitive Richness	0
Pollution Tolerant Percent	26.71%
Hilsenhoff Biotic Index	3.897
Intolerant Percent	33.85%
Supertolerant Percent	3.11%
CTQa	77.000

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	16	32.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	22	73.33%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	5	27.78%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	9	42.86%	Moderate



Friday, October 14, 2016

Metrics Report

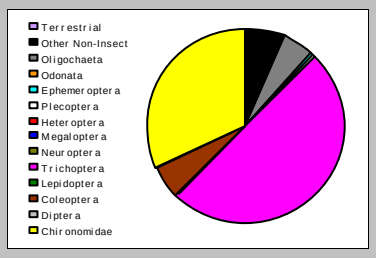
Project ID: CC16SBC
RAI No.: CC16SBC017
Sta. Name: Silver Bow Cr. at Frontage Rd.
Client ID: SS-19
STORET ID
Coll. Date: 9/14/2016
Latitude: **Longitude:**

Abundance Measures

Sample Count: 320
Sample Abundance: 2,400.00 13.33% of sample used
Coll. Procedure: traveling kick
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	3	21	6.56%
Oligochaeta	2	17	5.31%
Odonata			
Ephemeroptera	1	1	0.31%
Plecoptera	1	2	0.63%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	5	158	49.38%
Lepidoptera			
Coleoptera	1	17	5.31%
Diptera	1	1	0.31%
Chironomidae	6	103	32.19%

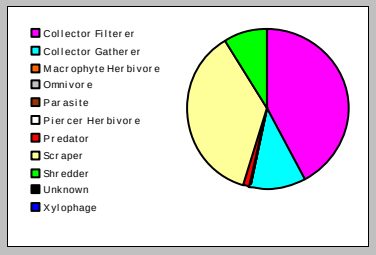


Dominant Taxa

Category	A	PRA
Microtendipes	97	30.31%
Helicopsyche	92	28.75%
Lepidostoma	28	8.75%
Brachycentrus occidentalis	27	8.44%
Optioservus	17	5.31%
Hyalella	12	3.75%
Naididae	10	3.13%
Hydropsyche	10	3.13%
Physella	8	2.50%
Tubificinae	7	2.19%
Skwala	2	0.63%
Parametriocnemus	2	0.63%
Tvetenia Bavarica Gr.	1	0.31%
Thienemannimyia Gr.	1	0.31%
Baetis Rhodani Gr.	1	0.31%

Functional Composition

Category	R	A	PRA
Predator	3	4	1.25%
Parasite			
Collector Gatherer	8	35	10.94%
Collector Filterer	4	135	42.19%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	4	118	36.88%
Shredder	1	28	8.75%
Omnivore			
Unknown			

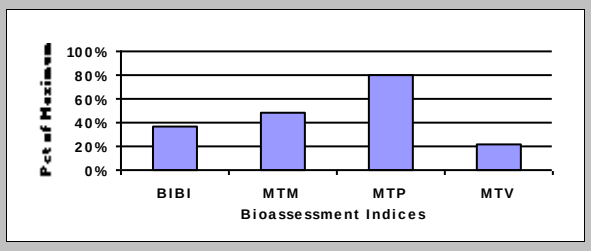


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	20
E Richness	1
P Richness	1
T Richness	5
EPT Richness	7
EPT Percent	50.31%
All Non-Insect Abundance	38
All Non-Insect Richness	5
All Non-Insect Percent	11.88%
Oligochaeta+Hirudinea Percent	5.31%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.063
Dominance	
Dominant Taxon Percent	30.31%
Dominant Taxa (2) Percent	59.06%
Dominant Taxa (3) Percent	67.81%
Dominant Taxa (10) Percent	96.25%
Diversity	
Shannon H (loge)	1.931
Shannon H (log2)	2.786
Margalef D	3.323
Simpson D	0.212
Evenness	0.094
Function	
Predator Richness	3
Predator Percent	1.25%
Filterer Richness	4
Filterer Percent	42.19%
Collector Percent	53.13%
Scraper+Shredder Percent	45.63%
Scraper/Filterer	0.874
Scraper/Scraper+Filterer	0.466
Habit	
Burrower Richness	0
Burrower Percent	0.00%
Swimmer Richness	1
Swimmer Percent	0.31%
Clinger Richness	8
Clinger Percent	77.19%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	2
Hemoglobin Bearer Percent	30.63%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	10
Semivoltine Richness	2
Multivoltine Percent	32.19%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	2.81%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	3.430
Pollution Sensitive Richness	0
Pollution Tolerant Percent	37.19%
Hilsenhoff Biotic Index	4.388
Intolerant Percent	17.50%
Supertolerant Percent	10.00%
CTQa	82.250

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	18	36.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	24	80.00%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	10	47.62%	Moderate



Friday, October 14, 2016

APPENDIX H

PERIPHYTON DATA

Table H1. Relative abundance of non-diatom algae in periphyton samples from the Streamside Tailings Operable Unit, 2016. Samples collected and analyzed by E. Weber (RESPEC; Helena, MT).

Site	Date Sampled	Analysis Date	Taxon	Algal Division	Estimated Relative Abundance	Estimated Biovolume Rank
SS-01	9/15/2016	10/11/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-01	9/15/2016	10/11/2016	Cladophora	Chlorophyta	abundant	2
SS-01	9/15/2016	10/11/2016	Oedogonium	Chlorophyta	abundant	3
SS-01	9/15/2016	10/11/2016	Spirogyra	Chlorophyta	frequent	4
SS-01	9/15/2016	10/11/2016	Phormidium	Cyanophyta	frequent	5
SS-01	9/15/2016	10/11/2016	Closterium	Chlorophyta	common	6
SS-01	9/15/2016	10/11/2016	Oscillatroia	Cyanophyta	common	7
SS-01	9/15/2016	10/11/2016	Audouinella	Rhodophyta	common	8
SS-01	9/15/2016	10/11/2016	Staurastrum	Chlorophyta	common	9
SS-01	9/15/2016	10/11/2016	Chamaesiphon	Cyanophyta	frequent	10
SS-01	9/15/2016	10/11/2016	Heteroleibleinia	Cyanophyta	common	11
SS-01	9/15/2016	10/11/2016	Leptolyngbya	Cyanophyta	occasional	12
SS-01	9/15/2016	10/11/2016	Ulothrix	Chlorophyta	rare	13
SS-01	9/15/2016	10/11/2016	Tribonema	Xanthophyta	rare	14
SS-01	9/15/2016	10/11/2016	Scenedesmus	Chlorophyta	occasional	15
SS-01	9/15/2016	10/11/2016	Ankistrodesmus	Chlorophyta	occasional	16
SS-01	9/15/2016	10/11/2016	Dactylococcopsis	Cyanophyta	occasional	17
SS-05A	9/15/2016	10/12/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-05A	9/15/2016	10/12/2016	*Cladophora*	Chlorophyta	abundant	2
SS-05A	9/15/2016	10/12/2016	*Oedogonium*	Chlorophyta	frequent	3
SS-05A	9/15/2016	10/12/2016	*Phormidium*	Cyanophyta	common	4
SS-05A	9/15/2016	10/12/2016	*Staurastrum*	Chlorophyta	occasional	5
SS-05A	9/15/2016	10/12/2016	*Closterium*	Chlorophyta	occasional	6
SS-05A	9/15/2016	10/12/2016	*Heteroleibleinia*	Cyanophyta	occasional	7
SS-05A	9/15/2016	10/12/2016	*Cosmarium*	Chlorophyta	rare	8
SS-06G	9/15/2016	10/12/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-06G	9/15/2016	10/12/2016	*Cladophora*	Chlorophyta	abundant	2
SS-06G	9/15/2016	10/12/2016	*Oedogonium*	Chlorophyta	abundant	3
SS-06G	9/15/2016	10/12/2016	*Closterium*	Chlorophyta	rare	4
SS-06G	9/15/2016	10/12/2016	*Tribonema*	Xanthophyta	rare	5
SS-07	9/15/2016	10/12/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-07	9/15/2016	10/12/2016	*Cladophora*	Chlorophyta	abundant	2
SS-07	9/15/2016	10/12/2016	*Tribonema*	Xanthophyta	frequent	3
SS-07	9/15/2016	10/12/2016	*Oedogonium*	Chlorophyta	common	4
SS-07	9/15/2016	10/12/2016	*Vaucheria*	Xanthophyta	rare	5
SS-07	9/15/2016	10/12/2016	*Heteroleibleinia*	Cyanophyta	occasional	6
SS-07	9/15/2016	10/12/2016	*Staurastrum*	Chlorophyta	rare	7
SS-08	9/15/2016	10/12/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-08	9/15/2016	10/12/2016	*Oedogonium*	Chlorophyta	abundant	2

Site	Date Sampled	Analysis Date	Taxon	Algal Division	Estimated Relative Abundance	Estimated Biovolume Rank
SS-08	9/15/2016	10/12/2016	*Cladophora*	Chlorophyta	frequent	3
SS-08	9/15/2016	10/12/2016	*Vaucheria*	Xanthophyta	common	4
SS-08	9/15/2016	10/12/2016	*Stigeoclonium*	Chlorophyta	common	5
SS-08	9/15/2016	10/12/2016	*Cosmarium*	Chlorophyta	common	6
SS-08	9/15/2016	10/12/2016	*Staurastrum*	Chlorophyta	occasional	7
SS-08	9/15/2016	10/12/2016	*Chamaesiphon*	Cyanophyta	common	8
SS-08	9/15/2016	10/12/2016	*Closterium*	Chlorophyta	rare	9
SS-08	9/15/2016	10/12/2016	*Pediastrum*	Chlorophyta	rare	10
SS-10A	9/15/2016	10/12/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-10A	9/15/2016	10/12/2016	Cladophora	Chlorophyta	abundant	2
SS-10A	9/15/2016	10/12/2016	Stigeoclonium	Chlorophyta	abundant	3
SS-10A	9/15/2016	10/12/2016	Oedogonium	Chlorophyta	frequent	4
SS-10A	9/15/2016	10/12/2016	Cosmarium	Chlorophyta	common	5
SS-10A	9/15/2016	10/12/2016	Staurastrum	Chlorophyta	occasional	6
SS-10A	9/15/2016	10/12/2016	Closterium	Chlorophyta	rare	7
SS-10B	9/15/2016	10/13/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-10B	9/15/2016	10/13/2016	Cladophora	Chlorophyta	abundant	2
SS-10B	9/15/2016	10/13/2016	Stigeoclonium	Chlorophyta	abundant	3
SS-10B	9/15/2016	10/13/2016	Oedogonium	Chlorophyta	frequent	4
SS-10B	9/15/2016	10/13/2016	Closterium	Chlorophyta	occasional	5
SS-10B	9/15/2016	10/13/2016	Phormidium	Cyanophyta	occasional	6
SS-10B	9/15/2016	10/13/2016	Cosmarium	Chlorophyta	rare	7
SS-11C	9/15/2016	10/13/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-11C	9/15/2016	10/13/2016	Cladophora	Chlorophyta	abundant	2
SS-11C	9/15/2016	10/13/2016	Oedogonium	Chlorophyta	abundant	3
SS-11C	9/15/2016	10/13/2016	Stigeoclonium	Chlorophyta	frequent	4
SS-11C	9/15/2016	10/13/2016	Cosmarium	Chlorophyta	common	5
SS-11C	9/15/2016	10/13/2016	Chamaesiphon	Cyanophyta	common	6
SS-11C	9/15/2016	10/13/2016	Closterium	Chlorophyta	rare	7
SS-11D	9/15/2016	10/13/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-11D	9/15/2016	10/13/2016	Cladophora	Chlorophyta	abundant	2
SS-11D	9/15/2016	10/13/2016	Oedogonium	Chlorophyta	abundant	3
SS-11D	9/15/2016	10/13/2016	Stigeoclonium	Chlorophyta	abundant	4
SS-11D	9/15/2016	10/13/2016	Cosmarium	Chlorophyta	occasional	5
SS-11D	9/15/2016	10/13/2016	Closterium	Chlorophyta	rare	6
SS-13	9/14/2016	10/13/2016	diatoms (all genera)	Bacillariophyta	dominant	1
SS-13	9/14/2016	10/13/2016	*Oedogonium*	Chlorophyta	abundant	2
SS-13	9/14/2016	10/13/2016	*Cladophora*	Chlorophyta	abundant	3
SS-13	9/14/2016	10/13/2016	*Stigeoclonium*	Chlorophyta	abundant	4
SS-13	9/14/2016	10/13/2016	*Cosmarium*	Chlorophyta	common	5
SS-13	9/14/2016	10/13/2016	*Staurastrum*	Chlorophyta	rare	6
SS-13	9/14/2016	10/13/2016	*Closterium*	Chlorophyta	rare	7
SS-14	9/14/2016	10/13/2016	diatoms (all genera)	Bacillariophyta	dominant	1

Site	Date Sampled	Analysis Date	Taxon	Algal Division	Estimated Relative Abundance	Estimated Biovolume Rank
SS-14	9/14/2016	10/13/2016	Cladophora	Chlorophyta	abundant	2
SS-14	9/14/2016	10/13/2016	Oedogonium	Chlorophyta	frequent	3
SS-14	9/14/2016	10/13/2016	Cosmarium	Chlorophyta	common	4
SS-14	9/14/2016	10/13/2016	Closterium	Chlorophyta	occasional	5
SS-14	9/14/2016	10/13/2016	Chamaesiphon	Cyanophyta	common	6
SS-14	9/14/2016	10/13/2016	Oscillatroia	Cyanophyta	rare	7
SS-15A	9/14/2016	10/14/2016	Cladophora	Chlorophyta	abundant	1
SS-15A	9/14/2016	10/14/2016	Oedogonium	Chlorophyta	frequent	2
SS-15A	9/14/2016	10/14/2016	diatoms (all genera)	Bacillariophyta	frequent	3
SS-15A	9/14/2016	10/14/2016	Closterium	Chlorophyta	occasional	4
SS-15A	9/14/2016	10/14/2016	Phormidium	Cyanophyta	rare	5
SS-15G	9/14/2016	10/14/2016	diatoms (all genera)	Bacillariophyta	abundant	1
SS-15G	9/14/2016	10/14/2016	Audouinella	Rhodophyta	frequent	2
SS-15G	9/14/2016	10/14/2016	Closterium	Chlorophyta	frequent	3
SS-15G	9/14/2016	10/14/2016	Heribaudiella	Phaeophyta	common	4
SS-15G	9/14/2016	10/14/2016	Cladophora	Chlorophyta	occasional	5
SS-15G	9/14/2016	10/14/2016	Ulothrix	Chlorophyta	rare	6
SS-15B	9/14/2016	10/14/2016	*Oedogonium*	Chlorophyta	abundant	1
SS-15B	9/14/2016	10/14/2016	*Cladophora*	Chlorophyta	frequent	2
SS-15B	9/14/2016	10/14/2016	diatoms (all genera)	Bacillariophyta	abundant	3
SS-15B	9/14/2016	10/14/2016	*Closterium*	Chlorophyta	frequent	4
SS-15B	9/14/2016	10/14/2016	*Stigeoclonium*	Chlorophyta	rare	5
SS-16B	9/14/2016	10/17/2016	*Cladophora*	Chlorophyta	frequent	1
SS-16B	9/14/2016	10/17/2016	*Oedogonium*	Chlorophyta	abundant	2
SS-16B	9/14/2016	10/17/2016	diatoms (all genera)	Bacillariophyta	abundant	3
SS-16B	9/14/2016	10/17/2016	*Closterium*	Chlorophyta	occasional	4
SS-16B	9/14/2016	10/17/2016	*Stigeoclonium*	Chlorophyta	occasional	5
SS-16B	9/14/2016	10/17/2016	*Symploca*	Cyanophyta	rare	6
SS-16B	9/14/2016	10/17/2016	*Chamaesiphon*	Cyanophyta	common	7
SS-16B	9/14/2016	10/17/2016	*Pediastrum*	Chlorophyta	rare	8
SS-16B	9/14/2016	10/17/2016	*Cosmarium*	Chlorophyta	rare	9
SS-16B	9/14/2016	10/17/2016	*Dactylococcopsis*	Cyanophyta	occasional	10
SS-17D	9/14/2016	10/17/2016	Protococcus	Chlorophyta	dominant	1
SS-17D	9/14/2016	10/17/2016	diatoms (all genera)	Bacillariophyta	abundant	2
SS-17D	9/14/2016	10/17/2016	Leptolyngbya	Cyanophyta	common	3
SS-17D	9/14/2016	10/17/2016	Heteroleibleinia	Cyanophyta	occasional	4
SS-17D	9/14/2016	10/17/2016	Scenedesmus	Chlorophyta	occasional	5
SS-19	9/14/2016	10/17/2016	Cladophora	Chlorophyta	abundant	1
SS-19	9/14/2016	10/17/2016	Protococcus	Chlorophyta	dominant	2
SS-19	9/14/2016	10/17/2016	diatoms (all genera)	Bacillariophyta	abundant	3
SS-19	9/14/2016	10/17/2016	Leptolyngbya	Cyanophyta	abundant	4
SS-19	9/14/2016	10/17/2016	Stigeoclonium	Chlorophyta	common	5
SS-19	9/14/2016	10/17/2016	Chamaesiphon	Cyanophyta	frequent	6

Site	Date Sampled	Analysis Date	Taxon	Algal Division	Estimated Relative Abundance	Estimated Biovolume Rank
SS-19	9/14/2016	10/17/2016	Heteroleibleinia	Cyanophyta	common	7
SS-19	9/14/2016	10/17/2016	Scenedesmus	Chlorophyta	occasional	8

Table H2. Diatom counts in periphyton samples from the Streamside Tailings Operable Unit, 2016. Samples collected and analyzed by E. Weber (RESPEC; Helena, MT).

