MONITORING REPORT FOR 2013

CLARK FORK RIVER OPERABLE UNIT

Prepared for

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EXECUTIVE SUMMARY

This performance monitoring program evaluates the progress of remedial actions in the Clark Fork River Operable Unit (CFROU) of the Milltown Reservoir/Clark Fork River Superfund sites toward meeting established remedial performance goals. Environmental media monitored in 2013 included surface water, instream sediment, macroinvertebrates, periphyton, and fish. This report summarizes results of data collected for each of these environmental media and evaluates progress toward attainment of remedial performance goals as of 2013.

Heavy metals originating from historic mining, milling and smelting processes associated with operations in Butte and Anaconda accumulated in the Clark Fork River streambanks and floodplain over a period of at least 100 years. The primary sources of contamination are tailings and contaminated sediments mixed with soils in the streambanks and floodplains, which erode during high streamflow events and enter the river and other surface waters. In addition to erosion, heavy metals are leached from the contaminated sediments and tailings directly into the groundwater and eventually to surface water. These contaminant transport pathways result in impacts to terrestrial and aquatic life along the Clark Fork River as described in the Record of Decision (ROD) for the site.

The Montana Department of Environmental Quality (MDEQ), as lead agency and in consultation with the U.S. Environmental Protection Agency (USEPA) and the National Park Service, oversees, manages, coordinates, designs, and implements remedial actions for the Clark Fork River site. The MDEQ coordinates with the Natural Resource Damage Program (NRDP) of the Montana Department of Justice for implementation and integration of restoration components to supplement the remedial actions. The MDEQ coordinates with the National Park Service to implement remedial actions on the Grant-Kohrs Ranch.

Data collected in 2013 represents the fourth year of monitoring in the CFROU. Remediation activities were just beginning in the CFROU in 2013. Active remediation was in progress in only the uppermost 1.6 mile reach of the Clark Fork River (Phase 1 of Reach A), immediately downstream from the Warm Springs Creek and Silver Bow Creek confluence. Reach A of the CFROU, extending from the Warm Springs Creek and Silver Bow Creek confluence downstream to the Little Blackfoot River confluence, has the largest volume of streamside tailings in the CFROU.

Monitoring under this program was first conducted by MDEQ and RESPEC personnel in the spring of 2010, prior to initiation of any remediation actions within the CFROU. Since 2010, some monitoring sites have been added to the monitoring program in Clark Fork River tributaries. In addition, this monitoring program has been coordinated with long-term monitoring by the U.S. Geological Survey (USGS) to complement data collected by the USGS and minimize data duplication by each program. Monitoring methods and quality assurance protocols guiding collection and analysis of the data described in this report are summarized in the project sampling and analysis plan (SAP) and the project quality assurance project plan (QAPP).

The CFROU monitoring network in 2013 included fourteen sites; six mainstem sites and eight tributary sites. Not all sites were sampled for each environmental medium or for each analyte of each environmental medium (e.g., some surface water sites were only sampled for mercury and methylmercury rather than the full suite of analytes). Monitoring site locations changed between 2012 and 2013 to provide a more detailed spatial representation of the Clark Fork River mainstem in the upstream most portion of the CFROU where active remediation is occurring. For surface water and instream sediment, the monitoring program primarily monitored concentrations of metal contaminants of concern (i.e., arsenic, cadmium, copper, lead, and zinc). However, for surface water additional data was collected including nutrient and common

ion concentrations, and other field parameters (e.g., acidity). Surface water samples were collected during each calendar quarter with two additional samples collected during the spring snowmelt runoff period. Sediment samples were collected during the first and third quarters. Macroinvertebrate and periphyton samples were collected during the summer (third quarter). Fisheries data, collected by Montana Fish Wildlife and Parks, included trout population abundance at long-term reference sites and in situ mortality of confined fish at selected sites.

In 2013, streamflows throughout the upper Clark Fork River watershed were well below normal. Reduced streamflows in 2013 likely contributed to the relatively low metal concentrations during the spring snowmelt period and the high maximum water temperatures during the summer. Compared to prior monitoring years (2010-2012), there were relatively few surface water samples with contaminant of concern (COC) concentrations exceeding performance goals in 2013. No samples had cadmium or zinc concentrations above the performance goals in 2013.

Although COC concentrations in surface water overall were relatively low in 2013, arsenic and copper exceedances of performance goals were common, particularly in Reach A. In Reach A, arsenic exceeded performance goals in 83% of the mainstem samples. Primary arsenic sources appear to be two headwater tributaries; Silver Bow Creek (including the Warm Springs Ponds complex) and Mill-Willow Creek (including the Mill-Willow Bypass). In Silver Bow Creek and Mill-Willow Creek, 94% of the samples exceeded the arsenic performance goals. Copper exceeded the performance goals in all mainstem sites during two of the three spring runoff sampling events and exceeded performance goals at Deer Lodge during all sampling events except during the third quarter. As in previous years, samples from Flint Creek and the Clark Fork River mainstem had elevated mercury concentrations which exceeded the human health surface water standard by as much as 30 times during the runoff period.

Sediments had elevated COC concentrations in mainstem sample sites in Reach A and the lowest concentrations were generally observed at the downstream-most site at Turah in 2013. Sediment arsenic, copper, and lead concentrations frequently exceeded the sediment reference benchmarks in the mainstem. Tributaries with elevated sediment metal concentrations included the Mill-Willow Bypass (arsenic), Silver Bow Creek at Warm Springs (cadmium and zinc), Warm Springs Creek (copper), and Mill-Willow Creeks (lead).

Macroinvertebrate bioindex scores achieved the reference benchmark (i.e., score of at least 80% for the metals tolerance index) at all mainstem monitoring sites in 2013. Some tributary sites however did not meet the reference benchmark including sites in Warm Springs Creek, Silver Bow Creek, and Racetrack Creek. Of all macroinvertebrate monitoring sites, Racetrack Creek had the lowest metals tolerance index (60%).

Results of periphyton sample analyses indicate that CFROU sites were likely impaired by sediment, metals, and nutrients. Bioindex scores in 2013 indicated that the probability of impairment from sediment was greatest in the mainstem at the upstream-most sites with impairment probabilities ranging from 46-75%. The probability of impairment from metals was at least 80% at all mainstem sites except for at Deer Lodge (29%). The probability of impairment from nutrients was at least 80% at all mainstem sites except at Deer Lodge (15%) and at Turah (59%). In the tributary sites, the probability of impairment from sediment exceeded 50% in Mill-Willow Creek, Warm Springs Creek, and the Little Blackfoot River. In the tributary sites the probability of impairment exceeded 80% in Silver Bow Creek (metals and nutrients) and the Little Blackfoot River (nutrients).

Based on fish population monitoring in the Clark Fork River, brown trout abundance appeared to increase throughout the upper Clark Fork River in 2013. This trend was observed for all sample sections except for the Bearmouth section in Reach C. Although brown trout abundance did not increase, westslope cutthroat trout abundance increased in the Bearmouth section from 2009 through 2013. The cause of the low trout abundances in the Clark Fork River in Reach C is unclear, as is the cause of the recent increase in westslope cutthroat trout abundance in Reach C.

The majority of fish mortality observed during the 2013 in situ fish mortality study occurred in April, May, and July. Mortality was likely the result of the cumulative effect of multiple environmental stressors including metals and elevated water temperatures, and at some sites additionally elevated pH and low dissolved oxygen concentrations. Mortality occurred primarily in July as water temperatures approached or exceeded the upper critical temperature threshold for brown trout (19.0 °C). Water temperatures exceeded the upper incipient lethal temperature for brown trout (24.7 °C) at seven sites in 2013: Mill-Willow Creek, the Pond 2 discharge, Silver Bow Creek, the Clark Fork River at Deer Lodge, the Clark Fork River immediately above the Little Blackfoot River confluence, in the Little Blackfoot River, and in Flint Creek. Prior to 2013, only two sites had water temperatures exceeding 24.7 °C. In addition to apparently causing increased mortality, elevated water temperatures likely negatively influenced feeding and growth, and increased susceptibility to other environmental stressors (e.g., metal toxicity), and diseases.

1.0 SURFACE WATER

1.1 PERFORMANCE GOALS

Remediation performance standards were establishend in the Clark Fork River Operable Unit (CFROU) Record of Decision (ROD) for surface water, groundwater, and vegetation (USEPA 2004). The performance standard for surface water quality is for concentrations of all metal contaminants of concern (COC) to be below the performance standards identified in the CFROU ROD (Table 1-1). The remedy for the Clark Fork River is expected to achieve this standard through the removal of contaminated floodplain soils (i.e., "slickens"), *in situ* (i.e., on site) treatment of floodplain soils with relatively low COC concentrations, and streambank stabilization. Additional removals of contaminated floodplain materials, proposed as part of remediation, may reduce arsenic concentrations as well. When the remediation activities are completed, surface water quality in the Clark Fork River is expected to fully support the growth and propagation of coldwater fishes (e.g., salmonids) and associated aquatic life. Surface waters will be monitored at specific locations along the Clark Fork River. Performance standards must be met at each location in order for the remedial actions to be considered successful.

Table 1-1. Remediation performance standards for surface water in the Clark Fork River Operable Unit (USEPA 2004).

Contaminant of Concern	Performance Standard		
	Aquatic Life Standard[1]		Human Health or Drinking Water Standard (µg/L)
	Chronic (µg/L)	Acute (µg/L)	
Arsenic	150	340	10/18[2]
Cadmium	0.25	2	5
Copper[3]	9	13	1,300
Lead	3.2	81	15
Zinc	119	119	2,000

1.2 METHODS

The purpose of the surface water monitoring program is to collect data describing the temporal and spatial variation of metal and nutrient concentrations, and other physical properties of surface water in the CFROU. These data provide a long-term record of environmental conditions in the CFROU. As of 2013, four years of CFROU surface water data (2010-2013) has been collected under this monitoring program. This long-term record provides a dataset to evaluate the effect of remediation on environmental conditions in the CFROU over time. Changes to the surface water monitoring program have occurred over time and a record of these changes is provided in the program monitoring plan (Atkins 2013).

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

[2] The performance standard includes both the federal maximum contaminant level (MCL; 10 µg/L; dissolved concentration) and the State of Montana standard (18 µg/L; total recoverable concentration).

[3] Based on the federal ambient water quality criteria (USEPA 1986; dissolved concentration).

1.2.1 Data Validation

Data quality objectives (DQOs) were established in the CFROU monitoring project sampling and analysis plan and quality assurance project plan (SAP/QAPP) for “data representativeness”, “comparability”, “completeness”, “sensitivity”, “precision”, “bias”, and “accuracy” (Atkins 2013). Methods for field and laboratory quality assurance and quality control (QA/QC) procedures are also described in detail in the project SAP/QAPP. A completed QA/QC checklist, summary tables of field duplicate and field blank results, and assessments of data quality objectives are included in Appendix A.

1.2.2 Monitoring Locations

Surface water was monitored at 12 CFROU sites in 2013 (Figure 1-1). The monitoring network included six sites in the Clark Fork River mainstem and six sites in tributary streams (Table 1-2). Monitoring site locations changed between 2012 and 2013 to provide a more detailed spatial representation of the Clark Fork River mainstem in the upstream most portion of the CFROU where active remediation is occurring. Some sites which had previously been monitored in the CFROU under this program were removed from the monitoring network in 2013 to avoid duplication of water quality sampling efforts by the USGS (Dodge et al. 2014). A record of changes to this monitoring program since monitoring began in 2010 is provided in the project sampling and analysis plan (Appendix B in Atkins 2013).

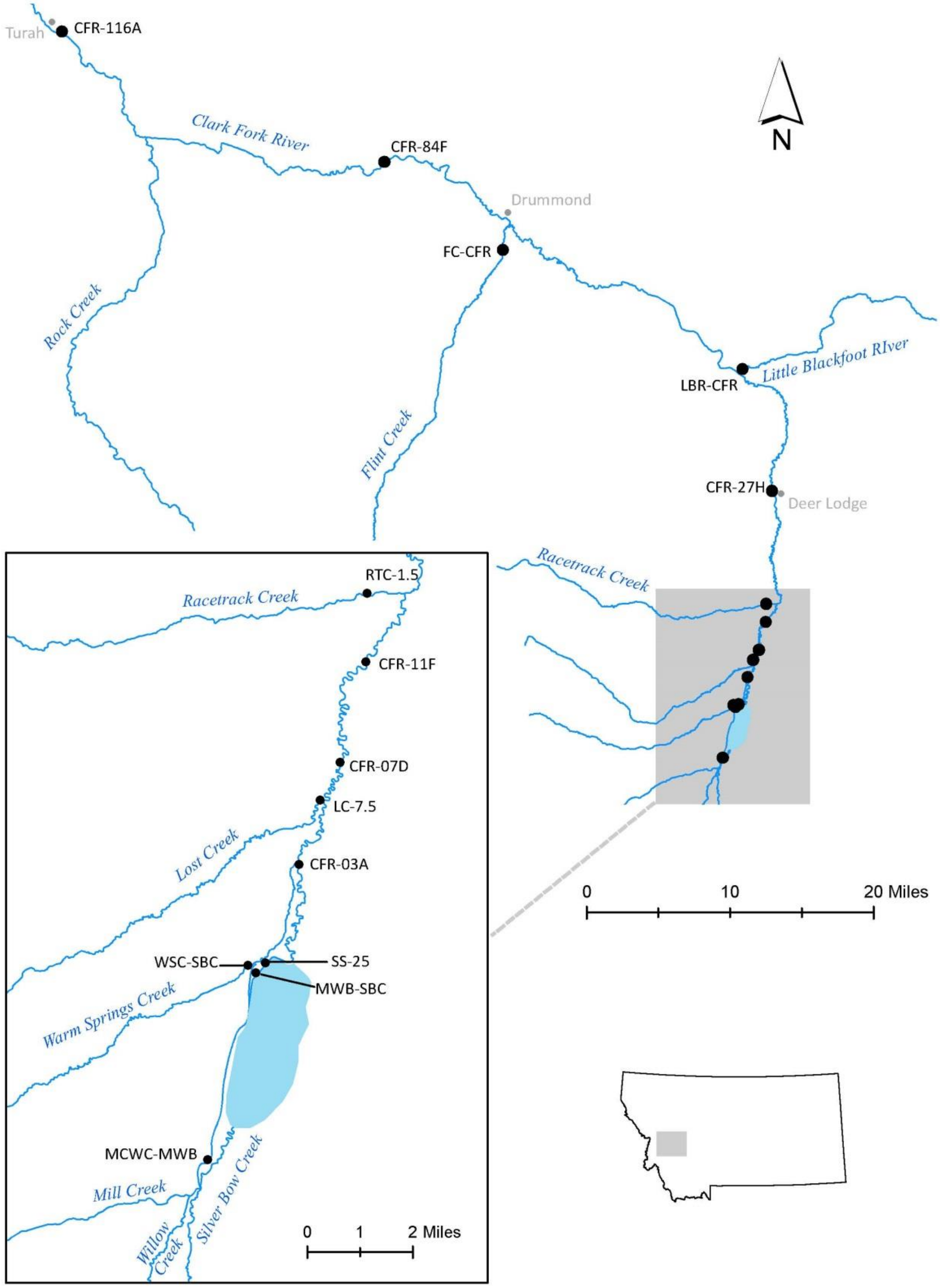

Figure 1-1. Approximate sampling locations for environmental monitoring of the Clark Fork River Operable Unit, 2013. Surface water samples were collected at all sites except LC-7.5 and RTC-1.5.

Table 1-2. Surface water sampling locations in the Clark Fork River Operable Unit, 2013. Streamflows were measured at all sample sites which did not have a co-located USGS streamflow gauge.

Site ID	Site Location	Co-located USGS Streamflow Gage	Location (GPS coordinates, NAD 83)	
			Latitude	Longitude
Mainstem Sites				
CFR-03A	Clark Fork River near Galen	12323800	46.20877	-112.76740
CFR-07D	Clark Fork River at Galen Road	none	46.23725	-112.75302
CFR-11F	Clark Fork River at Gemback Road	none	46.26520	-112.74430
CFR-27H	Clark Fork River at Deer Lodge	12324200	46.39796	-112.74283
CFR-84F[4]	Clark Fork near Drummond	12331800	46.71204	-113.33137
CFR-116A	Clark Fork at Turah	12334550	46.82646	-113.81424
Tributary Sites				
SS-25	Silver Bow Creek at Warm Springs	12323750	46.18123	-112.77917
MCWC-MWB	Mill-Willow Creek at Frontage Road	none	46.12649	-112.79876
MWB-SBC	Mill-Willow Bypass near mouth	none	46.17839	-112.78270
WSC-SBC	Warm Springs Creek near mouth	12323770	46.18041	-112.78592
LC-7.5[5]	Lost Creek near mouth	12323850	46.21862	-112.77384
LBR-CFR	Little Blackfoot River near Garrison	12324590	46.51964	-112.79312
FC-CFR[6]	Flint Creek near mouth	12331500	46.62891	-113.15151

1.2.3 Monitoring Schedule

At least one monitoring event occurred during each calendar quarter of 2013. Each quarterly monitoring event occurred near the end of each quarter with the exception of the second quarter (Q2) spring monitoring events. The first quarter monitoring event (Q1) occurred in the late winter on March 19-20. Three monitoring events were conducted in Q2 to capture the rising (Q2-Rising), peak (Q2-Peak), and falling (Q2-Falling) portions of the spring runoff hydrograph. The Q2 monitoring events occurred on May 14-16 (Q2-Rising), June 11-13 (Q2-Peak), and June 25-27 (Q2-Falling). The late summer (Q3) monitoring event was scheduled during low streamflow conditions on September 17-18. The late fall (Q4) monitoring event occurred on November 25-26.

1.2.4 Monitoring Parameters

Surface water samples were analyzed for the parameters and analytes listed in Table 1-3. Parameters and analytes were the same at all sites with the exception of FC-CFR and CFR-84F

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[4] In 2013, surface water samples at site CFR-84F were only analyzed for mercury and methylmercury in the MDEQ monitoring program. However, the USGS collected surface water samples and analyzed those for all metal contaminants of concern at this site (USGS 12331800) in 2013.

[5] In 2013, no surface water samples at site LC-7.5 were collected in the MDEQ monitoring program. However, the USGS collected surface water samples and analyzed them for all metal contaminants of concern at this site (USGS 12323850) in 2013.

[6] In 2013, surface water samples at site FC-CFR were only sampled for mercury and methylmercury in the MDEQ monitoring program.

where only field parameters and mercury and methylmercury concentrations were analyzed in addition to field parameters analytes.

Table 1-3. Sampling parameters and analytes for surface water monitoring of the Clark Fork River Operable Unit, 2013.

Parameter	Analytes
Metal concentrations (total recoverable and dissolved)[7]	Arsenic, cadmium, copper, lead, zinc, mercury, methylmercury
Nutrient concentrations	Nitrogen (total nitrogen, nitrate plus nitrite, ammonia), phosphorus (total)
Common ion concentrations (total)	Sulfate, alkalinity, bicarbonate
Field parameters	Total suspended solid (TSS) concentration, hardness, water temperature, pH, specific conductivity, dissolved oxygen (DO) and dissolved organic carbon (DOC) concentrations, turbidity

Nine of the 14 monitoring stations in the MDEQ Clark Fork River monitoring network are co-located at active USGS streamflow gauging stations (Table 1-2). USGS streamflow records were accessed and included in this report. Streamflows at monitoring stations without co-located USGS gauges were measured manually.

1.2.5 Sample Collection and Analysis Procedures

Sample collection, analysis, and quality assurance procedures were described in the quality assurance project plan (Atkins 2013). Methods generally followed standard operating procedures (SOPs) developed for the Clark Fork River (ARCO 1992). Field sampling procedures were in accordance with MDEQ (2012a) and followed “clean hands/dirty hands” procedures as described in USGS (2006). Composited surface water samples were collected using width-depth integration according to methods described in USGS (2006). When streamflows were high and samples could not be collected by wading, samples were collected with the aid of a crane mounted D-95 sampler operated from road bridges. Field parameters (water temperature, pH, dissolved oxygen concentration, and conductivity) were measured during each monitoring event with a field multimeter (YSI Professional Plus). Turbidity was measured with a field turbidity meter (Hach Model 2100P Portable Turbidimeter). Streamflows were measured using a portable electromagnetic streamflow meter (Marsh-McBirney Flo-Mate 2000). Calibration methods for field meters, data recording and handling methods, and quality assurance and quality control procedures are described in the quality assurance project plan (Atkins 2013). Samples were analyzed by Energy Laboratories (Helena, Montana). Laboratory analysis procedures for each analyte are presented in Table 1-4.

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[7] Mercury and methylmercury concentrations were only analyzed at FC-CFR and CFR-84F.

Table 1-4. Analytes and methods for surface water samples in the Clark Fork River Operable Unit, 2013. All samples were analyzed by Energy Laboratories in Helena, Montana.

Parameter	Category	Method
Arsenic, As (Dissolved)	Contaminants of Concern	E200.8
Arsenic, As (Total Recoverable)		E200.8
Cadmium, Cd (Dissolved)		E200.8
Cadmium, Cd (Total Recoverable)		E200.8
Copper, Cu (Dissolved)		E200.8
Copper, Cu (Total Recoverable)		E200.8
Lead, Pb (Dissolved)		E200.8
Lead, Pb (Total Recoverable)		E200.8
Mercury, Hg (Total)		E245.1
Methylmercury		E1630
Zinc, Zn (Dissolved)		E200.8
Zinc, Zn (Total Recoverable)		E200.8
Calcium, Ca	Common Ions and Suspended Sediment	E200.7
Magnesium, Mg		E200.7
Sulfate, SO_4		E300.0
Total Alkalinity, as $CaCO_3$		A2320 B
Bicarbonate Alkalinity, as HCO_3		A2320 B
Hardness, as $CaCO_3$ (Calculated)		A2340 B
Total Suspended Sediment, TSS		A2540 D
Nitrogen, Ammonia as (NH_3-N)	Nutrients	E350.1
Nitrogen, Nitrate plus Nitrite (NO_3&NO_2-N)		E353.2
Nitrogen, Total		A4500 N-C
Phosphorus, Total		E365.1

1.2.6 USGS Data

The U.S. Geological Survey (USGS) has been collecting surface water chemistry data in the upper Clark Fork River basin for several decades, with records from some sites extending back to at least 1969 (USGS 2014). In order to minimize data duplication, the MDEQ monitoring program has discontinued sampling at certain sites in the CFROU which were already sampled under the USGS monitoring program. Some sites continue to be monitored by both programs. This report primarily presents and discusses 2013 sampling results from the MDEQ monitoring program, but preliminary monitoring results for COC metals (arsenic, cadmium, copper, lead, and zinc) from the 2013 USGS monitoring program have also been included and briefly discussed. Inclusion of both MDEQ and USGS monitoring data provides a more robust data set to evaluate progress toward attainment of remedial performance goals, improves the ability to evaluate spatial and temporal trends, and provides the ability to compare results from each program for quality control purposes.

USGS sample collection and analysis methods in 2013 were generally similar to those implemented in the MDEQ monitoring program. For example, both programs collected width-depth integrated samples following USGS methods (USGS 2006) and dissolved samples were filtered at 0.45 µm pore size. However, there were minor differences in sample collection methods between the two programs. For example, the USGS program filters dissolved samples using a peristaltic pump whereas the MDEQ program filters dissolved samples using handheld syringes.

USGS data was downloaded from the USGS website on April 25, 2014 (USGS 2014). At that time, data results were preliminary and subject to revision pending internal quality control and quality assurance review. All USGS data included in this report should therefore be interpreted with caution. General sampling methods of the USGS monitoring program are described in a recent data summary report (Dodge et al. 2014). The report summarizing methods used for collection of the 2013 USGS data included in this report was not yet available at the time this report was written.

1.2.7 Data Analysis

Data analysis included description of spatial trends and temporal (quarterly and annual) trends in analyte (metals and nutrients) concentrations and physical properties. Attainment of performance goals was assessed by comparing analyte concentrations at specific sites to remedial performance goals. Assessment of nutrient monitoring results also included comparisons of total nitrogen and total phosphorus concentrations to numeric water quality standards for the Clark Fork River (ARM 17.30.631).

Evaluation of some performance goals requires an assumption that the measured analyte concentrations are consistent over time. For example, the chronic aquatic life standard (ALS) is typically based on 96-hour mean concentrations (MDEQ 2012b). Similarly, the acute ALS are typically based on a 1-hour mean concentration (MDEQ 2012b). However, in this monitoring program analyte concentrations are measured at a specific point in time and mean concentrations over time are not available. Therefore, all assessments of ALS exceedances assume that the measured concentration was representative of the required mean concentration.

Compliance ratios were computed by dividing each total recoverable arsenic concentration during the MDEQ monitoring period in the CFROU 2010-2013 by the respective performance standard. Compliance ratio results are presented as line graphs on a semi-logarithmic scale ranging from 0.01 to 100, with a value of 1.0 corresponding to 100% of the performance standard value. Values exceeding 1.0 represent exceedances of the performance standard.

Finally, data from the USGS and MDEQ monitoring programs in 2013 were combined to evaluate spatial and seasonal variation in COC concentrations. Spatial variance among sample sites in the CFROU were evaluated visually by developing simple boxplots. Seasonal variation in COC concentrations at each site were evaluated visually by plotting all data in scatterplots at each site.

1.3 RESULTS

1.3.1 Data Validation

Data derived from laboratory analysis of surface water and instream sediment samples collected at upper Clark Fork River locations were validated through field quality control samples (i.e., field duplicates and field blanks) and laboratory control samples (lab duplicates, blanks, spikes, and reference and calibration standards. Analysis of field quality measures are described in Appendix A. Results of laboratory quality control measures are described in Appendix B.

Analysis results for surface water field duplicate samples were within acceptable limits for the majority of chemical parameters during all quarters of 2013. The relative percent difference (RPD) between field sample and field duplicate analyte pairs was <25% for 200 of 206 (96%) of the samples compared. Sample and duplicate pairs which exceeded an RPD of 25% were dissolved copper (Q1), total suspended sediment (Q2-Rising, Q2-Falling, Q3, and Q4); and total nitrogen (Q4).

Analyte concentrations were below reporting limits in 192 of 206 (93%) of the field blank samples (i.e., deionized water samples prepared in the same manner as field sample) in 2013. Analyte concentrations in field blanks which exceeded the reporting limits in 2013 included dissolved organic carbon (Q1, Q2-Rising, Q2-Peak, Q2-Falling, Q3), dissolved zinc (Q1, Q2-Rising, Q2-Peak, Q2-Falling, Q3), methylmercury (Q2-Rising, Q2-Peak, Q2-Falling), and total suspended sediment (Q2-Peak). All analyte concentrations in field blanks which exceeded the reporting limit were at or near the respective reporting limit, suggesting trace level contamination.

In addition to contamination of field blanks with dissolved zinc and dissolved organic carbon, it was observed that one third (20 of 60) of the field samples had dissolved zinc concentrations which exceeded the total recoverable zinc concentration. Dissolved concentrations exceeding total recoverable concentrations indicate that field contamination has occurred. We suspect that the sample field filter device used in this monitoring program is responsible for the dissolved zinc contamination because no unfiltered (i.e., total recoverable) field blanks have had zinc concentrations above the reporting limit.

Laboratory control samples were within acceptable limits for all surface water parameters during all monitoring events in 2013. Data quality objectives (“representativeness”, “comparability”, and “completeness”) were met, and data quality indicators (“sensitivity”, “precision”, “bias”, and “accuracy”) were acceptable as established in project quality assurance project plan (Atkins 2013).

1.3.2 Streamflows

At all sites, during almost all monitoring periods, streamflows in the upper Clark Fork River watershed were below normal in 2013. Additionally, the actual peak of the spring snowmelt hydrograph occurred at most sites in late-May whereas the Q2-Peak sampling occurred approximately two weeks later at most sites. The Q4 monitoring event was conducted during more normal streamflows for those dates.

Streamflows at the CFROU monitoring stations during the 2013 calendar year are depicted in hydrographs for USGS gauging stations Silver Bow Creek at Warm Springs (USGS 12323750), Clark Fork near Galen (USGS 12323800), at Deer Lodge (USGS 12324200), near Drummond (USGS 12331800), and at the Turah Bridge (USGS 12334550) in Figure 1-2 through Figure 1-6.

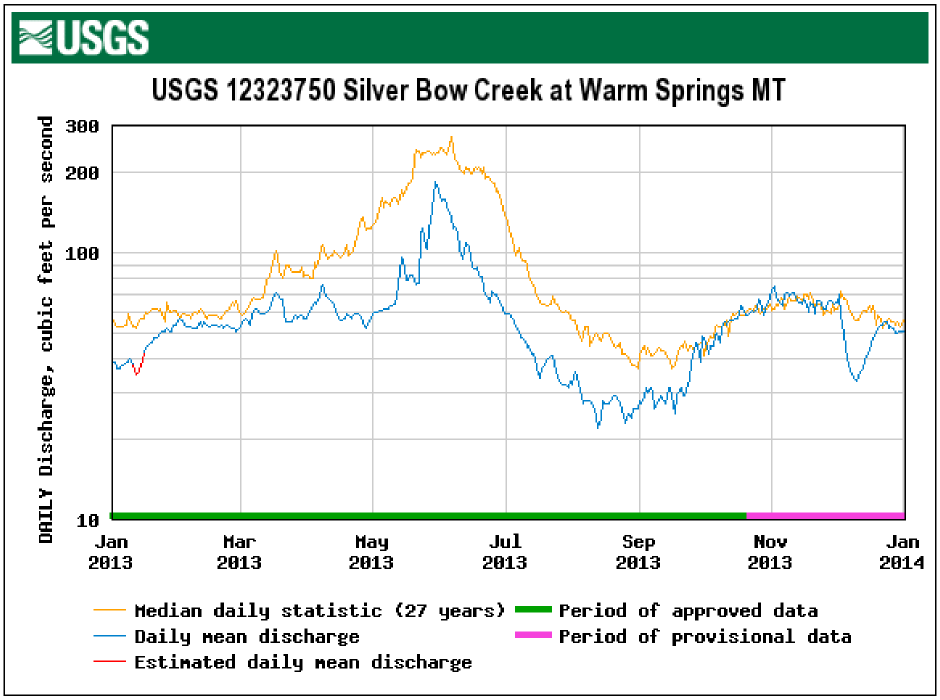


Figure 1-2. Hydrograph for Silver Bow Creek at Warm Springs, 2013.

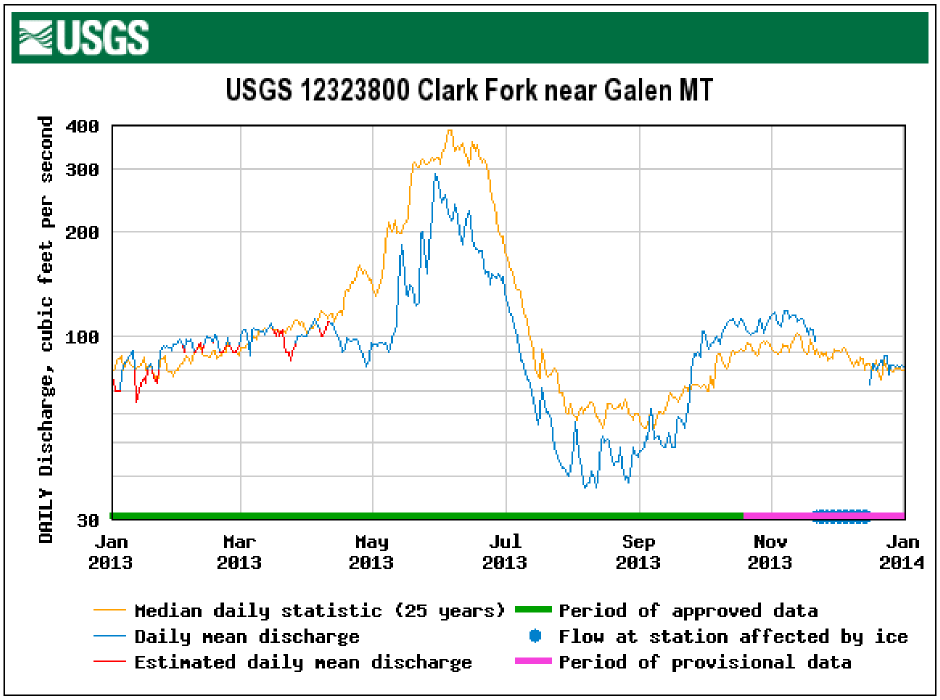


Figure 1-3. Hydrograph for Clark Fork River near Galen, 2013.