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-01	9/15/2016	12/1/2016	*Achnanthidium exiguum*	5	0.63	
SS-01	9/15/2016	12/1/2016	*Achnanthidium minutissimum*	7	0.88	
SS-01	9/15/2016	12/1/2016	*Adlafia minuscula*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Amphora pediculus*	25	3.13	
SS-01	9/15/2016	12/1/2016	*Cocconeis pediculus*	6	0.75	
SS-01	9/15/2016	12/1/2016	*Cocconeis placentula*	6	0.75	
SS-01	9/15/2016	12/1/2016	*Diatoma vulgaris*	1	0.13	0.25
SS-01	9/15/2016	12/1/2016	*Encyonema minutum*	8	1	
	9/15/2016	12/1/2016	*Encyonema prostratum*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Encyonema silesiacum*	23	2.88	
SS-01	9/15/2016	12/1/2016	*Encyonema ventricosum*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Eolimna minima*	59	7.38	
SS-01	9/15/2016	12/1/2016	*Fragilaria capucina*	7	0.88	
SS-01	9/15/2016	12/1/2016	*Fragilaria capucina var. gracilis*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Fragilaria vaucheriae*	6	0.75	
SS-01	9/15/2016	12/1/2016	*Fragilariforma bicapitata*	5	0.63	
SS-01	9/15/2016	12/1/2016	*Frustulia vulgaris*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Geissleria acceptata*	4	0.5	
SS-01	9/15/2016	12/1/2016	*Gomphoneis minuta*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Gomphonema innocens*	7	0.88	
SS-01	9/15/2016	12/1/2016	*Gomphonema minutum*	14	1.75	
SS-01	9/15/2016	12/1/2016	*Gomphonema parvulum var. exilissimum*	6	0.75	
SS-01	9/15/2016	12/1/2016	*Gomphonema subclavatum*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Mayamaea agrestis*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Mayamaea atomus*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Melosira varians*	22	2.75	
SS-01	9/15/2016	12/1/2016	*Navicula antonii*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Navicula capitatoradiata*	11	1.38	
SS-01	9/15/2016	12/1/2016	*Navicula cryptocephala*	3	0.38	
SS-01	9/15/2016	12/1/2016	*Navicula cryptotenella*	3	0.38	
SS-01	9/15/2016	12/1/2016	*Navicula gregaria*	1	0.13	
SS-01	9/15/2016	12/1/2016	*Navicula oligotraphenta*	1	0.13	
SS-01	9/15/2016	12/1/2016	*Navicula reichardtiana*	5	0.63	
SS-01	9/15/2016	12/1/2016	*Navicula seminulum*	3	0.38	
SS-01	9/15/2016	12/1/2016	*Navicula tripunctata*	8	1	
SS-01	9/15/2016	12/1/2016	*Navicula trivialis*	8	1	
SS-01	9/15/2016	12/1/2016	*Nitzschia acicularis*	29	3.63	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-01	9/15/2016	12/1/2016	*Nitzschia agnita*	4	0.5	
SS-01	9/15/2016	12/1/2016	*Nitzschia archibaldii*	6	0.75	
SS-01	9/15/2016	12/1/2016	*Nitzschia dissipata*	22	2.75	
SS-01	9/15/2016	12/1/2016	*Nitzschia fonticola*	19	2.38	
SS-01	9/15/2016	12/1/2016	*Nitzschia inconspicua*	65	8.13	
SS-01	9/15/2016	12/1/2016	*Nitzschia linearis*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Nitzschia palea*	5	0.63	
SS-01	9/15/2016	12/1/2016	*Nitzschia palea var. tenuirostris*	6	0.75	
SS-01	9/15/2016	12/1/2016	*Nitzschia perminuta*	3	0.38	
SS-01	9/15/2016	12/1/2016	*Nitzschia pusilla*	20	2.5	
SS-01	9/15/2016	12/1/2016	*Nitzschia sociabilis*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Nitzschia supralitorea*	3	0.38	
SS-01	9/15/2016	12/1/2016	*Nitzschia tubicola*	4	0.5	
SS-01	9/15/2016	12/1/2016	*Parlibellus protracta*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Planothidium dubium*	5	0.63	
SS-01	9/15/2016	12/1/2016	*Planothidium frequentissimum*	30	3.75	
SS-01	9/15/2016	12/1/2016	*Planothidium lanceolatum*	14	1.75	
SS-01	9/15/2016	12/1/2016	*Psammothidium lauenbergianum*	1	0.13	
SS-01	9/15/2016	12/1/2016	*Pseudostarosira parasitica*	3	0.38	
SS-01	9/15/2016	12/1/2016	*Pseudostaurosira parasitica var. subconstricta*	5	0.63	
SS-01	9/15/2016	12/1/2016	*Rhoicosphenia abbreviata*	8	1	
SS-01	9/15/2016	12/1/2016	*Sellaphora pupula*	2	0.25	
SS-01	9/15/2016	12/1/2016	*Staurosira construens var pumila*	46	5.75	0.5
SS-01	9/15/2016	12/1/2016	*Staurosira construens var. binodis*	41	5.13	0.63
SS-01	9/15/2016	12/1/2016	*Staurosira construens var. venter*	43	5.38	
SS-01	9/15/2016	12/1/2016	*Staurosirella pinnata*	4	0.5	
SS-01	9/15/2016	12/1/2016	*Stephanocyclus meneghiniana*	97	12.13	
SS-01	9/15/2016	12/1/2016	*Thalassiosira pseudonana*	4	0.5	
SS-01	9/15/2016	12/1/2016	*Ulnaria spathulifera*	2	0.25	
	9/15/2016	12/1/2016	*Ulnaria ulna*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Amphora pediculus*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Cocconeis pediculus*	5	0.63	
	9/15/2016	12/5/2016	*Cocconeis placentula*	24	3	
	9/15/2016	12/5/2016	*Diatoma vulgaris*	139	17.38	
	9/15/2016	12/5/2016	*Encyonema leibleinia*	2	0.25	
	9/15/2016	12/5/2016	*Encyonema silesiacum*	18	2.25	0.63
	9/15/2016	12/5/2016	*Encyonema ventricosum*	7	0.88	
	9/15/2016	12/5/2016	*Eolimna minima*	4	0.5	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-05A	9/15/2016	12/5/2016	*Fragilaria vaucheriae*	1	0.13	
SS-05A	9/15/2016	12/5/2016	*Geissleria acceptata*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Geissleria decussis*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Gomphonema minutum*	8	1	
SS-05A	9/15/2016	12/5/2016	*Gomphonema parvulum*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Gomphonema pumilum*	3	0.38	
SS-05A	9/15/2016	12/5/2016	*Hippodonta lueneburgensis*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Mayamaea agrestis*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Mayamaea atomus*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Melosira varians*	37	4.63	
	9/15/2016	12/5/2016	*Navicula cryptotenella*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Navicula oligotraphenta*	1	0.13	
SS-05A	9/15/2016	12/5/2016	*Nitzschia acicularis*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Nitzschia agnita*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Nitzschia amphibia*	6	0.75	
SS-05A	9/15/2016	12/5/2016	*Nitzschia archibaldii*	4	0.5	
SS-05A	9/15/2016	12/5/2016	*Nitzschia dissipata*	12	1.5	
SS-05A	9/15/2016	12/5/2016	*Nitzschia fonticola*	11	1.38	
SS-05A	9/15/2016	12/5/2016	*Nitzschia inconspicua*	16	2	
SS-05A	9/15/2016	12/5/2016	*Nitzschia linearis*	1	0.13	
SS-05A	9/15/2016	12/5/2016	*Nitzschia palea var. tenuirostris*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Nitzschia paleacea*	5	0.63	
SS-05A	9/15/2016	12/5/2016	*Nitzschia pusilla*	8	1	
SS-05A	9/15/2016	12/5/2016	*Planothidium dubium*	6	0.75	
SS-05A	9/15/2016	12/5/2016	*Planothidium frequentissimum*	15	1.88	
SS-05A	9/15/2016	12/5/2016	*Planothidium haynaldii*	1	0.13	
SS-05A	9/15/2016	12/5/2016	*Planothidium lanceolatum*	8	1	
SS-05A	9/15/2016	12/5/2016	*Psammothidium subatomoides*	6	0.75	
SS-05A	9/15/2016	12/5/2016	*Pseudostaurosira brevistriata*	16	2	
SS-05A	9/15/2016	12/5/2016	*Reimeria sinuata*	1	0.13	
SS-05A	9/15/2016	12/5/2016	*Rhoicosphenia abbreviata*	18	2.25	
SS-05A	9/15/2016	12/5/2016	*Sellaphora pupula*	6	0.75	
SS-05A	9/15/2016	12/5/2016	*Staurosira construens*	5	0.63	
SS-05A	9/15/2016	12/5/2016	*Staurosira construens var pumila*	175	21.88	2.13
SS-05A	9/15/2016	12/5/2016	*Staurosira construens var. binodis*	112	14	2.75
SS-05A	9/15/2016	12/5/2016	*Staurosira construens var. venter*	41	5.13	
SS-05A	9/15/2016	12/5/2016	*Staurosirella leptostauron*	14	1.75	
SS-05A	9/15/2016	12/5/2016	*Staurosirella leptostauron var. dubia*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Staurosirella pinnata*	6	0.75	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-05A	9/15/2016	12/5/2016	*Stephanocyclus meneghiniana*	14	1.75	
SS-05A	9/15/2016	12/5/2016	*Surirella minuta*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Tryblionella hungarica*	2	0.25	
SS-05A	9/15/2016	12/5/2016	*Ulnaria contracta*	4	0.5	
SS-05A	9/15/2016	12/5/2016	*Ulnaria ulna*	8	1	
SS-06G	9/15/2016	12/6/2016	*Amphora pediculus*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Cocconeis pediculus*	12	1.5	
SS-06G	9/15/2016	12/6/2016	*Cocconeis placentula*	10	1.25	
SS-06G	9/15/2016	12/6/2016	*Craticula buderi*	4	0.5	
SS-06G	9/15/2016	12/6/2016	*Diatoma moniliformis*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Diatoma vulgaris*	390	48.75	1.5
SS-06G	9/15/2016	12/6/2016	*Encyonema minutum*	2	0.25	
SS-06G	9/15/2016	12/6/2016	*Encyonema silesiacum*	16	2	
SS-06G	9/15/2016	12/6/2016	*Encyonema ventricosum*	6	0.75	
SS-06G	9/15/2016	12/6/2016	*Eolimna minima*	4	0.5	
SS-06G	9/15/2016	12/6/2016	*Fragilaria capucina var. gracilis*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Fragilaria vaucheriae*	5	0.63	
SS-06G	9/15/2016	12/6/2016	*Gomphonema minutum*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Mayamaea atomus*	8	1	
SS-06G	9/15/2016	12/6/2016	*Melosira varians*	12	1.5	
SS-06G	9/15/2016	12/6/2016	*Navicula lanceolata*	3	0.38	
SS-06G	9/15/2016	12/6/2016	*Navicula trivialis*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Nitzschia archibaldii*	2	0.25	
SS-06G	9/15/2016	12/6/2016	*Nitzschia dissipata*	4	0.5	
SS-06G	9/15/2016	12/6/2016	*Nitzschia fonticola*	4	0.5	
SS-06G	9/15/2016	12/6/2016	*Nitzschia hantzschiana*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Nitzschia heufleriana*	2	0.25	
SS-06G	9/15/2016	12/6/2016	*Nitzschia inconspicua*	6	0.75	
SS-06G	9/15/2016	12/6/2016	*Nitzschia linearis*	2	0.25	
SS-06G	9/15/2016	12/6/2016	*Nitzschia paleacea*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Nitzschia perminuta*	2	0.25	
SS-06G	9/15/2016	12/6/2016	*Nitzschia pura*	2	0.25	
SS-06G	9/15/2016	12/6/2016	*Planothidium dubium*	2	0.25	
SS-06G	9/15/2016	12/6/2016	*Planothidium frequentissimum*	8	1	
SS-06G	9/15/2016	12/6/2016	*Planothidium lanceolatum*	9	1.13	
SS-06G	9/15/2016	12/6/2016	*Pseudostaurosira brevistriata*	15	1.88	
SS-06G	9/15/2016	12/6/2016	*Rhoicosphenia abbreviata*	57	7.13	
SS-06G	9/15/2016	12/6/2016	*Sellaphora pupula*	4	0.5	
SS-06G	9/15/2016	12/6/2016	*Staurosira construens*	12	1.5	
SS-06G	9/15/2016	12/6/2016	*Staurosira construens var pumila*	65	8.13	1.63

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-06G	9/15/2016	12/6/2016	*Staurosira construens var. binodis*	42	5.25	0.75
SS-06G	9/15/2016	12/6/2016	*Staurosira construens var. venter*	23	2.88	
SS-06G	9/15/2016	12/6/2016	*Staurosirella leptostauron*	16	2	0.13
SS-06G	9/15/2016	12/6/2016	*Staurosirella leptostauron var. dubia*	13	1.63	
SS-06G	9/15/2016	12/6/2016	*Staurosirella pinnata*	5	0.63	
SS-06G	9/15/2016	12/6/2016	*Stephanocyclus meneghiniana*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Surirella brebissonii*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Ulnaria contracta*	1	0.13	
SS-06G	9/15/2016	12/6/2016	*Ulnaria ulna*	23	2.88	
SS-07	9/15/2016	12/17/2016	*Achnanthidium minutissimum*	3	0.38	
SS-07	9/15/2016	12/17/2016	*Adlafia minuscula*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Amphora pediculus*	9	1.13	
SS-07	9/15/2016	12/17/2016	*Cocconeis pediculus*	6	0.75	
SS-07	9/15/2016	12/17/2016	*Cocconeis placentula*	24	3	
SS-07	9/15/2016	12/17/2016	*Craticula buderi*	3	0.38	
SS-07	9/15/2016	12/17/2016	*Diatoma moniliformis*	6	0.75	
SS-07	9/15/2016	12/17/2016	*Diatoma vulgaris*	131	16.38	0.25
SS-07	9/15/2016	12/17/2016	*Encyonema minutum*	7	0.88	
SS-07	9/15/2016	12/17/2016	*Encyonema reichardtii*	1	0.13	
SS-07	9/15/2016	12/17/2016	*Encyonema silesiacum*	14	1.75	0.38
SS-07	9/15/2016	12/17/2016	*Encyonema ventricosum*	8	1	
SS-07	9/15/2016	12/17/2016	*Eolimna minima*	13	1.63	
SS-07	9/15/2016	12/17/2016	*Fragilaria capucina*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Fragilaria capucina var. rumpens*	4	0.5	
SS-07	9/15/2016	12/17/2016	*Fragilaria vaucheriae*	14	1.75	
SS-07	9/15/2016	12/17/2016	*Geissleria acceptata*	3	0.38	
SS-07	9/15/2016	12/17/2016	*Gomphoneis minuta*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Gomphonema parvulum*	3	0.38	
SS-07	9/15/2016	12/17/2016	*Gomphonema parvulum var. exilissimum*	6	0.75	
SS-07	9/15/2016	12/17/2016	*Gomphonema pumilum*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Halamphora veneta*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Mayamaea atomus*	5	0.63	
SS-07	9/15/2016	12/17/2016	*Melosira varians*	26	3.25	
SS-07	9/15/2016	12/17/2016	*Navicula aquaedurae*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Navicula caterva*	1	0.13	
SS-07	9/15/2016	12/17/2016	*Navicula pseudolanceolata*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Navicula reichardtiana*	1	0.13	
SS-07	9/15/2016	12/17/2016	*Nitzschia agnita*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Nitzschia balcanica*	1	0.13	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-07	9/15/2016	12/17/2016	*Nitzschia dissipata*	5	0.63	
SS-07	9/15/2016	12/17/2016	*Nitzschia fonticola*	8	1	
SS-07	9/15/2016	12/17/2016	*Nitzschia hantzschiana*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Nitzschia inconspicua*	21	2.63	
SS-07	9/15/2016	12/17/2016	*Nitzschia lacuum*	1	0.13	
SS-07	9/15/2016	12/17/2016	*Nitzschia linearis*	7	0.88	
SS-07	9/15/2016	12/17/2016	*Nitzschia palea*	1	0.13	
SS-07	9/15/2016	12/17/2016	*Nitzschia paleacea*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Nitzschia pusilla*	5	0.63	
SS-07	9/15/2016	12/17/2016	*Nitzschia supralitorea*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Planothidium dubium*	3	0.38	
SS-07	9/15/2016	12/17/2016	*Planothidium frequentissimum*	22	2.75	
SS-07	9/15/2016	12/17/2016	*Planothidium lanceolatum*	13	1.63	
SS-07	9/15/2016	12/17/2016	*Psammothidium subatomoides*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Pseudostaurosira brevistriata*	36	4.5	
SS-07	9/15/2016	12/17/2016	*Reimeria sinuata*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Rhoicosphenia abbreviata*	37	4.63	
SS-07	9/15/2016	12/17/2016	*Sellaphora pupula*	3	0.38	
SS-07	9/15/2016	12/17/2016	*Staurosira construens*	2	0.25	
SS-07	9/15/2016	12/17/2016	*Staurosira construens var pumila*	101	12.63	0.5
SS-07	9/15/2016	12/17/2016	*Staurosira construens var. binodis*	119	14.88	1.13
SS-07	9/15/2016	12/17/2016	*Staurosira construens var. venter*	12	1.5	
SS-07	9/15/2016	12/17/2016	*Staurosirella leptostauron*	55	6.88	0.38
SS-07	9/15/2016	12/17/2016	*Staurosirella leptostauron var. dubia*	5	0.63	
SS-07	9/15/2016	12/17/2016	*Staurosirella pinnata*	8	1	
SS-07	9/15/2016	12/17/2016	*Stephanocyclus meneghiniana*	17	2.13	
SS-07	9/15/2016	12/17/2016	*Surirella minuta*	1	0.13	
SS-08	9/15/2016	12/8/2016	*Achnanthidium minutissimum*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Amphora pediculus*	1	0.13	
SS-08	9/15/2016	12/8/2016	*Cocconeis pediculus*	3	0.38	
SS-08	9/15/2016	12/8/2016	*Cocconeis placentula*	84	10.5	
SS-08	9/15/2016	12/8/2016	*Cyclostephanos invisitatus*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Cyclotella pseudostelligera*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Diatoma moniliformis*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Diatoma vulgaris*	10	1.25	
SS-08	9/15/2016	12/8/2016	*Encyonema minutum*	4	0.5	
SS-08	9/15/2016	12/8/2016	*Encyonema silesiacum*	41	5.13	0.38
SS-08	9/15/2016	12/8/2016	*Encyonema ventricosum*	14	1.75	
SS-08	9/15/2016	12/8/2016	*Eolimna minima*	60	7.5	0.5

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-08	9/15/2016	12/8/2016	*Fragilaria vaucheriae*	3	0.38	0.25
SS-08	9/15/2016	12/8/2016	*Fragilariforma bicapitata*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Geissleria acceptata*	6	0.75	
SS-08	9/15/2016	12/8/2016	*Geissleria decussis*	8	1	
SS-08	9/15/2016	12/8/2016	*Gomphonema innocens*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Gomphonema minutum*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Gomphonema parvulum*	8	1	
SS-08	9/15/2016	12/8/2016	*Gomphonema parvulum var. exilissimum*	8	1	
SS-08	9/15/2016	12/8/2016	*Mayamaea atomus*	13	1.63	
SS-08	9/15/2016	12/8/2016	*Melosira varians*	39	4.88	
SS-08	9/15/2016	12/8/2016	*Navicula aquaedurae*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Navicula caterva*	1	0.13	
SS-08	9/15/2016	12/8/2016	*Navicula seminulum*	3	0.38	
SS-08	9/15/2016	12/8/2016	*Navicula trivialis*	5	0.63	
SS-08	9/15/2016	12/8/2016	*Navicula veneta*	1	0.13	
SS-08	9/15/2016	12/8/2016	*Nitzschia amphibia*	54	6.75	
SS-08	9/15/2016	12/8/2016	*Nitzschia dissipata*	4	0.5	
SS-08	9/15/2016	12/8/2016	*Nitzschia fonticola*	6	0.75	
SS-08	9/15/2016	12/8/2016	*Nitzschia hantzschiana*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Nitzschia inconspicua*	73	9.13	
SS-08	9/15/2016	12/8/2016	*Nitzschia intermedia*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Nitzschia linearis*	1	0.13	
SS-08	9/15/2016	12/8/2016	*Nitzschia palea*	8	1	
SS-08	9/15/2016	12/8/2016	*Nitzschia paleacea*	5	0.63	0.25
SS-08	9/15/2016	12/8/2016	*Nitzschia pusilla*	15	1.88	
SS-08	9/15/2016	12/8/2016	*Nitzschia tubicola*	9	1.13	
SS-08	9/15/2016	12/8/2016	*Nitzschia vermicularis*	1	0.13	
SS-08	9/15/2016	12/8/2016	*Planothidium dubium*	4	0.5	
SS-08	9/15/2016	12/8/2016	*Planothidium frequentissimum*	13	1.63	
SS-08	9/15/2016	12/8/2016	*Planothidium lanceolatum*	12	1.5	
SS-08	9/15/2016	12/8/2016	*Psammothidium subatomoides*	2	0.25	
SS-08	9/15/2016	12/8/2016	*Pseudostaurosira brevistriata*	23	2.88	
SS-08	9/15/2016	12/8/2016	*Reimeria sinuata*	3	0.38	
SS-08	9/15/2016	12/8/2016	*Rhoicosphenia abbreviata*	34	4.25	
SS-08	9/15/2016	12/8/2016	*Staurosira construens var pumila*	72	9	0.63
SS-08	9/15/2016	12/8/2016	*Staurosira construens var. binodis*	84	10.5	0.88
SS-08	9/15/2016	12/8/2016	*Staurosira construens var. venter*	14	1.75	
SS-08	9/15/2016	12/8/2016	*Staurosirella leptostauron*	18	2.25	
SS-08	9/15/2016	12/8/2016	*Stephanocyclus meneghiniana*	5	0.63	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-08	9/15/2016	12/8/2016	*Ulnaria ulna*	8	1	
SS-10A	9/15/2016	12/19/2016	*Cocconeis pediculus*	3	0.38	
SS-10A	9/15/2016	12/19/2016	*Cocconeis placentula*	59	7.38	
SS-10A	9/15/2016	12/19/2016	*Cyclostephanos invisitatus*	1	0.13	
SS-10A	9/15/2016	12/19/2016	*Diatoma moniliformis*	2	0.25	
SS-10A	9/15/2016	12/19/2016	*Diatoma vulgaris*	182	22.75	0.63
SS-10A	9/15/2016	12/19/2016	*Encyonema minutum*	6	0.75	
SS-10A	9/15/2016	12/19/2016	*Encyonema silesiacum*	18	2.25	
SS-10A	9/15/2016	12/19/2016	*Encyonema ventricosum*	19	2.38	
SS-10A	9/15/2016	12/19/2016	*Eolimna minima*	16	2	
SS-10A	9/15/2016	12/19/2016	*Fragilaria capucina*	2	0.25	
SS-10A	9/15/2016	12/19/2016	*Fragilaria capucina var. gracilis*	4	0.5	
SS-10A	9/15/2016	12/19/2016	*Fragilaria vaucheriae*	12	1.5	
SS-10A	9/15/2016	12/19/2016	*Gomphonema minutum*	1	0.13	
SS-10A	9/15/2016	12/19/2016	*Gomphonema parvulum var. exilissimum*	10	1.25	
SS-10A	9/15/2016	12/19/2016	*Lemnicola hungarica*	2	0.25	
SS-10A	9/15/2016	12/19/2016	*Mayamaea atomus*	17	2.13	
SS-10A	9/15/2016	12/19/2016	*Melosira varians*	14	1.75	
SS-10A	9/15/2016	12/19/2016	*Navicula lanceolata*	2	0.25	
SS-10A	9/15/2016	12/19/2016	*Navicula oligotraphenta*	1	0.13	
SS-10A	9/15/2016	12/19/2016	*Navicula reichardtiana*	2	0.25	
SS-10A	9/15/2016	12/19/2016	*Nitzschia amphibia*	118	14.75	
SS-10A	9/15/2016	12/19/2016	*Nitzschia fonticola*	4	0.5	
SS-10A	9/15/2016	12/19/2016	*Nitzschia inconspicua*	39	4.88	
SS-10A	9/15/2016	12/19/2016	*Nitzschia linearis*	1	0.13	
SS-10A	9/15/2016	12/19/2016	*Nitzschia palea*	7	0.88	
SS-10A	9/15/2016	12/19/2016	*Nitzschia paleacea*	20	2.5	
SS-10A	9/15/2016	12/19/2016	*Nitzschia perminuta*	4	0.5	
SS-10A	9/15/2016	12/19/2016	*Nitzschia pumila*	2	0.25	
SS-10A	9/15/2016	12/19/2016	*Nitzschia pusilla*	5	0.63	
SS-10A	9/15/2016	12/19/2016	*Planothidium dubium*	4	0.5	
SS-10A	9/15/2016	12/19/2016	*Planothidium frequentissimum*	8	1	
SS-10A	9/15/2016	12/19/2016	*Planothidium lanceolatum*	6	0.75	
SS-10A	9/15/2016	12/19/2016	*Pseudostaurosira brevistriata*	10	1.25	
SS-10A	9/15/2016	12/19/2016	*Rhoicosphenia abbreviata*	26	3.25	
SS-10A	9/15/2016	12/19/2016	*Staurosira construens var pumila*	40	5	0.25
SS-10A	9/15/2016	12/19/2016	*Staurosira construens var. binodis*	74	9.25	0.5
SS-10A	9/15/2016	12/19/2016	*Staurosira construens var. venter*	10	1.25	
SS-10A	9/15/2016	12/19/2016	*Staurosirella pinnata*	1	0.13	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-10A	9/15/2016	12/19/2016	*Stephanocyclus meneghiniana*	4	0.5	
SS-10A	9/15/2016	12/19/2016	*Ulnaria contracta*	14	1.75	
SS-10A	9/15/2016	12/19/2016	*Ulnaria oxyrhynchus*	6	0.75	0.13
SS-10A	9/15/2016	12/19/2016	*Ulnaria ulna*	24	3	
SS-10B	9/15/2016	12/20/2016	*Cocconeis pediculus*	4	0.5	
SS-10B	9/15/2016	12/20/2016	*Cocconeis placentula*	58	7.25	
SS-10B	9/15/2016	12/20/2016	*Diatoma vulgaris*	62	7.75	
SS-10B	9/15/2016	12/20/2016	*Encyonema minutum*	10	1.25	
SS-10B	9/15/2016	12/20/2016	*Encyonema silesiacum*	9	1.13	
SS-10B	9/15/2016	12/20/2016	*Encyonema ventricosum*	5	0.63	
SS-10B	9/15/2016	12/20/2016	*Eolimna minima*	42	5.25	
SS-10B	9/15/2016	12/20/2016	*Fragilaria capucina*	4	0.5	
SS-10B	9/15/2016	12/20/2016	*Fragilaria vaucheriae*	8	1	
SS-10B	9/15/2016	12/20/2016	*Gomphonema parvulum var. exilissimum*	1	0.13	
SS-10B	9/15/2016	12/20/2016	*Mayamaea atomus*	107	13.38	
SS-10B	9/15/2016	12/20/2016	*Melosira varians*	9	1.13	
SS-10B	9/15/2016	12/20/2016	*Nitzschia amphibia*	176	22	
SS-10B	9/15/2016	12/20/2016	*Nitzschia fonticola*	9	1.13	
SS-10B	9/15/2016	12/20/2016	*Nitzschia inconspicua*	86	10.75	
SS-10B	9/15/2016	12/20/2016	*Nitzschia palea*	6	0.75	
SS-10B	9/15/2016	12/20/2016	*Nitzschia palea var. tenuirostris*	2	0.25	
SS-10B	9/15/2016	12/20/2016	*Nitzschia paleacea*	7	0.88	
SS-10B	9/15/2016	12/20/2016	*Nitzschia pusilla*	5	0.63	
SS-10B	9/15/2016	12/20/2016	*Nitzschia supralitorea*	1	0.13	
SS-10B	9/15/2016	12/20/2016	*Planothidium frequentissimum*	13	1.63	
SS-10B	9/15/2016	12/20/2016	*Planothidium lanceolatum*	2	0.25	
SS-10B	9/15/2016	12/20/2016	*Pseudostaurosira brevistriata*	4	0.5	
SS-10B	9/15/2016	12/20/2016	*Rhoicosphenia abbreviata*	18	2.25	
SS-10B	9/15/2016	12/20/2016	*Staurosira construens var pumila*	32	4	0.5
SS-10B	9/15/2016	12/20/2016	*Staurosira construens var. binodis*	51	6.38	0.75
SS-10B	9/15/2016	12/20/2016	*Staurosira construens var. venter*	11	1.38	
SS-10B	9/15/2016	12/20/2016	*Staurosirella leptostauron*	8	1	0.38
SS-10B	9/15/2016	12/20/2016	*Staurosirella pinnata*	4	0.5	
SS-10B	9/15/2016	12/20/2016	*Stephanocyclus meneghiniana*	5	0.63	
SS-10B	9/15/2016	12/20/2016	*Surirella angusta*	2	0.25	
SS-10B	9/15/2016	12/20/2016	*Ulnaria contracta*	16	2	
SS-10B	9/15/2016	12/20/2016	*Ulnaria oxyrhynchus*	7	0.88	
SS-10B	9/15/2016	12/20/2016	*Ulnaria ulna*	16	2	
SS-11C	9/15/2016	12/21/2016	*Achnanthidium*	3	0.38	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
			minutissimum			
SS-11C	9/15/2016	12/21/2016	*Adlafia minuscula*	2	0.25	
SS-11C	9/15/2016	12/21/2016	*Amphora copulata*	2	0.25	
SS-11C	9/15/2016	12/21/2016	*Cocconeis placentula*	36	4.5	
SS-11C	9/15/2016	12/21/2016	*Diatoma moniliformis*	2	0.25	
SS-11C	9/15/2016	12/21/2016	*Diatoma vulgaris*	1	0.13	
SS-11C	9/15/2016	12/21/2016	*Encyonema silesiacum*	21	2.63	0.25
SS-11C	9/15/2016	12/21/2016	*Encyonema ventricosum*	11	1.38	
SS-11C	9/15/2016	12/21/2016	*Eolimna minima*	20	2.5	
SS-11C	9/15/2016	12/21/2016	*Fragilaria capucina*	9	1.13	
SS-11C	9/15/2016	12/21/2016	*Fragilaria vaucheriae*	94	11.75	0.38
SS-11C	9/15/2016	12/21/2016	*Gomphonema parvulum var. exilissimum*	2	0.25	
SS-11C	9/15/2016	12/21/2016	*Halamphora veneta*	19	2.38	
SS-11C	9/15/2016	12/21/2016	*Mayamaea atomus*	65	8.13	
SS-11C	9/15/2016	12/21/2016	*Melosira varians*	3	0.38	
SS-11C	9/15/2016	12/21/2016	*Navicula veneta*	2	0.25	
SS-11C	9/15/2016	12/21/2016	*Nitzschia amphibia*	88	11	
SS-11C	9/15/2016	12/21/2016	*Nitzschia fonticola*	6	0.75	
SS-11C	9/15/2016	12/21/2016	*Nitzschia inconspicua*	52	6.5	
SS-11C	9/15/2016	12/21/2016	*Nitzschia linearis*	1	0.13	
SS-11C	9/15/2016	12/21/2016	*Nitzschia palea*	11	1.38	
SS-11C	9/15/2016	12/21/2016	*Nitzschia paleacea*	29	3.63	
SS-11C	9/15/2016	12/21/2016	*Nitzschia pusilla*	1	0.13	
SS-11C	9/15/2016	12/21/2016	*Nitzschia tubicola*	2	0.25	
SS-11C	9/15/2016	12/21/2016	*Planothidium frequentissimum*	14	1.75	
SS-11C	9/15/2016	12/21/2016	*Planothidium lanceolatum*	6	0.75	
SS-11C	9/15/2016	12/21/2016	*Pseudostaurosira brevistriata*	10	1.25	
SS-11C	9/15/2016	12/21/2016	*Rhoicosphenia abbreviata*	3	0.38	
SS-11C	9/15/2016	12/21/2016	*Staurosira construens var. pumila*	62	7.75	0.5
SS-11C	9/15/2016	12/21/2016	*Staurosira construens var. binodus*	82	10.25	0.88
SS-11C	9/15/2016	12/21/2016	*Staurosira construens var. venter*	44	5.5	
SS-11C	9/15/2016	12/21/2016	*Staurosirella leptostauron*	11	1.38	
SS-11C	9/15/2016	12/21/2016	*Staurosirella pinnata*	3	0.38	
SS-11C	9/15/2016	12/21/2016	*Stephanocyclus meneghiniana*	9	1.13	
SS-11C	9/15/2016	12/21/2016	*Surirella brebissonii*	1	0.13	
SS-11C	9/15/2016	12/21/2016	*Ulnaria contracta*	16	2	
SS-11C	9/15/2016	12/21/2016	*Ulnaria oxyrhynchus*	8	1	
SS-11C	9/15/2016	12/21/2016	*Ulnaria ulna*	49	6.13	
SS-11D	9/15/2016	12/22/2016	*Achnanthidium minutissimum*	1	0.13	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-11D	9/15/2016	12/22/2016	*Cocconeis pediculus*	2	0.25	
SS-11D	9/15/2016	12/22/2016	*Cocconeis placentula*	21	2.63	
SS-11D	9/15/2016	12/22/2016	*Diatoma vulgaris*	1	0.13	
SS-11D	9/15/2016	12/22/2016	*Encyonema minutum*	2	0.25	
SS-11D	9/15/2016	12/22/2016	*Encyonema silesiacum*	7	0.88	
SS-11D	9/15/2016	12/22/2016	*Encyonema ventricosum*	5	0.63	
SS-11D	9/15/2016	12/22/2016	*Eolimna minima*	25	3.13	
SS-11D	9/15/2016	12/22/2016	*Fragilaria capucina*	2	0.25	
SS-11D	9/15/2016	12/22/2016	*Fragilaria vaucheriae*	88	11	
SS-11D	9/15/2016	12/22/2016	*Gomphonema parvulum*	5	0.63	
SS-11D	9/15/2016	12/22/2016	*Gomphonema parvulum var. exilissimum*	6	0.75	
SS-11D	9/15/2016	12/22/2016	*Halamphora veneta*	18	2.25	
SS-11D	9/15/2016	12/22/2016	*Luticola mutica*	1	0.13	
SS-11D	9/15/2016	12/22/2016	*Mayamaea atomus*	216	27	
SS-11D	9/15/2016	12/22/2016	*Melosira varians*	11	1.38	
SS-11D	9/15/2016	12/22/2016	*Navicula trivialis*	2	0.25	
SS-11D	9/15/2016	12/22/2016	*Nitzschia amphibia*	74	9.25	
SS-11D	9/15/2016	12/22/2016	*Nitzschia fonticola*	7	0.88	
SS-11D	9/15/2016	12/22/2016	*Nitzschia inconspicua*	54	6.75	
SS-11D	9/15/2016	12/22/2016	*Nitzschia linearis*	3	0.38	
SS-11D	9/15/2016	12/22/2016	*Nitzschia palea*	3	0.38	
SS-11D	9/15/2016	12/22/2016	*Nitzschia palea var. tenuirostris*	2	0.25	
SS-11D	9/15/2016	12/22/2016	*Nitzschia paleacea*	37	4.63	
SS-11D	9/15/2016	12/22/2016	*Nitzschia perminuta*	1	0.13	
SS-11D	9/15/2016	12/22/2016	*Nitzschia pusilla*	1	0.13	
SS-11D	9/15/2016	12/22/2016	*Planothidium frequentissimum*	8	1	
SS-11D	9/15/2016	12/22/2016	*Planothidium lanceolatum*	2	0.25	
SS-11D	9/15/2016	12/22/2016	*Reimeria sinuata*	1	0.13	
SS-11D	9/15/2016	12/22/2016	*Rhoicosphenia abbreviata*	5	0.63	
SS-11D	9/15/2016	12/22/2016	*Sellaphora pupula*	2	0.25	
SS-11D	9/15/2016	12/22/2016	*Staurosira construens var. pumila*	45	5.63	0.38
SS-11D	9/15/2016	12/22/2016	*Staurosira construens var. binodus*	60	7.5	1.25
SS-11D	9/15/2016	12/22/2016	*Staurosira construens var. venter*	18	2.25	
SS-11D	9/15/2016	12/22/2016	*Staurosirella leptostauron*	5	0.63	
SS-11D	9/15/2016	12/22/2016	*Staurosirella pinnata*	6	0.75	
SS-11D	9/15/2016	12/22/2016	*Stephanocyclus meneghiniana*	7	0.88	
SS-11D	9/15/2016	12/22/2016	*Tabularia fasciculata*	1	0.13	
SS-11D	9/15/2016	12/22/2016	*Ulnaria contracta*	9	1.13	
SS-11D	9/15/2016	12/22/2016	*Ulnaria oxyrhynchus*	8	1	0.25