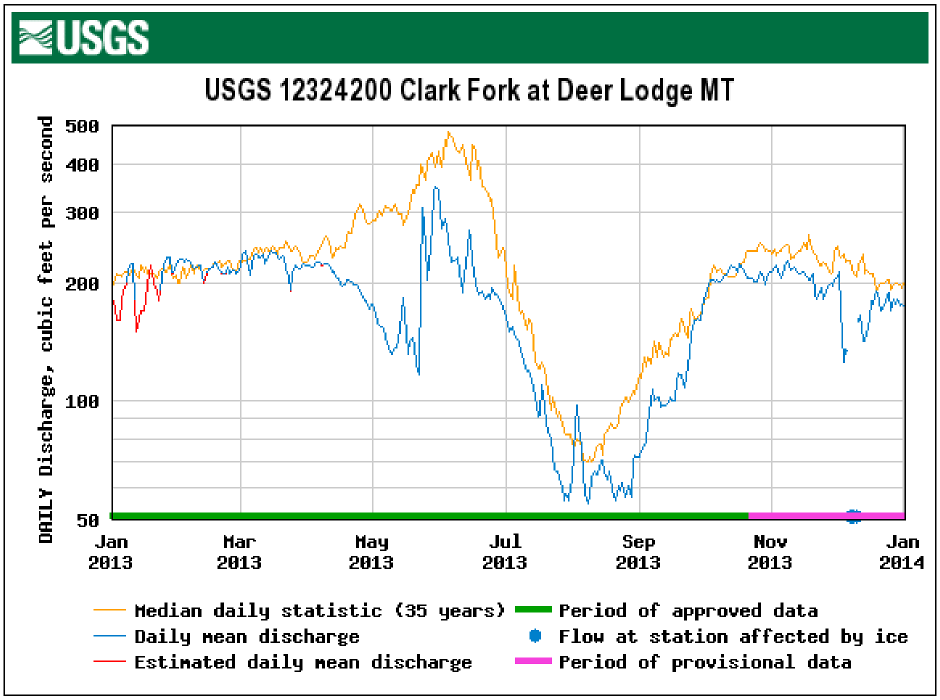


Figure 1-4. **Hydrograph for Clark Fork River at Deer Lodge, 2013.**

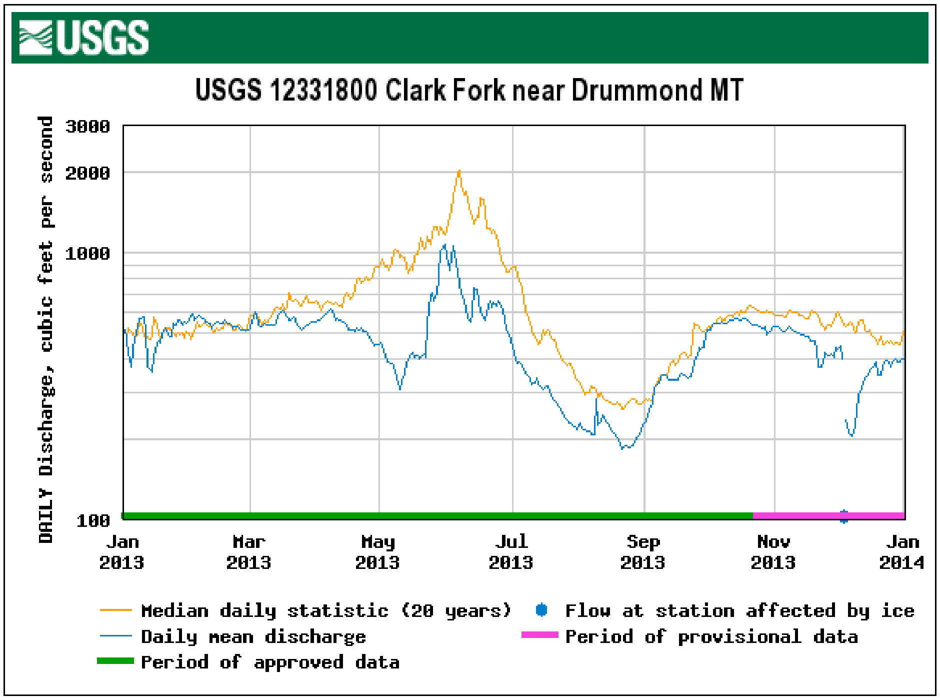


Figure 1-5. **Hydrograph for Clark Fork River near Drummond, 2013.**

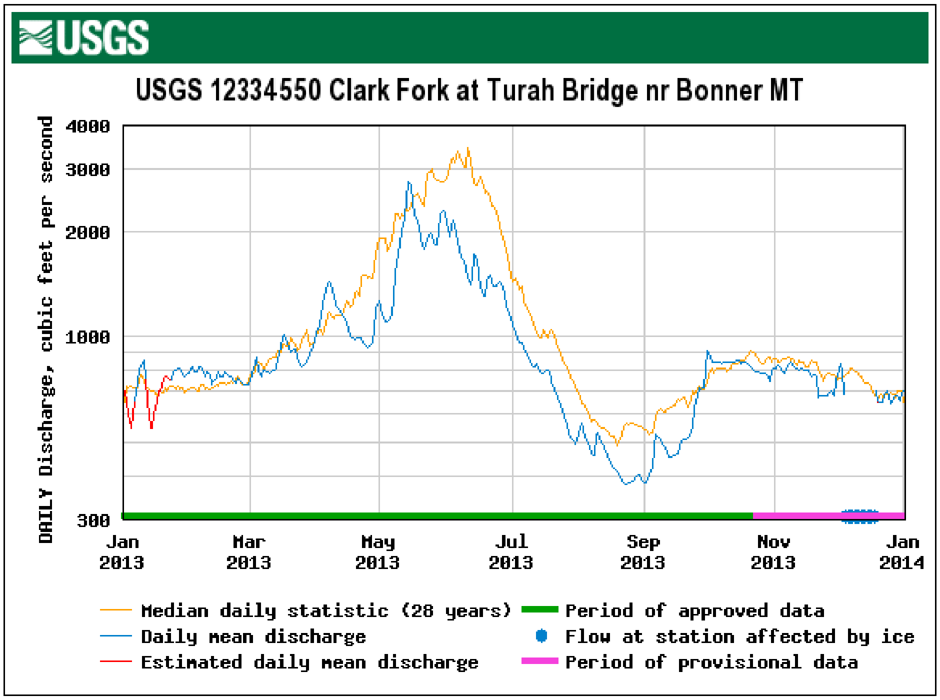


Figure 1-6. **Hydrograph for Clark Fork River at Turah Bridge, 2013.**

1.3.3 Field Parameters

1.3.3.1 Water Temperature

Water temperatures at CFROU sites in 2013 indicated modest seasonal and spatial variation that was generally within the preferred range of cold water organisms such as trout (Figure 1-7; Figure 1-8). Maximum water temperatures at nearly all of the CFROU monitoring stations during the six monitoring events in 2013 were observed during the Q2-Falling monitoring event, when temperatures at some sites slightly exceeded the 12–14ºC optimal temperature range for trout. The one exception was Silver Bow Creek at Warm Springs, which had the highest temperature during the Q2-Peak monitoring event. The maximum water temperature (17.4ºC) occurred in the Little Blackfoot River during the Q2-Falling monitoring event. The minimum water temperatures occurred during Q4 and ranged from 0-2.5ºC.

There was no clear spatial trend in water temperature at the mainstem Clark Fork River sites in 2013. Water temperature differences between sites during any single monitoring event were generally small. Water temperatures at CFROU mainstem monitoring stations during 2013 monitoring events were generally within the range of temperatures recorded during the 2010-2012 monitoring years. During 2013 monitoring events, several of the five tributary monitoring sites had water temperatures that were somewhat more variable than the Clark Fork River mainstem stations, particularly the Little Blackfoot River (Figure 1-8).

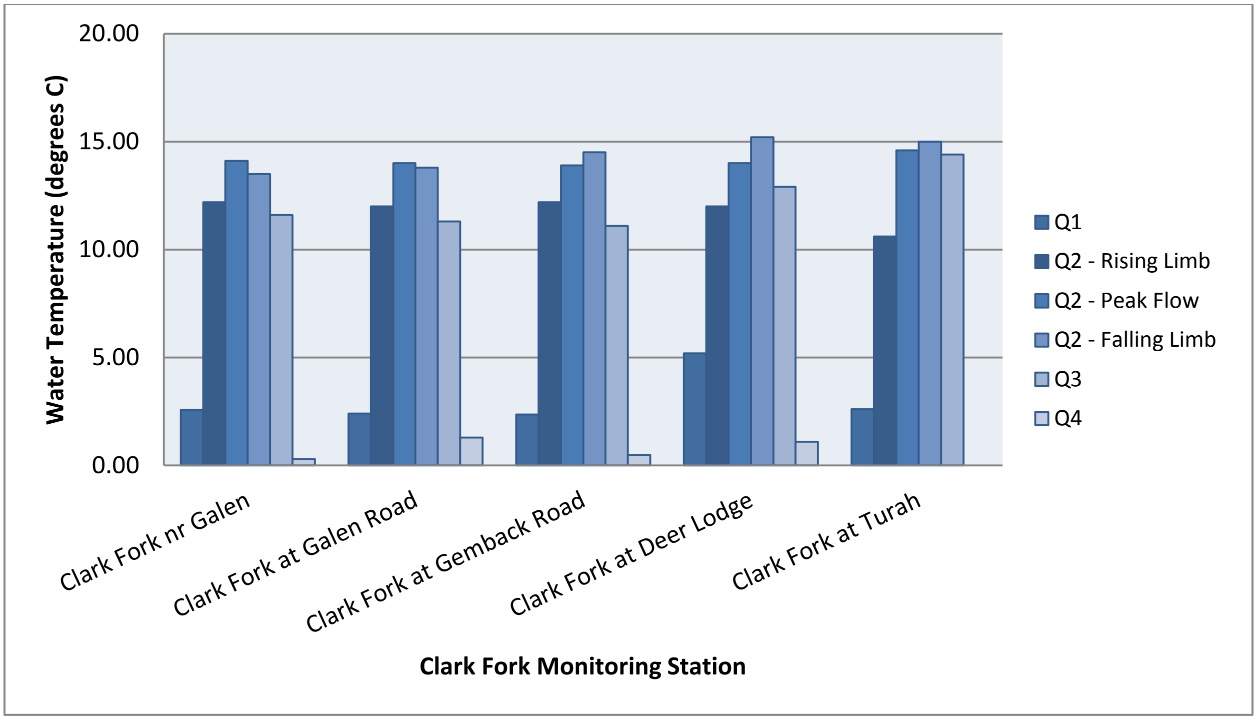


Figure 1-7. **Surface water temperatures at mainstem sampling sites in the Clark Fork River Operable Unit, 2013.**

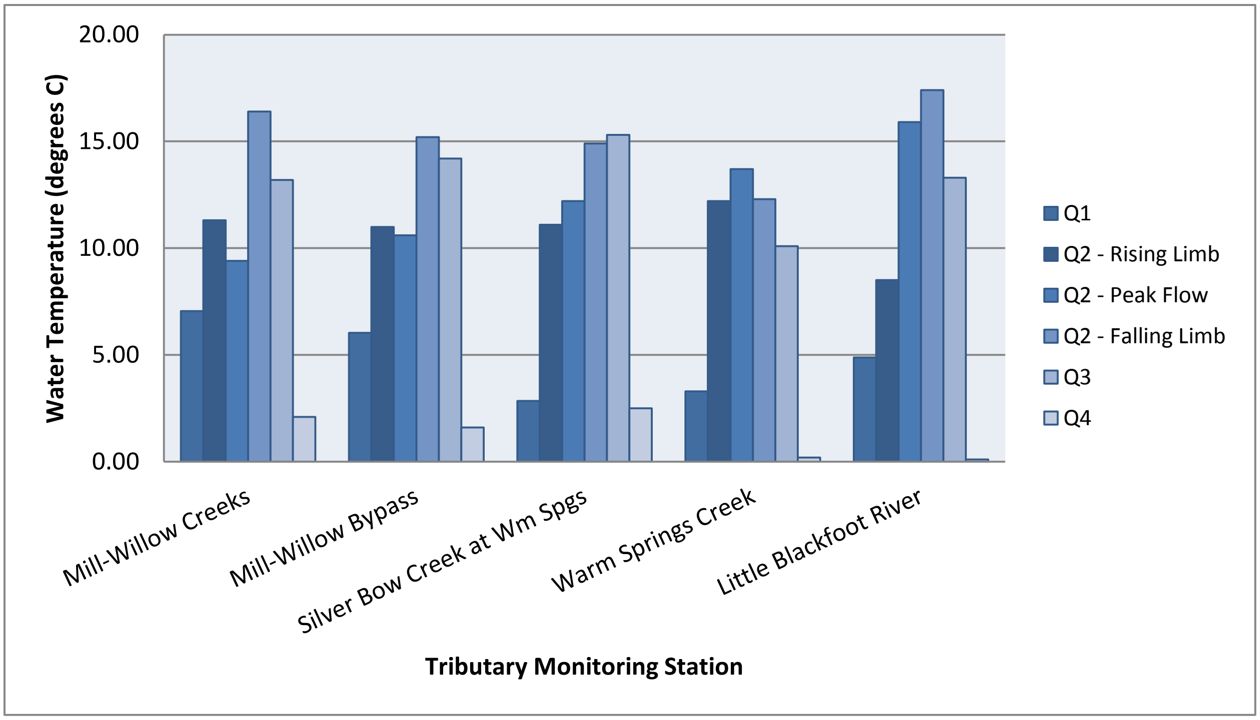


Figure 1-8. **Surface water temperatures at tributary sampling sites in the Clark Fork River Operable Unit, 2013.**

1.3.3.2 Acidity

In 2013, pH in the upper Clark Fork River mainstem monitoring stations ranged from 7.86-8.73 (Figure 1-9). Tributary monitoring stations had a slightly greater pH range: 7.87-9.20 (Figure 1-10). One measurement from the Silver Bow Creek at Warm Springs site had a pH (9.20) outside the optimal range for the protection of aquatic life (6.5-9.0). There was no readily apparent seasonal pattern in pH in 2013. Spatially, the highest pH values tended to occur in the upstream sites including Silver Bow Creek at Warm Springs and the Clark Fork River near Galen sites. The pH levels at CFROU monitoring stations in 2013 were within the range of the measurements observed in 2010-2012.

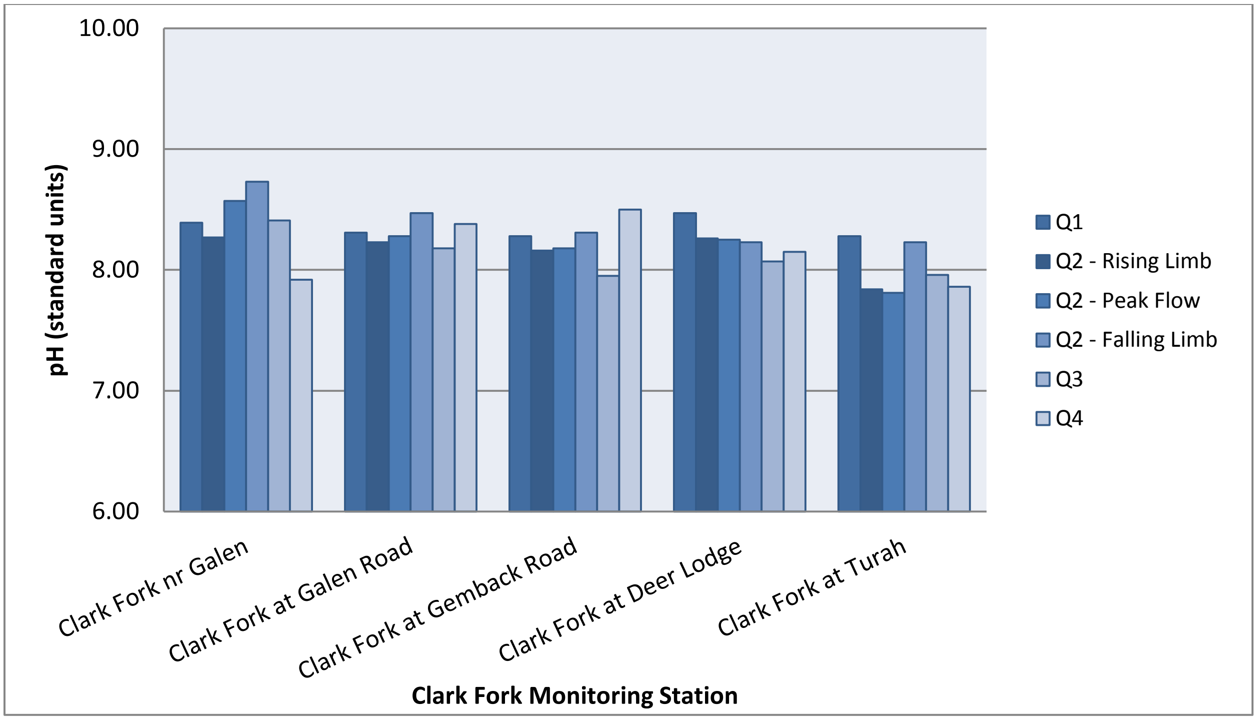


Figure 1-9. Surface water pH at mainstem sampling sites in the Clark Fork River Operable Unit, 2013.

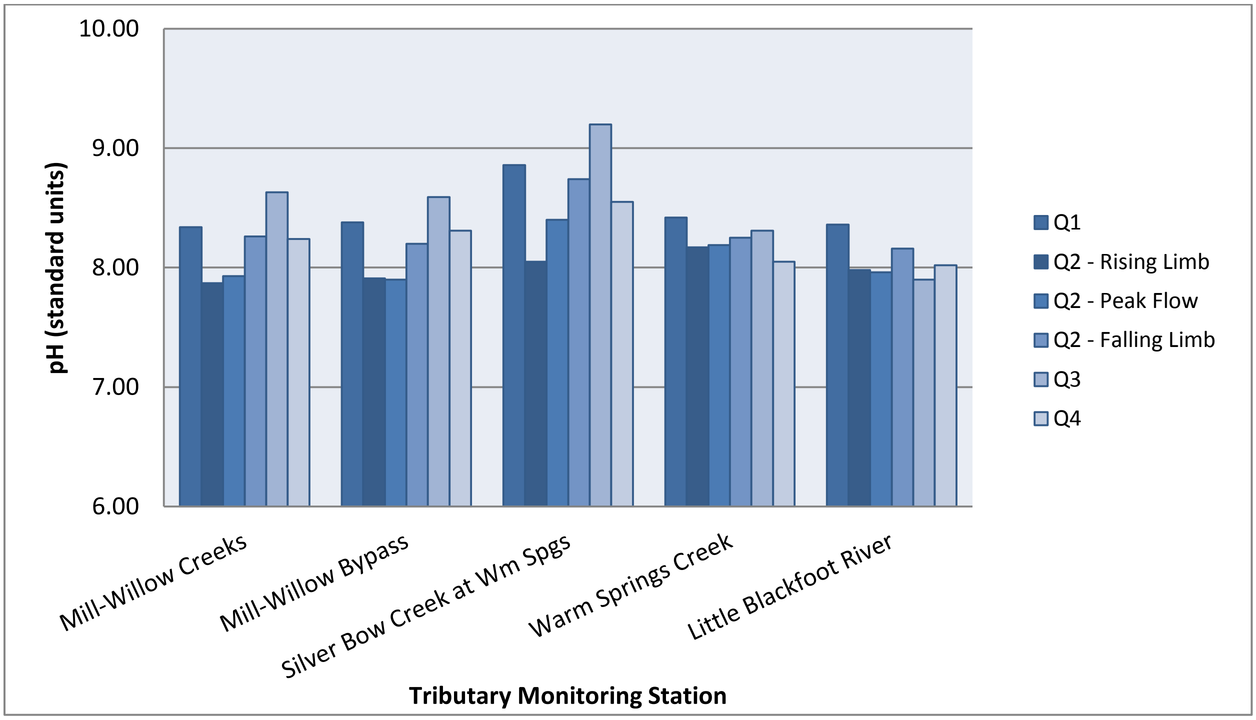


Figure 1-10. Surface water pH at tributary sampling sites in the Clark Fork River Operable Unit, 2013.

1.3.3.3 Conductivity

The highest conductivities in most sites occurred in Q3 and Q4 and November. The lowest conductivities occurred during the Q2 monitoring events. Conductivity in the mainstem Clark Fork tended to progressively increase from the headwaters station near Galen downstream to Deer Lodge. In the mainstem, conductivity was always lowest in the at Turah, downstream from the Rock Creek confluence. Conductivity in 2013 ranged from 111-560 μS/cm. Conductivity increased substantially between the Mill-Willow Creek and Mill-Willow Bypass sites, particularly in Q1, Q3, and Q4 (Figure 1-12). The lowest conductivity occurred Mill-Willow Creek at Frontage Road during the Q2-Peak monitoring event. The highest conductivity occurred in the Mill-Willow Bypass in Q3 (Figure 1-11). The conductivity range at CFROU monitoring stations in 2013 (111-560 μS/cm) was slightly higher than the range in 2010 (176-466 μS/cm), 2011 (113-439 μS/cm), and 2012 (138-456 μS/cm).

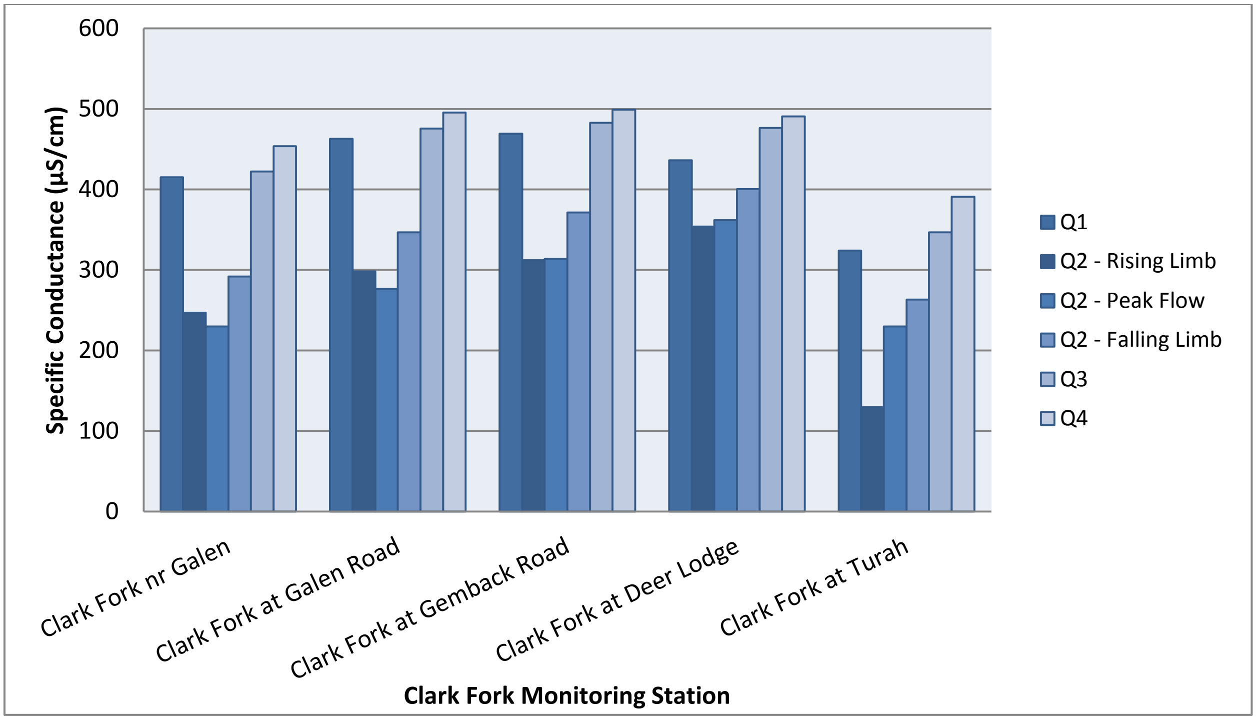


Figure 1-11. **Conductivity at mainstem sampling sites in the Clark Fork River Operable Unit, 2013.**

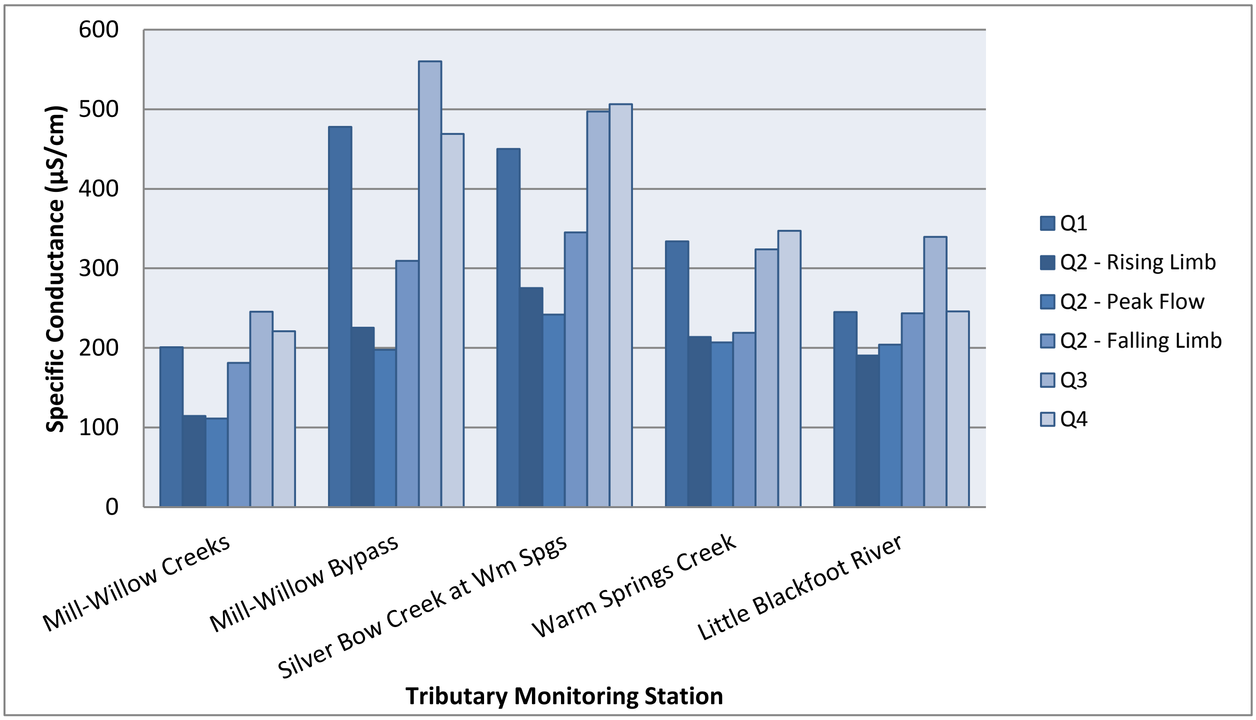


Figure 1-12. **Conductivity at tributary sampling sites in the Clark Fork River Operable Unit, 2013.**

1.3.3.4 Dissolved Oxygen

Dissolved oxygen concentrations in the upper Clark Fork River in 2013 ranged from 8.45-15.20 mg/L. The minimum dissolved oxygen concentration was observed at the Clark Fork at Turah site in Q3 and the maximum concentration was observed in the Clark Fork River at Gemback Road in Q4 (Figure 1-13; Figure 1-14). No dissolved oxygen measurements indicated water quality or water use limitations associated with inadequate oxygen concentrations. There were no clear spatial trends in dissolved oxygen concentration in 2013. The highest dissolved oxygen concentrations at each monitoring station were observed during Q4. The observed range of dissolved oxygen concentrations at Clark Fork River mainstem sites in 2013 (8.45-15.20 mg/L) was similar to the observed range in 2010 (8.69-15.03 mg/L), 2011 (8.60-14.85 mg/L), and 2012 (8.49-14.05 mg/L).

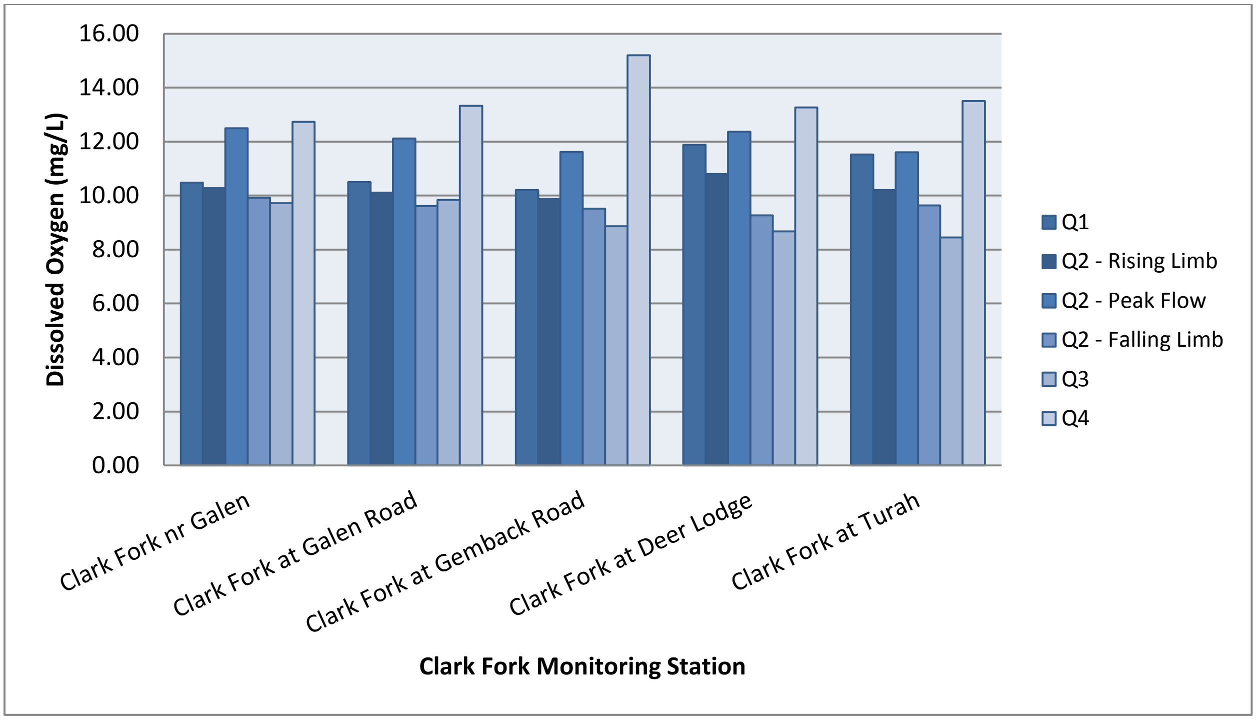


Figure 1-13. **Dissolved oxygen concentrations at mainstem sampling sites in the Clark Fork River Operable Unit, 2013.**

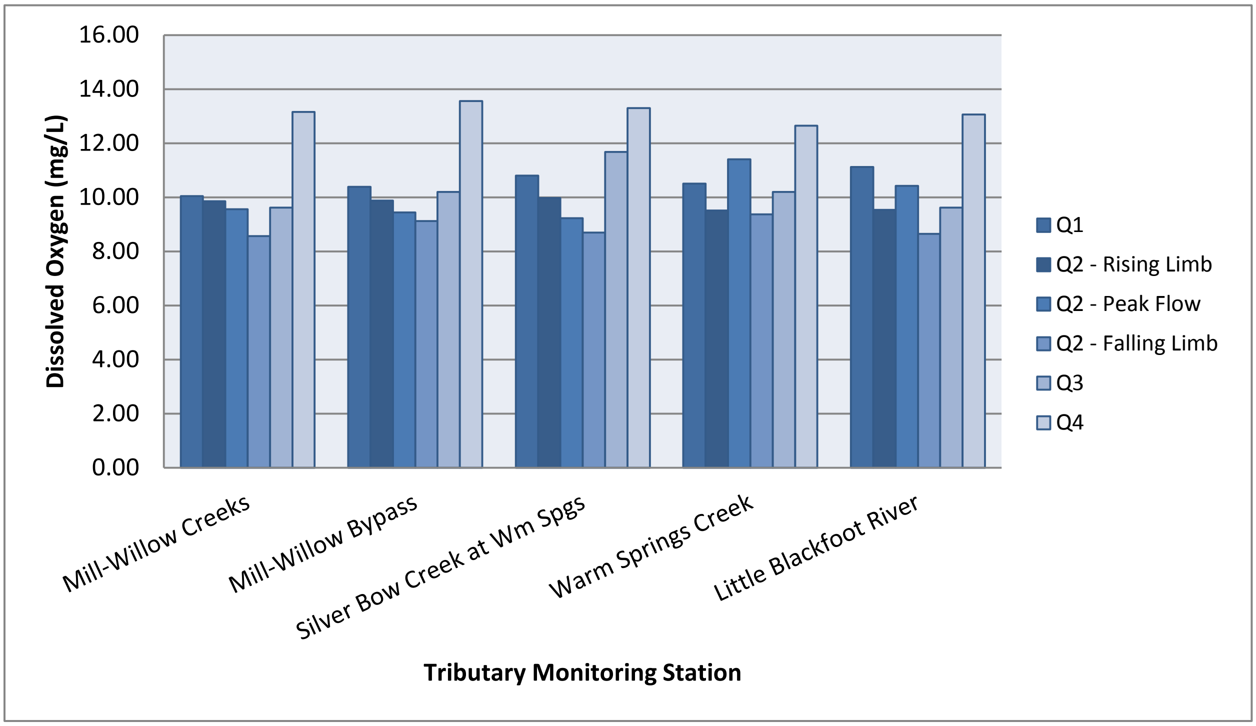


Figure 1-14. **Dissolved oxygen concentrations at tributary sampling sites in the Clark Fork River Operable Unit, 2013.**

1.3.3.5 Turbidity

At all sites except Silver Bow Creek at Warm Springs, turbidity during the 2013 Q2-Rising monitoring event was significantly elevated compared to other monitoring events. Turbidity generally increased at each downstream Clark Fork River mainstem site during the Q2-Rising monitoring event (Figure 1-15). With the exception of Q2-Rising, turbidity was generally low during 2013 monitoring events (1-9 NTU; Figure 1-15; Figure 1-16). However, turbidity was high (16.6 NTU) at the Clark Fork at Deer Lodge monitoring station in Q4. Turbidity field measurements at CFROU mainstem monitoring stations in Q1, Q3, and Q4 of 2010, 2011, 2012, and 2013 were similar. In Q2 2011, turbidity during peak spring snowmelt runoff conditions were higher than during the same periods in 2010, 2012 and 2013. The Q2-Rising turbidity at mainstem Clark Fork River monitoring sites was lower than the turbidity during the same sample period in 2010, 2011, and 2012.