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-11D	9/15/2016	12/22/2016	*Ulnaria ulna*	28	3.5	
SS-13	9/15/2016	12/22/2016	*Adlafia minuscula*	2	0.25	
SS-13	9/15/2016	12/22/2016	*Cocconeis placentula*	31	3.88	
SS-13	9/15/2016	12/22/2016	*Encyonema minutum*	4	0.5	
SS-13	9/15/2016	12/22/2016	*Encyonema silesiacum*	25	3.13	
SS-13	9/15/2016	12/22/2016	*Encyonema ventricosum*	13	1.63	
SS-13	9/15/2016	12/22/2016	*Eolimna minima*	19	2.38	
SS-13	9/15/2016	12/22/2016	*Fragilaria vaucheriae*	151	18.88	
SS-13	9/15/2016	12/22/2016	*Gomphonema parvulum*	9	1.13	
SS-13	9/15/2016	12/22/2016	*Gomphonema parvulum var. exilissimum*	4	0.5	
SS-13	9/15/2016	12/22/2016	*Halamphora veneta*	17	2.13	
SS-13	9/15/2016	12/22/2016	*Mayamaea atomus*	91	11.38	
SS-13	9/15/2016	12/22/2016	*Melosira varians*	13	1.63	
SS-13	9/15/2016	12/22/2016	*Navicula libonensis*	1	0.13	
SS-13	9/15/2016	12/22/2016	*Navicula veneta*	1	0.13	
SS-13	9/15/2016	12/22/2016	*Nitzschia amphibia*	61	7.63	
SS-13	9/15/2016	12/22/2016	*Nitzschia archibaldii*	2	0.25	
SS-13	9/15/2016	12/22/2016	*Nitzschia fonticola*	10	1.25	
SS-13	9/15/2016	12/22/2016	*Nitzschia inconspicua*	59	7.38	
SS-13	9/15/2016	12/22/2016	*Nitzschia linearis*	2	0.25	
SS-13	9/15/2016	12/22/2016	*Nitzschia palea*	3	0.38	
SS-13	9/15/2016	12/22/2016	*Nitzschia paleacea*	25	3.13	0.75
SS-13	9/15/2016	12/22/2016	*Nitzschia pusilla*	3	0.38	
SS-13	9/15/2016	12/22/2016	*Nitzschia recta*	1	0.13	
SS-13	9/15/2016	12/22/2016	*Planothidium frequentissimum*	1	0.13	
SS-13	9/15/2016	12/22/2016	*Planothidium lanceolatum*	4	0.5	
SS-13	9/15/2016	12/22/2016	*Rhoicosphenia abbreviata*	6	0.75	
SS-13	9/15/2016	12/22/2016	*Staurosira construens var pumila*	76	9.5	0.88
SS-13	9/15/2016	12/22/2016	*Staurosira construens var. binodus*	26	3.25	0.5
SS-13	9/15/2016	12/22/2016	*Staurosira construens var. venter*	32	4	
SS-13	9/15/2016	12/22/2016	*Staurosirella leptostauron*	8	1	
SS-13	9/15/2016	12/22/2016	*Staurosirella pinnata*	2	0.25	
SS-13	9/15/2016	12/22/2016	*Stephanocyclus meneghiniana*	11	1.38	
SS-13	9/15/2016	12/22/2016	*Ulnaria contracta*	25	3.13	
SS-13	9/15/2016	12/22/2016	*Ulnaria oxyrhynchus*	13	1.63	0.5
SS-13	9/15/2016	12/22/2016	*Ulnaria ulna*	49	6.13	
SS-14	9/14/2016	12/28/2016	*Amphora pediculus*	2	0.25	
SS-14	9/14/2016	12/28/2016	*Cocconeis pediculus*	2	0.25	
SS-14	9/14/2016	12/28/2016	*Cocconeis placentula*	49	6.13	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-14	9/14/2016	12/28/2016	*Cyclostephanos invisitatus*	2	0.25	
SS-14	9/14/2016	12/28/2016	*Diatoma moniliformis*	1	0.13	
SS-14	9/14/2016	12/28/2016	*Encyonema minutum*	7	0.88	
SS-14	9/14/2016	12/28/2016	*Encyonema silesiacum*	19	2.38	0.13
SS-14	9/14/2016	12/28/2016	*Encyonema ventricosum*	10	1.25	
SS-14	9/14/2016	12/28/2016	*Eolimna minima*	19	2.38	
SS-14	9/14/2016	12/28/2016	*Fragilaria capucina var. gracilis*	8	1	
SS-14	9/14/2016	12/28/2016	*Fragilaria vaucheriae*	91	11.38	
SS-14	9/14/2016	12/28/2016	*Gomphonema parvulum*	5	0.63	
SS-14	9/14/2016	12/28/2016	*Gomphonema parvulum var. exilissimum*	5	0.63	
SS-14	9/14/2016	12/28/2016	*Halamphora veneta*	23	2.88	
SS-14	9/14/2016	12/28/2016	*Mayamaea atomus*	35	4.38	
SS-14	9/14/2016	12/28/2016	*Melosira varians*	7	0.88	
SS-14	9/14/2016	12/28/2016	*Navicula aquaedurae*	1	0.13	
SS-14	9/14/2016	12/28/2016	*Navicula cryptocephala*	2	0.25	
SS-14	9/14/2016	12/28/2016	*Navicula lanceolata*	5	0.63	
SS-14	9/14/2016	12/28/2016	*Nitzschia amphibia*	32	4	
SS-14	9/14/2016	12/28/2016	*Nitzschia fonticola*	8	1	
SS-14	9/14/2016	12/28/2016	*Nitzschia inconspicua*	48	6	
SS-14	9/14/2016	12/28/2016	*Nitzschia linearis*	7	0.88	
SS-14	9/14/2016	12/28/2016	*Nitzschia linearis var. subtilis*	2	0.25	
SS-14	9/14/2016	12/28/2016	*Nitzschia palea*	3	0.38	
SS-14	9/14/2016	12/28/2016	*Nitzschia palea var. tenuirostris*	6	0.75	
SS-14	9/14/2016	12/28/2016	*Nitzschia paleacea*	57	7.13	0.63
SS-14	9/14/2016	12/28/2016	*Nitzschia pusilla*	2	0.25	
SS-14	9/14/2016	12/28/2016	*Planothidium dubium*	1	0.13	
SS-14	9/14/2016	12/28/2016	*Planothidium frequentissimum*	19	2.38	
SS-14	9/14/2016	12/28/2016	*Planothidium lanceolatum*	3	0.38	
SS-14	9/14/2016	12/28/2016	*Pseudostarosira parasitica*	2	0.25	
SS-14	9/14/2016	12/28/2016	*Rhoicosphenia abbreviata*	7	0.88	
SS-14	9/14/2016	12/28/2016	*Sellaphora pupula*	1	0.13	
SS-14	9/14/2016	12/28/2016	*Staurosira construens var pumila*	54	6.75	1.13
SS-14	9/14/2016	12/28/2016	*Staurosira construens var. binodus*	109	13.63	1.88
SS-14	9/14/2016	12/28/2016	*Staurosira construens var. venter*	14	1.75	
SS-14	9/14/2016	12/28/2016	*Staurosirella leptostauron*	11	1.38	
SS-14	9/14/2016	12/28/2016	*Stephanocyclus meneghiniana*	24	3	
SS-14	9/14/2016	12/28/2016	*Ulnaria acus*	2	0.25	
SS-14	9/14/2016	12/28/2016	*Ulnaria contracta*	21	2.63	0.25

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-14	9/14/2016	12/28/2016	*Ulnaria oxyrhynchus*	19	2.38	0.13
SS-14	9/14/2016	12/28/2016	*Ulnaria ulna*	55	6.88	
SS-15G	9/14/2016	1/2/2017	*Achnanthidium minutissimum*	37	4.63	
SS-15G	9/14/2016	1/2/2017	*Adlafia minuscula*	8	1	
SS-15G	9/14/2016	1/2/2017	*Amphora pediculus*	10	1.25	
SS-15G	9/14/2016	1/2/2017	*Cocconeis pediculus*	11	1.38	
SS-15G	9/14/2016	1/2/2017	*Cocconeis placentula*	89	11.13	0.38
SS-15G	9/14/2016	1/2/2017	*Cymatopleura elliptica*	1	0.13	
SS-15G	9/14/2016	1/2/2017	*Cymbella affinis*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Cymbella janischii*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Diatoma moniliformis*	16	2	
SS-15G	9/14/2016	1/2/2017	*Didymosphenia geminata*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Encyonema cespitosum*	21	2.63	
SS-15G	9/14/2016	1/2/2017	*Encyonema minutum*	5	0.63	
SS-15G	9/14/2016	1/2/2017	*Encyonema muelleri*	4	0.5	
SS-15G	9/14/2016	1/2/2017	*Encyonema reichardtii*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Encyonema silesiacum*	42	5.25	0.5
SS-15G	9/14/2016	1/2/2017	*Eolimna minima*	13	1.63	
SS-15G	9/14/2016	1/2/2017	*Fragilaria vaucheriae*	22	2.75	0.25
SS-15G	9/14/2016	1/2/2017	*Geissleria acceptata*	3	0.38	
SS-15G	9/14/2016	1/2/2017	*Gomphoneis eriense*	3	0.38	
SS-15G	9/14/2016	1/2/2017	*Gomphonema minutum*	4	0.5	
SS-15G	9/14/2016	1/2/2017	*Gomphonema pumilum*	5	0.63	
SS-15G	9/14/2016	1/2/2017	*Navicula antonii*	5	0.63	
SS-15G	9/14/2016	1/2/2017	*Navicula capitatoradiata*	9	1.13	
SS-15G	9/14/2016	1/2/2017	*Navicula caterva*	15	1.88	
SS-15G	9/14/2016	1/2/2017	*Navicula cryptotenella*	58	7.25	
SS-15G	9/14/2016	1/2/2017	*Navicula reichardtiana*	68	8.5	
SS-15G	9/14/2016	1/2/2017	*Navicula tenelloides*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Navicula tripunctata*	60	7.5	
SS-15G	9/14/2016	1/2/2017	*Nitzschia agnita*	6	0.75	
SS-15G	9/14/2016	1/2/2017	*Nitzschia archibaldii*	70	8.75	
SS-15G	9/14/2016	1/2/2017	*Nitzschia dissipata*	19	2.38	
SS-15G	9/14/2016	1/2/2017	*Nitzschia fonticola*	34	4.25	
SS-15G	9/14/2016	1/2/2017	*Nitzschia inconspicua*	10	1.25	
SS-15G	9/14/2016	1/2/2017	*Nitzschia linearis*	20	2.5	
SS-15G	9/14/2016	1/2/2017	*Nitzschia pumila*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Nitzschia pusilla*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Planothidium dubium*	11	1.38	
SS-15G	9/14/2016	1/2/2017	*Planothidium frequentissimum*	35	4.38	
SS-15G	9/14/2016	1/2/2017	*Planothidium lanceolatum*	13	1.63	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-15G	9/14/2016	1/2/2017	*Psammothidium subatomoides*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Reimeria sinuata*	5	0.63	
SS-15G	9/14/2016	1/2/2017	*Rhoicosphenia abbreviata*	31	3.88	
SS-15G	9/14/2016	1/2/2017	*Rossithidium pusillum*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Staurosira construens var pumila*	4	0.5	
SS-15G	9/14/2016	1/2/2017	*Staurosirella leptostauron*	5	0.63	
SS-15G	9/14/2016	1/2/2017	*Staurosirella leptostauron var. dubia*	2	0.25	
SS-15G	9/14/2016	1/2/2017	*Staurosirella pinnata*	6	0.75	
SS-15G	9/14/2016	1/2/2017	*Stephanocyclus meneghiniana*	1	0.13	
SS-15G	9/14/2016	1/2/2017	*Ulnaria oxyrhynchus*	1	0.13	
SS-15A	9/14/2016	12/28/2016	*Adlafia minuscula*	1	0.13	
SS-15A	9/14/2016	12/28/2016	*Cocconeis placentula*	39	4.88	0.38
SS-15A	9/14/2016	12/28/2016	*Diatoma vulgaris*	4	0.5	
SS-15A	9/14/2016	12/28/2016	*Encyonema minutum*	12	1.5	
SS-15A	9/14/2016	12/28/2016	*Encyonema silesiacum*	94	11.75	
SS-15A	9/14/2016	12/28/2016	*Encyonema ventricosum*	11	1.38	
SS-15A	9/14/2016	12/28/2016	*Eolimna minima*	22	2.75	
SS-15A	9/14/2016	12/28/2016	*Fragilaria capucina var. gracilis*	5	0.63	
SS-15A	9/14/2016	12/28/2016	*Fragilaria vaucheriae*	61	7.63	1
SS-15A	9/14/2016	12/28/2016	*Gomphonema innocens*	3	0.38	
SS-15A	9/14/2016	12/28/2016	*Gomphonema parvulum var. exilissimum*	5	0.63	
SS-15A	9/14/2016	12/28/2016	*Gomphonema subclavatum*	2	0.25	
SS-15A	9/14/2016	12/28/2016	*Halamphora veneta*	6	0.75	
SS-15A	9/14/2016	12/28/2016	*Mayamaea atomus*	18	2.25	
SS-15A	9/14/2016	12/28/2016	*Melosira varians*	16	2	
SS-15A	9/14/2016	12/28/2016	*Navicula aquaedurae*	2	0.25	
SS-15A	9/14/2016	12/28/2016	*Navicula seminulum*	3	0.38	
SS-15A	9/14/2016	12/28/2016	*Nitzschia amphibia*	42	5.25	0.38
SS-15A	9/14/2016	12/28/2016	*Nitzschia fonticola*	6	0.75	
SS-15A	9/14/2016	12/28/2016	*Nitzschia inconspicua*	40	5	
SS-15A	9/14/2016	12/28/2016	*Nitzschia linearis*	3	0.38	
SS-15A	9/14/2016	12/28/2016	*Nitzschia palea*	2	0.25	
SS-15A	9/14/2016	12/28/2016	*Nitzschia palea var. tenuirostris*	2	0.25	
SS-15A	9/14/2016	12/28/2016	*Nitzschia paleacea*	6	0.75	0.25
SS-15A	9/14/2016	12/28/2016	*Nitzschia pura*	2	0.25	
SS-15A	9/14/2016	12/28/2016	*Nitzschia supralitorea*	2	0.25	
SS-15A	9/14/2016	12/28/2016	*Nitzschia tubicola*	4	0.5	
SS-15A	9/14/2016	12/28/2016	*Planothidium dubium*	6	0.75	
SS-15A	9/14/2016	12/28/2016	*Planothidium frequentissimum*	19	2.38	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-15A	9/14/2016	12/28/2016	*Planothidium lanceolatum*	23	2.88	
SS-15A	9/14/2016	12/28/2016	*Reimeria sinuata*	3	0.38	
SS-15A	9/14/2016	12/28/2016	*Rhoicosphenia abbreviata*	16	2	
SS-15A	9/14/2016	12/28/2016	*Sellaphora pupula*	2	0.25	
SS-15A	9/14/2016	12/28/2016	*Staurosira construens var pumila*	117	14.63	1.63
SS-15A	9/14/2016	12/28/2016	*Staurosira construens var. binodus*	94	11.75	0.75
SS-15A	9/14/2016	12/28/2016	*Staurosira construens var. venter*	30	3.75	
SS-15A	9/14/2016	12/28/2016	*Staurosirella leptostauron*	17	2.13	
SS-15A	9/14/2016	12/28/2016	*Staurosirella leptostauron var. dubia*	2	0.25	
SS-15A	9/14/2016	12/28/2016	*Stephanocyclus meneghiniana*	27	3.38	
SS-15A	9/14/2016	12/28/2016	*Stephanodiscus hantzschii*	1	0.13	
SS-15A	9/14/2016	12/28/2016	*Surirella brebissonii*	2	0.25	
SS-15A	9/14/2016	12/28/2016	*Surirella minuta*	3	0.38	
SS-15A	9/14/2016	12/28/2016	*Ulnaria acus*	4	0.5	
SS-15A	9/14/2016	12/28/2016	*Ulnaria contracta*	5	0.63	
SS-15A	9/14/2016	12/28/2016	*Ulnaria oxyrhynchus*	4	0.5	
SS-15A	9/14/2016	12/28/2016	*Ulnaria ulna*	12	1.5	
SS-15B	9/14/2016	12/29/2016	*Achnanthidium minutissimum*	5	0.63	
SS-15B	9/14/2016	12/29/2016	*Amphora pediculus*	5	0.63	
SS-15B	9/14/2016	12/29/2016	*Cocconeis pediculus*	3	0.38	
SS-15B	9/14/2016	12/29/2016	*Cocconeis placentula*	63	7.88	
SS-15B	9/14/2016	12/29/2016	*Diatoma vulgaris*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Encyonema minutum*	3	0.38	
SS-15B	9/14/2016	12/29/2016	*Encyonema silesiacum*	70	8.75	0.38
SS-15B	9/14/2016	12/29/2016	*Encyonema ventricosum*	11	1.38	
SS-15B	9/14/2016	12/29/2016	*Eolimna minima*	37	4.63	
SS-15B	9/14/2016	12/29/2016	*Fragilaria capucina*	1	0.13	
SS-15B	9/14/2016	12/29/2016	*Fragilaria capucina var. gracilis*	4	0.5	
SS-15B	9/14/2016	12/29/2016	*Fragilaria vaucheriae*	59	7.38	1
SS-15B	9/14/2016	12/29/2016	*Geissleria acceptata*	1	0.13	
SS-15B	9/14/2016	12/29/2016	*Gomphonema parvulum*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Gomphonema parvulum var. exilissimum*	11	1.38	
SS-15B	9/14/2016	12/29/2016	*Halamphora veneta*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Hippodonta capitata*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Mayamaea atomus*	25	3.13	
SS-15B	9/14/2016	12/29/2016	*Melosira varians*	10	1.25	
SS-15B	9/14/2016	12/29/2016	*Navicula aquaedurae*	4	0.5	
SS-15B	9/14/2016	12/29/2016	*Navicula caterva*	2	0.25	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-15B	9/14/2016	12/29/2016	*Navicula cryptotenella*	6	0.75	
SS-15B	9/14/2016	12/29/2016	*Navicula gregaria*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Navicula libonensis*	1	0.13	
SS-15B	9/14/2016	12/29/2016	*Navicula reichardtiana*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Navicula tripunctata*	4	0.5	
SS-15B	9/14/2016	12/29/2016	*Navicula trivialis*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Navicula veneta*	4	0.5	
SS-15B	9/14/2016	12/29/2016	*Nitzschia amphibia*	26	3.25	0.5
SS-15B	9/14/2016	12/29/2016	*Nitzschia archibaldii*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Nitzschia balcanica*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Nitzschia fonticola*	7	0.88	
SS-15B	9/14/2016	12/29/2016	*Nitzschia inconspicua*	39	4.88	0.25
SS-15B	9/14/2016	12/29/2016	*Nitzschia linearis*	6	0.75	
SS-15B	9/14/2016	12/29/2016	*Nitzschia palea*	6	0.75	
SS-15B	9/14/2016	12/29/2016	*Nitzschia palea var. tenuirostris*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Nitzschia paleacea*	9	1.13	
SS-15B	9/14/2016	12/29/2016	*Nitzschia pusilla*	1	0.13	
SS-15B	9/14/2016	12/29/2016	*Nitzschia tubicola*	3	0.38	
SS-15B	9/14/2016	12/29/2016	*Placoneis elginensis*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Planothidium dubium*	3	0.38	
SS-15B	9/14/2016	12/29/2016	*Planothidium frequentissimum*	35	4.38	
SS-15B	9/14/2016	12/29/2016	*Planothidium lanceolatum*	10	1.25	
SS-15B	9/14/2016	12/29/2016	*Pseudostaurosira brevistriata*	12	1.5	
SS-15B	9/14/2016	12/29/2016	*Reimeria sinuata*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Rhoicosphenia abbreviata*	14	1.75	
SS-15B	9/14/2016	12/29/2016	*Sellaphora pupula*	1	0.13	
SS-15B	9/14/2016	12/29/2016	*Sellaphora subfasciculata*	2	0.25	
SS-15B	9/14/2016	12/29/2016	*Staurosira construens var pumila*	81	10.13	0.38
SS-15B	9/14/2016	12/29/2016	*Staurosira construens var. binodus*	117	14.63	0.63
SS-15B	9/14/2016	12/29/2016	*Staurosira construens var. venter*	27	3.38	
SS-15B	9/14/2016	12/29/2016	*Staurosirella leptostauron*	15	1.88	
SS-15B	9/14/2016	12/29/2016	*Staurosirella pinnata*	6	0.75	
SS-15B	9/14/2016	12/29/2016	*Stephanocyclus meneghiniana*	17	2.13	
SS-15B	9/14/2016	12/29/2016	*Surirella brebissonii*	2	0.25	
SS-16B	9/14/2016	1/3/2017	*Achnanthidium minutissimum*	2	0.25	
SS-16B	9/14/2016	1/3/2017	*Adlafia minuscula*	4	0.5	
SS-16B	9/14/2016	1/3/2017	*Amphora pediculus*	8	1	
SS-16B	9/14/2016	1/3/2017	*Cocconeis pediculus*	2	0.25	
SS-16B	9/14/2016	1/3/2017	*Cocconeis placentula*	79	9.88	0.38