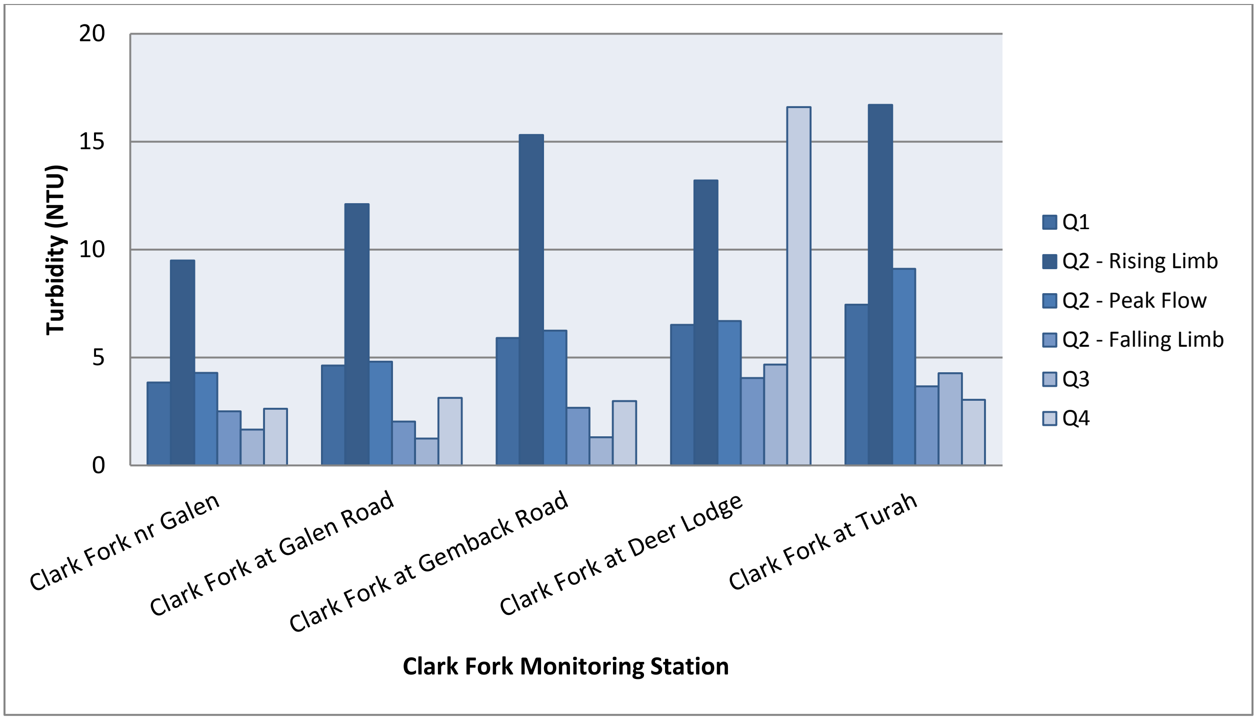


Figure 1-15. **Turbidity at mainstem sampling sites in the Clark Fork River Operable Unit, 2013.**

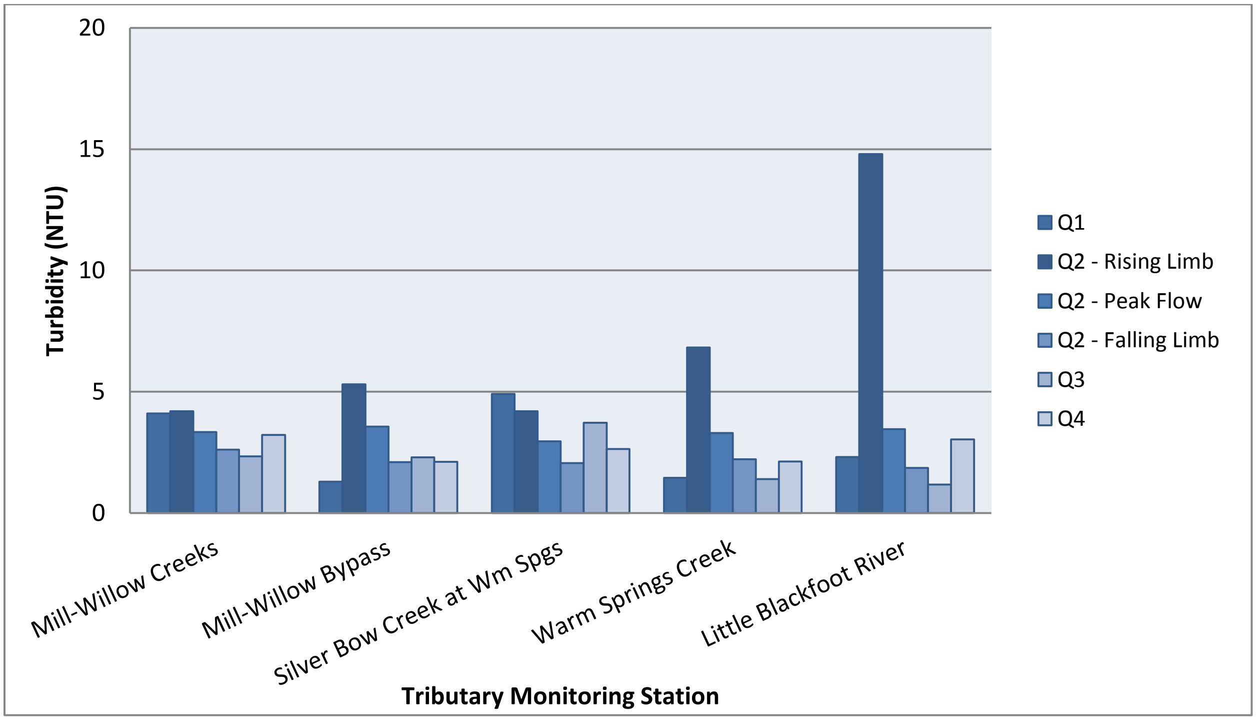


Figure 1-16. **Turbidity at tributary sampling sites in the Clark Fork River Operable Unit, 2013.**

1.3.4 Total Suspended Sediment

Generally, total suspended sediment concentrations at Clark Fork River mainstem monitoring stations in 2013 were elevated at about half of the sites in Q1, were very high at all mainstem sites during the Q2-Rising monitoring event, were somewhat elevated during the Q2-Peak monitoring event, and were relatively low during all other sample periods in 2013 (Figure 1-17). However, total suspended sediment concentrations at the Clark Fork River at Deer Lodge station in Q4 were quite high (Figure 1-17).

Total suspended sediment concentrations measured at the tributary monitoring stations during 2013 were less variable than at the mainstem stations (Figure 1-17; Figure 1-18). Total suspended sediment measurements at each of the five tributary stations tended to be 10 mg/L or less. The exceptions were Warm Springs Creek during the Q2-Rising and Q2-Peak monitoring events and in the Little Blackfoot River during the Q2-Rising monitoring event (Figure 1-18).

The Q2-Rising monitoring event had a spatial pattern of downstream increases in total suspended sediment, from Silver Bow Creek at Warm Springs (6 mg/L) to the Clark Fork at Turah (44 mg/L) (Figure 1-17; Figure 1-18). Total suspended sediment concentrations were similar at the three mainstem Clark Fork stations from Galen Road to Deer Lodge.

Total suspended sediment concentrations increased most significantly in the reach of the Clark Fork from Gemback Road to Deer Lodge during most monitoring events. The highest total suspended sediment concentrations during the Q2 monitoring events were observed in the Clark Fork at Turah, and the second highest total suspended sediment concentrations were observed at the three mainstem Clark Fork River stations from Galen Road to Deer Lodge. Monitoring stations showing elevated total suspended sediment concentrations in 2013 also produced elevated metals concentrations (see Section 1.3.7), with less pronounced effects at the Clark Fork River at Turah site.

Total suspended sediment concentrations at CFROU mainstem monitoring stations during most monitoring events in 2013 were generally comparable to concentrations measured between 2010-2012. However, in 2013 the Q2-Rising monitoring event had total suspended sediment concentrations at the mainstem Clark Fork monitoring sites which were lower than Q2 concentrations in 2010, 2011, and 2012. The maximum total suspended sediment concentration recorded at some stations in Q2 2011 were higher than the concentration during the same period in 2010, 2012 and 2013.

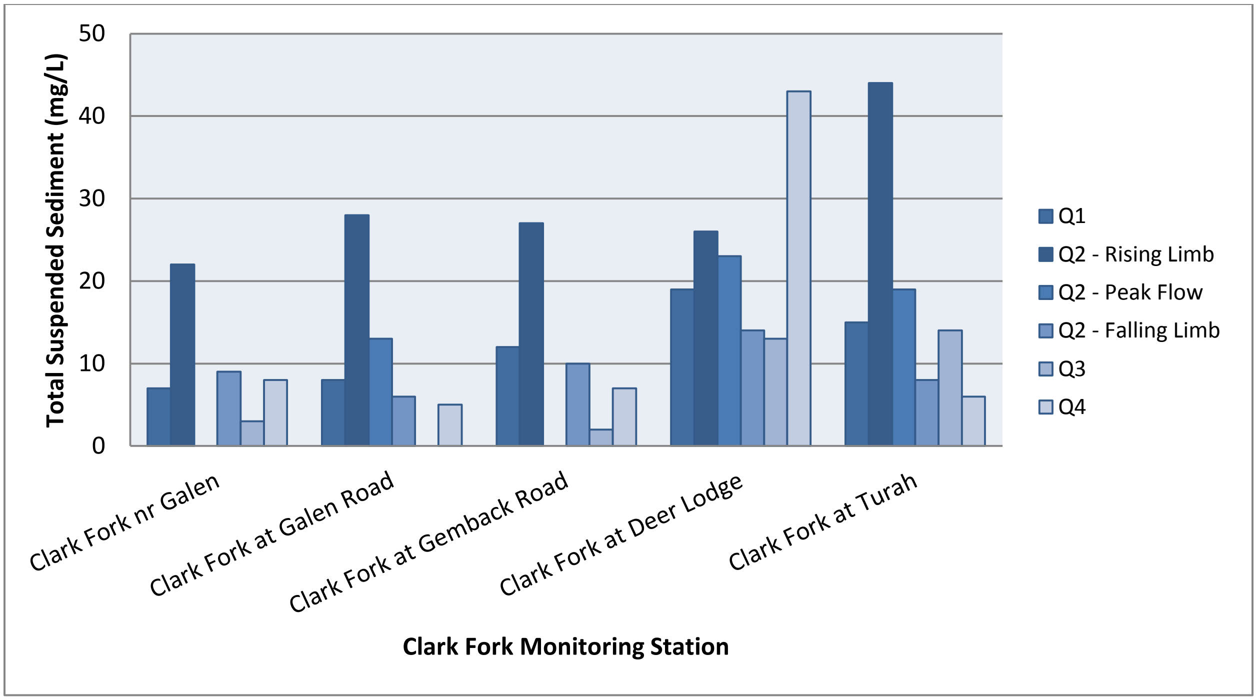


Figure 1-17. Total suspended sediment concentrations at mainstem sampling sites in the Clark Fork River Operable Unit, 2013. No bars indicate values below the analytical reporting limit.

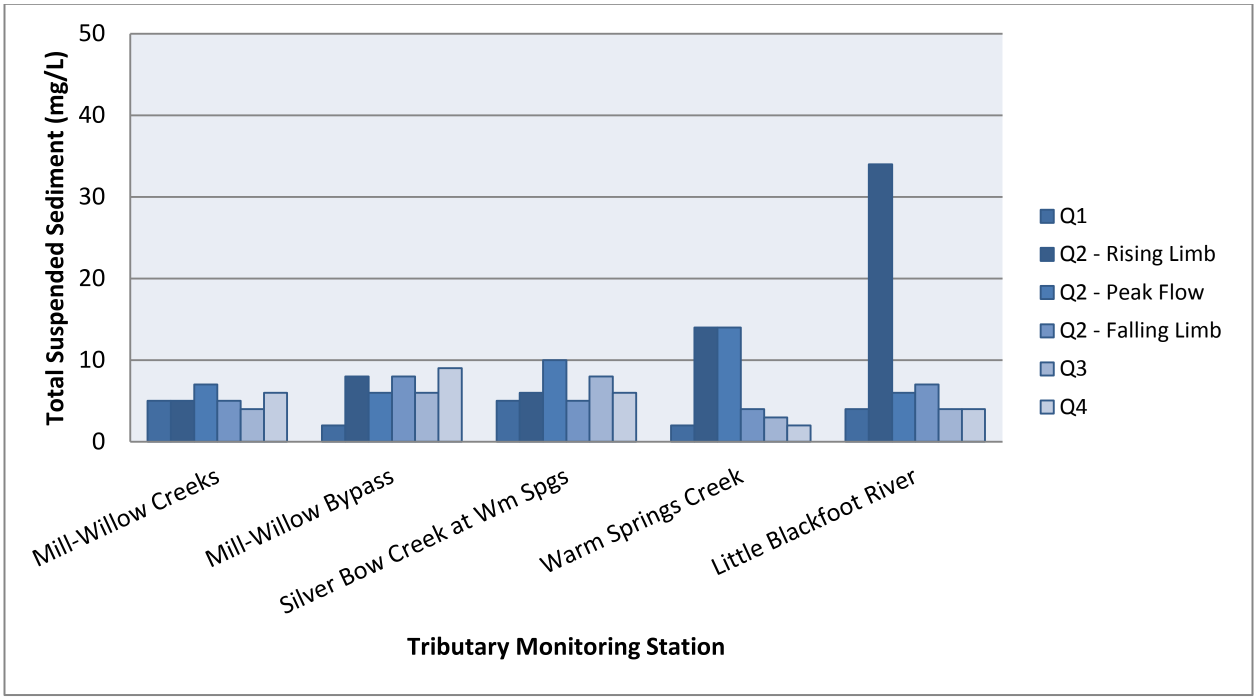


Figure 1-18. Total suspended sediment concentrations at tributary sampling sites in the Clark Fork River Operable Unit, 2013.

1.3.5 Common Ions

1.3.5.1 Hardness

Except during the Q2 monitoring events, water hardness at Clark Fork River mainstem stations in 2013 ranged from 145-251 mg/L as CaCO3 (i.e., “hard” to “very hard”) (Figure 1-19). The Clark Fork at Turah site during the Q2-Rising monitoring event, and Mill-Willow Creek at Frontage Road during the Q2-Rising and Q2-Peak flow monitoring events exhibited the lowest hardness (50-65 mg/L). Particularly high water hardness was observed in the Mill-Willow Bypass in Q3 (292 mg/L) and Clark Fork River mainstem monitoring stations at Galen Road (248 mg/L), at Gemback Road (251 mg/L), and at Deer Lodge (244 mg/L). Water hardness during 2013 quarterly monitoring events was generally slightly higher than in 2010, 2011, or 2012.

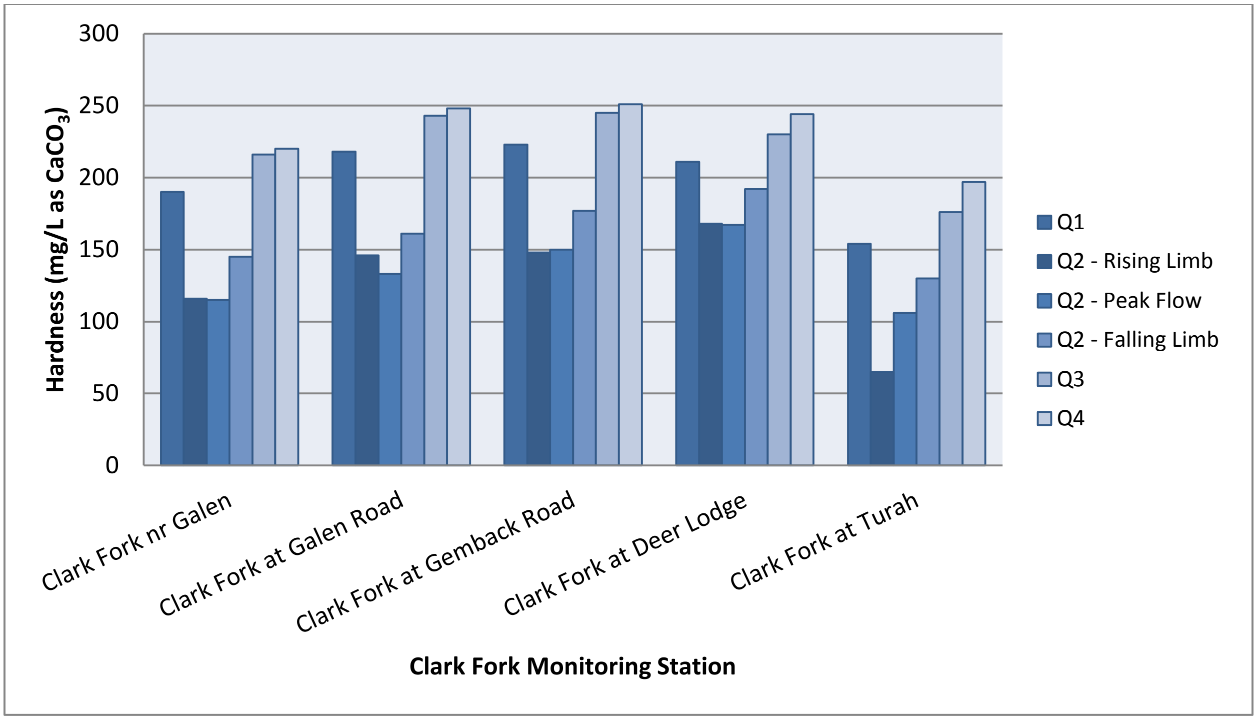


Figure 1-19. Water hardness at mainstem sampling sites in the Clark Fork River Operable Unit, 2013.

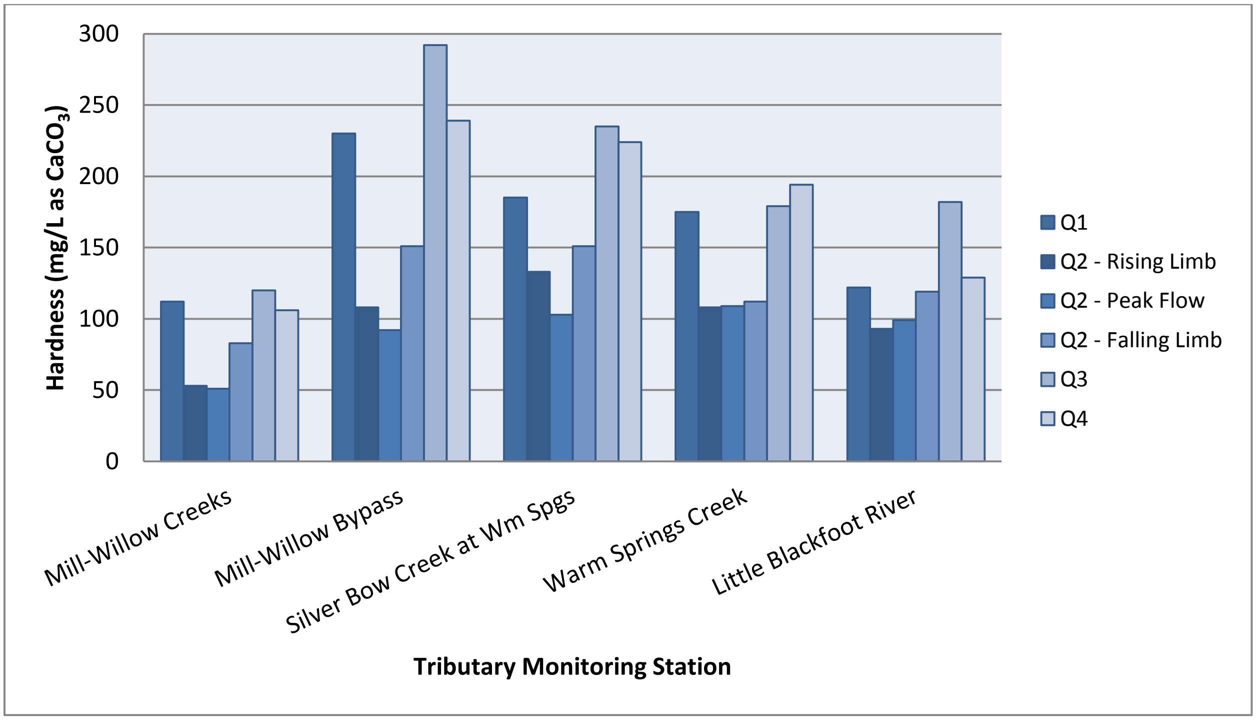


Figure 1-20. Water hardness at tributary sampling sites in the Clark Fork River Operable Unit, 2013.

1.3.5.2 Alkalinity

Total and bicarbonate alkalinity in the mainstem Clark Fork River in 2013 showed a modest increasing trend from near Galen to Deer Lodge, followed by lower concentrations at Turah (Figure 1-21; Figure 1-23). Among the tributary monitoring stations, the highest alkalinity occurred in the Little Blackfoot River and Warm Springs Creek, while lowest alkalinity occurred in Mill-Willow Creek at Frontage Road (Figure 1-22; Figure 1-24). Alkalinity was relatively low during the three Q2 monitoring events. The highest alkalinity was observed in Q3 or Q4. Total and bicarbonate alkalinity at CFROU mainstem and tributary monitoring stations during monitoring events in 2013 were generally slightly higher than values measured in 2010, 2011, and 2012.

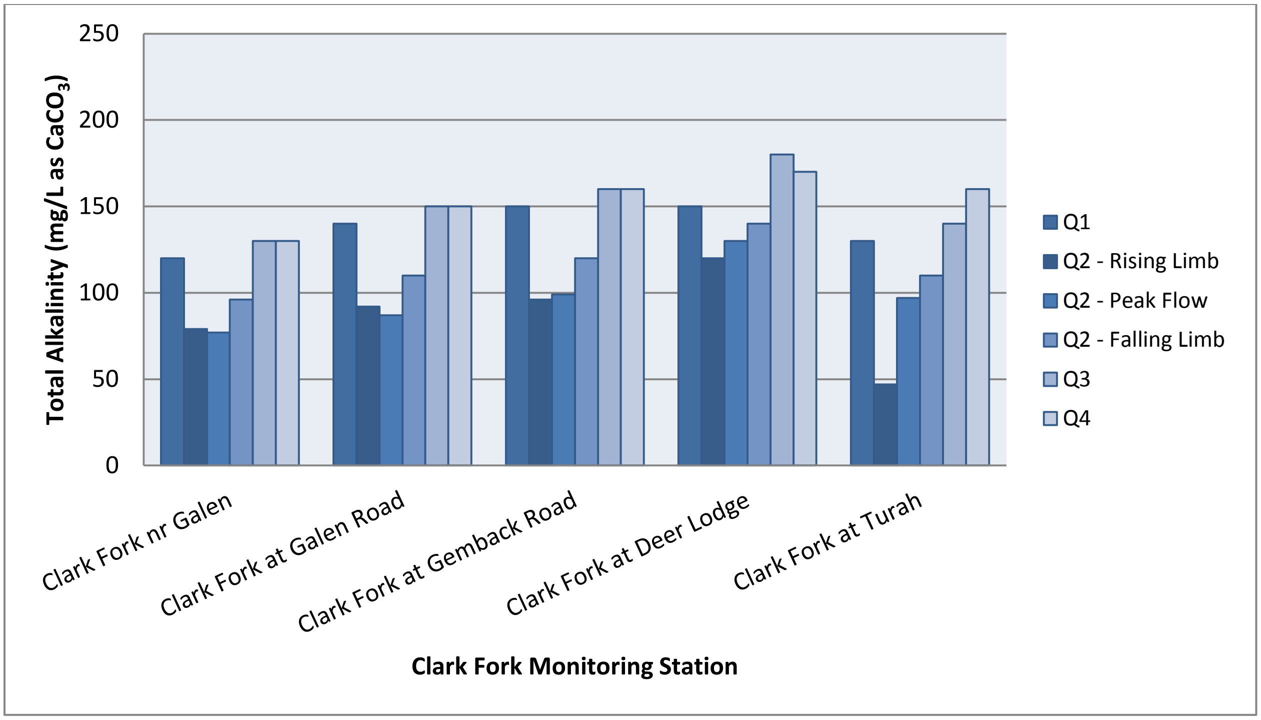


Figure 1-21. **Alkalinity at mainstem sampling sites in the Clark Fork River Operable Unit, 2013.**

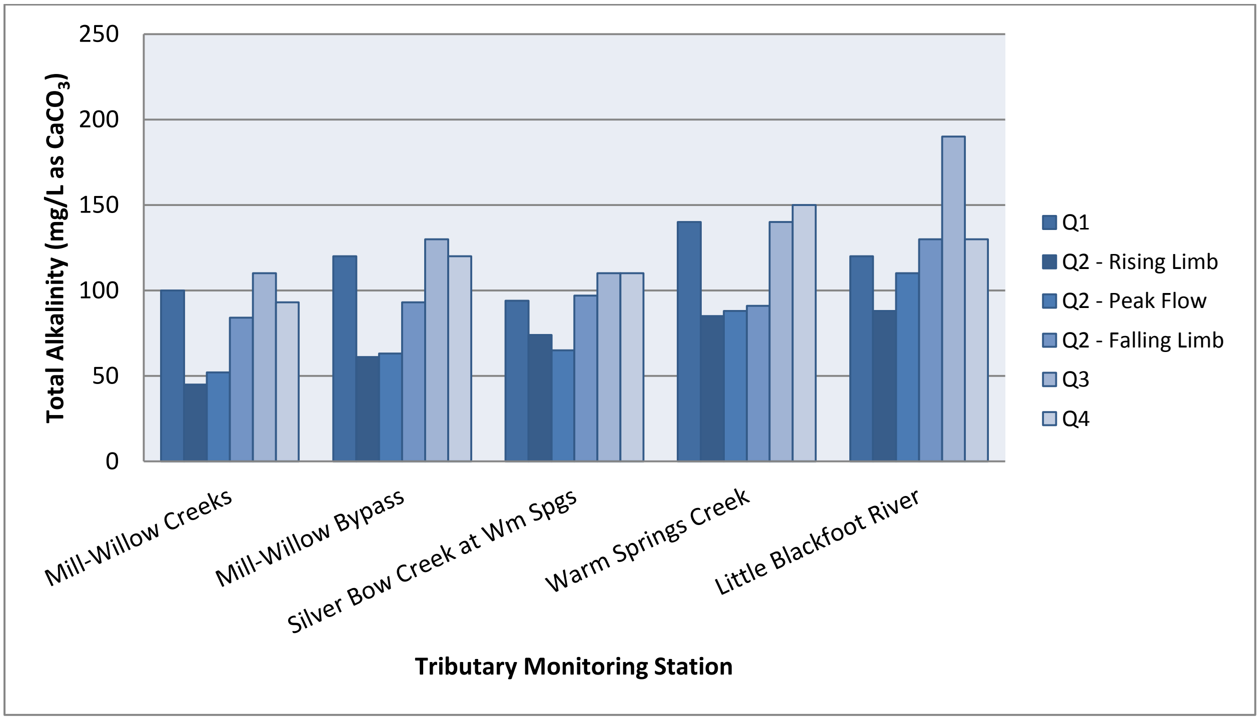


Figure 1-22. **Alkalinity at tributary sampling sites in the Clark Fork River Operable Unit, 2013.**

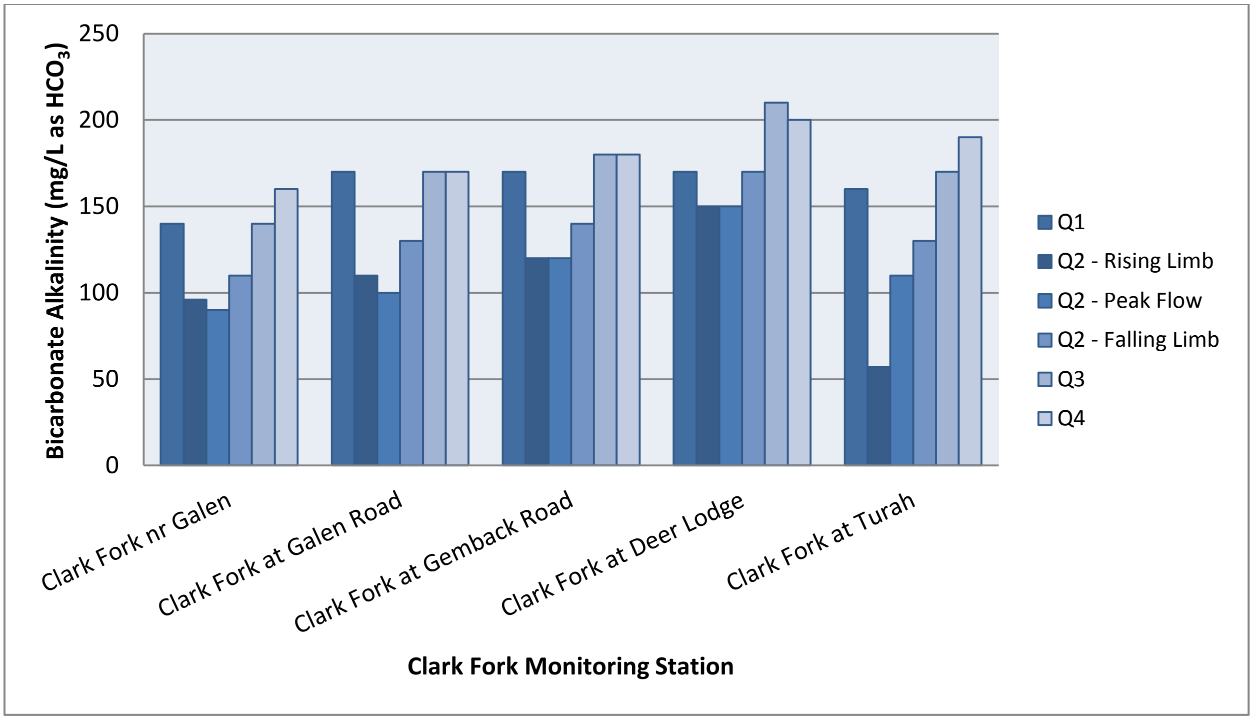


Figure 1-23. Bicarbonate alkalinity at mainstem sampling sites in the Clark Fork River Operable Unit, 2013.

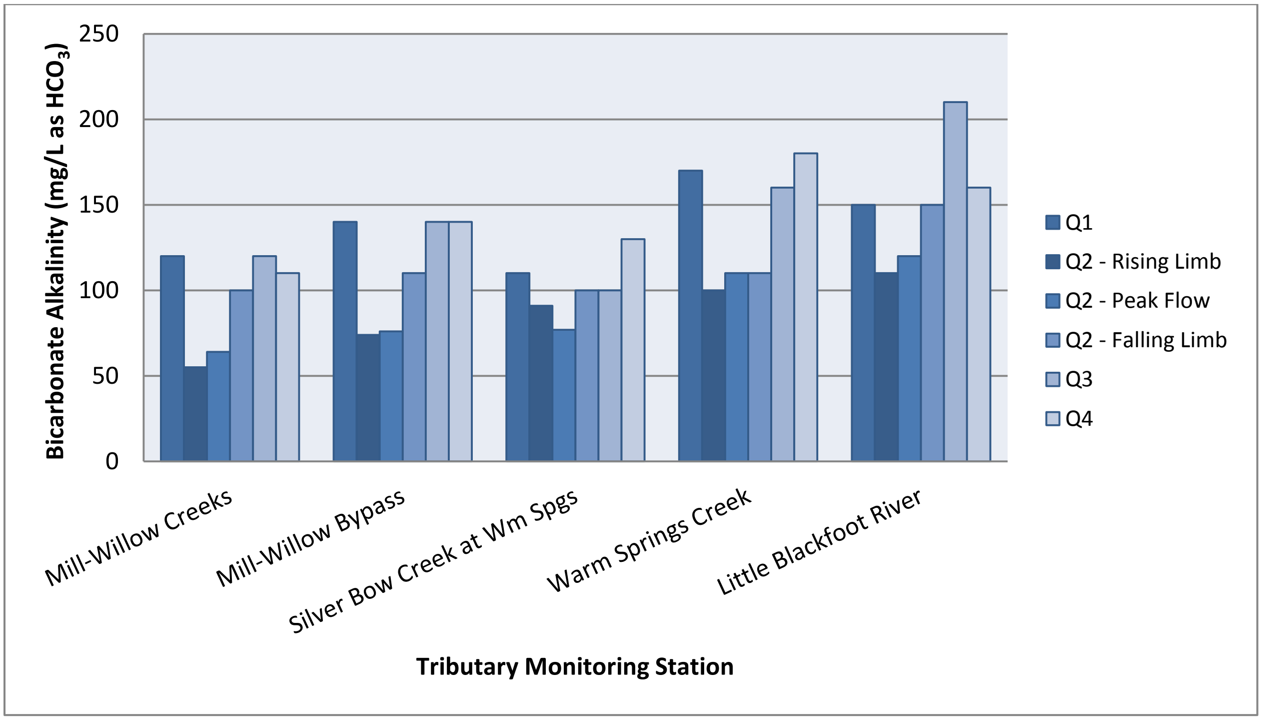


Figure 1-24. Bicarbonate alkalinity at tributary sampling sites in the Clark Fork River Operable Unit, 2013.

1.3.5.3 Sulfate

Sulfate concentrations in the mainstem Clark Fork River were generally comparable from the near Galen to Deer Lodge monitoring sites and lower at Turah (Figure 1 25). The tributary monitoring stations had the highest sulfate concentrations in the Mill-Willow Bypass and in Silver Bow Creek at Warm Springs, and the lowest concentrations in the Little Blackfoot River and Mill-Willow Creek at Frontage Road (Figure 1-26). Similar to alkalinity, sulfate concentrations were relatively low during the Q2 monitoring events and relatively high in Q3 and Q4. Sulfate concentrations measured at CFROU monitoring stations during 2013 were generally slightly higher than those measured in 2010, 2011, and 2012.

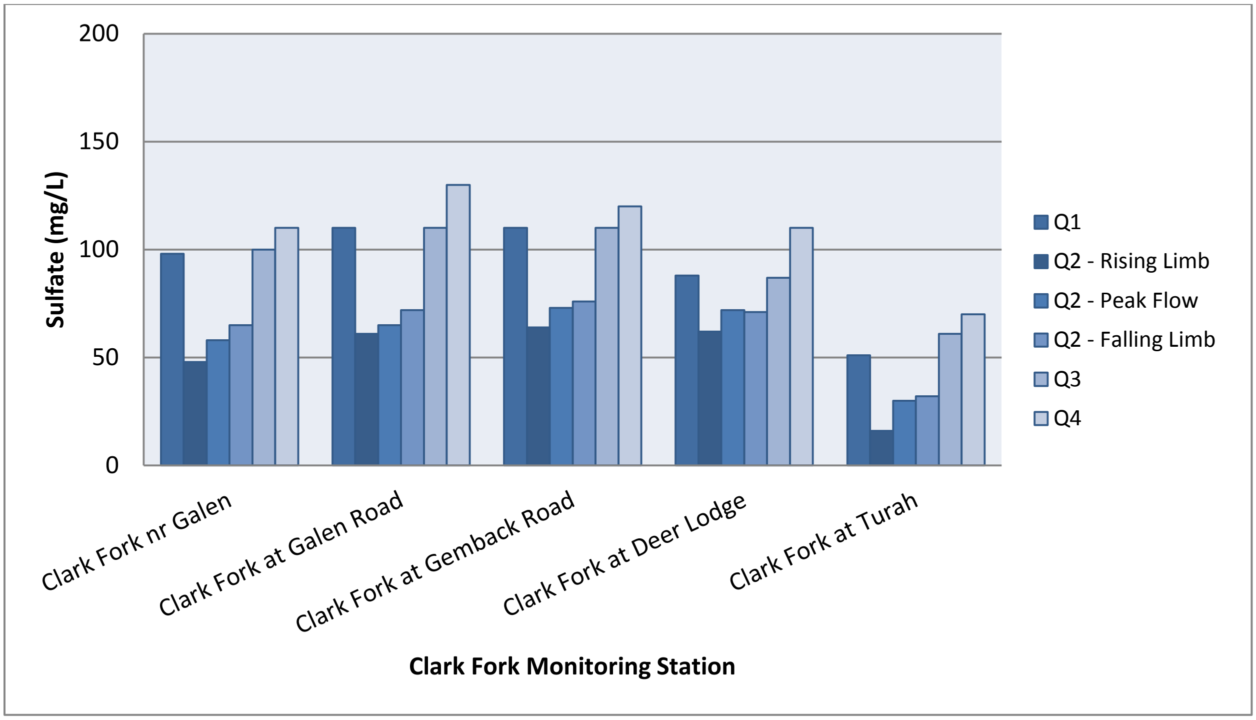


Figure 1-25. Sulfate concentrations at mainstem sampling sites in the Clark Fork River Operable Unit, 2013.

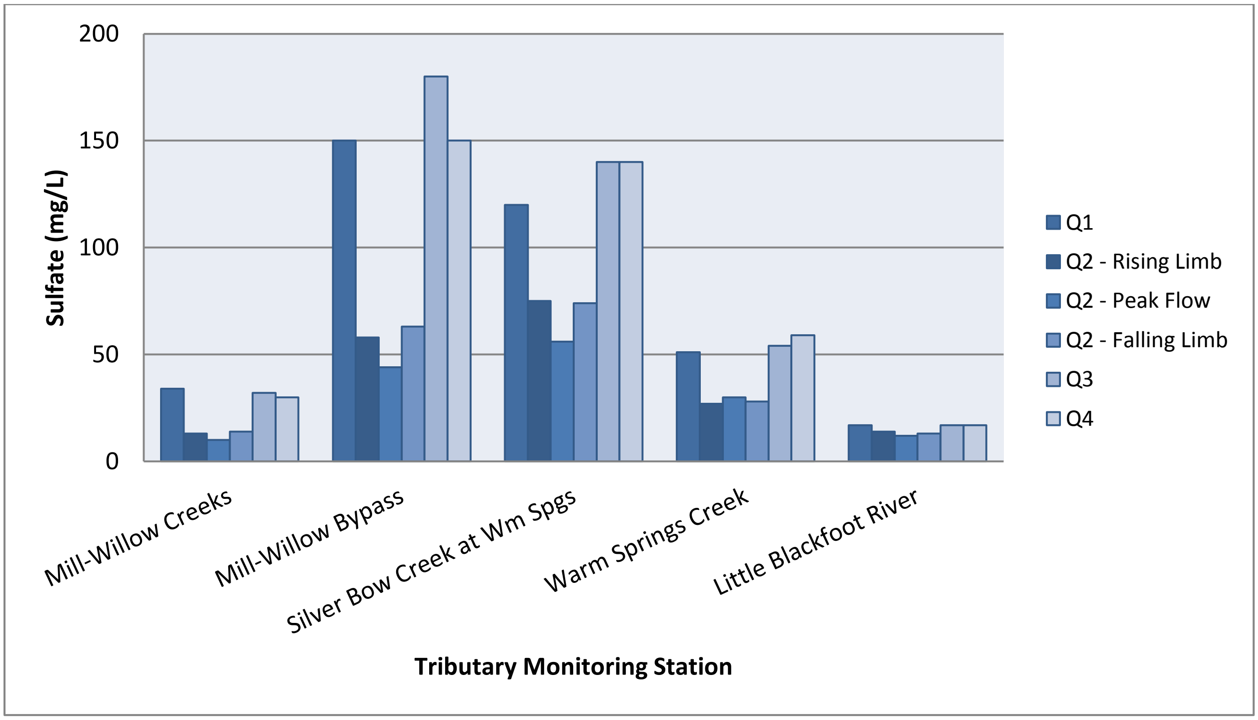


Figure 1-26. Sulfate concentrations at tributary sampling sites in the Clark Fork River Operable Unit, 2013.

1.3.6 Nutrients

1.3.6.1 Total Nitrogen

Compared to the Clark Fork River water quality standards, total nitrogen concentrations were periodically elevated in the Mill-Willow Bypass, Silver Bow Creek, Warm Springs Creek, and in Clark Fork River sites from Galen Road to Deer Lodge in 2013 (Figures 1-27; Figure 1-28). However, the numeric water quality standards for nutrients in the Clark Fork River (ARM 17.30.631) technically applies only to mainstem sites during the 2013 Q2-Falling and Q3 monitoring events since the sampling events occurred between June 21 and September 21. Based on these conditions, exceedance of the total nitrogen standard were observed only at the Clark Fork River at Deer Lodge and Mill-Willow Bypass monitoring stations (Table 1-5).

Total nitrogen concentrations were highest in Q4. The maximum total nitrogen concentrations were observed in the Clark Fork at Deer Lodge in Q4 (ice scour occurrence noted earlier) and in Silver Bow Creek at Warm Springs in Q3 and Q4. The minimum total nitrogen concentrations were observed in Warm Springs Creek, the Little Blackfoot River, Mill-Willow Creek at Frontage Road, and in the mainstem Clark Fork River at Turah (Table 1-5). Total nitrogen concentrations in the mainstem Clark Fork River were similar from near Galen to Deer Lodge, and consistently lower at Turah. Total nitrogen concentrations during 2013 monitoring events were within the range of concentrations measured at CFROU monitoring sites in 2011 and 2012.

Table 1-5. Total nitrogen concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013.

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-03A	Clark Fork River near Galen	0.24	0.2	0.2	0.19	0.27	0.3
CFR-07D	Clark Fork River at Galen Road	0.35	0.3	0.22	0.17	0.23	0.45
CFR-11F	Clark Fork River at Gemback Road	0.36	0.3	0.22	0.23	0.2	0.4
CFR-27H	Clark Fork River at Deer Lodge	0.38	0.3	0.2	0.22	0.34	1.28
CFR-116A	Clark Fork at Turah	0.17	0.2	0.19	0.16	0.13	0.24
Tributary Sites							
SS-25	Silver Bow Creek at Warm Springs	0.19	0.2	0.16	0.21	0.11	0.25
MCWC-MWB	Mill-Willow Creek at Frontage Road	0.13	0.2	0.22	0.21	0.17	0.32
MWB-SBC	Mill-Willow Bypass near mouth	0.31	0.3	0.31	0.28	0.57	0.61
WSC-SBC	Warm Springs Creek near mouth	0.11	0.1	0.1	0.07	0.06	0.31
LBR-CFR	Little Blackfoot River near Garrison	0.09	0.2	0.16	0.17	0.15	0.22

🟧 Exceeds Clark Fork River total nitrogen standard (0.30 mg/L; ARM 17.30.631).

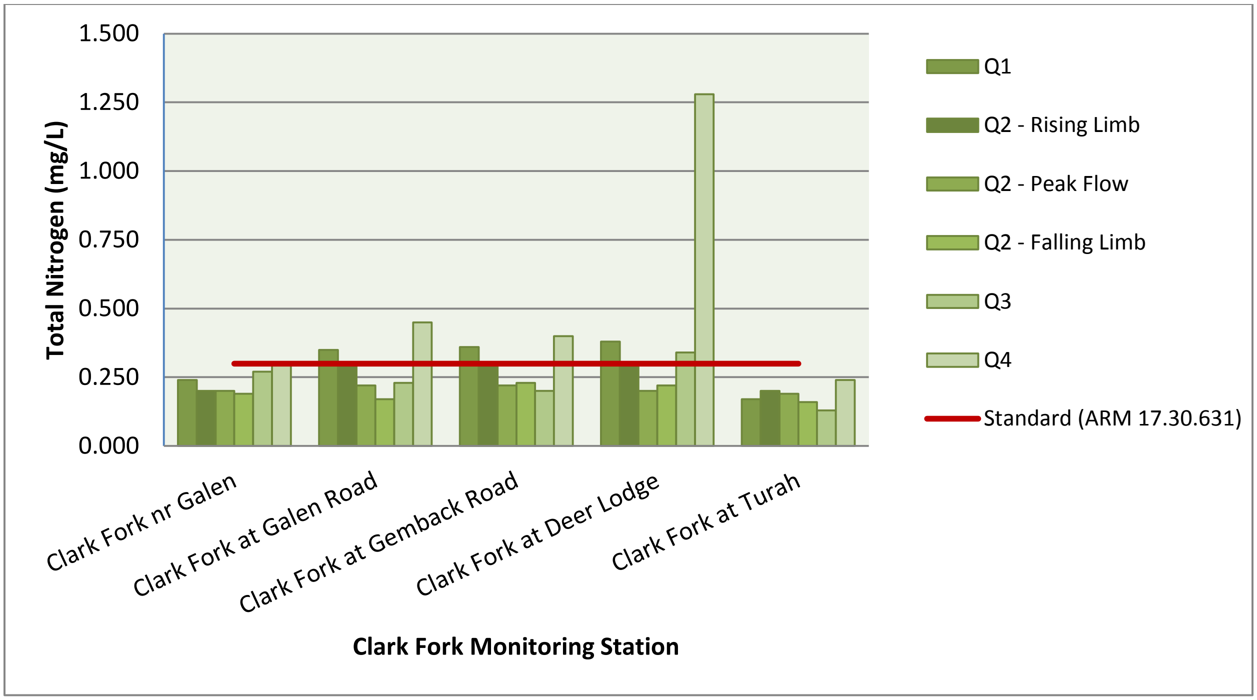


Figure 1-27. **Total nitrogen concentrations (mg/L) at Clark Fork River mainstem monitoring stations, 2013.**

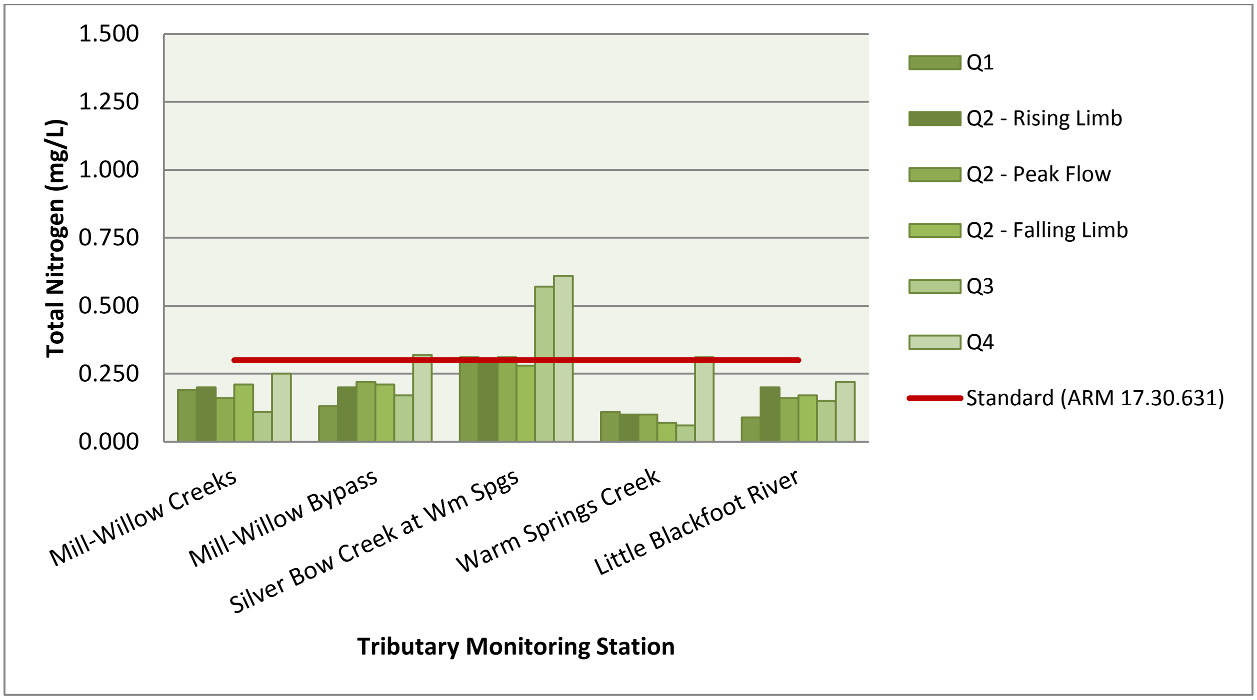


Figure 1-28. **Total nitrogen concentrations (mg/L) at Clark Fork River tributary monitoring stations, 2013.**

1.3.6.2 Nitrate Plus Nitrite Nitrogen

Concentrations of nitrate plus nitrite nitrogen were periodically elevated in the Clark Fork River from Galen Road to Deer Lodge, and in Warm Springs Creek in 2013 (Figure 1-29; Figure 1-30). The spatial trend for nitrate plus nitrite concentrations in the mainstem Clark Fork River showed increasing concentrations from near Galen to Deer Lodge during several monitoring events, followed by a decline at the downstream Turah monitoring site. Nitrate plus nitrite nitrogen concentrations were frequently below the analytical detection limit in Mill-Willow Creek, Mill-Willow Bypass, Silver Bow Creek at Warm Springs, Warm Springs Creek, Little Blackfoot River, and in the mainstem Clark Fork River near Galen, and at Turah. Nitrate plus nitrite concentrations during 2013 monitoring events were within the range of concentrations measured at CFROU monitoring sites in 2011 and 2012.

Table 1-6. Nitrate plus nitrite nitrogen concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013.

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-03A	Clark Fork River near Galen	ND	ND	ND	ND	ND	ND
CFR-07D	Clark Fork River at Galen Road	0.17	0.06	ND	ND	ND	0.19
CFR-11F	Clark Fork River at Gemback Road	0.18	0.05	ND	ND	ND	0.14
CFR-27H	Clark Fork River at Deer Lodge	0.22	0.06	ND	ND	0.12	0.34
CFR-116A	Clark Fork at Turah	ND	ND	ND	ND	ND	ND
Tributary Sites							
SS-25	Silver Bow Creek at Warm Springs	ND	ND	ND	ND	ND	0.07
MCWC-MWB	Mill-Willow Creek at Frontage Road	ND	ND	ND	ND	ND	ND
MWB-SBC	Mill-Willow Bypass near mouth	ND	ND	ND	ND	ND	ND
WSC-SBC	Warm Springs Creek near mouth	0.06	ND	ND	ND	ND	0.11
LBR-CFR	Little Blackfoot River near Garrison	ND	ND	ND	ND	ND	ND

ND Not detected at analytical reporting limit.

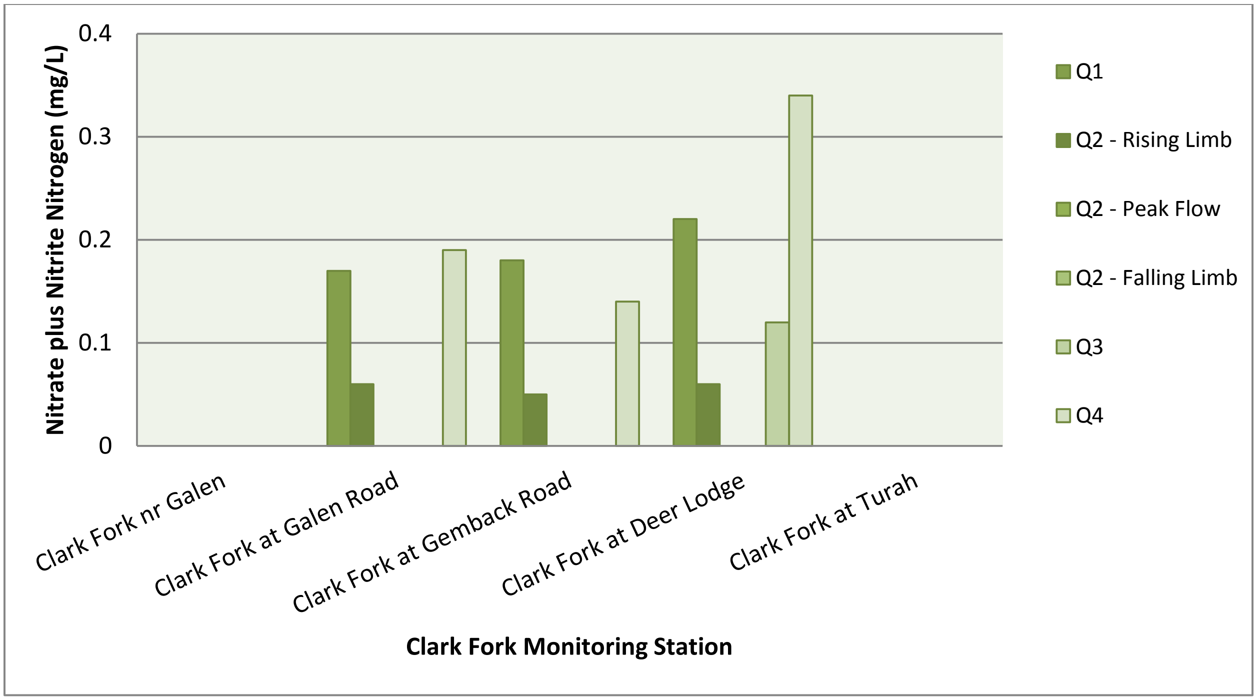


Figure 1-29. Nitrate plus nitrite nitrogen concentrations (mg/L) at Clark Fork River mainstem monitoring stations, 2013.

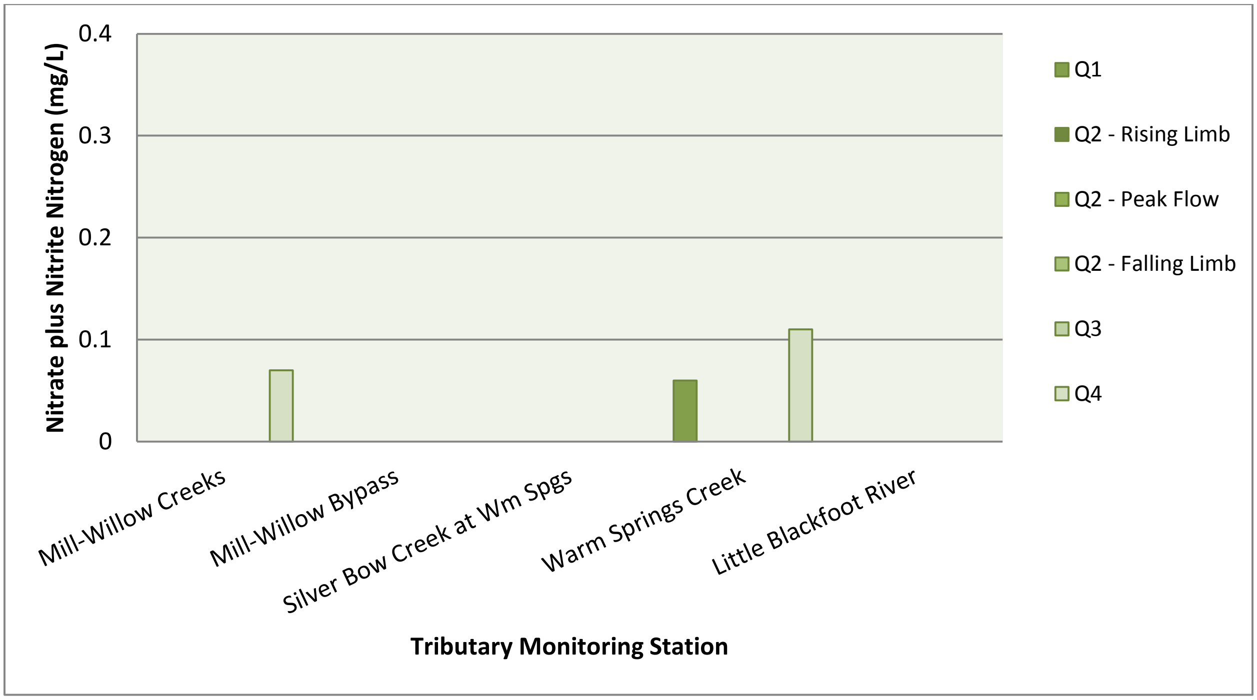


Figure 1-30. Nitrate plus nitrite nitrogen concentrations (mg/L) at Clark Fork River tributary monitoring stations, 2013.

1.3.6.3 Total Ammonia

All samples collected from the CFROU in 2013 had ammonia concentrations below the analytical reporting limit (Table 1-7). Similarly, ammonia was not detected at any of the CFROU monitoring stations in 2011 or 2012.

Table 1-7. Total ammonia concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013.

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-03A	Clark Fork River near Galen	ND	ND	ND	ND	ND	ND
CFR-07D	Clark Fork River at Galen Road	ND	ND	ND	ND	ND	ND
CFR-11F	Clark Fork River at Gemback Road	ND	ND	ND	ND	ND	ND
CFR-27H	Clark Fork River at Deer Lodge	ND	ND	ND	ND	ND	ND
CFR-116A	Clark Fork at Turah	ND	ND	ND	ND	ND	ND
Tributary Sites							
SS-25	Silver Bow Creek at Warms Springs	ND	ND	ND	ND	ND	ND
MCWC-MWB	Mill-Willow Creek at Frontage Road	ND	ND	ND	ND	ND	ND
MWB-SBC	Mill-Willow Bypass near mouth	ND	ND	ND	ND	ND	ND
WSC-SBC	Warm Springs Creek near mouth	ND	ND	ND	ND	ND	ND
LBR-CFR	Little Blackfoot River near Garrison	ND	ND	ND	ND	ND	ND

ND Not detected at analytical reporting limit.

1.3.6.4 Total Phosphorus

Total phosphorus concentrations in 2013 exceeded the Clark Fork River total phosphorus water quality standard (0.020 mg/L) at three mainstem sites and four tributary sites (Table 1-8). Concentrations of total phosphorus were highest at most sites during the Q2 monitoring events. Seven of ten monitoring sites exceeded the total phosphorus standard during Q2-Falling monitoring event, whereas four of ten sites exhibited exceedances during the Q3 monitoring event.

Total phosphorus concentrations during Q1, Q3, and Q4 were highest in Silver Bow Creek at Warm Springs (especially during Q3), and tended to be similar throughout much of the Clark Fork River mainstem sites. The lowest total phosphorus concentrations were observed in Warm Springs Creek (Figure 1-32). The lowest mainstem Clark Fork River total phosphorus concentrations were observed at Turah. Total phosphorus concentrations in 2013 were within the range of concentrations measured at CFROU monitoring sites in 2011 and 2012. However, total phosphorus concentrations at mainstem Clark Fork River sites during Q2 2011 and Q2 2012 were higher than those observed during the Q2 2013 monitoring events.

Table 1-8. Total phosphorus concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013.

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-03A	Clark Fork River near Galen	0.022	0.038	0.025	0.041	0.038	0.012
CFR-07D	Clark Fork River at Galen Road	0.020	0.040	0.023	0.038	0.023	0.014
CFR-11F	Clark Fork River at Gemback Road	0.023	0.042	0.025	0.047	0.018	0.011
CFR-27H	Clark Fork River at Deer Lodge	0.029	0.033	0.023	0.020	0.013	0.027
CFR-116A	Clark Fork at Turah	0.023	0.046	0.031	0.013	0.008	0.010
Tributary Sites							
SS-25	Silver Bow Creek at Warm Springs	0.020	0.023	0.026	0.028	0.017	0.009
MCWC-MWB	Mill-Willow Creek at Frontage Road	0.011	0.024	0.026	0.026	0.014	0.009
MWB-SBC	Mill-Willow Bypass near mouth	0.034	0.039	0.031	0.086	0.096	0.019
WSC-SBC	Warm Springs Creek near mouth	0.006	0.016	0.008	0.006	0.005	ND
LBR-CFR	Little Blackfoot River near Garrison	0.021	0.060	0.032	0.028	0.027	0.013

ND	Not detected at analytical reporting limit.
🟧	Exceeds total phosphorus standard applicable June 21 to September 21 (0.020 mg/L; ARM 17.30.631).

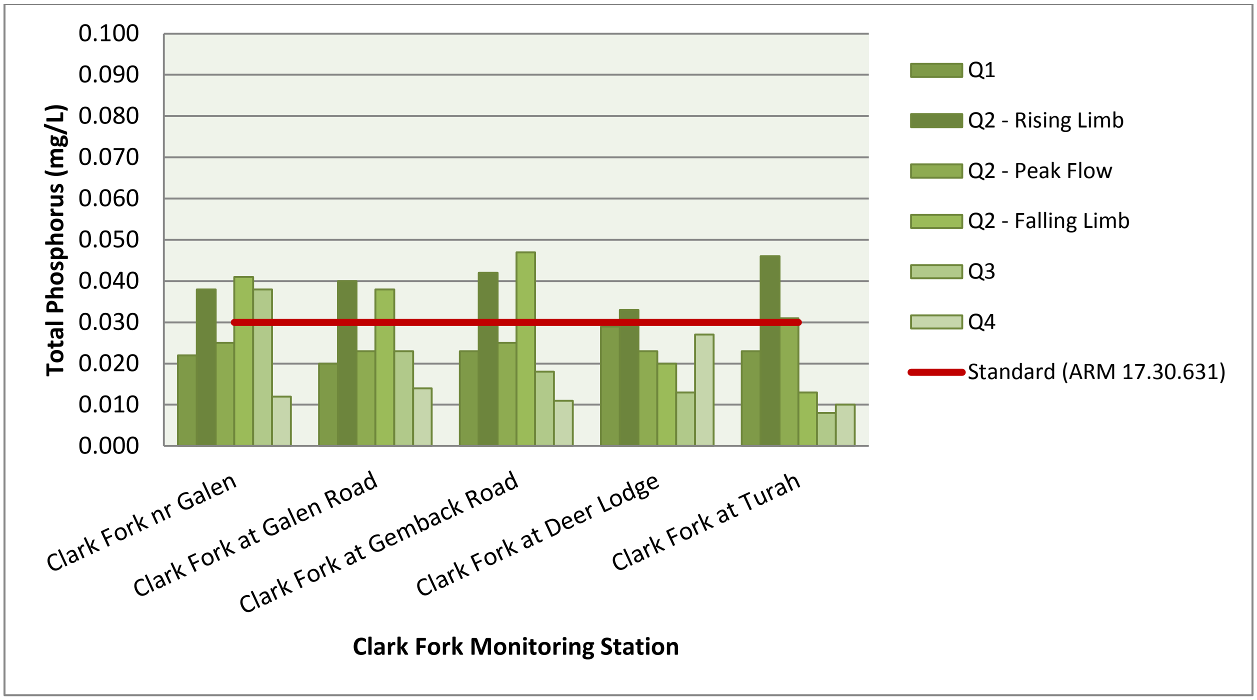


Figure 1-31. Total phosphorus concentrations (mg/L) at Clark Fork River mainstem monitoring stations, 2013.

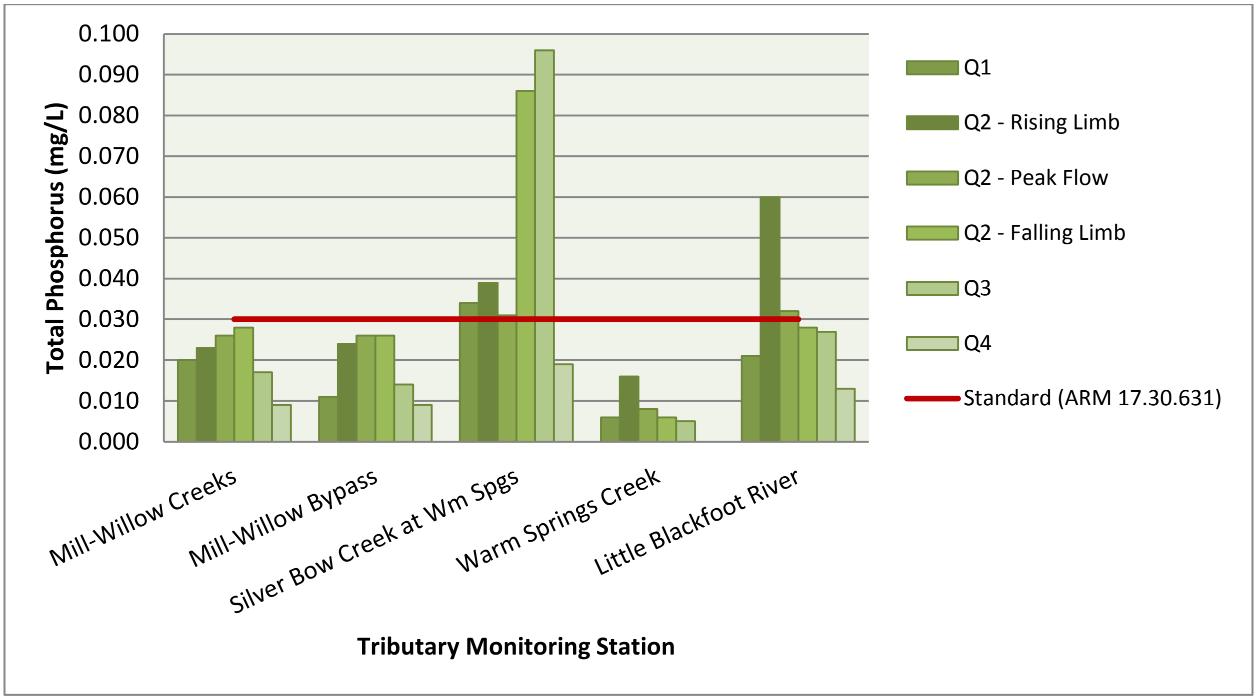


Figure 1-32. Total phosphorus concentrations (mg/L) at Clark Fork River mainstem monitoring stations, 2013.

1.3.7 Contaminants of Concern

1.3.7.1 Arsenic

MDEQ Data.-Average concentrations of total recoverable and dissolved arsenic at CFROU monitoring stations during 2013 were highest in Mill-Willow Creek at Frontage Road, Mill-Willow Bypass, Silver Bow Creek at Warm Springs, and Clark Fork River stations near Galen, at Galen Road, at Gemback Road, and at Deer Lodge. Arsenic concentrations were lowest in Warm Springs Creek, Little Blackfoot River, and in the Clark Fork River mainstem at Turah (Figure 1-33; Figure 1-34). Arsenic concentrations were comparable in the reach of the Clark Fork River from near Galen to Deer Lodge and lower at the Clark Fork River at Turah station below Rock Creek. The single highest arsenic concentrations were observed in Mill-Willow Creek and the Mill-Willow Bypass. Highest concentrations of total recoverable arsenic at most of the ten monitoring stations were measured during the Q2, falling limb hydrograph monitoring event in late June 2013. With the exception of the second quarter 2011 monitoring event when streamflows were unusually high, arsenic concentrations at CFROU mainstem monitoring stations during the 2013 calendar year were comparable to those measured in 2010-2012.

A high percentage of arsenic detected at CFROU monitoring stations in 2013 was present in the dissolved form during the six monitoring events (Figure 1-33). Total recoverable arsenic concentrations commonly exceeded the human health surface water standard (HHSWS; 0.010 mg/L) at CFROU monitoring stations during the 2013 monitoring year at seven of the ten monitoring sites (Table 1-9). None of the measured arsenic values during 2013 exceeded the acute or chronic ALS. The frequency and magnitude of arsenic HHSWS excursions at mainstem Clark Fork River monitoring sites in 2013 was similar to that observed in 2012, but somewhat lower than in 2011.

The arsenic HHSWS and chronic ALS compliance ratios for the four selected stations have remained relatively stable over the four year period (Figures 1-35 through 1-38). The HHSWS compliance ratios for Silver Bow Creek at Warm Springs and the Clark Fork River near Galen and at Deer Lodge rarely fell below 1.0 during monitoring events in the examined period indicating consistent exceedances of that standard. In contrast, the Clark Fork River at Turah rarely exceeded the 1.0 threshold value during the same time period. The chronic ALS compliance ratio for arsenic was consistently below 1.0 at all four of the selected stations. Examining the HHSWS compliance ratios for arsenic during the six 2013 monitoring events, ratios were similar at the upper four Clark Fork River mainstem stations from near Galen to Deer Lodge and usually greater than 1.0, then much lower at the Turah station (Figure 1-39). Among the tributary monitoring stations, arsenic HHSWS compliance ratios during 2013 were 1.0 or higher in Mill-Willow Creek at Frontage Road, Mill-Willow Bypass, and Silver Bow Creek at Warm Springs, and below 1.0 in Warm Springs Creek and the Little Blackfoot River (Figure 1-40).

USGS and MDEQ Data.-Arsenic concentrations tended to increase in the Clark Fork River mainstem from near Galen to the Little Blackfoot River confluence, and then decrease downstream from the Little Blackfoot River confluence (Figure 1-41; Figure 1-42). Elevated arsenic concentrations in the Clark Fork River near Galen apparently were derived from Silver Bow Creek and the Mill-Willow Bypass which each had elevated arsenic concentrations compared to other tributaries (Figure 1-43; Figure 1-44). Arsenic concentrations were highest in Clark Fork River mainstem sites in July at most sites (Figure 1-45 through Figure 1-148). Arsenic concentrations in samples measured by the USGS and by RESPEC were generally similar (Figure 1-9 through Figure 1-12).