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-16B	9/14/2016	1/3/2017	*Encyonema silesiacum*	31	3.88	0.13
SS-16B	9/14/2016	1/3/2017	*Encyonema ventricosum*	8	1	
SS-16B	9/14/2016	1/3/2017	*Eolimna minima*	41	5.13	
SS-16B	9/14/2016	1/3/2017	*Fragilaria capucina var. gracilis*	2	0.25	
SS-16B	9/14/2016	1/3/2017	*Fragilaria vaucheriae*	32	4	0.5
SS-16B	9/14/2016	1/3/2017	*Gomphonema innocens*	9	1.13	
SS-16B	9/14/2016	1/3/2017	*Gomphonema micropus*	1	0.13	
SS-16B	9/14/2016	1/3/2017	*Gomphonema parvulum*	3	0.38	
SS-16B	9/14/2016	1/3/2017	*Gomphonema parvulum var. exilissimum*	5	0.63	
SS-16B	9/14/2016	1/3/2017	*Halamphora veneta*	12	1.5	
SS-16B	9/14/2016	1/3/2017	*Mayamaea atomus*	143	17.88	
SS-16B	9/14/2016	1/3/2017	*Navicula aquaedurae*	1	0.13	
SS-16B	9/14/2016	1/3/2017	*Navicula caterva*	1	0.13	
SS-16B	9/14/2016	1/3/2017	*Navicula cryptotenella*	22	2.75	
SS-16B	9/14/2016	1/3/2017	*Navicula lanceolata*	1	0.13	
SS-16B	9/14/2016	1/3/2017	*Navicula reichardtiana*	3	0.38	
SS-16B	9/14/2016	1/3/2017	*Navicula seminulum*	10	1.25	
SS-16B	9/14/2016	1/3/2017	*Navicula veneta*	5	0.63	
SS-16B	9/14/2016	1/3/2017	*Nitzschia amphibia*	22	2.75	0.38
SS-16B	9/14/2016	1/3/2017	*Nitzschia archibaldii*	6	0.75	
SS-16B	9/14/2016	1/3/2017	*Nitzschia dissipata*	6	0.75	
SS-16B	9/14/2016	1/3/2017	*Nitzschia fonticola*	14	1.75	0.13
SS-16B	9/14/2016	1/3/2017	*Nitzschia inconspicua*	56	7	0.25
SS-16B	9/14/2016	1/3/2017	*Nitzschia linearis*	7	0.88	
SS-16B	9/14/2016	1/3/2017	*Nitzschia palea*	15	1.88	
SS-16B	9/14/2016	1/3/2017	*Nitzschia palea var. tenuirostris*	9	1.13	
SS-16B	9/14/2016	1/3/2017	*Nitzschia paleacea*	41	5.13	2.13
SS-16B	9/14/2016	1/3/2017	*Nitzschia pusilla*	2	0.25	
SS-16B	9/14/2016	1/3/2017	*Nitzschia supralitorea*	5	0.63	
SS-16B	9/14/2016	1/3/2017	*Nitzschia tubicola*	3	0.38	
SS-16B	9/14/2016	1/3/2017	*Planothidium dubium*	1	0.13	
SS-16B	9/14/2016	1/3/2017	*Planothidium frequentissimum*	27	3.38	
SS-16B	9/14/2016	1/3/2017	*Planothidium lanceolatum*	8	1	
SS-16B	9/14/2016	1/3/2017	*Reimeria sinuata*	5	0.63	
SS-16B	9/14/2016	1/3/2017	*Rhoicosphenia abbreviata*	41	5.13	
SS-16B	9/14/2016	1/3/2017	*Sellaphora pupula*	2	0.25	
SS-16B	9/14/2016	1/3/2017	*Staurosira construens var pumila*	15	1.88	0.25
SS-16B	9/14/2016	1/3/2017	*Staurosira construens var. binodus*	55	6.88	0.5
SS-16B	9/14/2016	1/3/2017	*Staurosira construens var.*	15	1.88	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
			venter			
SS-16B	9/14/2016	1/3/2017	*Staurosirella pinnata*	2	0.25	
SS-16B	9/14/2016	1/3/2017	*Stephanocyclus meneghiniana*	18	2.25	
SS-17D	9/14/2016	1/4/2017	*Amphora pediculus*	1	0.13	
SS-17D	9/14/2016	1/4/2017	*Cocconeis placentula*	4	0.5	
SS-17D	9/14/2016	1/4/2017	*Encyonema silesiacum*	13	1.63	0.25
SS-17D	9/14/2016	1/4/2017	*Eolimna minima*	15	1.88	
SS-17D	9/14/2016	1/4/2017	*Fragilaria vaucheriae*	4	0.5	
SS-17D	9/14/2016	1/4/2017	*Geissleria acceptata*	2	0.25	
SS-17D	9/14/2016	1/4/2017	*Gomphonema innocens*	4	0.5	
SS-17D	9/14/2016	1/4/2017	*Gomphonema micropus*	2	0.25	
SS-17D	9/14/2016	1/4/2017	*Halamphora veneta*	3	0.38	
SS-17D	9/14/2016	1/4/2017	*Mayamaea atomus*	93	11.63	
SS-17D	9/14/2016	1/4/2017	*Navicula cryptotenella*	2	0.25	
SS-17D	9/14/2016	1/4/2017	*Navicula veneta*	6	0.75	
SS-17D	9/14/2016	1/4/2017	*Nitzschia amphibia*	4	0.5	
SS-17D	9/14/2016	1/4/2017	*Nitzschia archibaldii*	134	16.75	2
SS-17D	9/14/2016	1/4/2017	*Nitzschia balcanica*	1	0.13	
SS-17D	9/14/2016	1/4/2017	*Nitzschia dissipata*	3	0.38	
SS-17D	9/14/2016	1/4/2017	*Nitzschia fonticola*	23	2.88	0.13
SS-17D	9/14/2016	1/4/2017	*Nitzschia inconspicua*	14	1.75	
SS-17D	9/14/2016	1/4/2017	*Nitzschia linearis*	1	0.13	
SS-17D	9/14/2016	1/4/2017	*Nitzschia palea*	4	0.5	
SS-17D	9/14/2016	1/4/2017	*Nitzschia palea var. tenuirostris*	3	0.38	
SS-17D	9/14/2016	1/4/2017	*Nitzschia paleacea*	389	48.63	11.88
SS-17D	9/14/2016	1/4/2017	*Nitzschia supralitorea*	16	2	
SS-17D	9/14/2016	1/4/2017	*Planothidium frequentissimum*	5	0.63	
SS-17D	9/14/2016	1/4/2017	*Planothidium lanceolatum*	2	0.25	
SS-17D	9/14/2016	1/4/2017	*Rhoicosphenia abbreviata*	4	0.5	
SS-17D	9/14/2016	1/4/2017	*Sellaphora pupula*	3	0.38	
SS-17D	9/14/2016	1/4/2017	*Staurosira construens var pumila*	6	0.75	
SS-17D	9/14/2016	1/4/2017	*Staurosira construens var. binodus*	18	2.25	
SS-17D	9/14/2016	1/4/2017	*Staurosira construens var. venter*	13	1.63	
SS-17D	9/14/2016	1/4/2017	*Stephanocyclus meneghiniana*	8	1	
SS-19	9/14/2016	1/4/2017	*Adlafia minuscula*	1	0.13	
SS-19	9/14/2016	1/4/2017	*Cocconeis placentula*	6	0.75	
SS-19	9/14/2016	1/4/2017	*Encyonema minutum*	2	0.25	
SS-19	9/14/2016	1/4/2017	*Encyonema silesiacum*	9	1.13	
SS-19	9/14/2016	1/4/2017	*Eolimna minima*	5	0.63	

Site	Date Sampled	Date Analyzed	Species	Count	Percent Relative Abundance	Abnormal Cells (%)
SS-19	9/14/2016	1/4/2017	*Fragilaria vaucheriae*	3	0.38	
SS-19	9/14/2016	1/4/2017	*Geissleria acceptata*	1	0.13	
SS-19	9/14/2016	1/4/2017	*Gomphonema gracile*	1	0.13	
SS-19	9/14/2016	1/4/2017	*Gomphonema minutum*	1	0.13	
SS-19	9/14/2016	1/4/2017	*Gomphonema parvulum*	26	3.25	
SS-19	9/14/2016	1/4/2017	*Halamphora veneta*	8	1	
SS-19	9/14/2016	1/4/2017	*Mayamaea atomus*	455	56.88	
SS-19	9/14/2016	1/4/2017	*Nitzschia amphibia*	7	0.88	
SS-19	9/14/2016	1/4/2017	*Nitzschia archibaldii*	34	4.25	0.63
SS-19	9/14/2016	1/4/2017	*Nitzschia balcanica*	2	0.25	
SS-19	9/14/2016	1/4/2017	*Nitzschia dissipata*	2	0.25	
SS-19	9/14/2016	1/4/2017	*Nitzschia fonticola*	6	0.75	
SS-19	9/14/2016	1/4/2017	*Nitzschia inconspicua*	11	1.38	
SS-19	9/14/2016	1/4/2017	*Nitzschia linearis*	2	0.25	
SS-19	9/14/2016	1/4/2017	*Nitzschia palea*	11	1.38	
SS-19	9/14/2016	1/4/2017	*Nitzschia palea var. tenuirostris*	4	0.5	
SS-19	9/14/2016	1/4/2017	*Nitzschia paleacea*	171	21.38	5.13
SS-19	9/14/2016	1/4/2017	*Nitzschia supralitorea*	8	1	
SS-19	9/14/2016	1/4/2017	*Planothidium frequentissimum*	2	0.25	
SS-19	9/14/2016	1/4/2017	*Reimeria sinuata*	7	0.88	
SS-19	9/14/2016	1/4/2017	*Staurosira construens var pumila*	7	0.88	
SS-19	9/14/2016	1/4/2017	*Stephanocyclus meneghiniana*	1	0.13	
SS-19	9/14/2016	1/4/2017	*Surirella brebissonii*	4	0.5	
SS-19	9/14/2016	1/4/2017	*Surirella minuta*	1	0.13	
SS-19	9/14/2016	1/4/2017	*Ulnaria ulna*	2	0.25	

APPENDIX I

FISH SAMPLING METHODS

Table I1. Fish sampling methods for the Silver Bow Creek watershed, 2016.

Stream	Section Name	Section Length	Estimate Type	Downstream Latitude	Downstream Longitude
Beefstraight Creek	Lower bridge RM 1.3	180 m	Depletion	45.98366	-112.82762
	Spring Creek trail RM 4.5	100 m	Depletion	45.98829	-112.89375
Blacktail Creek	Golf Course Butte C.C	100 m	Depletion	45.97131	-112.49102
	Above Blacktail Loop	100 m	Depletion	45.94505	-112.47636
	Below 9 Mile	100 m	Depletion	45.90676	-112.46682
	Above 9 Mile	122 m	Depletion	45.89902	-112.46577
	Upper Forest Service	100 m	Depletion	45.83146	-112.46887
Brown's Gulch	Lower Ueland RM 2.6	117 m	Depletion	46.02115	-112.66180
	Upper Ueland RM 5.3	100 m	Depletion	46.04280	-112.63497
	Brothers Ranch RM 9.7	100 m	Depletion	46.09545	-112.62047
	Balentine RM 11.5	90 m	Depletion	46.12129	-112.62178
	Lower USFS RM 13.8	100 m	Depletion	46.13335	-112.58119
	Upper USFS RM 15.3	100 m	Depletion	46.14518	-112.55856
German Gulch	RM 0.2	188 m	Depletion	46.02005	-112.79037
	RM 3.0	100 m	Depletion	45.98455	-112.80830
	RM 6.0	100 m	Depletion	45.96258	-112.85433
Silver Bow Creek	Hwy 1 Bridge	325 m	Depletion	46.09515	-112.80497
	Fairmont	338 m	Depletion	46.04733	-112.79514
	Below German Gulch	388 m	Depletion	46.02852	-112.79500
	Ramsay	365 m	Depletion	46.00009	-112.68518
	Rocker	250 m	Depletion	46.00108	-112.59348
	LAO	237 m	Depletion	46.99606	-112.56037
	Father Sheehan	204 m	Depletion	46.98526	-112.50751

APPENDIX K

VEGETATION SPECIES COMPOSITION

Table K1. Transect Q-1, Reach Q, 2016, Canopy Coverage and Frequency, Upland.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bassia scoparia	0.1	0.2	5
Bromus tectorum	0.1	0.2	5
	---	---	
Subtotal	0.2	0.4	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	4.8	8.4	15
Elymus canadensis	2.8	4.9	45
Elymus elymoides	6.8	11.9	80
Elymus lanceolatus	6.9	12.1	70
Elymus trachycaulus	13.8	24.2	65
Koeleria macrantha	0.9	1.6	35
Poa juncifolia var. ampla	3.5	6.1	40
Poa secunda	0.2	0.4	10
Pseudoroegneria spicata	5.5	9.7	40
	---	---	
Subtotal	45.2	79.3	
INTRODUCED PERENNIAL GRASSES			
Festuca ovina	0.1	0.2	5
NATIVE PERENNIAL FORBS			
Artemisia frigida	0.4	0.7	15
INTRODUCED PERENNIAL FORBS			
Centaurea maculosa	0.1	0.2	5
Medicago sativa	10.8	19.0	35
	---	---	
Subtotal	10.9	19.2	
NATIVE SHRUBS			
Artemisia tridentata	0.1	0.2	5
Total Plant Cover	56.9	100.0	
Bare Soil	50.2		100
Coarse Fragments	7.7		100
Plant Litter	28.8		100

Table K2. Transect Q-2, Reach Q, 2016, Canopy Coverage and Frequency, Upland near Creek.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Sisymbriumaltissimum	4.5	4.3	35
Sisymbrium loeselii	3.3	3.2	35
	---	---	
Subtotal	7.8	7.5	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus lanceolatus	0.3	0.3	5
Koeleria macrantha	1.4	1.4	20
Poa juncifolia var. ampla	1.5	1.4	10
Pseudoroegneria spicata	1.0	1.0	10
	---	---	
Subtotal	4.2	4.1	
NATIVE PERENNIAL FORBS			
Artemisia frigida	1.1	1.1	10
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	90.5	87.3	100
Total Plant Cover	103.7	100.0	
Bare Soil	2.8		20
Coarse Fragments	0.2		5
Plant Litter	78.1		100

Table K3. Transect Q-3, Reach Q, 2016, Canopy Coverage and Frequency, Upland crosses seeding boundary @85 m to the buffer seeding (introduced grasses).

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bassia scoparia	0.2	0.3	5
Bromus tectorum	18.8	24.9	45
Descurainia sophia	0.2	0.3	5
Sisymbrium loeselii	2.0	2.6	5
Thlaspi arvense	0.2	0.3	5
Tragopogon dubius	0.1	0.1	5
	---	---	
Subtotal	21.5	28.5	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	1.3	1.7	20
Elymus elymoides	0.2	0.3	5
Elymus lanceolatus	1.2	1.6	15
Koeleria macrantha	0.2	0.3	5
Pascopyrum smithii	0.2	0.3	5
Poa juncifolia var. ampla	2.0	2.6	15
Pseudoroegneria spicata	8.1	10.7	60
	---	---	
Subtotal	13.2	17.5	
INTRODUCED PERENNIAL GRASSES			
Agropyron cristatum	0.5	0.6	5
Festuca ovina	4.5	6.0	35
Thinopyrum intermedium	0.7	0.9	5
	---	---	
Subtotal	5.7	7.5	
NATIVE PERENNIAL FORBS			
Achillea millefolium	0.2	0.3	5
Artemisia frigida	3.0	4.0	25
Artemisia ludoviciana	3.3	4.4	25
	---	---	
Subtotal	6.5	8.7	
INTRODUCED PERENNIAL FORBS			
Medicago sativa	23.2	30.7	65

Table K3 continued

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE SUBSHRUBS			
Artemisia dracunculus	1.2	1.6	10
NATIVE SHRUBS			
Artemisia tridentata	1.2	1.6	15
Ericameria nauseosa	3.0	4.0	20
Subtotal	4.2	5.6	
Total Plant Cover	75.5	100.1	
Bare Soil	26.5		100
Coarse Fragments	2.4		80
Plant Litter	60.7		100

Table K4. Transect Q-4, Reach Q, 2016, Canopy Coverage and Frequency, Upland. Several small contaminated spots.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bassia scoparia	0.3	0.5	25
Bromus tectorum	1.2	1.9	25
Sisymbrium loeselii	1.7	2.8	15
Tragopogon dubius	0.5	0.8	10
Subtotal	3.7	6.0	

Table K4 continued

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%		
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	2.2	3.6	20
Elymus canadensis	0.5	0.8	15
Elymus lanceolatus	7.3	11.8	70
Elymus trachycaulus	6.7	10.9	55
Hordeum jubatum	1.0	1.6	10
Koeleria macrantha	2.1	3.4	30
Leymus cinereus	0.3	0.5	5
Poa juncifolia var. ampla	2.0	3.2	15
Poa secunda	0.3	0.5	15
Pseudoroegneria spicata	1.0	1.6	10
Subtotal	23.4	37.9	
INTRODUCED PERENNIAL GRASSES			
Festuca ovina	0.8	1.3	15
NATIVE PERENNIAL FORBS			
Artemisia frigida	3.1	5.0	30
Phacelia hastata	0.5	0.8	5
Subtotal	3.6	5.8	
INTRODUCED PERENNIAL FORBS			
Centaurea maculosa	0.1	0.2	5
Medicago sativa	29.2	47.3	75
Subtotal	29.3	47.5	
NATIVE SUBSHRUBS			
Artemisia dracunculus	0.1	0.2	5
NATIVE SHRUBS			
Atriplex canescens	0.8	1.3	10
Total Plant Cover	61.7	100.0	
Bare Soil	45.2		95
Coarse Fragments	6.2		95
Plant Litter	39.6		100

Table K5. Transect Q-5, Reach Q, 2016, Canopy Coverage and Frequency, Upland. Poor coversoil, open vegetation = cheatgrass.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bromus tectorum	3.5	4.4	30
Sisymbrium loeselii	0.3	0.4	5
Subtotal	3.8	4.8	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	0.1	0.1	5
Koeleria macrantha	1.5	1.9	20
Poa juncifolia var. ampla	1.2	1.5	10
Pseudoroegneria spicata	8.1	10.3	55
Subtotal	10.9	13.8	
INTRODUCED PERENNIAL GRASSES			
Festuca ovina	13.5	17.3	75
NATIVE PERENNIAL FORBS			
Artemisia frigida	0.7	0.9	10
Penstemon nitidus	0.1	0.1	5
Subtotal	0.8	1.0	
INTRODUCED PERENNIAL FORBS			
Medicago sativa	47.4	60.6	100
NATIVE SUBSHRUBS			
Artemisia ludoviciana	1.4	1.8	15
NATIVE SHRUBS			
Artemisia tridentata	0.5	0.6	10
Ericameria nauseosa	0.1	0.1	5
Subtotal	0.6	0.7	
Total Plant Cover	78.4	100.0	
Bare Soil	18.9		100
Coarse Fragments	1.9		85
Plant Litter	66.8		100