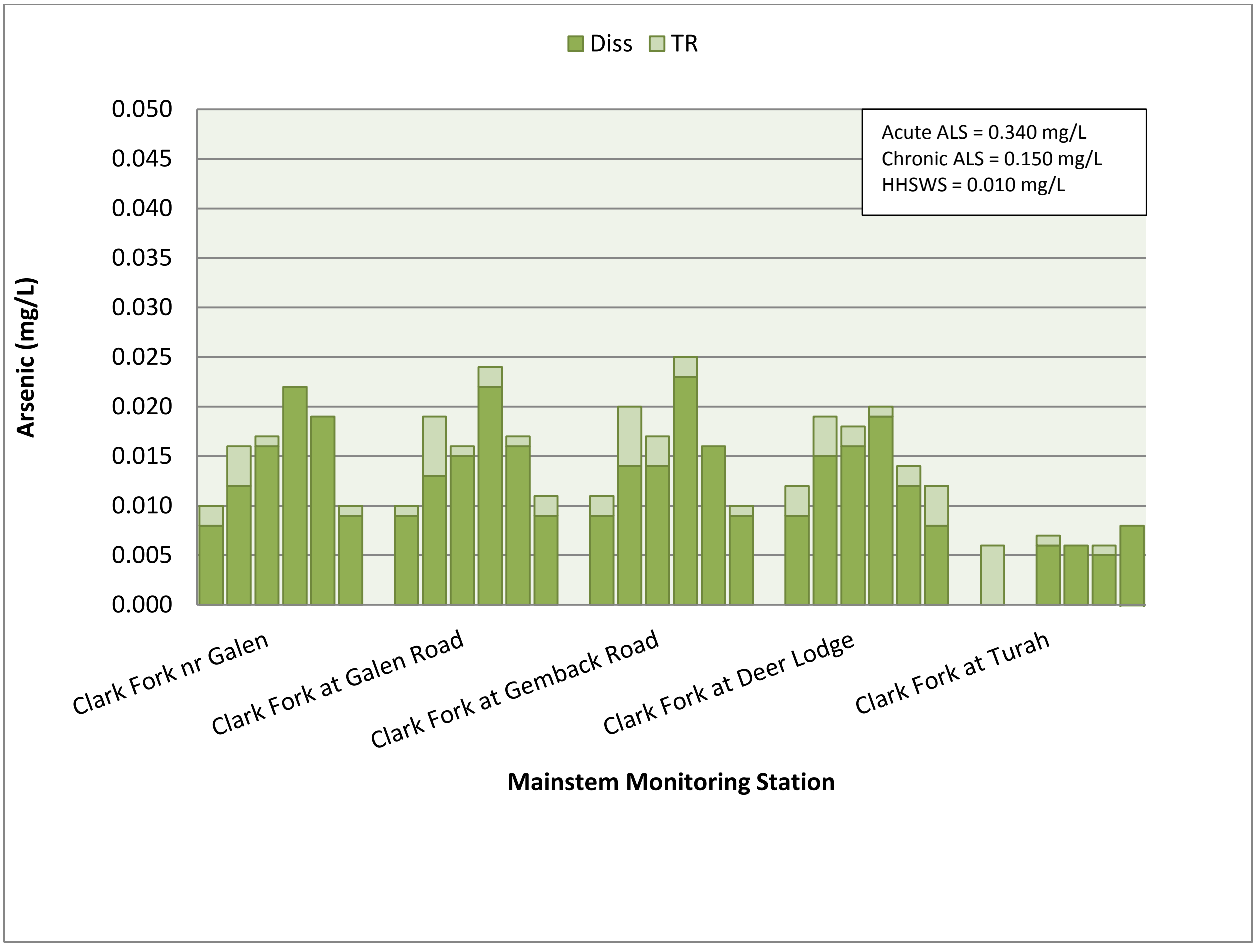


Figure 1-33. **Total recoverable (TR) and dissolved (Diss) arsenic concentrations at mainstem sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

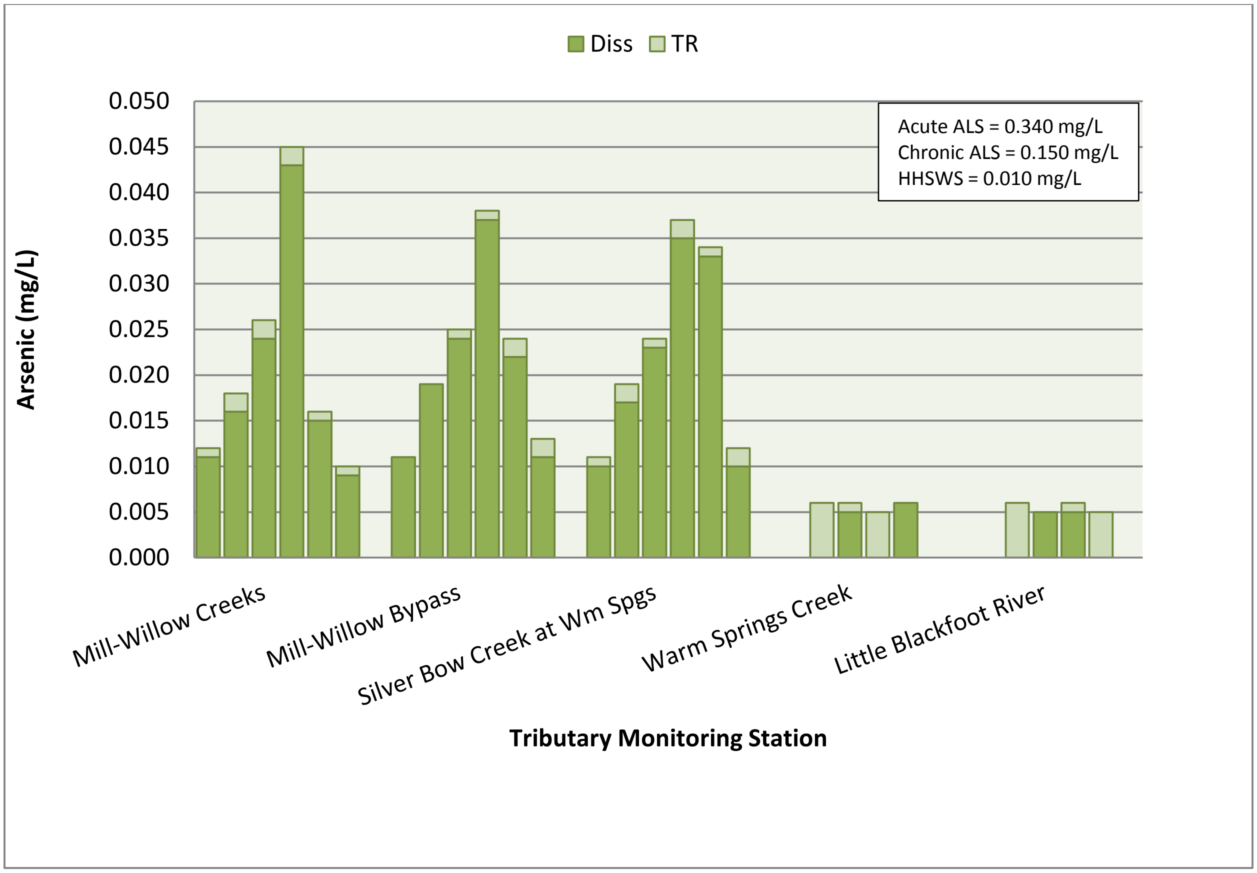


Figure 1-34. **Total recoverable (TR) and dissolved (Diss) arsenic concentrations at Clark Fork River tributary sampling sites, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

Table 1-9. **Total recoverable arsenic concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013. Table represents data collected under the Montana Department of Environmental Quality monitoring program.**

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-03A	Clark Fork River near Galen	0.01	0.016	0.017	0.022	0.019	0.01
CFR-07D	Clark Fork River at Galen Road	0.01	0.019	0.016	0.024	0.017	0.011
CFR-11F	Clark Fork River at Gemback Road	0.011	0.02	0.017	0.025	0.016	0.01
CFR-27H	Clark Fork River at Deer Lodge	0.012	0.019	0.018	0.02	0.014	0.012
CFR-116A	Clark Fork at Turah	0.006	ND	0.007	0.006	0.006	0.006
Tributary Sites							
SS-25	Silver Bow Creek at Warm Springs	0.012	0.018	0.026	0.045	0.016	0.01
MCWC-MWB	Mill-Willow Creek at Frontage Road	0.011	0.019	0.025	0.038	0.024	0.013
MWB-SBC	Mill-Willow Bypass near mouth	0.011	0.019	0.024	0.037	0.034	0.012
WSC-SBC	Warm Springs Creek near mouth	ND	0.006	0.006	0.005	0.006	ND
LBR-CFR	Little Blackfoot River near Garrison	ND	0.006	0.005	0.006	0.005	ND

ND	Not detected at analytical reporting limit.
🟧	Exceeds human health surface water standard (MDEQ 2012b).

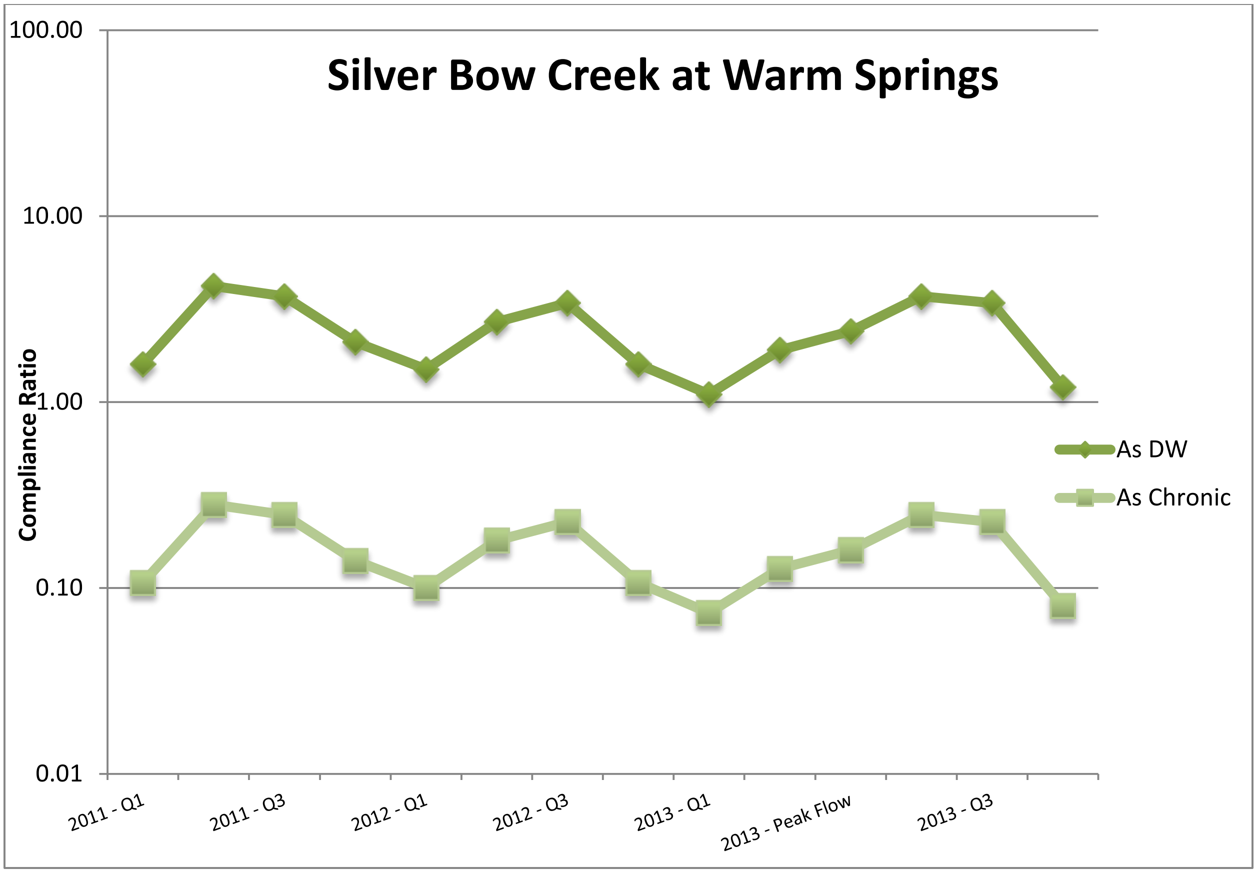


Figure 1-35. **Total recoverable arsenic (As) compliance ratios for Silver Bow Creek at Warm Springs site, 2011-2013. Compliance ratios are based on the chronic aquatic life standard (Chronic) and the human health surface water standard, or the drinking water standard (DW) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

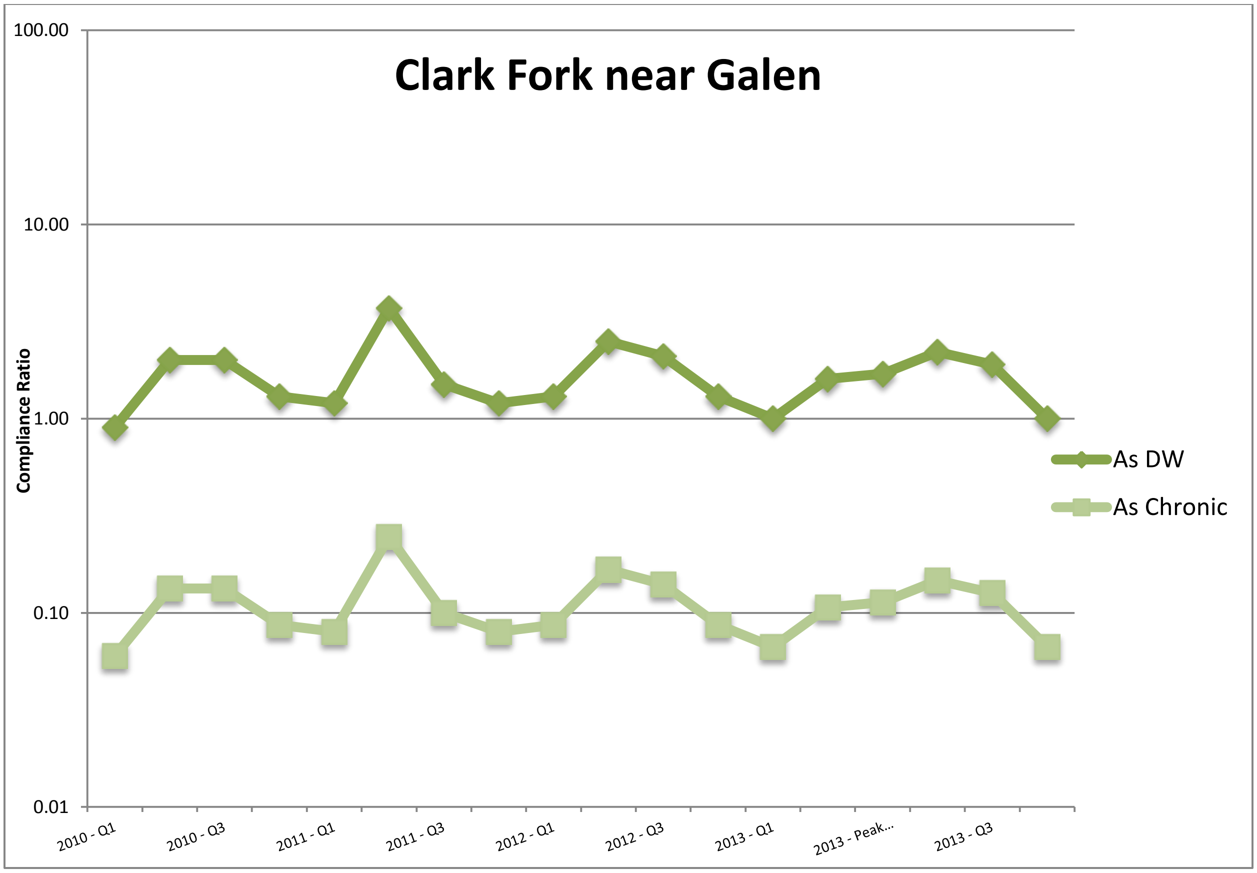


Figure 1-36. Total recoverable arsenic (As) compliance ratios for the Clark Fork River near Galen site, 2010-2013. Compliance ratios are based on the chronic aquatic life standard (Chronic) and the human health surface water standard, or the drinking water standard (DW) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.

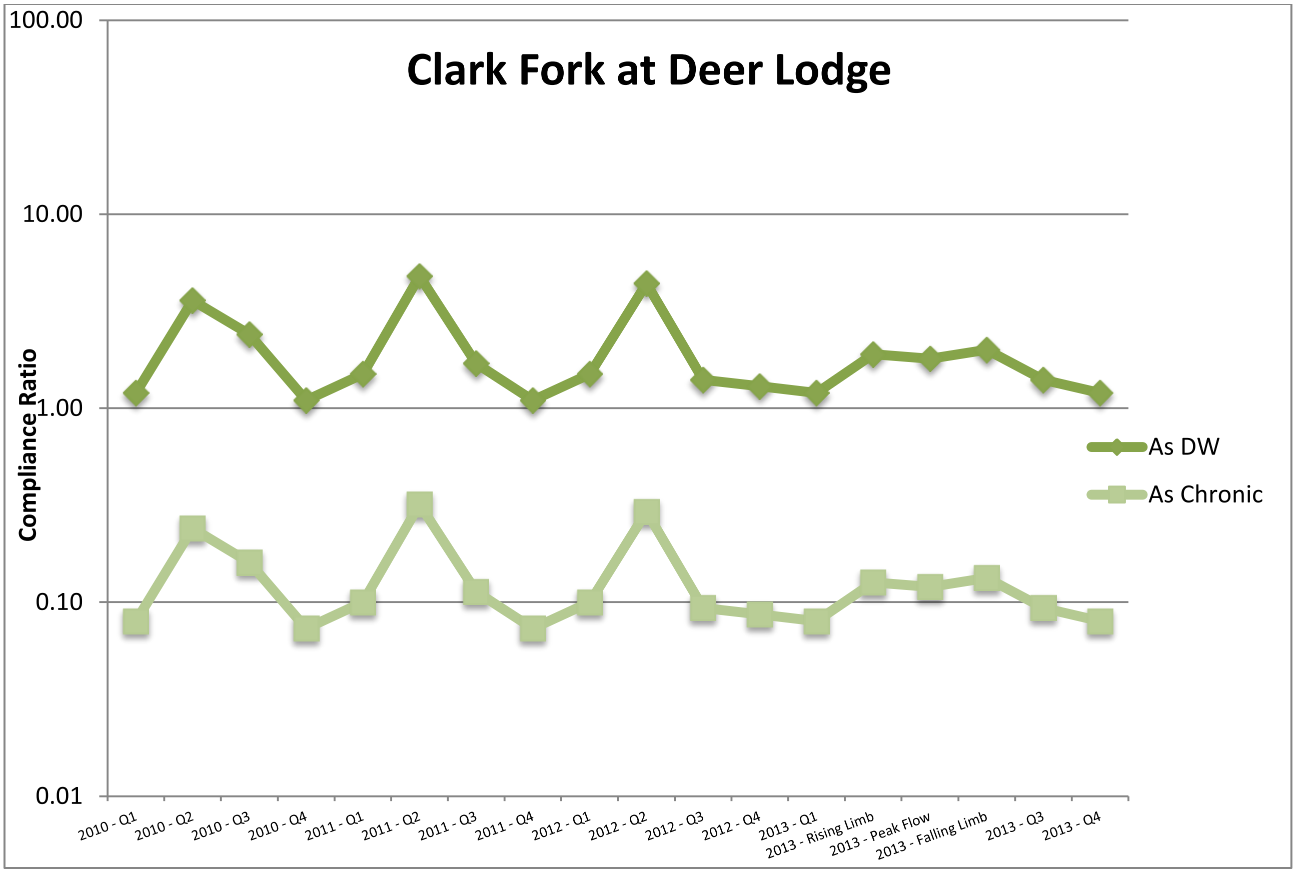


Figure 1-37. **Total recoverable arsenic (As) compliance ratios for the Clark Fork River at Deer Lodge site, 2010-2013. Compliance ratios are based on the chronic aquatic life standard (Chronic) and the human health surface water standard, or the drinking water standard (DW) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

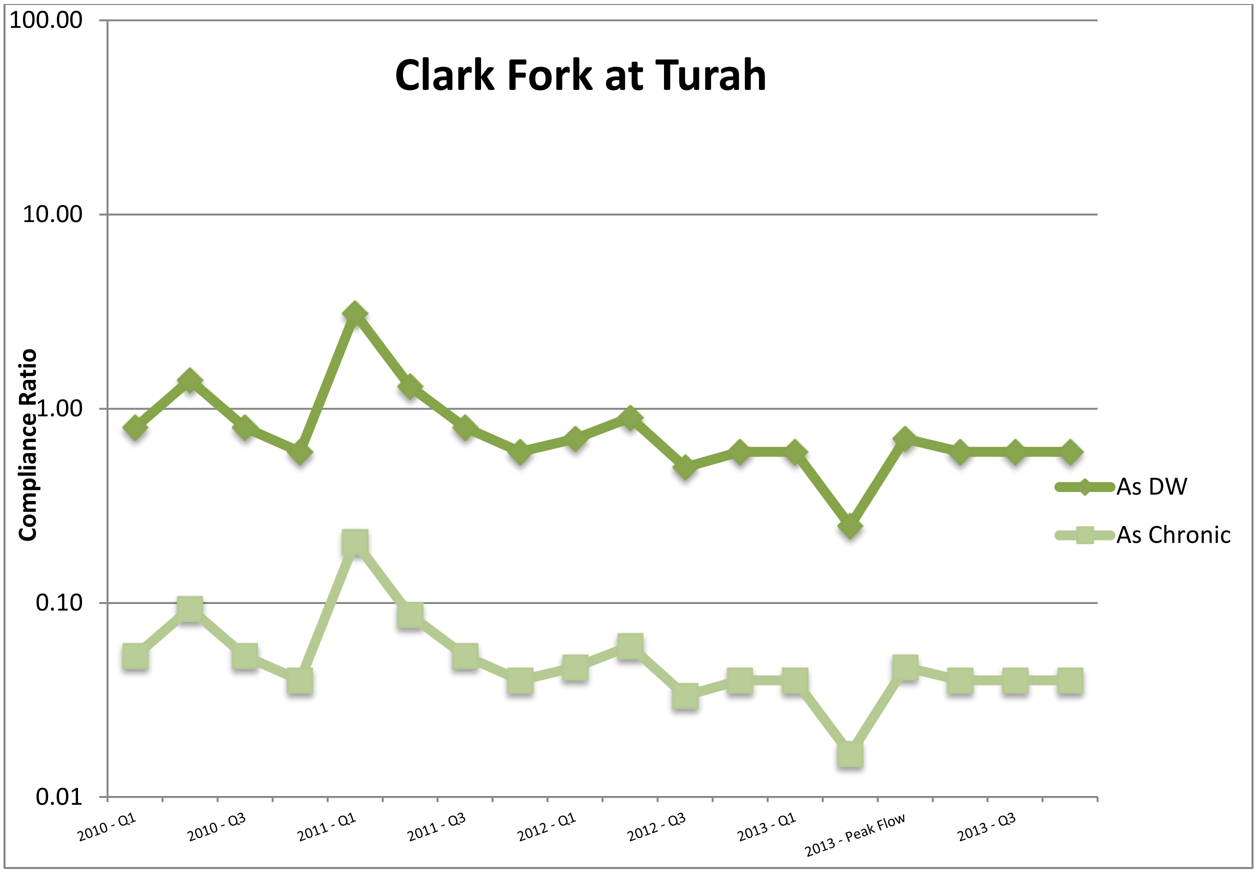


Figure 1-38. Total recoverable arsenic (As) compliance ratios for the Clark Fork River at Turah site, 2010-2013. Compliance ratios are based on the chronic aquatic life standard (Chronic) and the human health surface water standard, or the drinking water standard (DW) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.

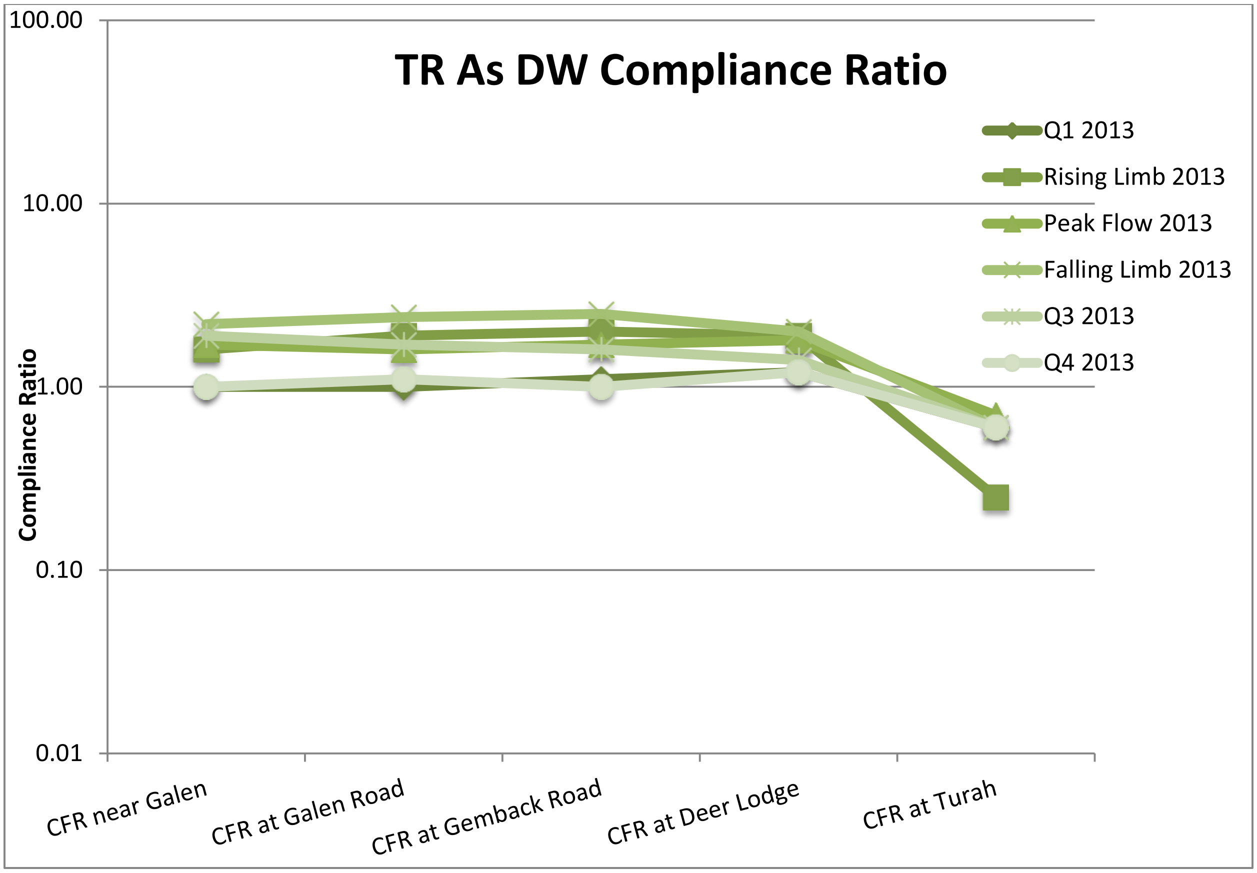


Figure 1-39. **Total recoverable (TR) arsenic (As) compliance ratio in the Clark Fork River (CFR) mainstem sites, 2013. Compliance ratio is based on the human health surface water standard, or the drinking water standard (As DW) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

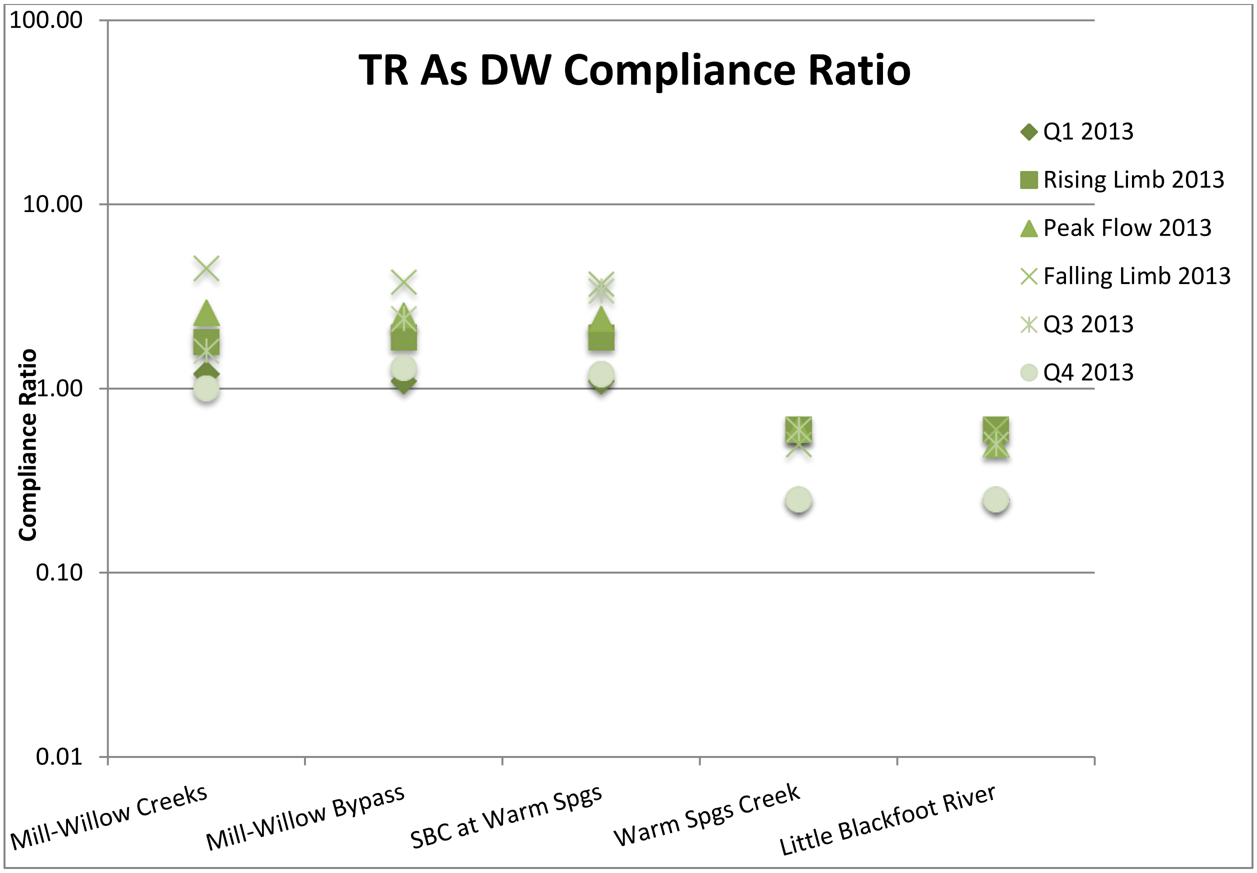


Figure 1-40. **Total recoverable (TR) arsenic (As) compliance ratio in Clark Fork River (CFR) tributary sites, 2013. Compliance ratio is based on the human health surface water standard, or the drinking water standard (As DW) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

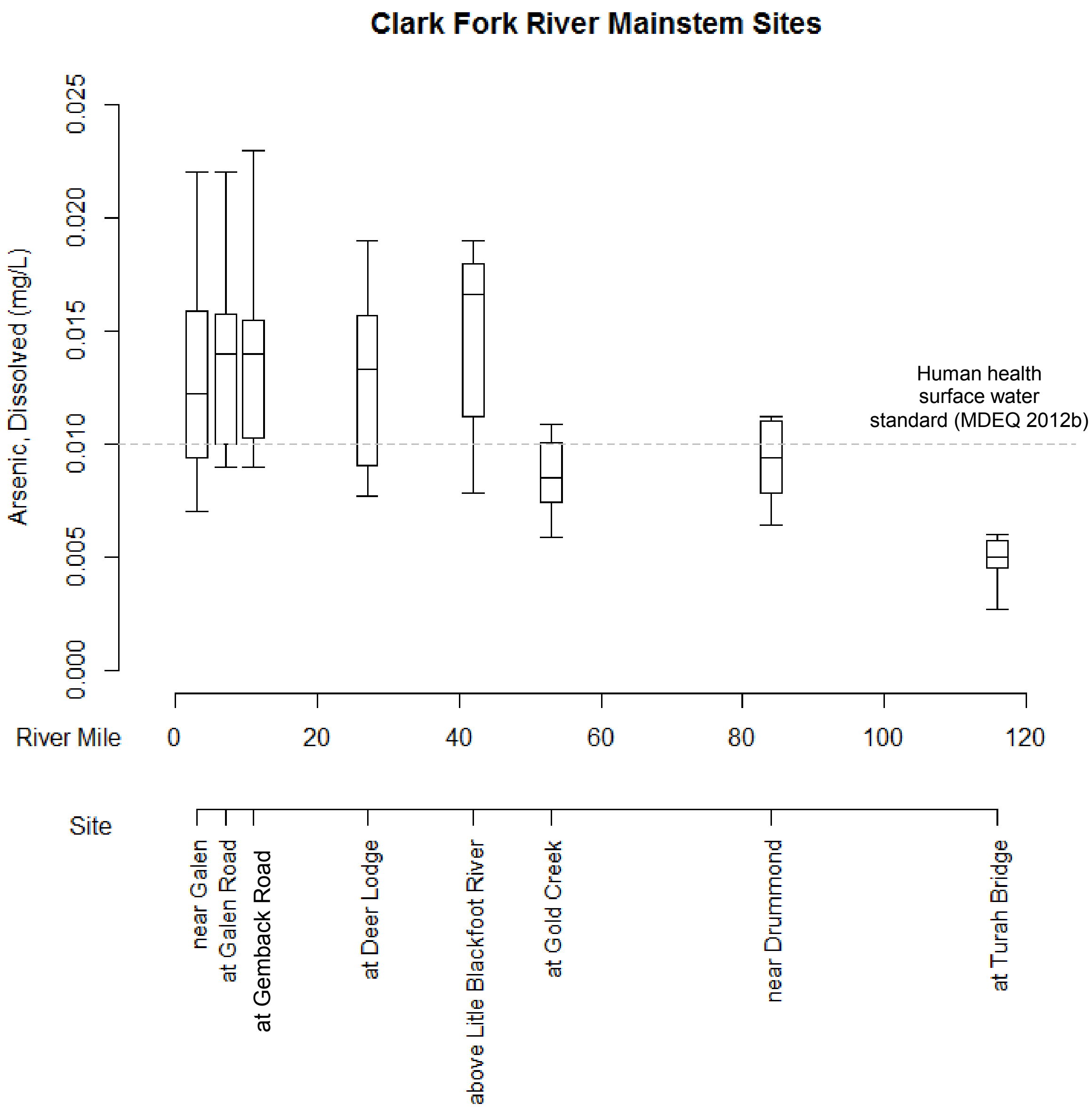


Figure 1-36. **Dissolved arsenic concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.**

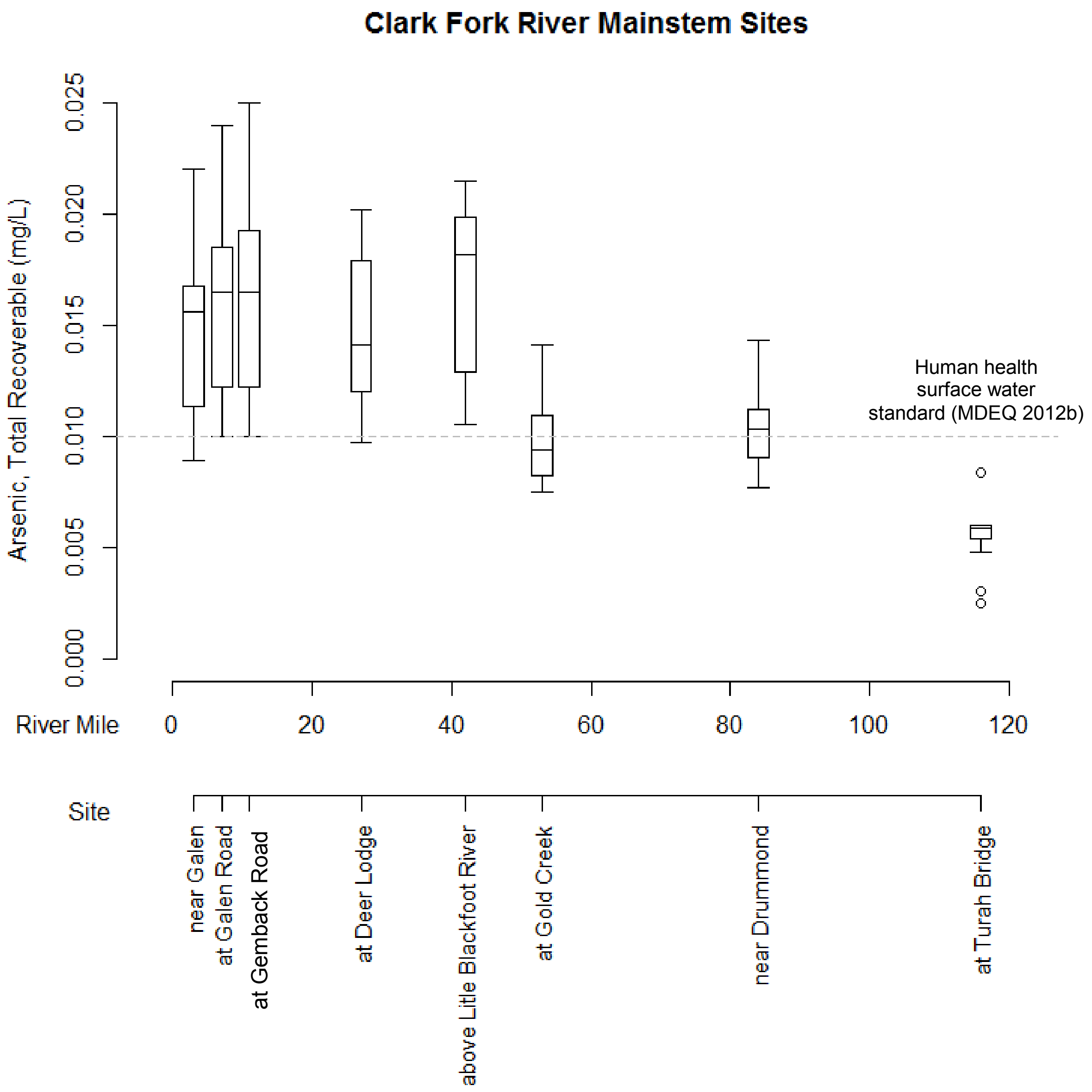


Figure 1-37. **Total recoverable arsenic concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.**