Table K6. Transect Q-6, Reach Q, 2016, Canopy Coverage and Frequency, Upland. The first 80 M +- contaminated in-situ dirt.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bromus tectorum	0.3	0.5	10
Lactuca serriola	2.4	4.2	10
Sisymbrium loeselii	0.5	0.9	5
Subtotal	3.2	5.6	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	0.2	0.4	5
Elymus lanceolatus	1.9	3.4	25
Koeleria macrantha	2.3	4.1	5
Pascopyrum smithii	0.5	0.9	10
Poa juncifolia var. ampla	15.5	27.3	60
Pseudoroegneria spicata	0.7	1.2	10
Subtotal	21.1	37.3	
INTRODUCED PERENNIAL GRASSES			
Festuca ovina	2.1	3.7	15
NATIVE PERENNIAL FORBS			
Achillea millefolium	0.5	0.9	5
Artemisia frigida	2.3	4.1	25
Subtotal	2.8	5.0	
INTRODUCED PERENNIAL FORBS			
Cardaria chalepensis	0.2	0.3	5
Medicago sativa	20.6	36.3	45
Subtotal	20.8	36.6	
NATIVE SUBSHRUB			
Artemisia ludoviciana	3.2	5.6	10
NATIVE SHRUBS			
Ericameria nauseosa	3.5	6.2	25

	Cover	Rel. Cover	Frequency
Total Plant Cover	56.7	100.0	
Bare Soil	42.2		90
Coarse Fragments	0.8		65
Plant Litter	47.5		90

Table K7. Transect Q-7, Reach Q, 2016, Canopy Coverage and Frequency, Upland. Sagebrush patchy; a bit of contamination.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bromus japonicus	0.5	0.8	5
Bromus tectorum	3.0	4.5	35
Descurainia sophia	0.8	1.2	15
Sisymbrium altissimum	0.5	0.8	5
Sisymbrium loeselii	1.3	2.0	15
Tragopogon dubius	0.1	0.1	5
	---	---	
Subtotal	6.2	9.4	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	0.9	1.4	20
Elymus Canadensis	0.8	1.2	10
Heterostipa comata	0.4	0.6	5
Koeleria macrantha	1.4	2.1	20
Pascopyrum smithii	2.0	3.0	20
Poa juncifolia var. ampla	4.1	6.2	35
Poa secunda	0.1	0.2	5
Pseudoroegneria spicata	2.8	4.2	25
	---	---	
Subtotal	12.5	18.9	
INTRODUCED PERENNIAL GRASSES			
Festuca ovina	5.4	8.1	45
NATIVE PERENNIAL FORBS			
Artemisia frigida	1.2	1.8	20
INTRODUCED PERENNIAL FORBS			
Medicago sativa	40.2	60.6	95

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE SUBSHRUB			
Artemisia ludoviciana	0.2	0.3	5
NATIVE SHRUBS			
Artemisia tridentata	0.6	0.9	10
Total Plant Cover	66.3	100.0	
Bare Soil	37.8		100
Coarse Fragments	3.7		90
Plant Litter	49.5		100

Table K8. Transect Q-8, Reach Q, 2016, Canopy Coverage and Frequency. Mostly Subirrigated, Some Upland. Near Creek.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Sisymbrium loeselii	0.2	0.2	5
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	0.5	0.5	5
Elymus cinereus	16.0	15.1	60
Elymus lanceolatus	0.5	0.5	5
Elymus trachycaulus	1.8	1.7	20
Hordeum jubatum	0.6	0.6	5
Koeleria macrantha	1.0	0.9	15
Pascopyrum smithii	0.2	0.2	5
Poa juncifolia var. ampla	7.3	7.0	50
Poa secunda	0.1	0.2	5
Pseudoroegneria spicata	0.5	0.5	5
	---	---	
Subtotal	28.5	27.2	

Table K7 continued

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	0.8	0.8	5
Poa compressa	2.4	2.3	35
Poa pratensis	0.2	0.2	5
	---	---	
Subtotal	3.4	3.3	
NATIVE PERENNIAL FORBS			
Achillea millefolium	0.4	0.4	5
Artemisia frigida	0.2	0.2	5
	---	---	
Subtotal	0.6	0.6	
INTRODUCED PERENNIAL FORBS			
Lotus corniculatus	9.3	8.9	10
Medicago sativa	61.0	58.0	90
	---	---	
Subtotal	70.3	66.9	
NATIVE SHRUBS			
Salix exigua	2.0	1.9	5
Total Plant Cover	104.9	100.1	
Bare Soil	1.8		40
Coarse Fragments	0.3		15
Plant Litter	81.1		100

Table K9. Transect Q-9, Reach Q, 2016, Canopy Coverage and Frequency, Upland. Second half has poor dirt, fewer and smaller plants.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bromus tectorum	10.8	12.7	10

Table K9 continued

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus lanceolatus	6.1	7.2	70
Heterostipa comata	0.1	0.1	5
Koeleria macrantha	2.8	3.3	45
Poa juncifolia var. ampla	5.7	6.7	50
Pseudoroegneria spicata	2.0	2.4	20
	---	---	
Subtotal	10.6	19.7	
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	0.2	0.2	5
Festuca ovina	1.2	1.4	10
	---	---	
Subtotal	1.4	1.6	
NATIVE PERENNIAL FORBS			
Achillea millefolium	0.5	0.6	5
Artemisia frigida	5.1	6.0	70
	---	---	
Subtotal	5.6	6.6	
INTRODUCED PERENNIAL FORBS			
Medicago sativa	49.2	57.7	95
NATIVE SUBSHRUB			
Artemisia ludoviciana	0.2	0.2	10
NATIVE SHRUBS			
Ericameria nauseosa	1.3	1.5	10
Total Plant Cover	85.2	100.0	
Bare Soil	29.1		80
Coarse Fragments	3.8		70
Plant Litter	55.6		100

Table K10. Transect Q-10, Reach Q, 2016, Canopy Coverage and Frequency, Flooded Wetland with some Transition Zone.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Melilotus alba	0.5	0.6	10
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Calamagrostis stricta var. inexpansa	0.2	0.2	10
Deschampsia cespitosa	0.5	0.6	10
Eleocharis palustris	0.3	0.3	5
Elymus trachycaulus	0.3	0.3	5
Hordeum jubatum	1.7	1.9	25
Juncus arcticus	27.1	30.3	60
Puccinellia distans	0.2	0.2	5
	---	---	
Subtotal	30.3	33.8	
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	43.5	48.7	85
Alopecurus arundinaceus	8.2	9.2	40
	---	---	
Subtotal	51.7	57.9	
NATIVE PERENNIAL FORBS			
Aster no flws.	0.3	0.3	5
Epilobium ciliatum	1.4	1.6	30
Mentha arvensis	0.7	0.8	15
Polygonum amphibium	0.1	0.1	5
	---	---	
Subtotal	2.5	2.8	
INTRODUCED PERENNIAL FORBS			
Lotus corniculatus	2.4	2.7	15
NATIVE SHRUBS			
Salix exigua	2.0	2.2	10
Total Plant Cover	89.4	100.0	

Table K10 continued	Cover	Frequency
Moss	5.7	35
Water	0.2	5
Bare Soil	3.2	40
Coarse Fragments	--	--
Plant Litter	76.2	100

Table K11. Transect Q-11, Reach Q, 2016, Canopy Coverage and Frequency, Upland. Most in Peterson borrow. Some better, has basin wildrye, 2X more productive.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bromus tectorum	0.2	0.2	5
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus lanceolatus	4.5	4.6	60
Elymus cinereus	7.0	7.2	30
Koeleria macrantha	2.4	2.5	45
Pascopyrum smithii	0.2	0.2	5
Poa juncifolia var. ampla	11.3	11.6	75
Pseudoroegneria spicata	1.2	1.2	15
	---	---	
Subtotal	26.6	27.3	
INTRODUCED PERENNIAL GRASSES			
Poa compressa	0.1	0.1	5
NATIVE PERENNIAL FORBS			
Artemisia frigida	1.7	1.8	25
INTRODUCED PERENNIAL FORBS			
Medicago sativa	67.8	69.9	100
NATIVE SUBSHRUB			
Artemisia ludoviciana	0.7	0.7	10
Total Plant Cover	97.1	100.0	
Bare Soil	13.7		60
Coarse Fragments	1.8		45
Plant Litter	69.7		100

Table K12. Transect R-1, Reach R, 2016, Canopy Coverage and Frequency, Upland.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%	%	
INTRODUCED BIENNIALS			
Sisymbrium loeselii	2.2	3.2	5
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	2.4	3.5	45
Elymus canadensis	7.5	10.9	35
Elymus elymoides	4.7	6.8	15
Elymus lanceolatus	21.9	31.8	65
Heterostipa comata	0.5	0.7	10
Hordeum jubatum	0.2	0.3	5
Pascopyrum smithii	4.7	6.8	20
Poa juncifolia var. ampla	7.3	10.6	55
Pseudoroegneria spicata	3.1	4.5	40
Subtotal	52.3	75.9	
NATIVE PERENNIAL FORBS			
Artemisia ludoviciana	1.0	1.5	10
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	7.0	10.2	35
NATIVE SHRUBS			
Artemisia tridentata	0.3	0.4	5
Ericameria nauseosa	6.0	8.8	20
Subtotal	6.3	9.2	
Total Plant Cover	68.8	100.0	
Bare Soil	8.8		85
Coarse Fragments	9.8		70
Plant Litter	66.5		100

Table K13. Transect R-2, Reach R, 2016, Canopy Coverage and Frequency, Upland. Little room between creek and road.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bassia scoparia	1.1	1.6	15
Bromus tectorum	2.3	3.3	20
Sisymbrium loeselii	0.2	0.3	5
Tragopogon dubius	0.1	0.2	5
	---	---	
Subtotal	3.7	5.4	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	1.0	1.5	15
Elymus canadensis	0.7	1.0	10
Elymus elymoides	0.6	0.9	10
Elymus lanceolatus	4.7	6.8	35
Heterostipa comata	0.2	0.3	5
Poa juncifolia var. ampla	1.4	2.0	15
Pseudoroegneria spicata	1.5	2.2	15
	---	---	
Subtotal	10.1	14.7	
INTRODUCED PERENNIAL GRASSES			
Festuca ovina	13.4	19.5	60
NATIVE PERENNIAL FORBS			
Artemisia frigida	1.1	1.6	10
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	38.8	56.6	70
NATIVE SUBSHRUBS			
Artemisia dracunculus	1.2	1.8	15
NATIVE SHRUBS			
Artemisia tridentata	0.2	0.3	5
Ericameria nauseosa	0.1	0.2	5
	---	---	
Subtotal	0.3	0.5	
Total Plant Cover	68.6	100.1	

Table K2 continued	Cover	Frequency
Bare Soil	15.6	60
Coarse Fragments	32.3	100
Plant Litter	46.1	100

Table K14. Transect R-3 Reach R, 2016, Canopy Coverage and Frequency, Upland.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%		
INTRODUCED ANNUALS AND BIENNIALS			
Bromus tectorum	0.1	0.1	5
Sisymbrium altissimum	0.5	0.6	5
Subtotal	0.6	0.7	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	1.9	2.2	35
Elymus canadensis	7.7	9.1	55
Elymus elymoides	0.7	0.8	15
Elymus lanceolatus	14.5	17.2	55
Heterostipa comata	0.9	1.1	10
Poa juncifolia var. ampla	9.4	11.1	70
Pseudoroegneria spicata	7.0	8.2	45
Subtotal	42.1	49.7	
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	3.4	4.0	15
NATIVE PERENNIAL FORBS			
Erigeron pumilus	0.2	0.3	5
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	37.7	44.5	85
NATIVE SHRUBS			
Ericameria nauseosa	0.7	0.8	5
Total Plant Cover	84.7	100.0	

Table K14 continued	Cover	Frequency
Bare Soil	13.1	95
Coarse Fragments	8.6	90
Plant Litter	63.3	100

Table K15. Transect R-4, Reach R, 2016, Canopy Coverage and Frequency. Mostly wetland, some transition zone, parts contaminated.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Calamagrostis stricta var. inexpansa	1.0	1.3	10
Deschampsia cespitosa	15.0	19.8	70
Eleocharis palustris	1.2	1.6	5
Juncus arcticus	6.1	8.1	20
	---	---	
Subtotal	23.3	30.8	
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	51.9	68.5	95
NATIVE PERENNIAL FORBS			
Epilobium ciliatum	0.2	0.3	5
Typha latifolia	0.3	0.4	5
	---	---	
Subtotal	0.5	0.7	
Total Plant Cover	75.7	100.0	
Water	11.5		30
Moss	5.0		30
Bare Soil	1.7		25
Coarse Fragments	1.9		30
Plant Litter	63.9		100

Table K16. Transect R-5, Reach R, 2016, Canopy Coverage and Frequency, Upland. A sizable contaminated pit 2/3s down the transect.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%	%	
INTRODUCED ANNUALS			
Bassia scoparia	0.1	0.2	5
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	1.5	3.4	15
Elymus canadensis	25.7	57.6	85
Elymus lanceolatus	0.2	0.5	5
Elymus trachycaulus	1.3	2.7	15
Poa juncifolia var. ampla	3.9	8.7	50
Pseudoroegneria spicata	3.0	6.7	30
Subtotal	35.6	80.6	
NATIVE PERENNIAL FORBS			
Artemisia frigida	3.8	8.5	85
Phacelia hastata	0.6	1.4	5
Subtotal	4.4	9.9	
INTRODUCED PERENNIAL FORBS			
Convolvulus arvensis	0.5	0.5	5
Medicago sativa	3.5	7.8	25
Subtotal	4.0	8.3	
NATIVE SUBSHRUBS			
Artemisia dracunculus	0.4	0.9	15
NATIVE SHRUBS			
Artemisia tridentata	0.2	0.4	15
Ericameria nauseosa	0.2	0.5	5
Subtotal	0.4	0.2	
Total Plant Cover	44.9	100.1	
Bare Soil	39.8		100
Coarse Fragments	30.1		100
Plant Litter	20.8		100

Table K17. Transect R-6, Reach R, 2016, Canopy Coverage and Frequency, Upland. Coversoil with no compost.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%	%	
INTRODUCED ANNUALS			
Bromus tectorum	0.1	0.1	5
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	2.6	3.8	25
Elymus canadensis	8.0	11.5	50
Elymus elymoides	1.5	2.2	15
Elymus lanceolatus	3.0	4.3	10
Elymus trachycaulus	2.5	3.6	5
Poa juncifolia var. ampla	10.2	14.7	70
Pseudoroegneria spicata	3.0	4.3	25
Subtotal	30.8	44.4	
NATIVE PERENNIAL FORBS			
Artemisia frigida	1.8	2.6	50
Artemisia ludoviciana	0.4	0.6	10
Subtotal	2.2	3.2	
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	35.3	50.9	100
NATIVE SHRUBS			
Ericameria nauseosa	1.0	1.4	15
Total Plant Cover	69.4	100.0	
Bare Soil	40.0		100
Coarse Fragments	3.9		90
Plant Litter	43.9		100

Table K18. Transect R-7, Reach R, 2016, Canopy Coverage and Frequency. Dry overflow channel, Upland-Subirrigated. Contaminated. Litter is coir twine.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%	%	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Deschampsia cespitosa	7.6	59.9	40
Elymus elymoides	0.7	5.5	5
Elymus trachycaulus	0.8	6.3	10
Subtotal	9.1	71.7	
INTRODUCED PERENNIAL GRASSES			
Poa compressa	0.5	3.9	10
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	3.1	24.4	15
Total Plant Cover	12.7	100.0	
Bare Soil	34.2		100
Coarse Fragments	30.5		100
Plant Litter	31.9		100

Table K19. Transect 4-2, North Reach R, 2016, Canopy Coverage and Frequency, Upland.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bromus tectorum	6.5	10.7	45
Sisymbrium loeselii	0.2	0.3	5
Subtotal	6.7	11.0	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	1.5	2.5	15
Elymus trachycaulus	0.7	1.1	5
Heterostipa comata	0.7	1.2	10
Pseudoroegneria spicata	2.2	3.6	20
Subtotal	5.1	8.4	
INTRODUCED PERENNIAL GRASSES			
Festuca ovina	11.1	18.3	75
NATIVE PERENNIAL FORBS			
Artemisia ludoviciana	0.5	0.8	5
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	30.1	49.6	95
NATIVE SUBSHRUBS			
Artemisia dracunculus	2.1	3.5	15
NATIVE SHRUBS			
Ericameria nauseosa	5.1	8.4	15
Total Plant Cover	60.7	100.0	
Bare Soil	8.0		100
Coarse Fragments	26.2		100
Plant Litter	54.2		100

Table K20. Transect 4-7, Reach R, 2016, Canopy Coverage and Frequency, Upland. Decent cover but sort of decadent, more litter than alive.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED BIENNIALS			
Melilotus officinalis	0.7	1.1	5
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus canadensis	34.1	53.9	100
Elymus elymoides	1.6	2.5	20
Pascopyrum smithii	1.2	1.9	10
Poa juncifolia var. ampla	2.0	3.2	25
Pseudoroegneria spicata	1.0	1.6	20
Subtotal	39.9	63.1	
NATIVE PERENNIAL FORBS			
Artemisia frigida	3.0	4.7	10
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	11.5	18.2	30
NATIVE SHRUBS			
Artemisia tridentata	5.2	8.2	40
Ericameria nauseosa	3.0	4.7	25
Subtotal	8.2	12.9	
Total Plant Cover	63.3	100.0	
Bare Soil	19.1		90
Coarse Fragments	0.6		40
Plant Litter	67.4		100

Table K21. Transect 4-13 Reach R, 2016, Canopy Coverage and Frequency, Upland. End appears a borrow area. Inland saltgrass denotes a veneer of contamination.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bassia scoparia	0.1	0.2	5
Tragopogon dubius	0.1	0.2	5
	---	---	
Subtotal	0.2	0.4	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Distichlis spicata	1.4	2.2	10
INTRODUCED PERENNIAL GRASSES			
Agropyron cristatum	10.1	16.0	60
Agropyron hybrid	6.4	10.1	20
Psathyrostachys juncea	1.9	3.0	10
Thinopyrum intermedium	42.9	68.0	100
	---	---	
Subtotal	61.3	97.1	
INTRODUCED PERENNIAL FORBS			
Convolvulus arvensis	0.2	0.3	5
Total Plant Cover	63.1	100.0	
Bare Soil	24.4		100
Coarse Fragments	5.9		50
Plant Litter	55.7		100

Table K22. Transect 4-15, North Reach R, 2016, Canopy Coverage and Frequency, Upland. Low cover, few grass flowers. Should interseed. Inland saltgrass = a veneer of contamination.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%	%	
INTRODUCED ANNUALS AND BIENNIALS			
Bassia scoparia	0.5	1.0	5
Tragopogon dubius	0.1	0.2	5
Subtotal	0.6	1.2	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Distichlis spicata	3.2	6.3	25
Elymus canadensis	10.8	21.2	40
Elymus lanceolatus	14.9	29.2	70
Heterostipa comata	0.5	1.0	5
Hordeum jubatum	0.2	0.4	5
Koeleria micrantha	0.5	1.0	15
Pascopyrum smithii	15.5	30.3	75
Poa secunda	0.2	0.4	5
Subtotal	45.3	89.8	
INTRODUCED PERENNIAL GRASSES			
Festuca ovina	2.6	5.1	20
NATIVE PERENNIAL FORBS			
Artemisia ludoviciana	0.4	0.8	5
Aster ascendens	0.2	0.4	5
Subtotal	0.6	1.2	
NATIVE SHRUBS			
Artemisia tridentata	0.7	1.3	10
Ericameria nauseosa	0.6	1.2	10
Rosa woodsii	0.1	0.2	5
Subtotal	1.4	2.7	
Total Plant Cover	51.0	100.0	
Bare Soil	48.0		100
Coarse Fragments	7.1		95

Plant Litter	32.5	100

Table K23. Transect 4-16 Reach R, 2016, Canopy Coverage and Frequency, Mostly Upland. A combination of .