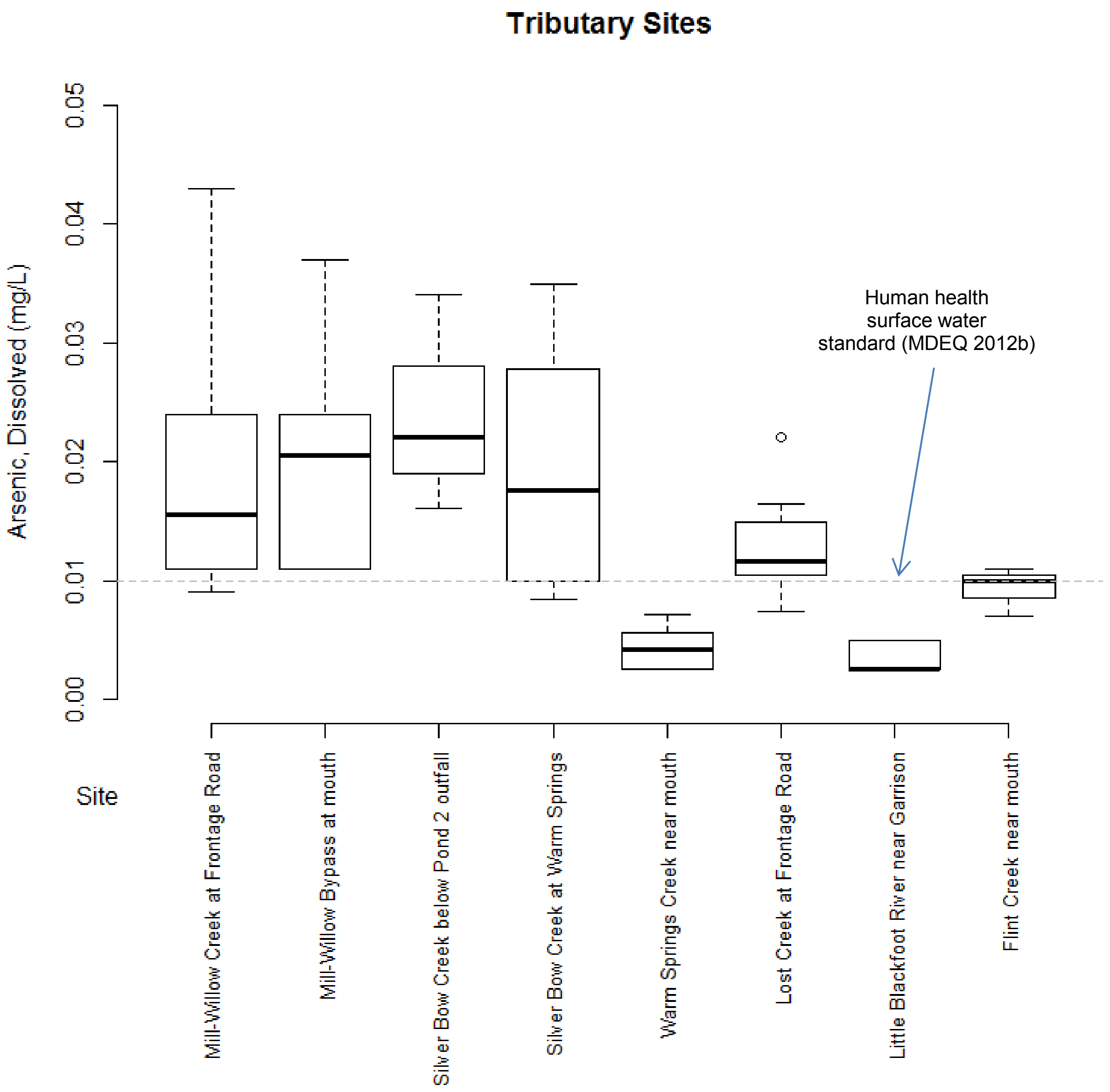


Figure 1-38. **Dissolved arsenic concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014).**

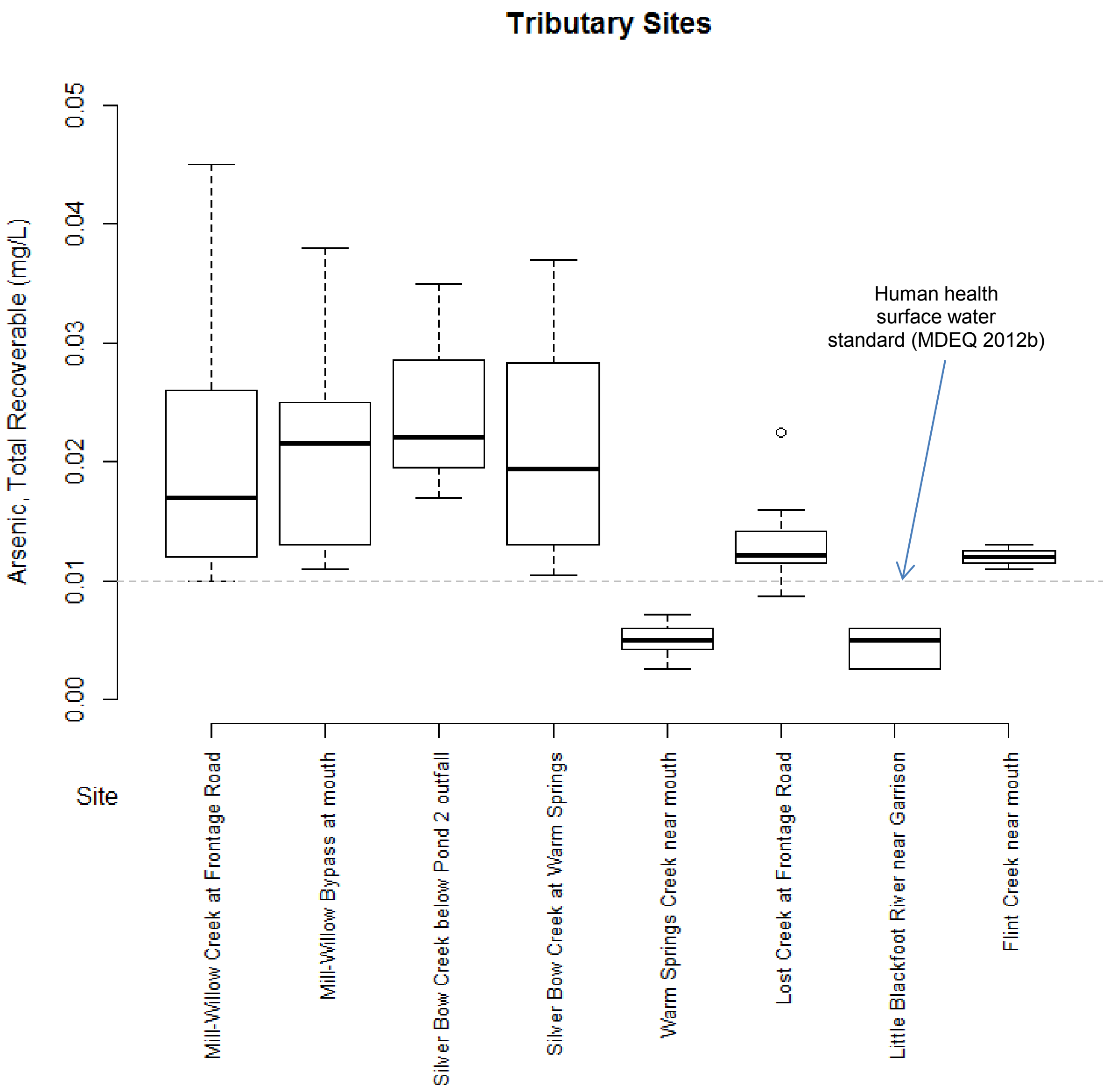


Figure 1-39. **Dissolved arsenic concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014).**

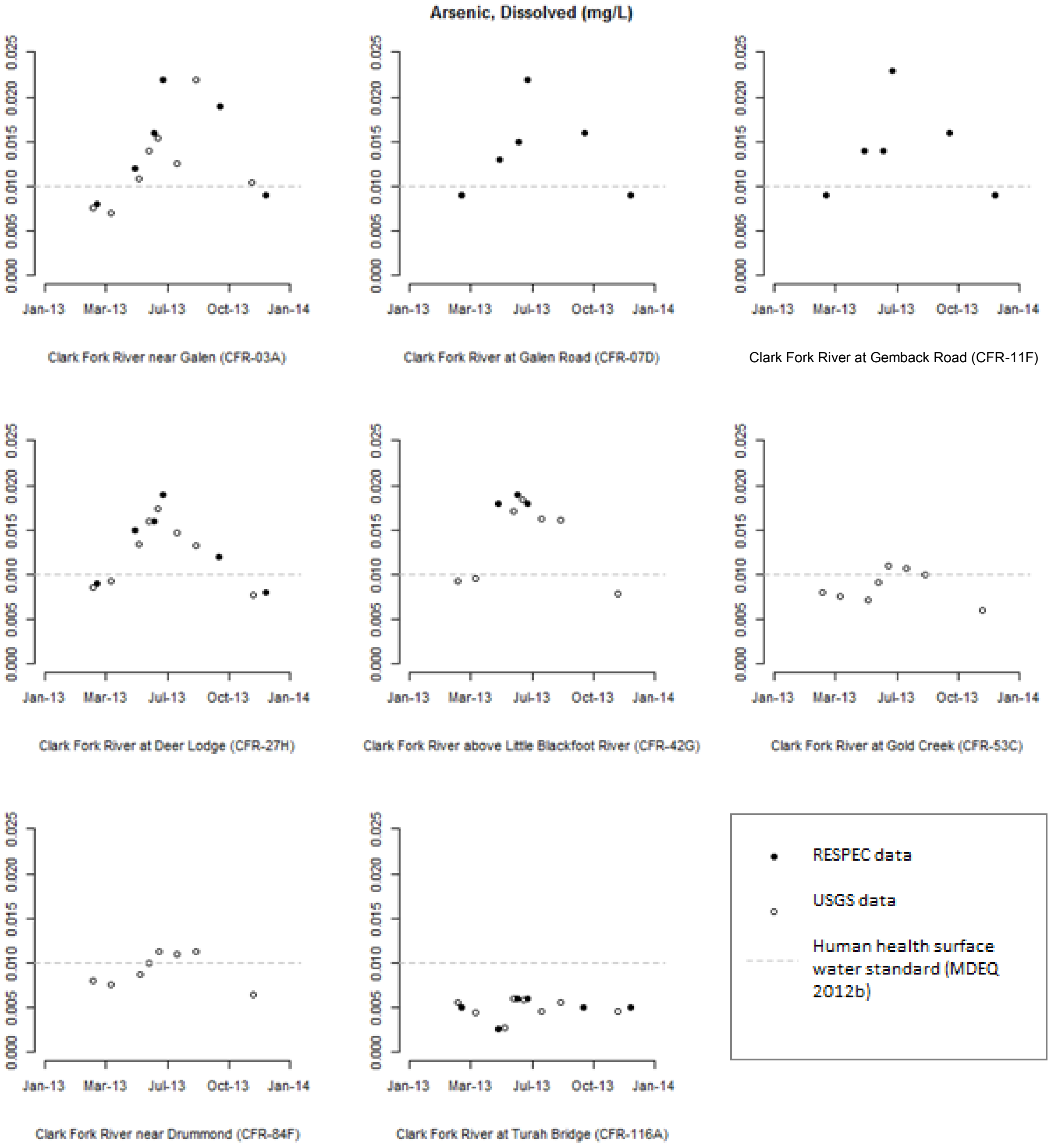


Figure 1-40. **Dissolved arsenic concentrations plotted by time at Clark Fork River mainstem sites, 2013.**

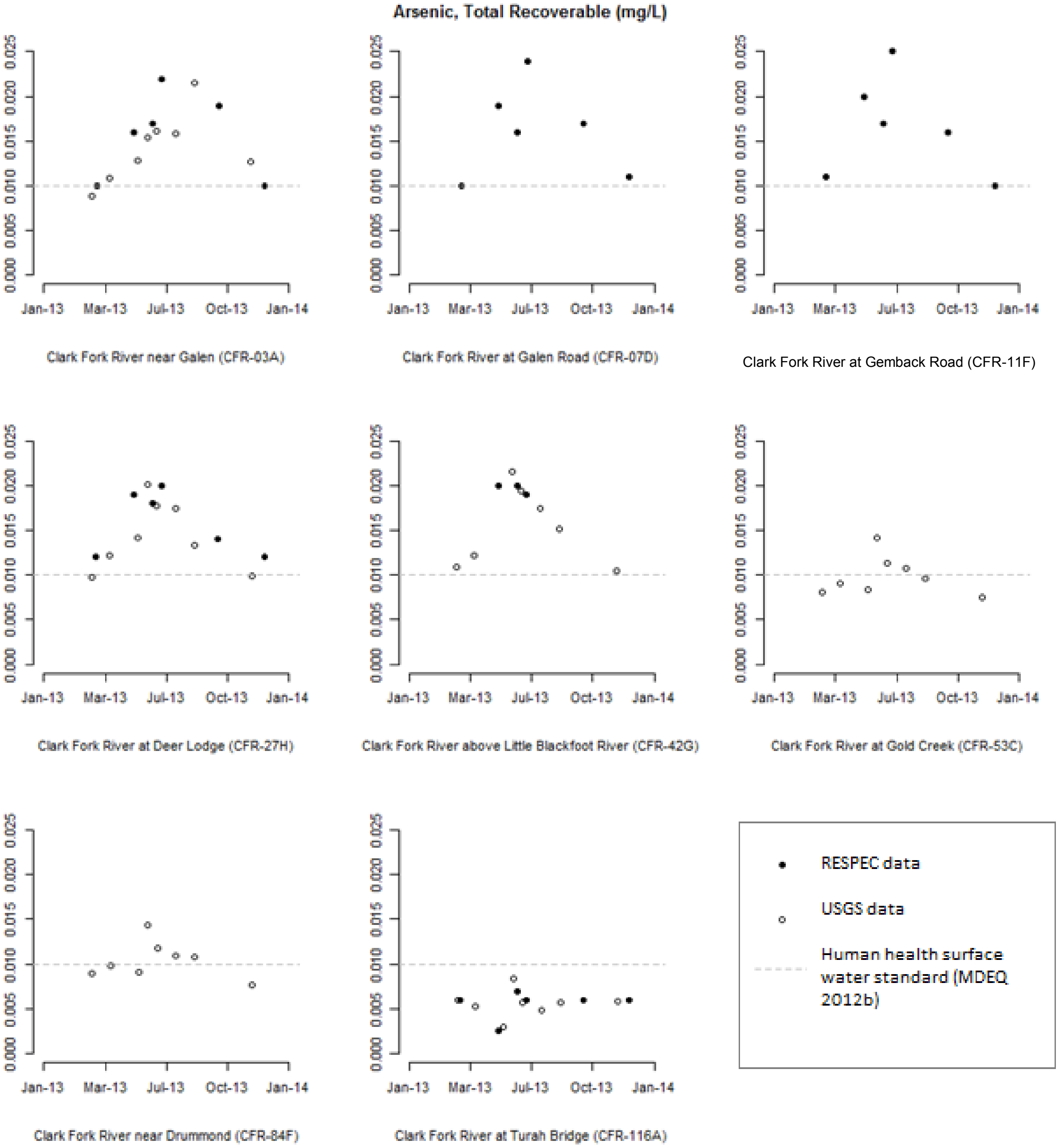


Figure 1-41. **Total recoverable arsenic concentrations plotted by time at Clark Fork River mainstem sites, 2013.**

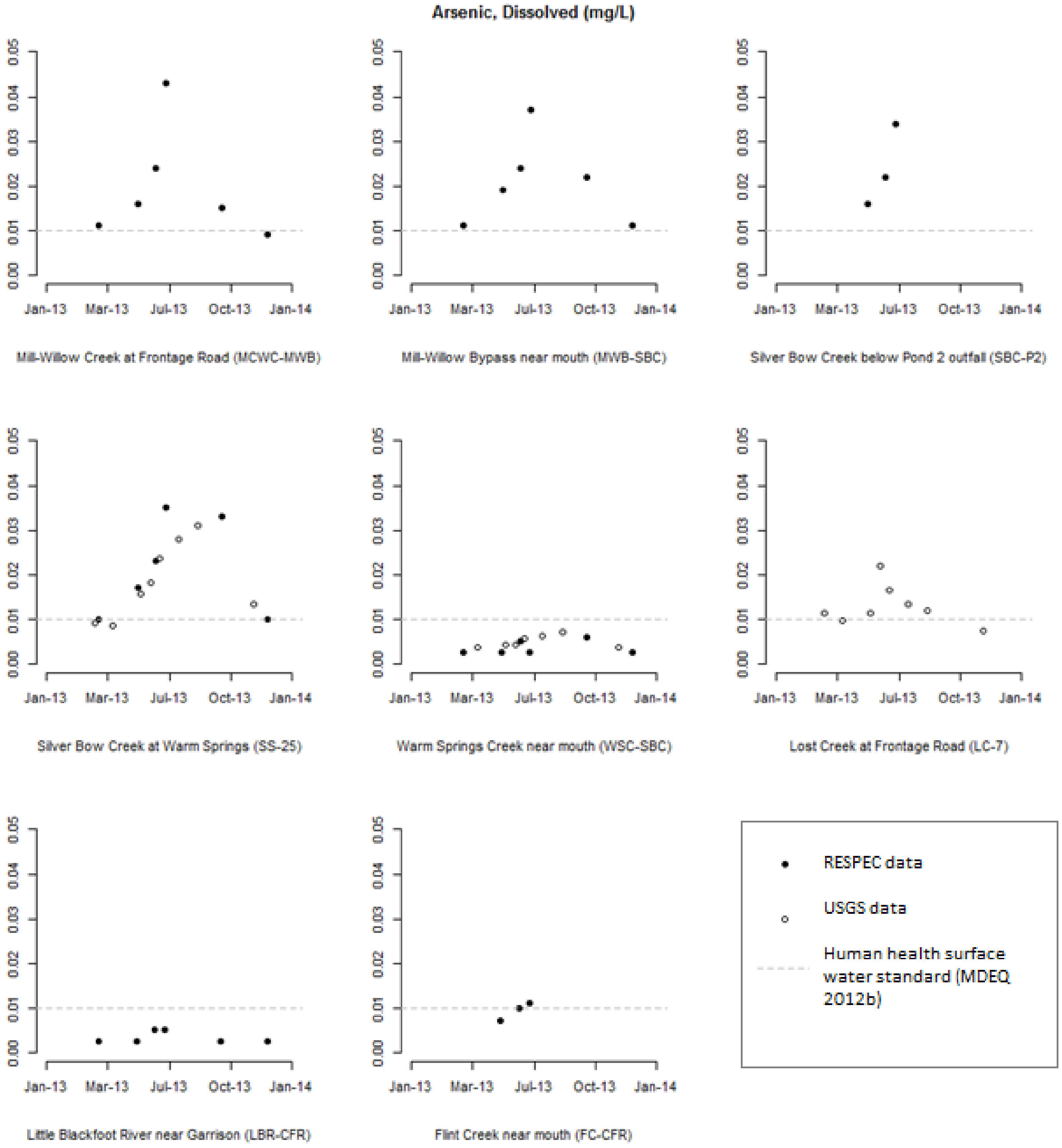
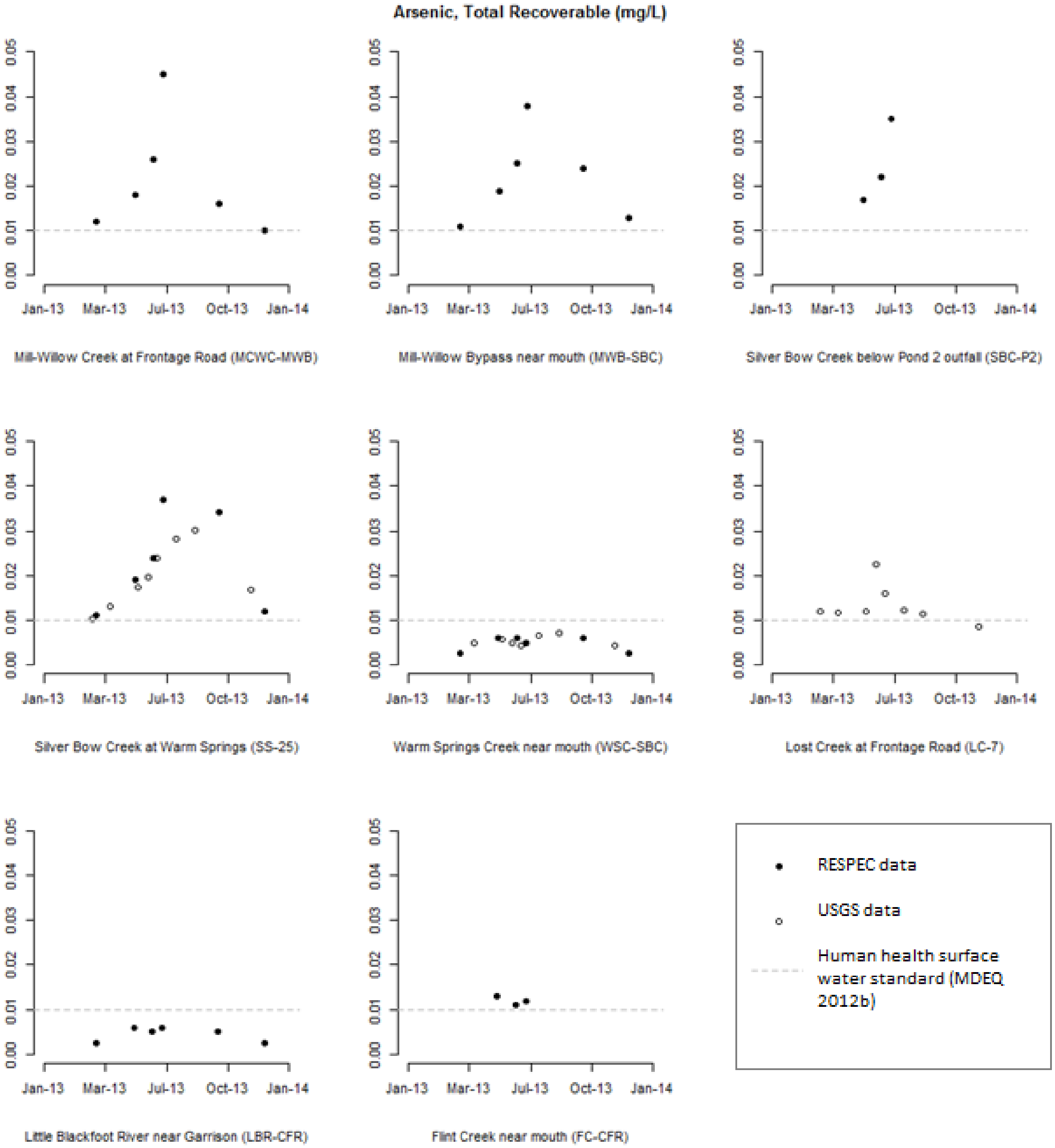


Figure 1-42. Dissolved arsenic concentrations plotted by time at Clark Fork River tributary sites, 2013.



Mill-Willow Creek at Frontage Road (MCWC-MWB)

Mill-Willow Bypass near mouth (MWB-SBC)

Silver Bow Creek below Pond 2 outfall (SBC-P2)

Silver Bow Creek at Warm Springs (SS-25)

Warm Springs Creek near mouth (WSC-SBC)

Lost Creek at Frontage Road (LC-7)

Little Blackfoot River near Garrison (LBR-CFR)

Flint Creek near mouth (FC-CFR)

Figure 1-43. **Total recoverable arsenic concentrations plotted by time at Clark Fork River tributary sites, 2013.**

1.3.7.2 Cadmium

MDEQ Data.-Concentrations of total recoverable cadmium during 2013 were generally comparable and low at mainstem Clark Fork River monitoring stations extending from near Galen to Deer Lodge, and lower still at the Turah station (Figure 1-49). Cadmium concentrations were similarly low at all five of the tributary monitoring stations (Figure 1-50). Concentrations of dissolved cadmium were consistently below detection during all 2013 monitoring events at all stations. Most cadmium was present in a sediment-associated state.

The highest concentrations of total recoverable cadmium were almost always measured during the Q2-Rising monitoring event; the maximum concentrations in 2013 were recorded at the Clark Fork River at Galen Road (0.00025 mg/L). An exception to this seasonal pattern was noted at the Clark Fork River at Deer Lodge station, where the maximum total recoverable cadmium concentration (0.00023 mg/L) was observed in Q4. The lowest concentrations of total recoverable cadmium were observed during the Q2-Falling monitoring event, and during Q3 and Q4 events, when 27 of 30 site measurements (90%) were less than the analytical reporting limit (Table 1-10). Only the Clark Fork River at Deer Lodge monitoring site had measureable total recoverable cadmium during all monitoring events.

With the exception of the Q2 2011 monitoring event, when streamflows were unusually high, cadmium concentrations at CFROU mainstem monitoring stations during the 2013 calendar year were comparable to those measured from 2010-2012. However, total recoverable cadmium concentrations in 2013 did not exceed either the acute or chronic ALS, or the HHSWS, at any of the CFROU monitoring stations (Table 1-10). In contrast, exceedances occurred in each of the prior three years: 2010 (5 of 24 exceedances), 2011 (6 of 28 exceedances), and 2012 (4 of 60 exceedances).

The cadmium chronic ALS compliance ratios for the four selected stations appear to have declined to some degree since 2010 (Figure 1-51 through Figure 1-54). Chronic ALS compliance ratios have not exceeded 1.0 at any of the selected four stations since Q1 2012. The chronic ALS compliance ratios for total recoverable cadmium were also below 1.0 at all mainstem and tributary monitoring sites. The highest chronic ALS compliance ratios for total recoverable cadmium were observed during the Q2-Rising and Q2-Peak monitoring events. The Clark Fork River at Deer Lodge most frequently showed the highest cadmium ALS compliance ratios during 2013, and the Clark Fork River at Turah showed the lowest ratios (Figure 1-55). Among the tributaries, Mill-Willow Creek at Frontage Road showed the highest cadmium compliance ratios and the Little Blackfoot River showed the lowest ratios (Figure 1-56).

In Q2 2012, total recoverable cadmium concentrations exceeded the chronic ALS at 4 of 15 CFROU monitoring stations including the Clark Fork River at Deer Lodge, Clark Fork River near Garrison, Clark Fork River near Drummond, and Flint Creek near mouth. Excursions in Q2 2012 ranged from 1.1-2.8 times the standard. All other samples in 2012 were below the chronic ALS. The 2012 samples which exceeded the chronic ALS were generally lower than samples from the same sites during Q2 of 2010 and 2011.

USGS and MDEQ Data.-Cadmium concentrations measured by the USGS and MDEQ monitoring programs were generally well below the ALS in 2013 (Figure 1-57 through Figure 1-60). Cadmium concentrations were generally highest at Clark Fork River mainstem sites upstream from the Little Blackfoot River confluence (Figure 1-57; Figure 1-58). Total recoverable cadmium concentrations in the Clark Fork River mainstem sites were generally highest in June (Figure 1-62), although dissolved cadmium concentrations were low enough that there was no clear temporal trend at most sites (Figure 1-61). Among the tributary sites, the highest concentrations tended to occur in Mill-Willow Creek and Silver Bow Creek during the spring, however all of these concentrations were below the ALS (Figure 1-63; Figure 1-64). It appeared that the cadmium concentrations in samples collected and analyzed by the USGS were similar to those collected by RESPEC and analyzed by Energy Laboratories (Figure 1-61 through Figure 1-64).

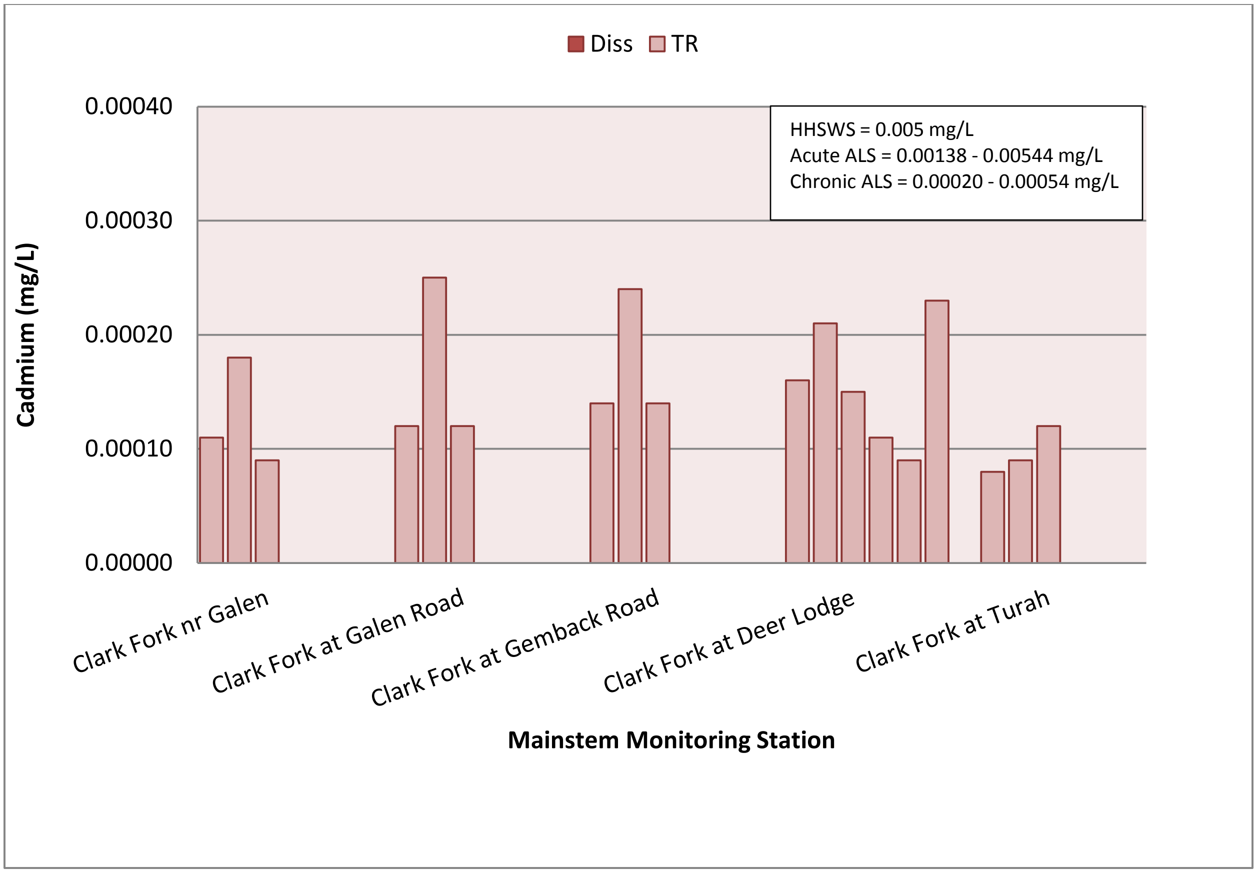


Figure 1-44. **Total recoverable (TR) and dissolved (Diss) cadmium concentrations at mainstem sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

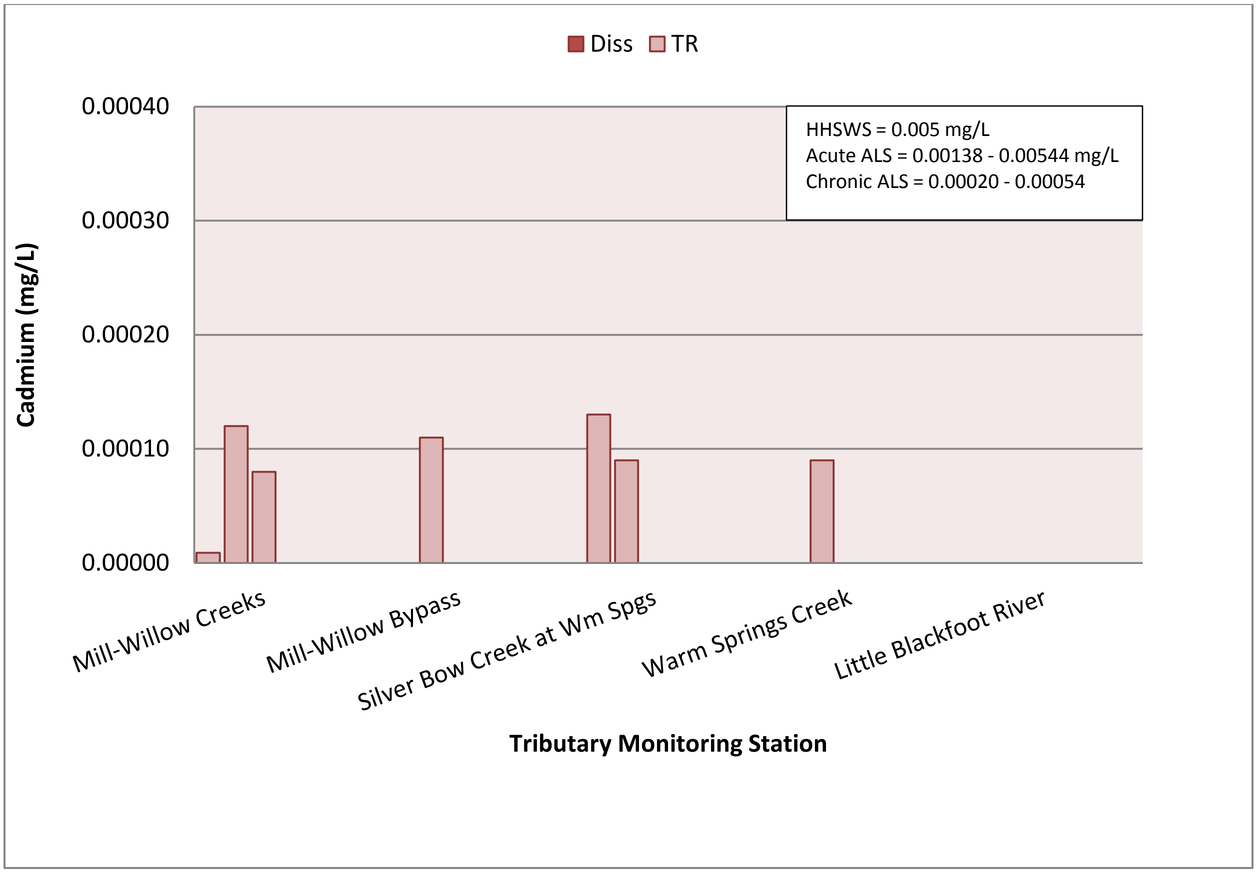


Figure 1-45. **Total recoverable (TR) and dissolved (Diss) cadmium concentrations at Clark Fork River tributary sampling sites, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

Table 1-10. Total recoverable cadmium concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013. Table represents data collected under the Montana Department of Environmental Quality monitoring program.

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-03A	Clark Fork River near Galen	0.00011	0.00018	0.00009	ND	ND	ND
CFR-07D	Clark Fork River at Galen Road	0.00012	0.00025	0.00012	ND	ND	ND
CFR-11F	Clark Fork River at Gemback Road	0.00014	0.00024	0.00014	ND	ND	ND
CFR-27H	Clark Fork River at Deer Lodge	0.00016	0.00021	0.00015	0.00011	0.00009	0.00023
CFR-116A	Clark Fork at Turah	0.00008	0.00009	0.00012	ND	ND	ND
Tributary Sites							
SS-25	Silver Bow Creek at Warm Springs	0.00009	0.00012	0.00008	ND	ND	ND
MCWC-MWB	Mill-Willow Creek at Frontage Road	ND	0.00011	ND	ND	ND	ND
MWB-SBC	Mill-Willow Bypass near mouth	0.00013	0.00009	ND	ND	ND	ND
WSC-SBC	Warm Springs Creek near mouth	ND	0.00009	ND	ND	ND	ND
LBR-CFR	Little Blackfoot River near Garrison	ND	ND	ND	ND	ND	ND

ND Not detected at analytical reporting limit.

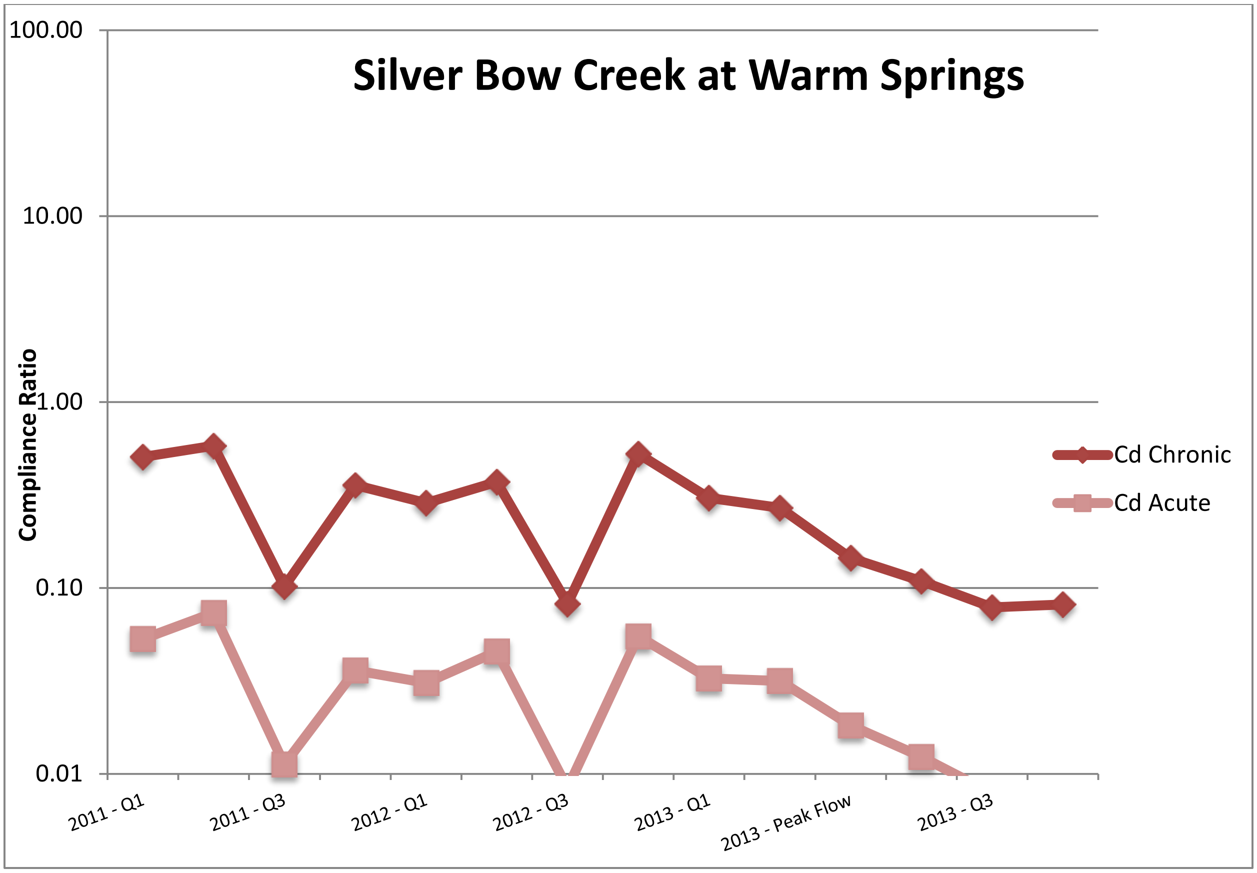


Figure 1-46. **Total recoverable cadmium (Cd) compliance ratios for Silver Bow Creek at Warm Springs site, 2011-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

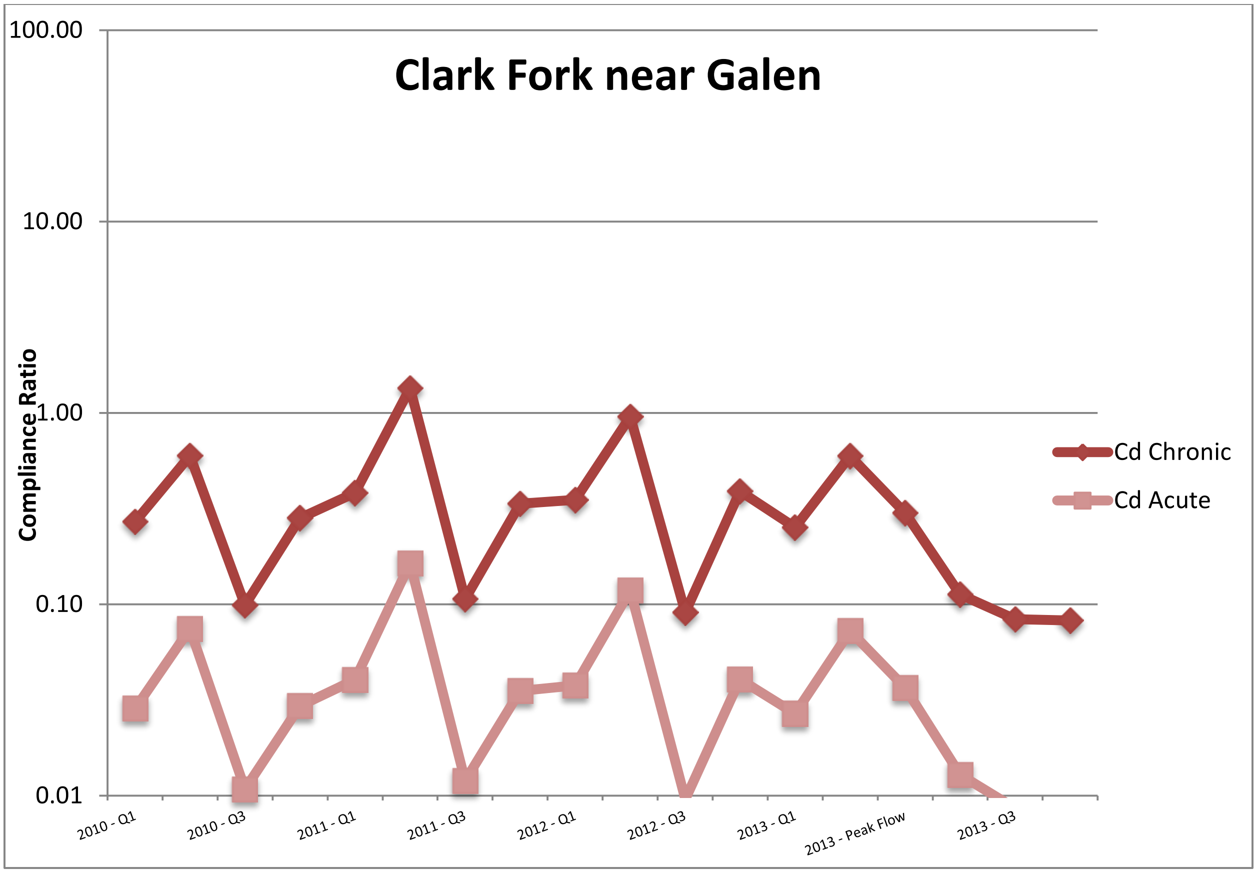


Figure 1-47. **Total recoverable cadmium (Cd) compliance ratios for Clark Fork River near Galen site, 2010-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

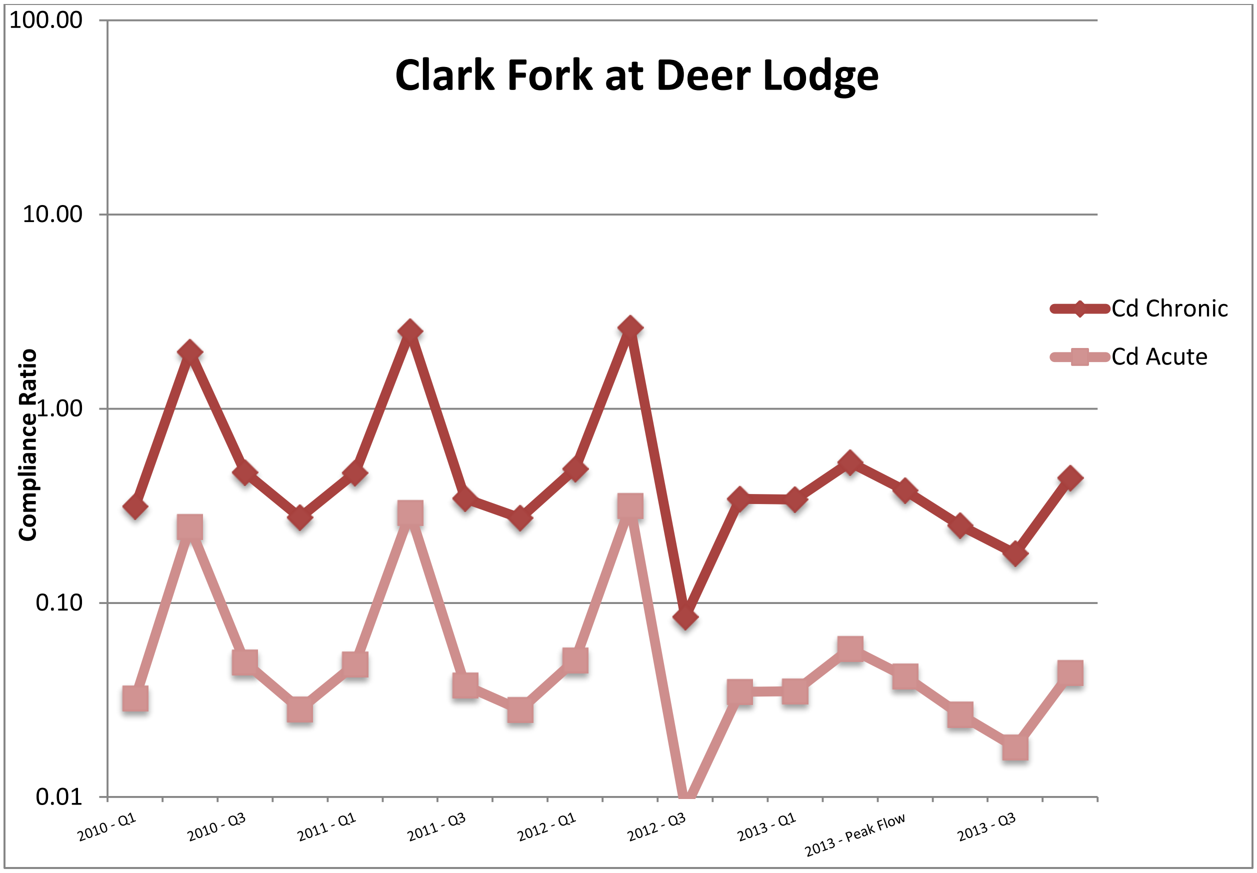


Figure 1-48. Total recoverable cadmium (Cd) compliance ratios for Clark Fork River at Deer Lodge site, 2010-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.

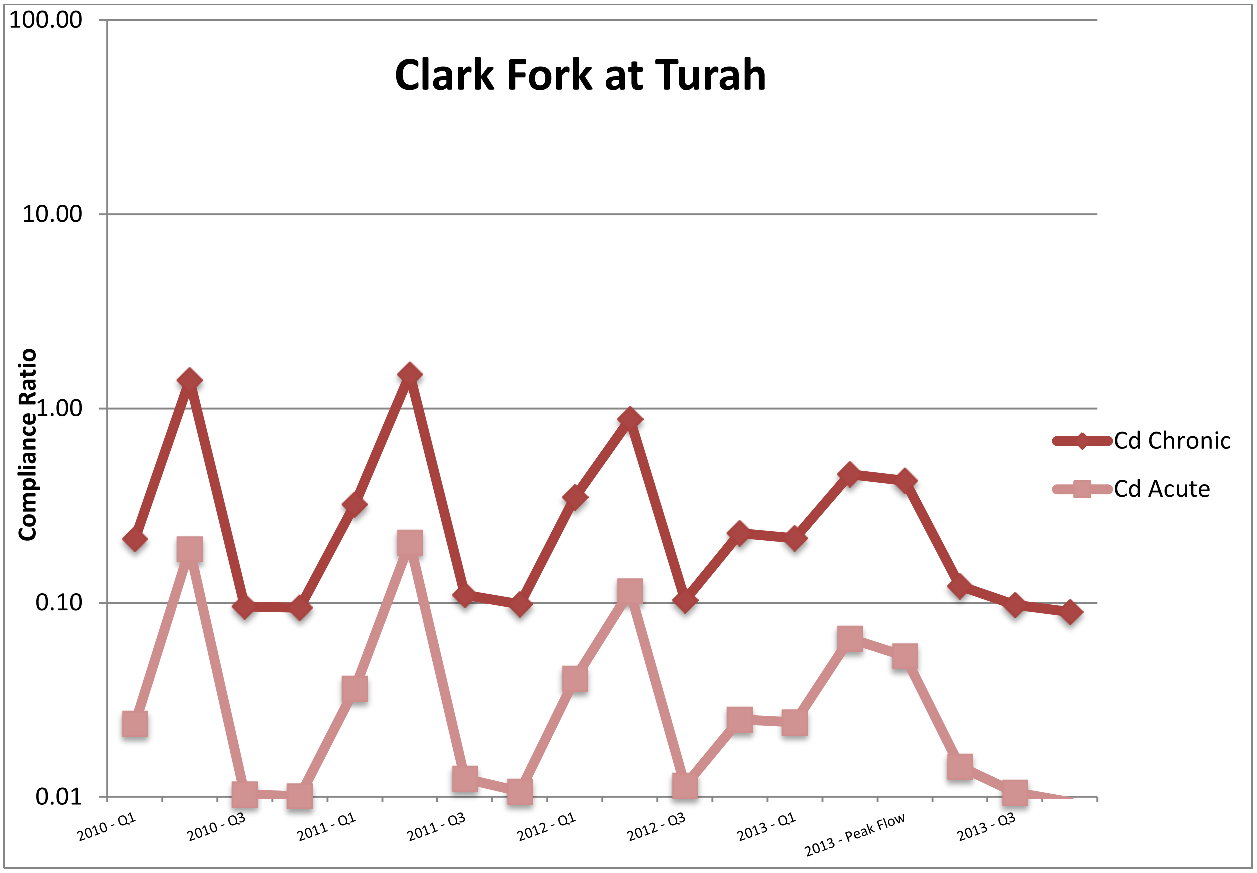


Figure 1-49. Total recoverable cadmium (Cd) compliance ratios for Clark Fork River at Turah site, 2010-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.

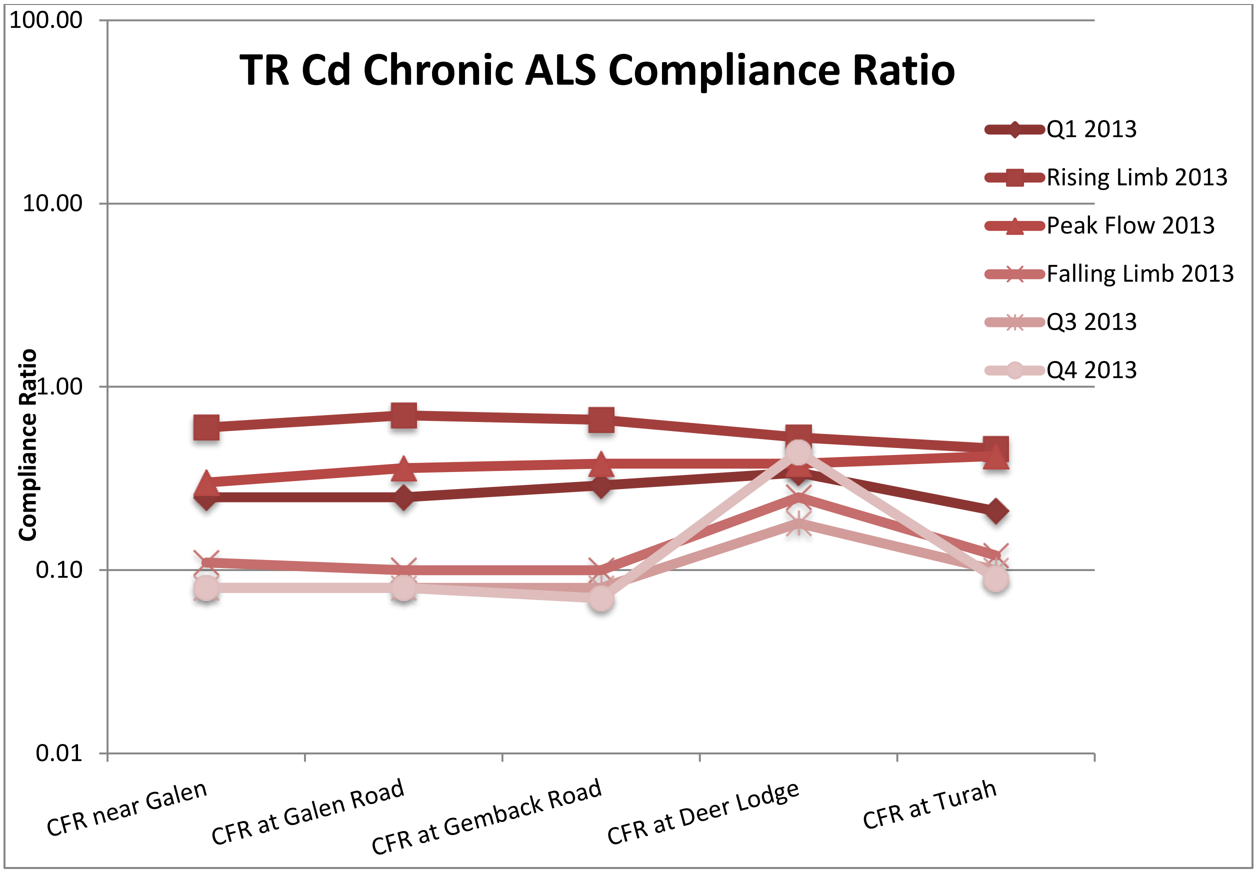


Figure 1-50. **Total recoverable (TR) cadmium (Cd) compliance ratio in the Clark Fork River (CFR) mainstem sites, 2013. Compliance ratio is based on the chronic aquatic life standard (ALS) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

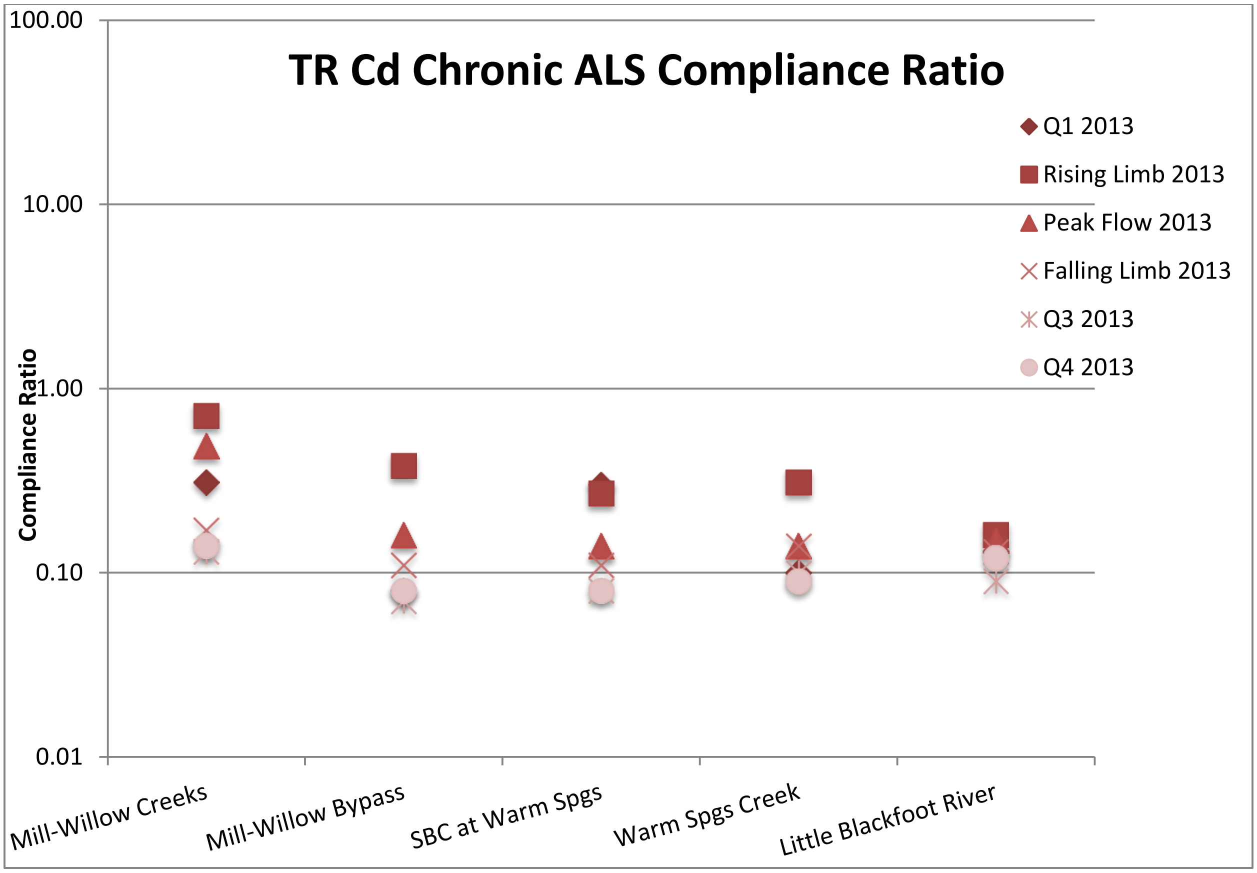


Figure 1-51. **Total recoverable (TR) cadmium (Cd) compliance ratio in Clark Fork River (CFR) tributary sites, 2013. Compliance ratio is based on the chronic aquatic life standard (ALS) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

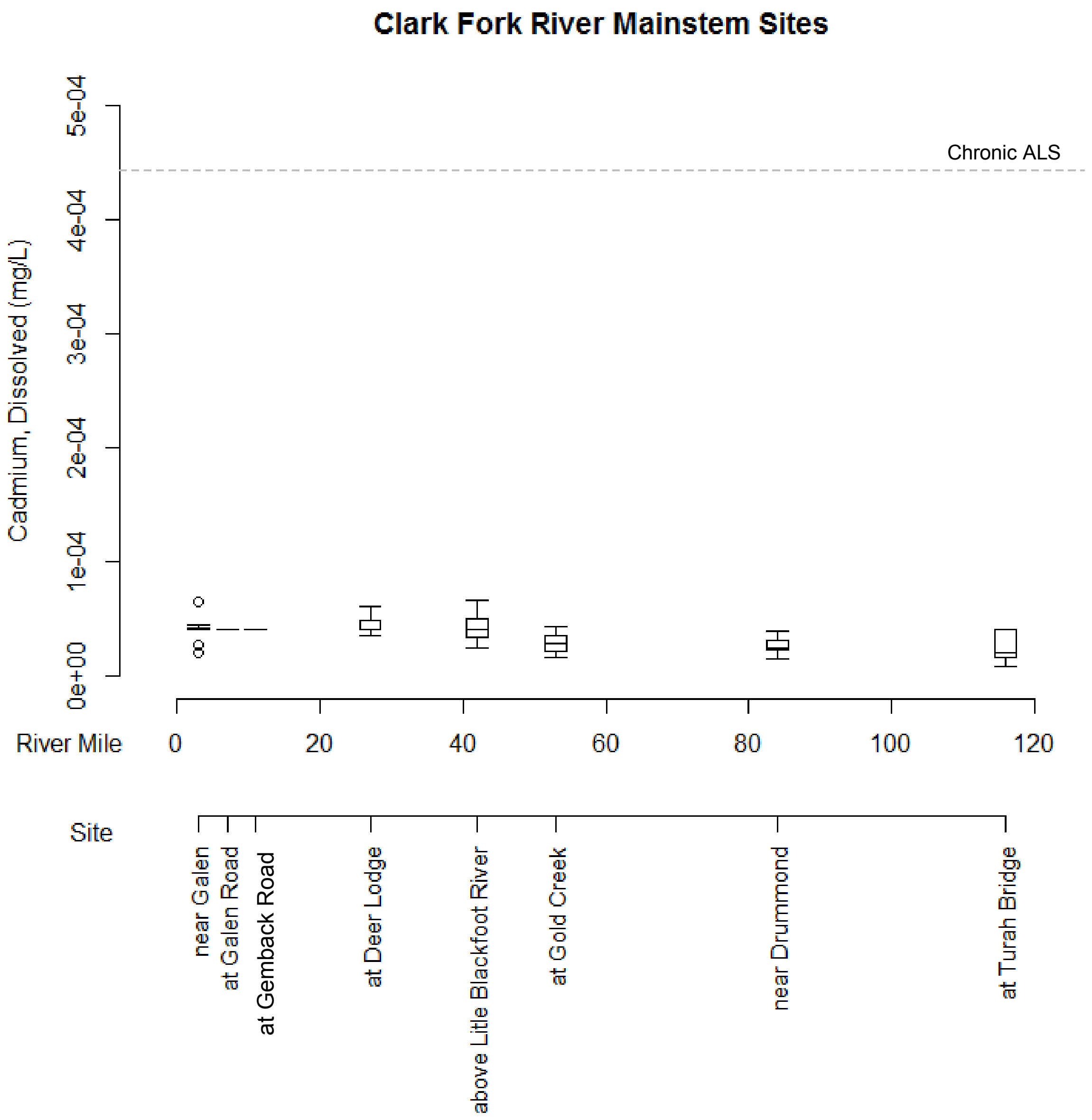


Figure 1-52. **Dissolved cadmium concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.**

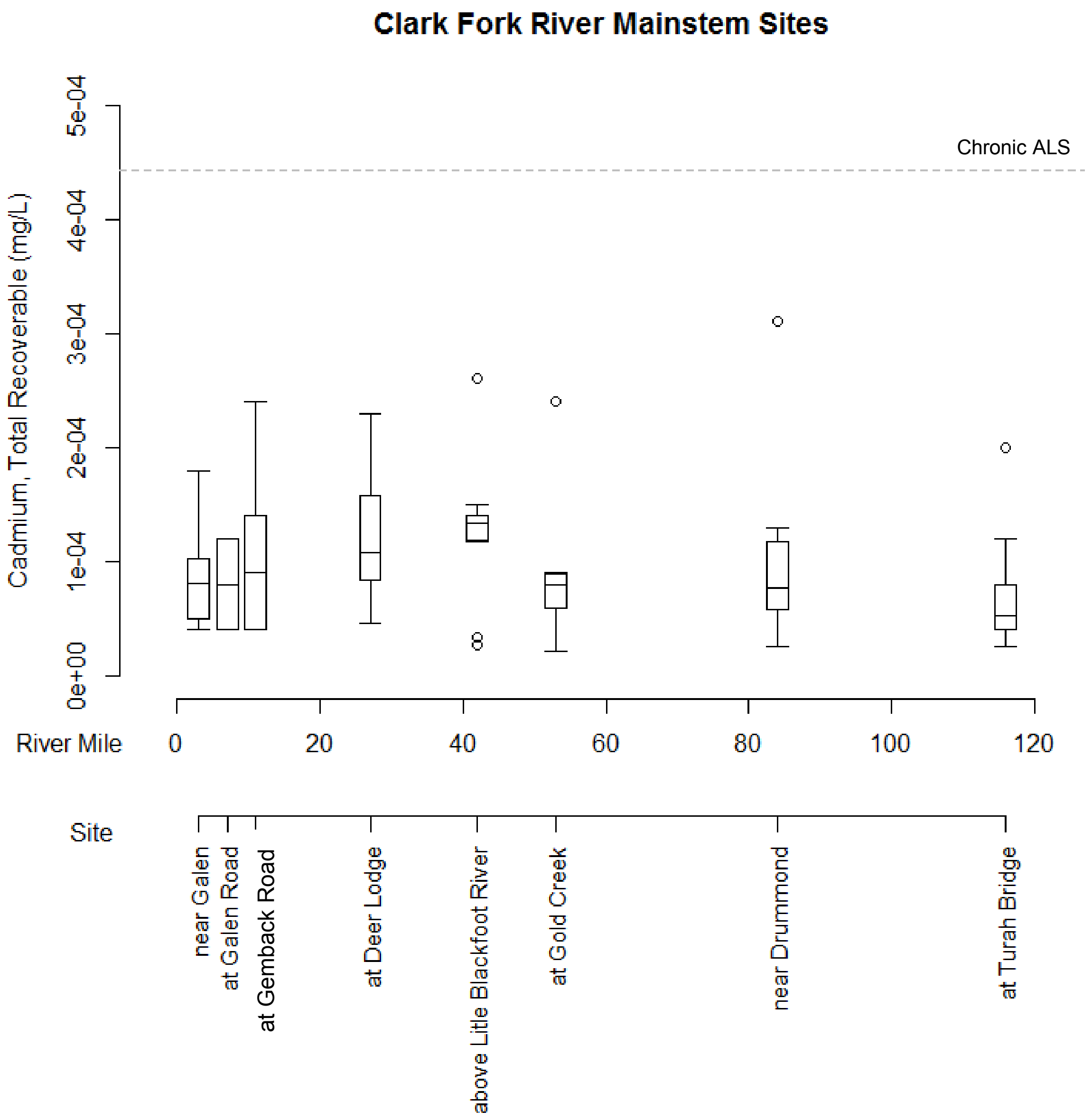


Figure 1-53. Total recoverable cadmium concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.