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Bassia scoparia	0.5	1.1	10
Descurainia sophia	2.1	4.8	10
	---	---	
Subtotal	2.6	5.9	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	0.2	0.5	5
Elymus trachycaulus	3.2	7.3	15
Pascopyrum smithii	14.6	33.3	65
Poa juncifolia var. ampla	1.0	2.3	5
Psathyrostachys juncea	21.7	49.6	70
	---	---	
Subtotal	40.7	93.0	
NATIVE SHRUBS			
Ericameria nauseosa	0.5	1.1	5
Total Plant Cover	43.8	100.0	
Bare Soil	47.2		100
Coarse Fragments	1.3		85
Plant Litter	40.8		100

Table K14. Transect 4-30, Reach R, 2016, Canopy Coverage and Frequency, Subirrigated. Starts contaminated but insignificant due to lots of legume cover.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
INTRODUCED ANNUALS AND BIENNIALS			
Lactuca serriola	0.6	0.6	5
Melilotus officinalis	4.5	4.9	10
	---	---	
Subtotal	5.1	5.5	

Table 4-30 continued

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	0.1	0.1	5
Elymus canadensis	7.7	8.3	55
Elymus elymoides	0.3	0.3	10
Elymus lanceolatus	2.4	2.6	20
Elymus trachycaulus	4.4	4.8	40
Heterostipa comata	0.2	0.2	5
Leymus cinereus	10.2	11.0	30
Poa juncifolia var. ampla	8.7	9.4	45
	---	---	
Subtotal	34.0	36.7	
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	0.2	0.2	5
NATIVE PERENNIAL FORBS			
Achillea millefolium	1.5	1.6	5
Artemisia ludoviciana	0.1	0.1	5
	---	---	
Subtotal	1.6	1.7	
INTRODUCED PERENNIAL LEGUMES			
Lotus corniculatus	24.0	25.9	35
Medicago sativa	26.1	28.2	55
	---	---	
Subtotal	50.1	54.1	
NATIVE SHRUBS			
Artemisia cana	0.1	0.1	5
Ericameria nauseosa	1.6	1.7	15
	---	---	
Subtotal	1.7	1.8	
Total Plant Cover	92.7	100.0	
Bare Soil	10.5		30
Coarse Fragments	1.0		25
Plant Litter	71.9		100

Table K24. Transect 4-34, Reach R, 2016, Canopy Coverage and Frequency, Upland.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	0.6	1.1	15
Deschampsia cespitosa	0.54	0.9	10
Elymus canadensis	8.7	16.3	65
Elymus elymoides	1.5	2.8	15
Elymus lanceolatus	17.0	32.0	75
Elymus trachycaulus	4.4	8.3	40
Heterostipa comata	0.2	0.4	5
Poa juncifolia var. ampla	11.2	21.0	65
Pseudoroegneria spicata	3.3	6.2	20
	---	---	
Subtotal	34.0	89.0	
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	0.7	1.3	10
NATIVE PERENNIAL FORBS			
Artemisia ludoviciana	0.5	0.9	10
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	1.0	1.9	10
NATIVE SHRUBS			
Ericameria nauseosa	3.7	6.9	20
Total Plant Cover	53.3	100.0	
Table K15 continued	Cover	Relative	Frequency
Bare Soil	23.3		100
Coarse Fragments	4.2		95
Plant Litter	61.1		100

Table K25. Transect 4-35, Reach R, 2016, Canopy Coverage and Frequency, Upland. Lots alfalfa = lots cover.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus canadensis	12.8	14.2	65
Elymus lanceolatus	8.5	9.4	65
Pascopyrum smithii	1.2	1.3	10
Poa juncifolia var. ampla	7.4	8.2	55
Pseudoroegneria spicata	2.5	2.8	15
	---	---	
Subtotal	32.4	35.9	
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	0.5	0.5	5
Poa compressa	0.4	0.4	5
	---	---	
Subtotal	0.9	0.9	
NATIVE PERENNIAL FORBS			
Artemisia ludoviciana	0.1	0.1	5
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	52.8	58.4	90
NATIVE PERENNIAL FORBS			
Artemisia frigida	1.0	1.1	5
NATIVE SHRUBS			
Artemisia tridentata	2.5	2.8	20
Ericameria nauseosa	0.7	0.8	5
	---	---	
Subtotal	3.2	3.6	
Total Plant Cover	90.4	100.0	
Bare Soil	10.1		65
Coarse Fragments	1.0		40
Plant Litter	74.3		100

Table K26. Transect T-A, Reach T, 2016, Canopy Coverage and Frequency, Upland. Lots alfalfa = lots cover.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%	%	
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus canadensis	5.4	4.3	45
Elymus trachycaulus	4.5	3.6	50
Poa juncifolia var. ampla	9.7	7.8	70
Subtotal	19.6	15.7	
INTRODUCED PERENNIAL GRASSES			
Poa compressa	4.0	3.2	55
NATIVE PERENNIAL FORBS			
Achillea millefolium	5.5	4.4	50
INTRODUCED PERENNIAL LEGUMES			
Astragalus cicer	2.7	2.2	25
Medicago sativa	92.7	74.5	100
Subtotal	95.4	76.7	
Total Plant Cover	124.5	100.0	
Bare Soil	0.8		10
Coarse Fragments	0.1		5
Plant Litter	79.2		100

Table K27. Transect T-B, Reach T, 2016, Canopy Coverage and Frequency, Upland. Lots alfalfa = lots cover.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus lanceolatus	1.5	1.5	20
Elymus trachycaulus	1.5	1.6	15
Pascopyrum smithii	0.5	0.5	5
Poa juncifolia var. ampla	1.7	1.8	20
	---	---	
Subtotal	5.2	5.4	
INTRODUCED PERENNIAL GRASSES			
Poa compressa	5.0	5.2	45
NATIVE PERENNIAL FORBS			
Achillea millefolium	11.6	12.0	80
Artemisia ludoviciana	0.4	0.4	10
Linum lewisii	0.2	0.2	5
	---	---	
Subtotal	12.2	12.6	
INTRODUCED PERENNIAL LEGUMES			
Astragalus cicer	3.5	3.6	35
Medicago sativa	70.3	72.6	100
	---	---	
Subtotal	73.8	76.2	
NATIVE SHRUBS			
Ericameria nauseosa	0.6	0.6	5
Total Plant Cover	96.8	100.0	
Bare Soil	19.9		70
Coarse Fragments	5.5		70
Plant Litter	60.1		100

Table K28. Transect T-C, Reach T, 2016, Canopy Coverage and Frequency, Upland. Lots alfalfa browsed. Peterson coversoil.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus candesnsis	13.1	11.4	75
Elymus lanceolatus	1.2	1.0	15
Elymus trachycaulus	13.0	11.2	80
Festuca rubra	0.5	0.4	5
Poa juncifolia var. ampla	2.5	2.2	20
	---	---	
Subtotal	30.3	26.2	
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	1.5	1.3	15
Poa compressa	10.1	8.7	60
	---	---	
Subtotal	11.6	10.0	
NATIVE PERENNIAL FORBS			
Achillea millefolium	9.1	7.8	65
Artemisia ludoviciana	0.5	0.4	10
Linum lewisii	1.3	1.1	10
	---	---	
Subtotal	10.9	9.3	
INTRODUCED PERENNIAL LEGUMES			
Astragalus cicer	14.5	12.5	30
Medicago sativa	48.5	41.8	95
	---	---	
Subtotal	63.0	54.3	
NATIVE SHRUBS			
Ericameria nauseosa	0.2	0.2	5
Total Plant Cover	116.0	100.0	
Bare Soil	6.7		30
Coarse Fragments	2.3		20
Plant Litter	74.1		100

Table K28. Transect T-D, Reach T, 2016, Canopy Coverage and Frequency, Upland. Alfalfa mowed by elk. Plant cover varies with soil quality.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%	%	
INTRODUCED ANNUALS			
Bassia scoparia	0.1	0.1	5
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus candesnsis	3.2	3.8	30
Elymus cinereus	0.5	0.6	5
Elymus lanceolatus	3.5	4.2	25
Elymus trachycaulus	3.3	3.9	30
Festuca rubra	0.2	0.2	5
Poa juncifolia var. ampla	2.8	3.3	25
Poa nevadensis	2.3	2.7	40
Subtotal	15.8	18.7	
INTRODUCED PERENNIAL GRASSES			
Agrostis stolonifera	2.0	2.4	15
Poa compressa	6.6	7.9	55
Poa pratensis	0.5	0.6	5
Subtotal	9.1	10.9	
NATIVE PERENNIAL FORBS			
Achillea millefolium	5.7	6.8	55
INTRODUCED PERENNIAL LEGUMES			
Astragalus cicer	0.8	1.0	5
Medicago sativa	52.5	62.5	90
Subtotal	53.3	63.5	
Total Plant Cover	84.0	100.0	
Bare Soi	17.7		65
Coarse Fragments	19.2		65
Plant Litter	44.2		100

Table K29. Transect T-E, Reach T, 2016, Canopy Coverage and Frequency, Upland.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	----------%----------		
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Elymus candesnsis	4.0	3.8	35
Elymus lanceolatus	2.3	2.2	20
Elymus trachycaulus	2.7	2.6	40
Poa juncifolia var. ampla	2.4	2.3	30
	---	---	
Subtotal	11.4	10.9	
INTRODUCED PERENNIAL GRASSES			
Poa compressa	2.8	2.7	30
NATIVE PERENNIAL FORBS			
Achillea millefolium	5.4	5.1	55
INTRODUCED PERENNIAL LEGUMES			
Astragalus cicer	14.7	14.0	35
Medicago sativa	70.4	66.9	95
	---	---	
Subtotal	85.1	80.9	
NATIVE SUBSHRUBS			
Artemesia ludoviciana	0.6	0.6	10
Total Plant Cover	105.3	100.2	
Bare Soi	8.2		30
Coarse Fragments	3.0		30
Plant Litter	72.6		100

Table K20. Transect T-3, ARCO Loadout, Reach T, 2015, Canopy Coverage and Frequency, Upland.

SPECIES	AVERAGE COVER	RELATIVE COVER	FREQUENCY
	%	%	%
NATIVE PERENNIAL GRASSES AND GRASSLIKE			
Achnatherum hymenoides	2.4	4.8	40
Elymus canadensis	0.8	1.6	10
Elymus lanceolatus	23.9	47.5	100
Elymus smithii	0.5	1.0	10
Elymus trachycaulus	11.1	22.1	90
Koeleria cristata	4.5	8.9	50
Poa juncifolia var. *ampla*	0.9	1.8	25
Pseudoroegneria spicata	1.5	3.0	25
Sitanion hystrix	3.6	7.2	35
Subtotal	49.2	97.9	
NATIVE PERENNIAL FORBS			
Artemisia frigida	0.8	1.6	20
INTRODUCED PERENNIAL LEGUMES			
Medicago sativa	0.1	0.2	5
NATIVE SHRUBS			
Ericameria nauseosa	0.2	0.4	10
Total Plant Cover	50.3	100.1	
Bare Soil	60.2		100
Coarse Fragments	13.1		100
Plant Litter	16.8		100

APPENDIX J

VEGETATION MONITORING PHOTOGRAPHS

Figure J1. Transect in Q1 in Reach Q had mostly grasses and a light cover (57%).

Figure J2. Even with some tumble mustard, Q2 had about 95% perennial cover, mostly alfalfa.

Figure J3. Q3 was weedy, had mainly cheatgrass, and low perennial plant cover.

Figure J4. Q4 looked good and was diverse at the origin.

Figure J5. Some parts of Q4 were sparse and other parts were contaminated; plant cover was marginal.

Figure J6. Transect Q5 showed good revegetation with plenty of perennial cover.

Figure J7. At the transect origin, Q6 showed shrubs but also cheatgrass.

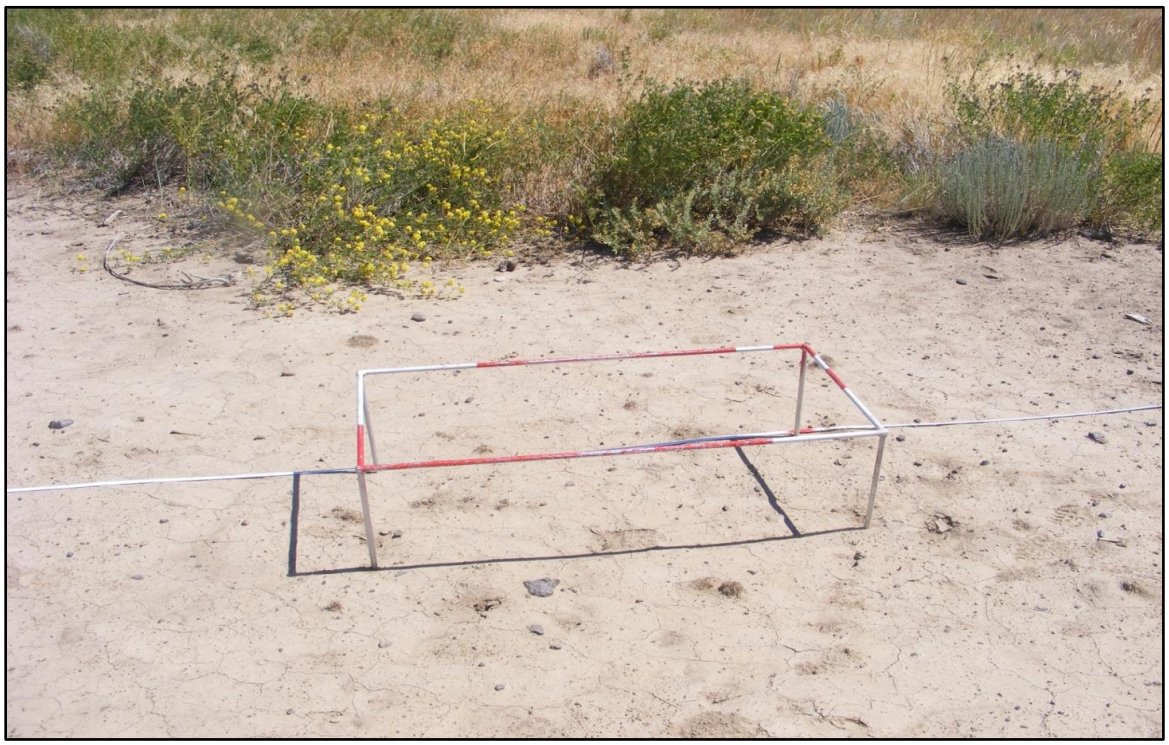


Figure J8. Transect Q6 also traversed contamination. Perennial cover was low.

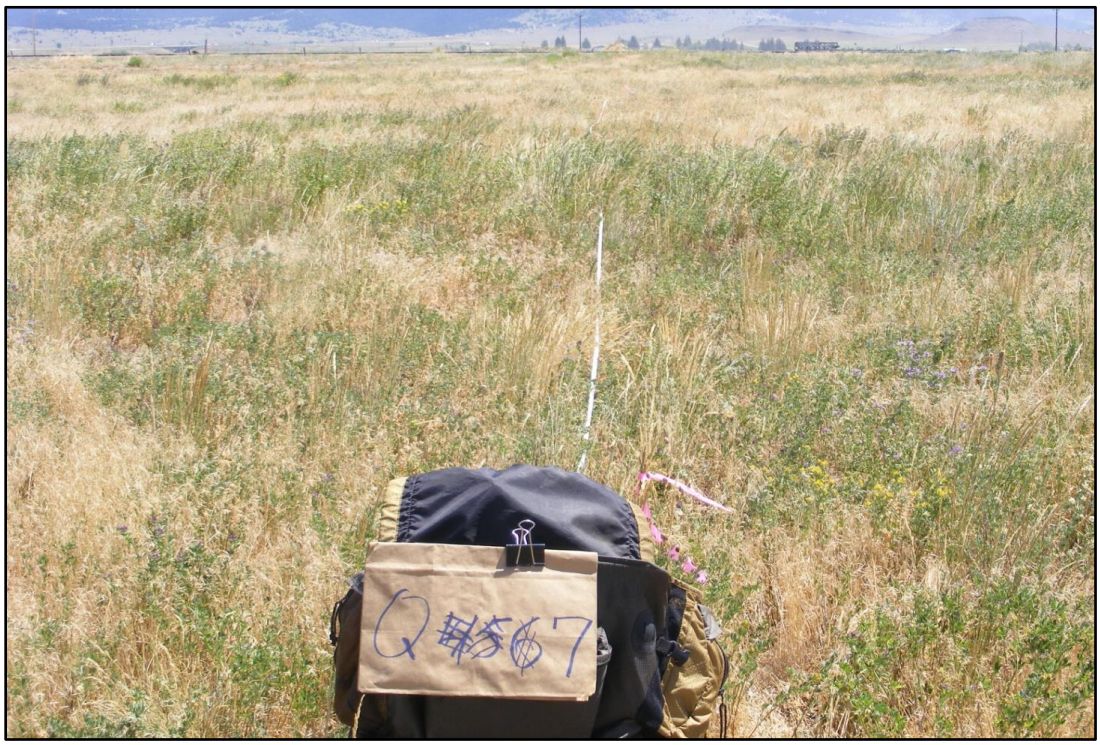


Figure J9. Transect Q7 had good revegetation with spots of tailings. Cover was borderline.

Figure J10. The Q7 area also had some big sagebrush seedlings.

Figure J11. Transect Q8 at the origin with good cover.

Figure J12. Q8 was clean dirt and mostly subirrigated, with more than 100% cover.

Figure J13. Transect Q9 had a prevalence of abundant perennials more than compensated for spots of cheatgrass and contamination, as in the lower photo.

Figure J14. Clearly this zone had flooded. The area was just below the Crackerville Road west of the creek. Perennial cover was 89%, which was borderline for wetland-transition zone.

Figure J15. Another portion of Transect Q10, a flood-scoured area that was hand-seeded after the flood. There was no coversoil. It was hand-seeded; the willows volunteered right after the flood.

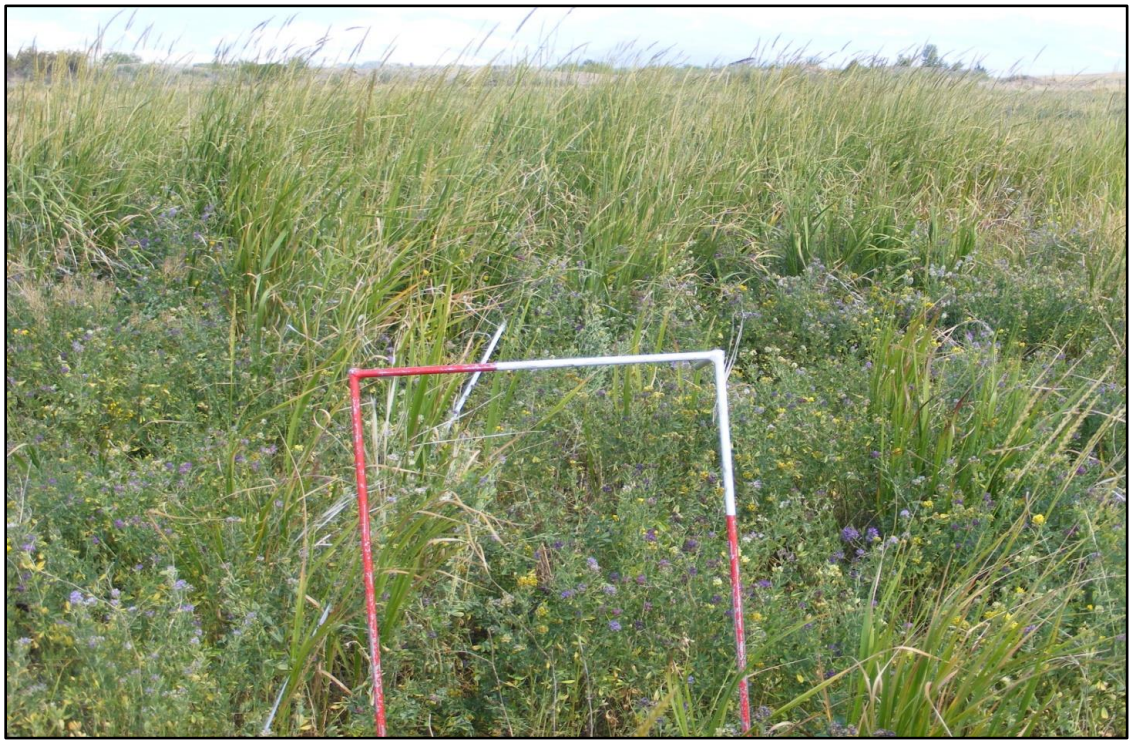


Figure J16. Upper photo is the origin of Transect Q11, which had a nice blend of alfalfa and grasses with a few shrubs. Lower photo shows why this transect had almost 100% perennial cover. Cover in transects like this compensate for several areas with low cover.

Figure J17. Top: Reach R, Transect 1, had diverse vegetation despite abrupt contamination near the end of the transect.

Figure J18. Reach R, Transect 2 looked good (top), but again there was a contaminated spot.

Figure J19. Transect R3 had alfalfa and good cover.

Figure J20. The best of R4 revealed contamination, and wetland habitat.

Figure J21. Transect R4 crossing contaminated dirt.

Figure J22. CFWEP cuttings at R4 couldn't handle the contamination and acidity.

Figure J23. Repair work remains to be done in Subarea 3.

Figure J24. Plants are sparse at the origin of Transect R5.

Figure J25. The 100-meter transect at R5 revealed just 45% perennial cover.

Figure J26. R6 has better dirt and 69% perennial plant cover.

Figure J27. R7 was deliberately placed in a contaminated overflow channel to highlight the need for repairing them. Lower photo shows another channel segment.

Figure J28. Overflow channel detail. Stream flows have not yet reached the channels

Figure J29. The overflow channel in Figure J27 leads to this depression before re-entering Silver Bow Creek.

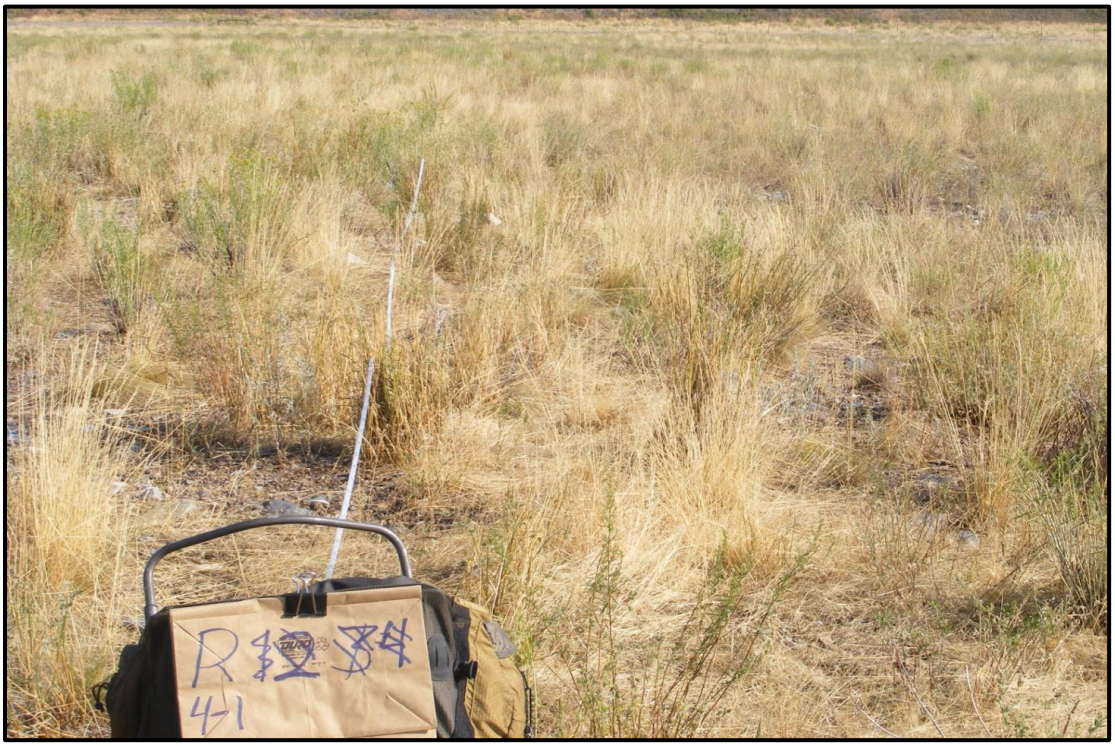


Figure J30. It's really old transect 4-2, old gravel-pit alluvium amended with Stimpson wood product. Perennial cover here has improved since 2014 despite open spots.

Figure J31. Terminus of 4-7, an old Reach R transect, and deer remains along the transect.

Figure J32. Grassy Transect 4-13.

Figure J33. Reach R Transect 4-15 came in with low (10%) plant cover as can be seen here.

Figure J34. Damaged winterfat shrub near 4-15.

Figure J35. Old transect 4-16 had low cover. Part of it was seeded with the competitive mix, which partially explains the low plant cover.

Figure J36. Retained Transect 4-30 has plenty of plant cover due to legumes and grasses (upper photo) despite a patch of impaired soil.

Figure J37. Another retained transect, 4-34 had low cover.

Figure J38. Retained Transect 4-35 had high cover, suggesting good soil.

Figure J39. Moving to Reach T at a transect temporarily labeled T-A. Transect had a high proportion of alfalfa, but high cover.

Figure J40. The transect temporarily labeled T-B had "only" 97% perennial cover and presumably good soil.

Figure J41. High cover (116%) and about half legumes, on Peterson coversoil in lower Reach T. Perennial cover in Reach T was about twice the amount in Reaches Q and R. These reaches appear to have better dirt.

Figure J42. T-D were less dense with plants but still had high cover.

Figure J43. The final temporarily labeled transect, T-E, had >100% stratified perennial cover.

Figure J44. Floods and beavers remodeled Silver Bow Creek in Reach Q – much to the benefit of the stream ecology.

Figure J45. A bit of old streambank now midstream in Reach Q.

Figure J46. American mannagrass from hand-seeding after the 2011 flood, Reach Q.

Figure J47. Most big transplants died in Reach R; the banks are too high and dry.

Figure J48. Reach R banks do have shrubs in places, but they started smaller.

Figure J49. Stream narrowing, Reach R.

Figure J50. Contaminated "point bar," Reach R.

Figure J51. The seed vendor provided Cicer milkvetch rather than Canada milkvetch.

Figure J52. Silver sagebrush amidst grass in southern Reach I.

Figure J53. Through successive hand-seedings, this old road in Reach I looked good in 2016.

Figure J54. Cut cottonwoods and willows near Miles Crossing.

Figure J55. Upper Reach T streambanks.

Figure J56. About half the big fenced bank transplants in Reach T died because it was too dry.

Figure J57. Elk trail, Reach T.

Figure J58. Elk remains, Reach I.

Figure J59. Reach O bank and detail featuring legumes, grasses, and willows.

Figure J60. Canada milkvetch among others, Reach T bank; muskrat scat visible on rocks.

Figure J61. Reach O floodplain, late July 2016.

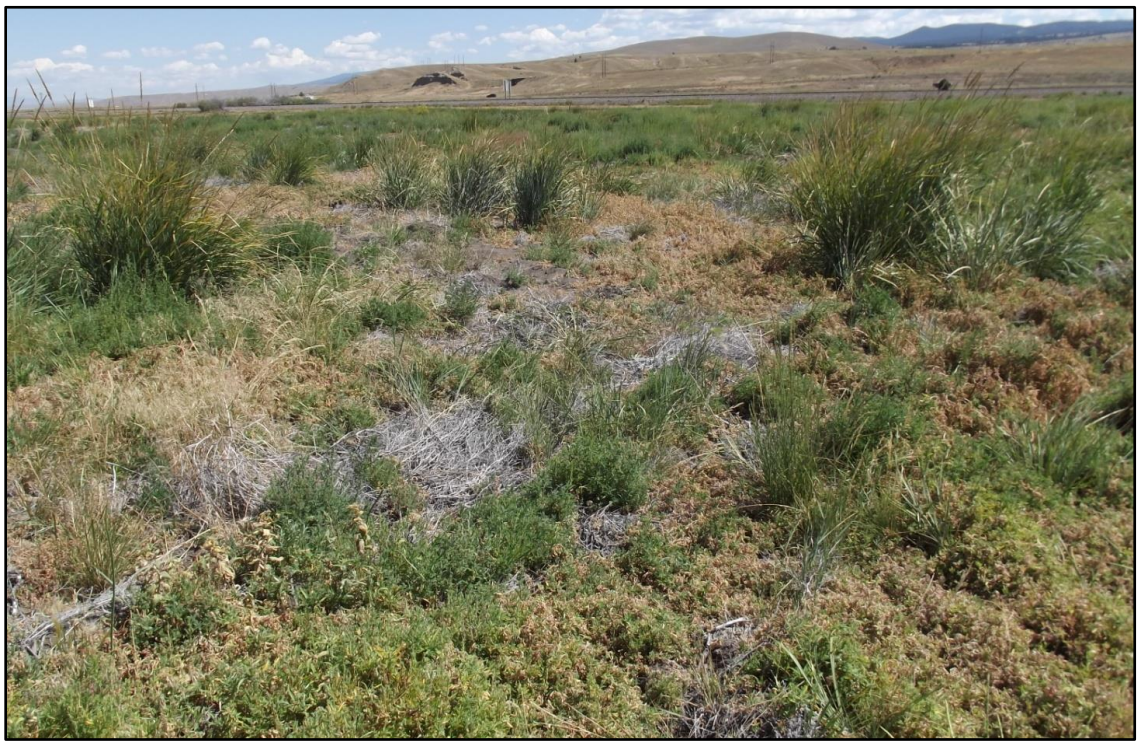


Figure J62. Reach T: whitetop and kochia.

Figure J63. Pond algae, Reach G, August 2016.

Figure J64. Golden currant with berries, Reach R.

Figure J65. Looking south to BA 17 – after many hand-seedings, the old haul road looks good.

Figure J66. Unusual flat ant colony and detail.

Figure J67. The Burlington Northern railroad line is built on mine waste that reaches Silver Bow Creek, Reach E.

Figure J68. The Milwaukee grade also is contaminated – note dead willows below rocks.

Figure J69. Duck nest, Reach H.

Figure J70. Savannah sparrow nest with two cowbird eggs (the larger ones).

Figure J71. More duck eggs and ducklings, Reach R, August 2016.

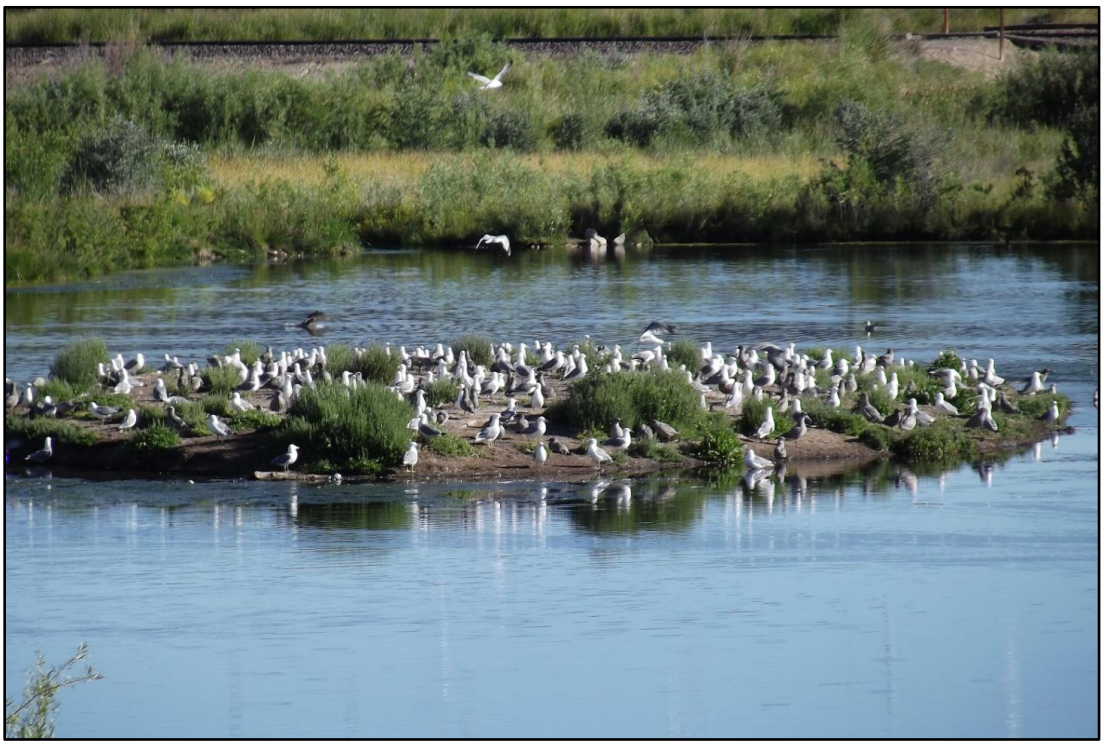


Figure J72. How Gull Island in Reach G got its name.

Figure J73. Gulls on the water, Gull Island in Reach G.

Figure J74. The outlet to Sheep Gulch Pond looks great.

Figure J75. Looking up Reach H.

Figure J76. Aside from inundation, beavers created wetlands in lower Reach E. Three beaver huts are visible in the lower photograph.

Figure J77. The dark grass invading previously exposed sediment from beaver flooding in Reach E is creeping foxtail. At least it keeps other weeds out.

Figure J78. Where beavers roam, cottonwoods are always at risk. Three nice cottonwoods are gone from upper exclosure, whereas bottom was more recently timbered.

Figure J79. Cheatgrass and other weeds came from previous horse grazing. Channel on right is Sand Creek with Silver Bow Creek in background.

Figure J80. Buffaloberries in Reach H.

Figure J81. Dead hawk, possibly a redtail, probably a powerline strike, Reach I.

Figure J82. Hand-seeding produced this fine sagebrush steppe, Reach F.

Figure J83. Weeds near Whisky Gulch parking lot.

Figure J84. Silver sagebrush, penstemon, and tarragon, the trail seeding in Reach B or lower A.

Figure J85. Annual-biennial weed patch due to flooding, Reach E.

Figure J86. A new weed, mint, *Galeopsis tetrahit* in Reach F.

Figure J87. Wood rose with golden currant, Reach G.

Figure J88. Sward of arrowgrass, Subarea 2, probably reach H.

Figure J89. *Scirpus maritimus*, cosmopolitan bulrush, Reach H.

Figure J90. ***Astragalus vexilliflexus,*** **bentflower milkvetch, Reach G.**

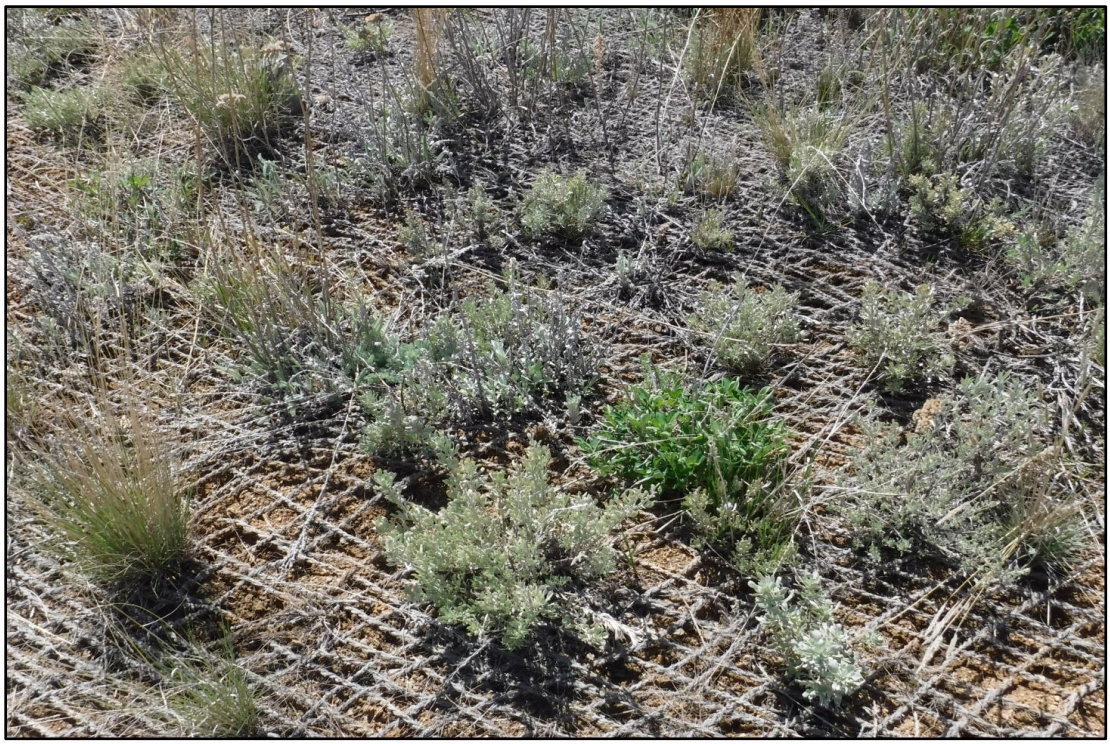


Figure J91. Meander tab, Reach T, with lots of sagebrush, some grasses and alfalfa from hand-seeding. The taproots anchor the coir fabric.