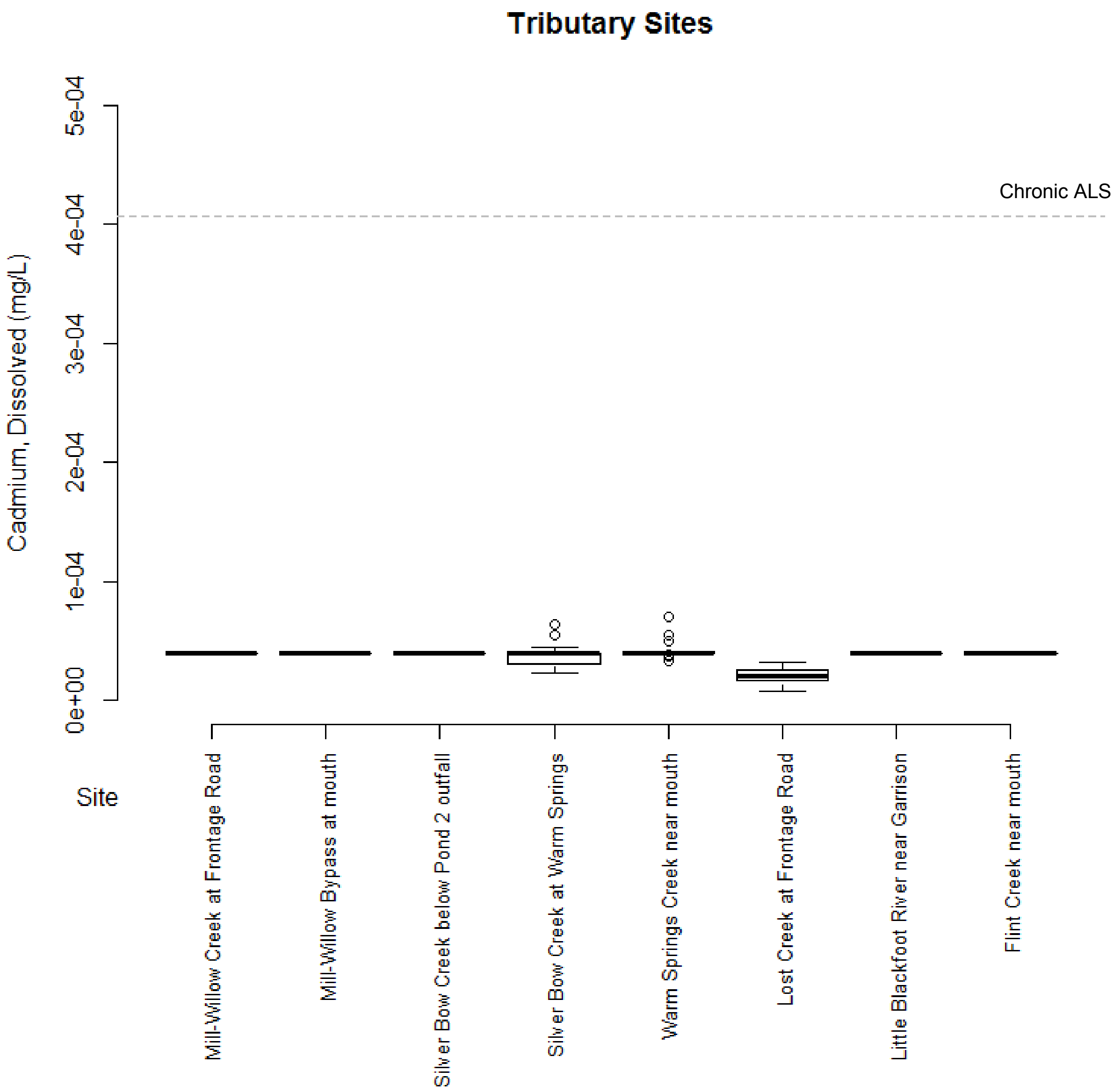


Figure 1-54. **Dissolved cadmium concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**

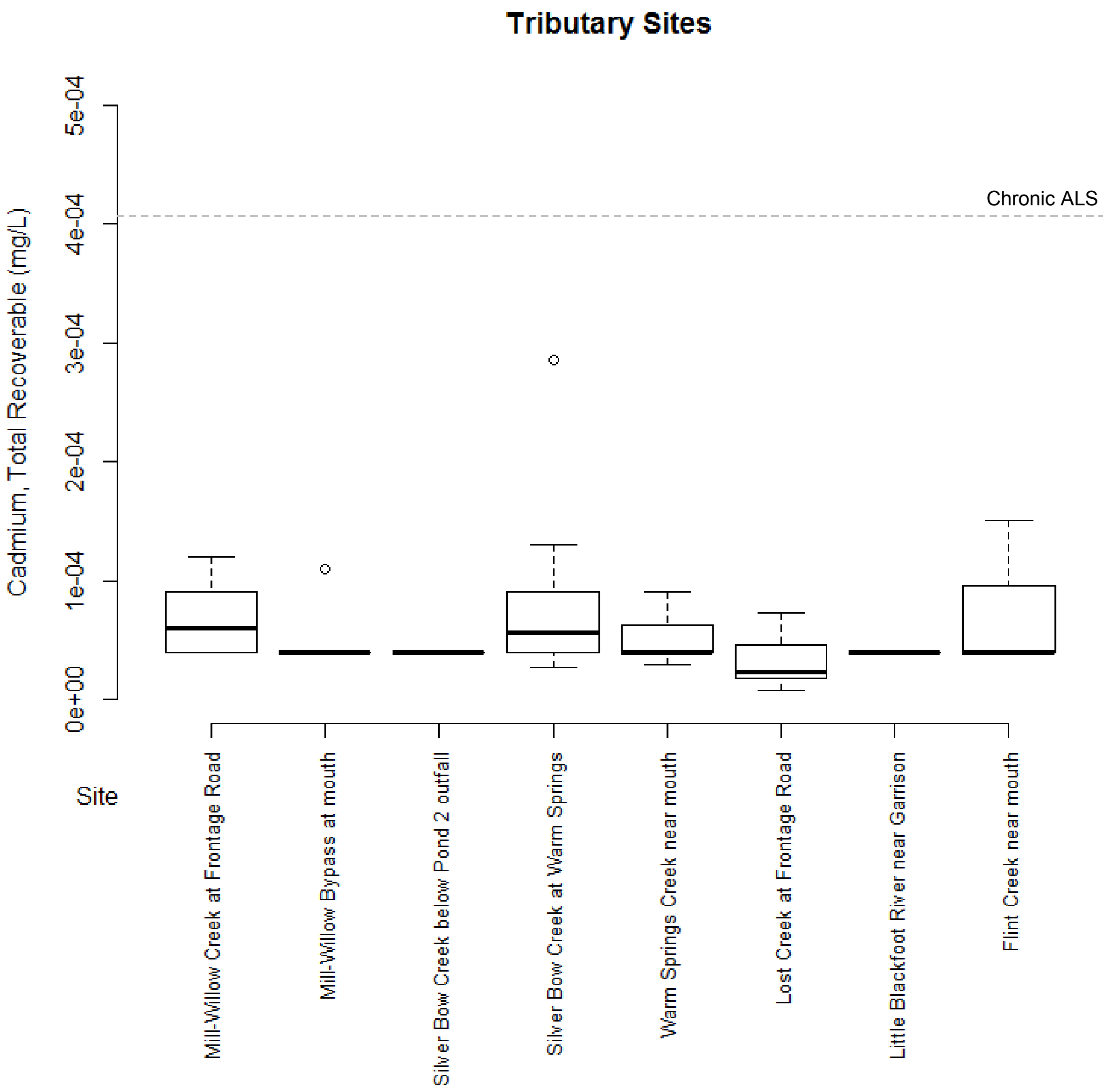
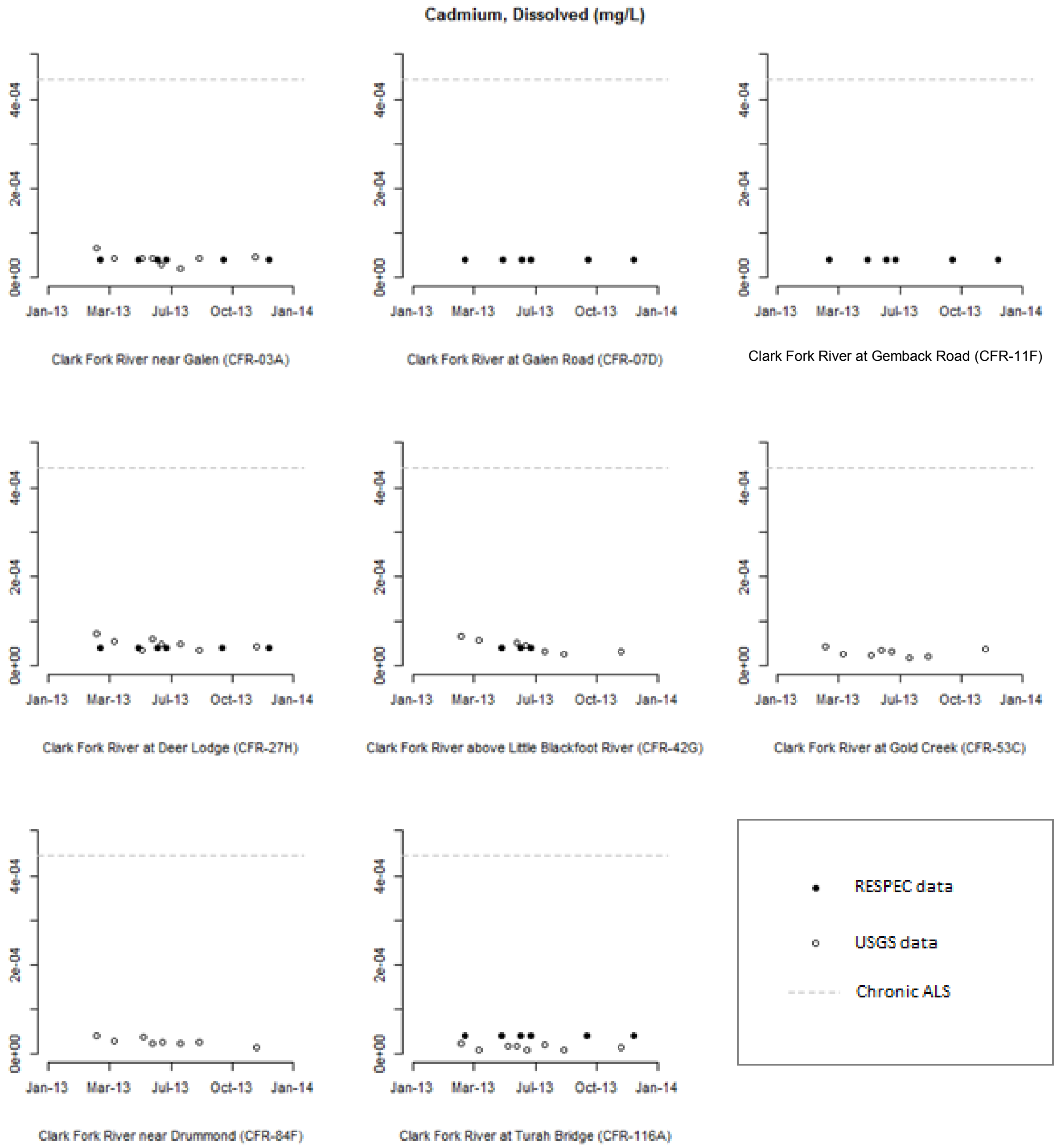


Figure 1-55. **Total recoverable cadmium concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (MDEQ 2012b) assuming water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**



Clark Fork River near Galen (CFR-03A)

Clark Fork River at Galen Road (CFR-07D)

Clark Fork River at Gemback Road (CFR-11F)

Clark Fork River at Deer Lodge (CFR-27H)

Clark Fork River above Little Blackfoot River (CFR-42G)

Clark Fork River at Gold Creek (CFR-53C)

Clark Fork River near Drummond (CFR-84F)

Clark Fork River at Turah Bridge (CFR-116A)

Figure 1-56. Dissolved cadmium concentrations plotted by time at Clark Fork River mainstem sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013).

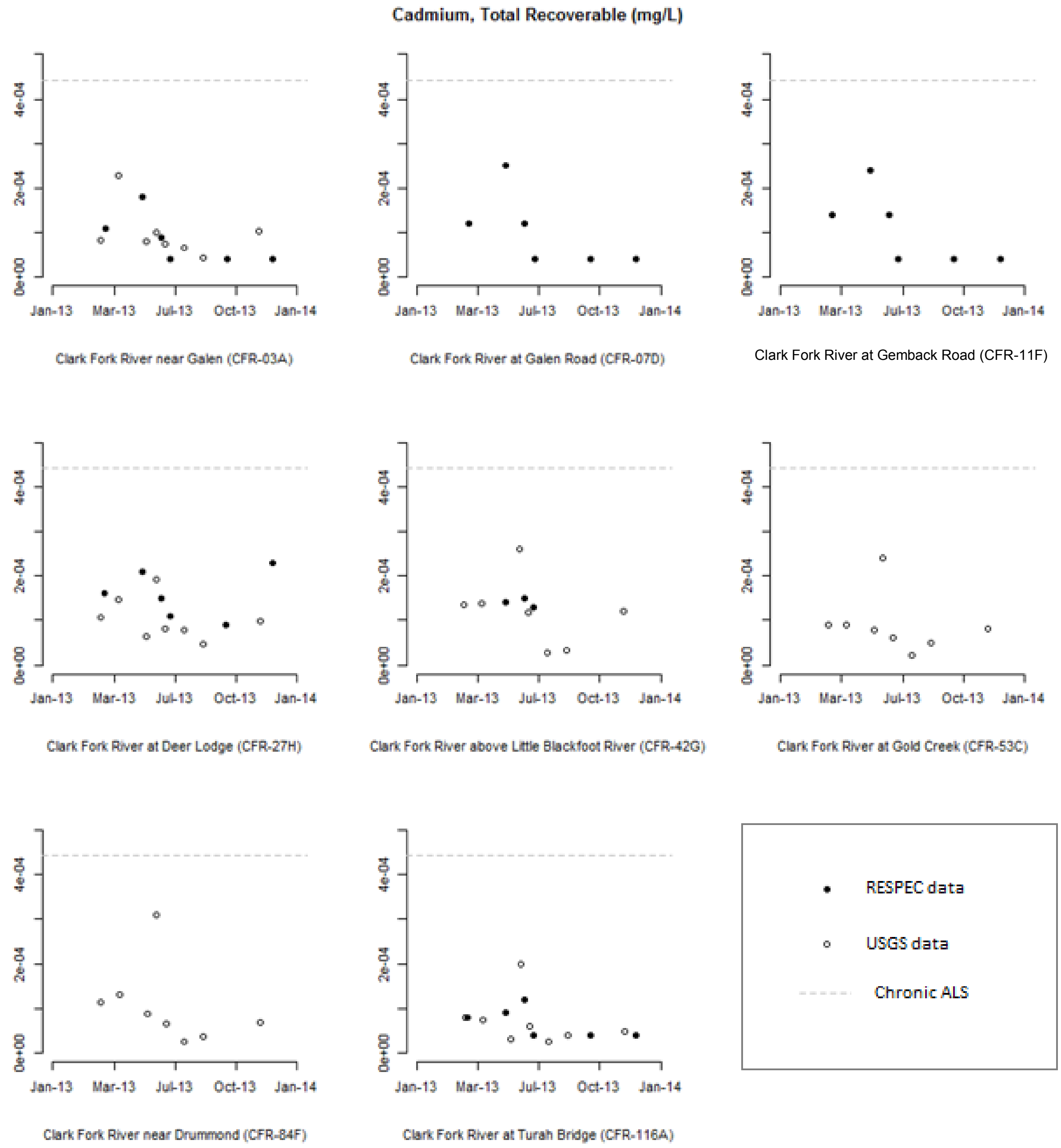


Figure 1-57. **Dissolved cadmium concentrations plotted by time at Clark Fork River mainstem sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013).**

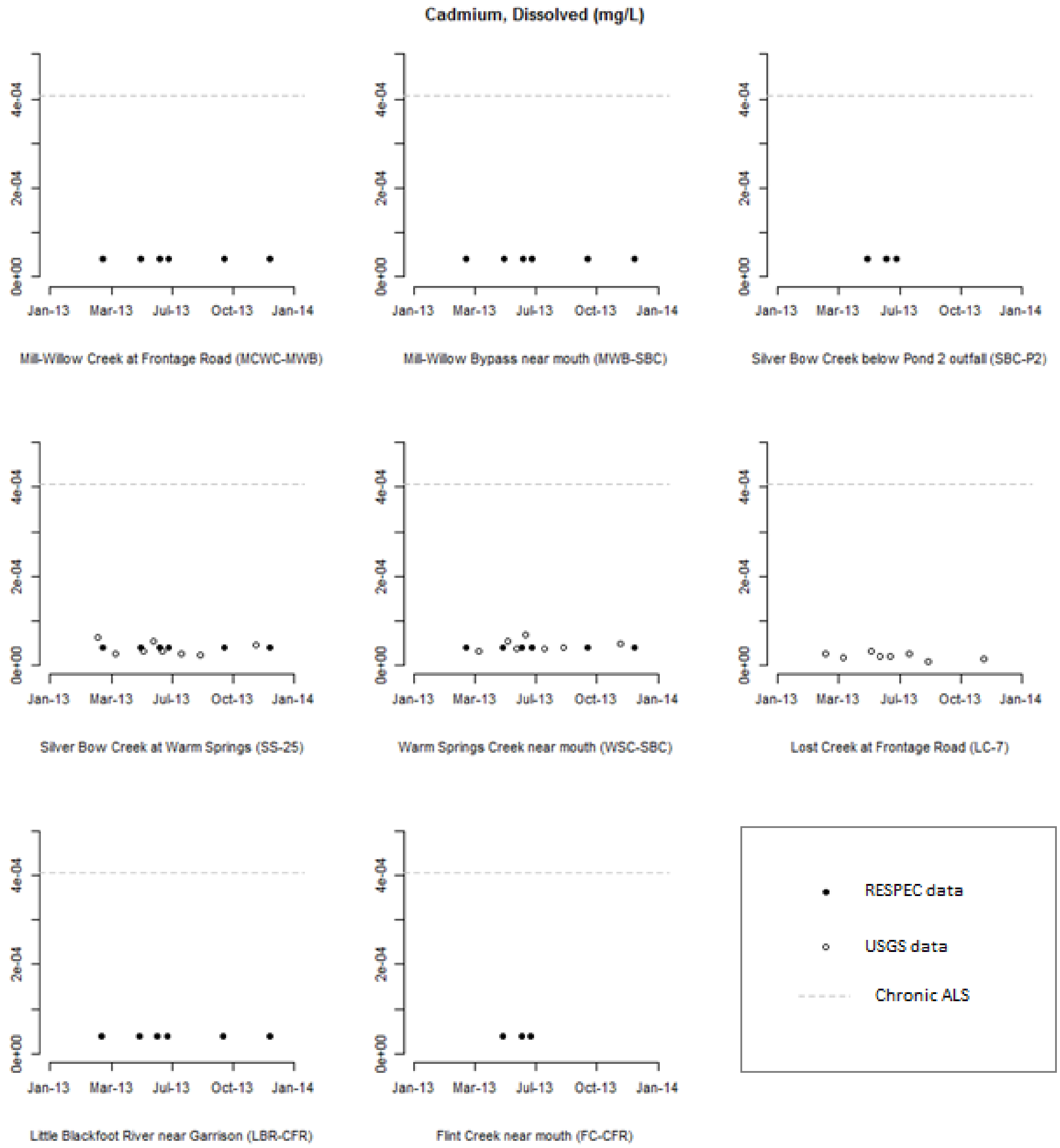


Figure 1-58. Dissolved cadmium concentrations plotted by time at Clark Fork River tributary sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 195 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).

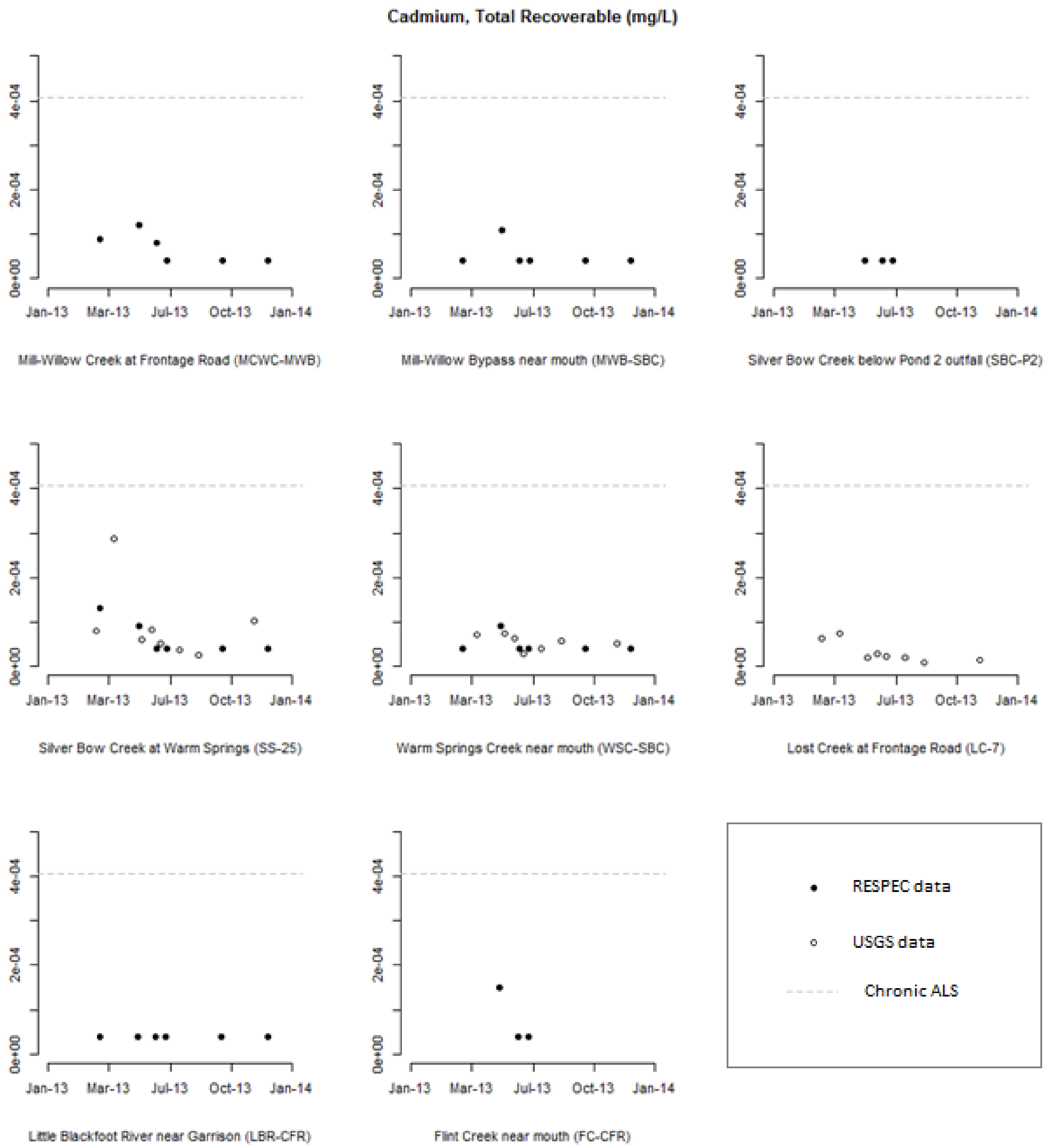


Figure 1-59. Total recoverable cadmium concentrations plotted by time at Clark Fork River tributary sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).

1.3.7.3 Copper

MDEQ Data.-Concentrations of total recoverable and dissolved copper during 2013 were elevated in Q2 at all mainstem Clark Fork River sites and at several of the tributary monitoring sites. The highest concentrations of total recoverable copper were observed at the Clark Fork River at Deer Lodge station. Total recoverable copper concentrations increased from the near Galen site to Deer Lodge, then declined downstream to the Turah site (Figure 1-65). The lowest copper concentrations were observed in the Little Blackfoot River. Warm Springs Creek had high dissolved copper concentrations during the Q2-Rising monitoring event and high total recoverable copper during the Q2-Peak monitoring event (Figure 1-66). The highest copper concentrations at most of the CFROU monitoring sites were observed during the Q2-Rising monitoring event. The Clark Fork River at Deer Lodge station also had high total recoverable copper during Q4.

Dissolved copper concentrations were relatively consistent during each 2013 monitoring events compared to total recoverable copper concentrations. The exception was the Warm Springs Creek near mouth site which had elevated dissolved copper during the Q2-Rising monitoring event.

Total recoverable copper concentrations frequently exceeded the chronic ALS (17 of 60 samples) during 2013 (Table 1-11). The acute ALS was exceeded in 12 of 60 samples. Each of the five mainstem Clark Fork River monitoring stations had at least two exceedances of the chronic ALS. Samples from the Clark Fork River at Deer Lodge site exceeded either the chronic or acute ALS in five of the six monitoring events. Samples from Mill-Willow Creek at Frontage Road and Warm Springs Creek near mouth exceeded the chronic ALS for copper in two of six monitoring events. Samples from Mill-Willow Bypass, Silver Bow Creek at Warm Springs, and the Little Blackfoot River near mouth were consistently below the chronic ALS for total recoverable copper.

Of the Clark Fork River mainstem stations that have been monitored each year since 2010 (near Galen, at Deer Lodge, and at Turah), the frequency of exceedances of the chronic and acute ALS for copper was similar in 2013 to each of the previous years. With the exception of the Clark Fork River at Deer Lodge site, most of the acute ALS excursions in 2013 occurred during the Q2-Rising and Q2-Peak monitoring events. The lowest incidence of ALS exceedances was during Q3 2013 monitoring event; in Q2 2013 no CFROU stations exceeded the chronic ALS.

The chronic and acute ALS compliance ratios for copper at the four Clark Fork River mainstem stations that have been monitored each year since 2010 appear to have declined over the four-year period, particularly near Galen, at Deer Lodge and at Turah (Figure 1-67 through Figure 1-70). Despite the apparent improvements, ALS compliance ratios for copper commonly continue to exceed 1.0 at Deer Lodge station. The seasonal and spatial trends in ALS compliance ratios for total recoverable copper during 2013 were similar to the pattern noted for cadmium. The Clark Fork River at Deer Lodge most frequently had the highest copper ALS compliance ratios during 2013 (Figure 1-71). The Clark Fork River at Turah site consistently had the lowest copper ALS compliance ratios during 2013 (Figure 1-71). Among tributary sites, Mill-Willow Creek at Frontage Road had the highest copper compliance ratios and the Little Blackfoot River had the lowest ratios (Figure 1-72). The highest copper ALS compliance ratios were observed during the Q2-Peak monitoring event.

USGS and MDEQ Data.-Clark Fork River dissolved copper concentrations measured by the USGS and MDEQ monitoring programs were generally below the chronic ALS in 2013 (Figure 1-73). However, total recoverable copper concentrations in the Clark Fork River appeared to commonly exceed the chronic ALS at Deer Lodge and above the Little Blackfoot River (Figure 1-74). Median copper concentrations steadily increased through Reach A, from near Galen downstream to the Little Blackfoot River confluence (Figure 1-73; Figure 1-74). Tributary sample sites had low dissolved copper concentrations relative to the chronic ALS (Figure 1-75), but some sample concentrations in Silver Bow Creek at Warm Springs and Warm Springs Creek at mouth approached the chronic ALS (Figure 1-76). Among tributary sample sites, Silver Bow Creek below the Pond 2 outfall had the highest median dissolved copper concentrations (Figure 1-75). However, Silver Bow Creek below the Pond 2 outfall was only sampled during the spring snowmelt runoff period (when copper concentrations are generally highest) whereas most other sites were sampled throughout the year. Warm Springs Creek had the highest median total recoverable copper concentrations (Figure 1-76). In general, it appeared that the copper concentrations in samples collected and analyzed by the USGS were similar to those collected by RESPEC and analyzed by Energy Laboratories (Figure 1-77 through Figure 1-80).

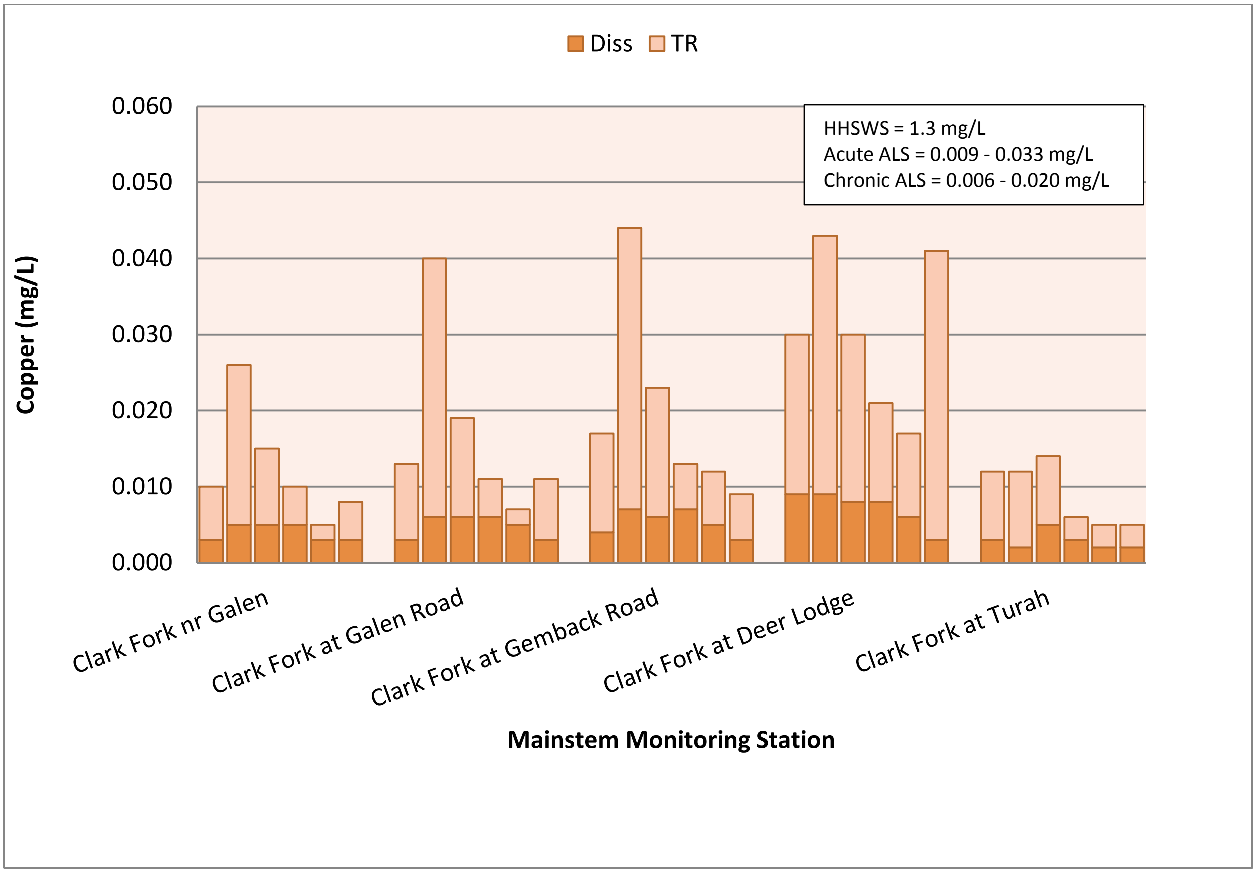


Figure 1-60. **Total recoverable (TR) and dissolved (Diss) copper concentrations at mainstem sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

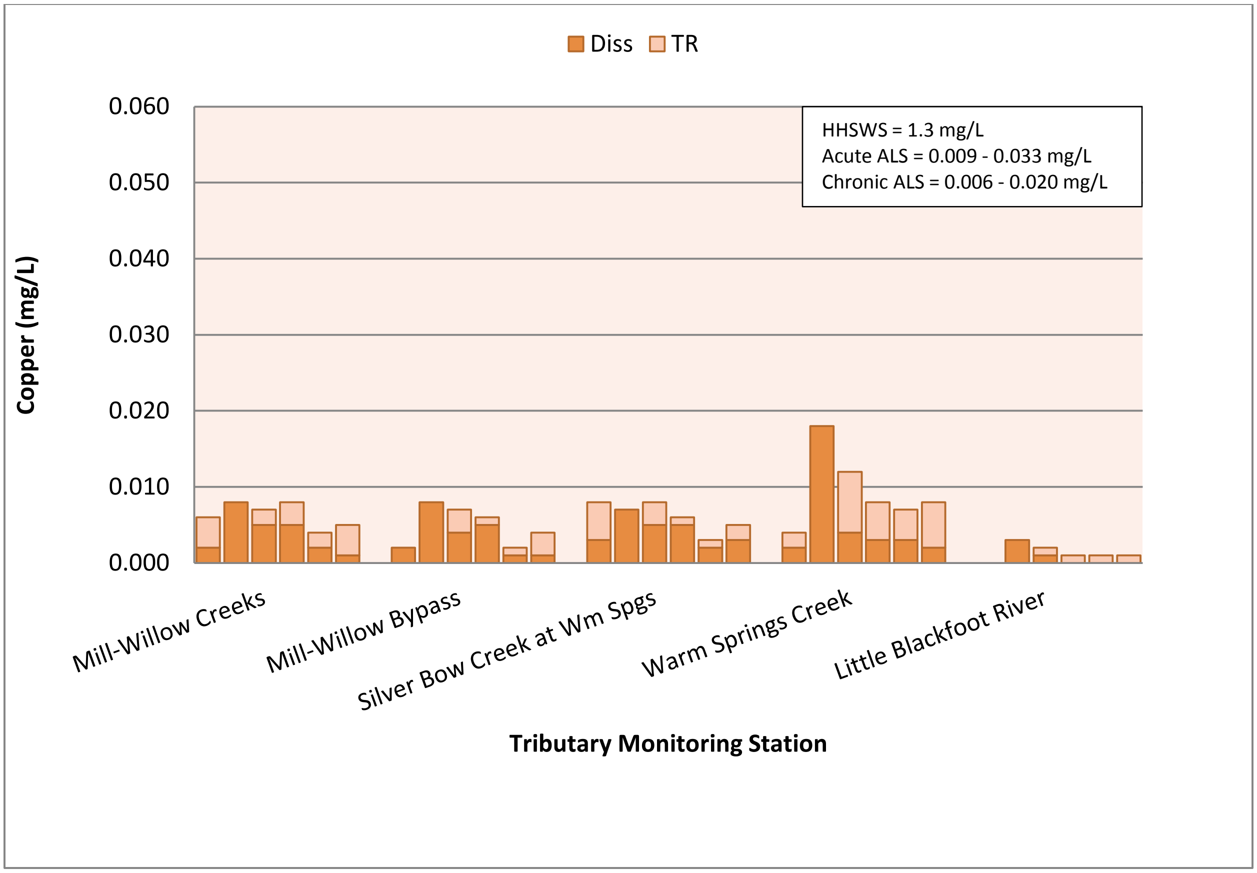


Figure 1-61. **Total recoverable (TR) and dissolved (Diss) arsenic concentrations at tributary sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

Table 1-11. Total recoverable copper concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013. Table represents data collected under the Montana Department of Environmental Quality monitoring program.

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-03A	Clark Fork River near Galen	0.010	0.026	0.015	0.010	0.005	0.008
CFR-07D	Clark Fork River at Galen Road	0.013	0.04	0.019	0.011	0.007	0.011
CFR-11F	Clark Fork River at Gemback Road	0.017	0.044	0.023	0.013	0.012	0.009
CFR-27H	Clark Fork River at Deer Lodge	0.030	0.043	0.030	0.021	0.017	0.041
CFR-116A	Clark Fork at Turah	0.012	0.012	0.014	0.006	0.005	0.005
Tributary Sites							
SS-25	Silver Bow Creek at Warm Springs	0.006	0.008	0.007	0.008	0.004	0.005
MCWC-MWB	Mill-Willow Creek at Frontage Road	0.002	0.008	0.007	0.006	0.002	0.004
MWB-SBC	Mill-Willow Bypass near mouth	0.008	0.007	0.008	0.006	0.003	0.005
WSC-SBC	Warm Springs Creek near mouth	0.004	0.018	0.012	0.008	0.007	0.008
LBR-CFR	Little Blackfoot River near Garrison	ND	0.003	0.002	0.001	0.001	0.001

ND	Not detected at analytical reporting limit.
🟨	Exceeds chronic aquatic life standard (MDEQ 2012b).
🟧	Exceeds acute aquatic life standard (MDEQ 2012b).

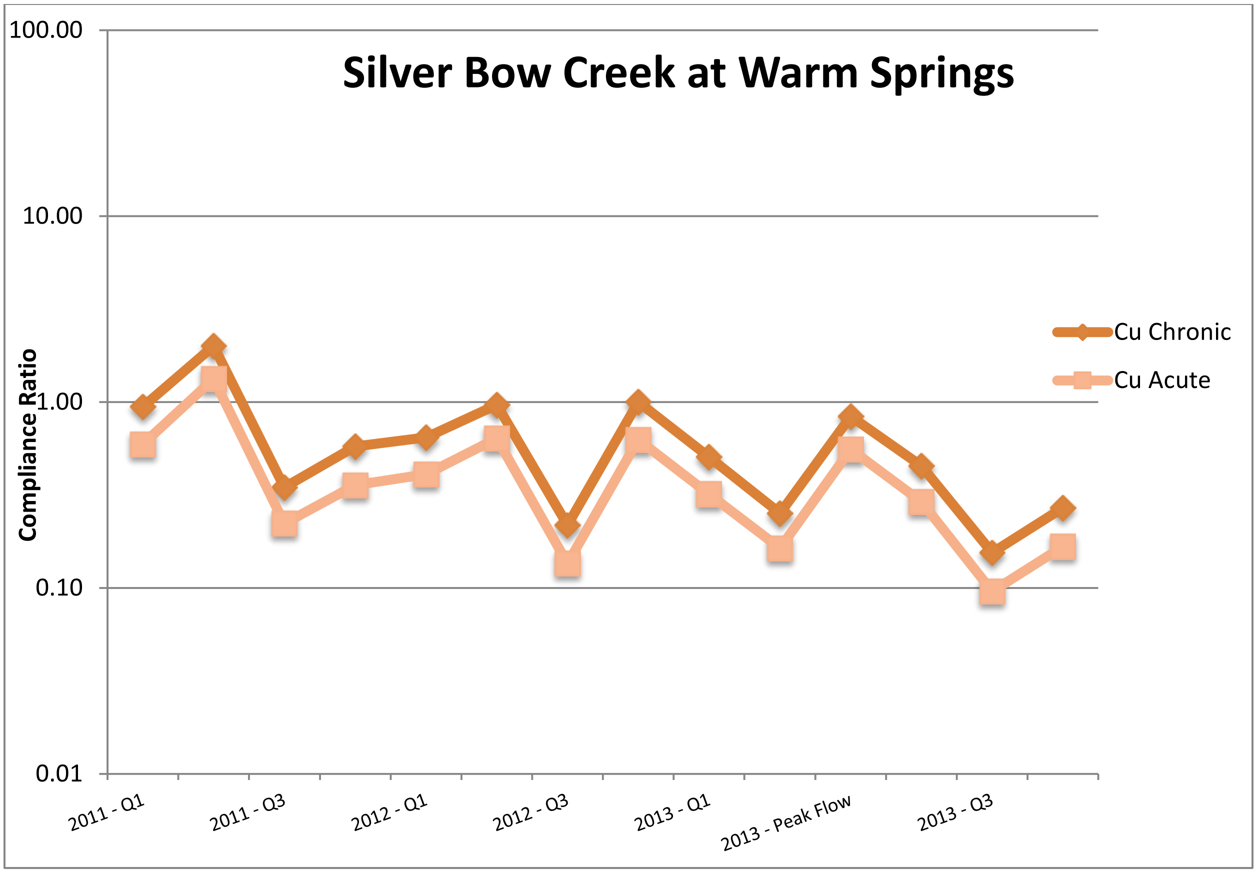


Figure 1-62. **Total recoverable copper (Cu) compliance ratios for Silver Bow Creek at Warm Springs site, 2011-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

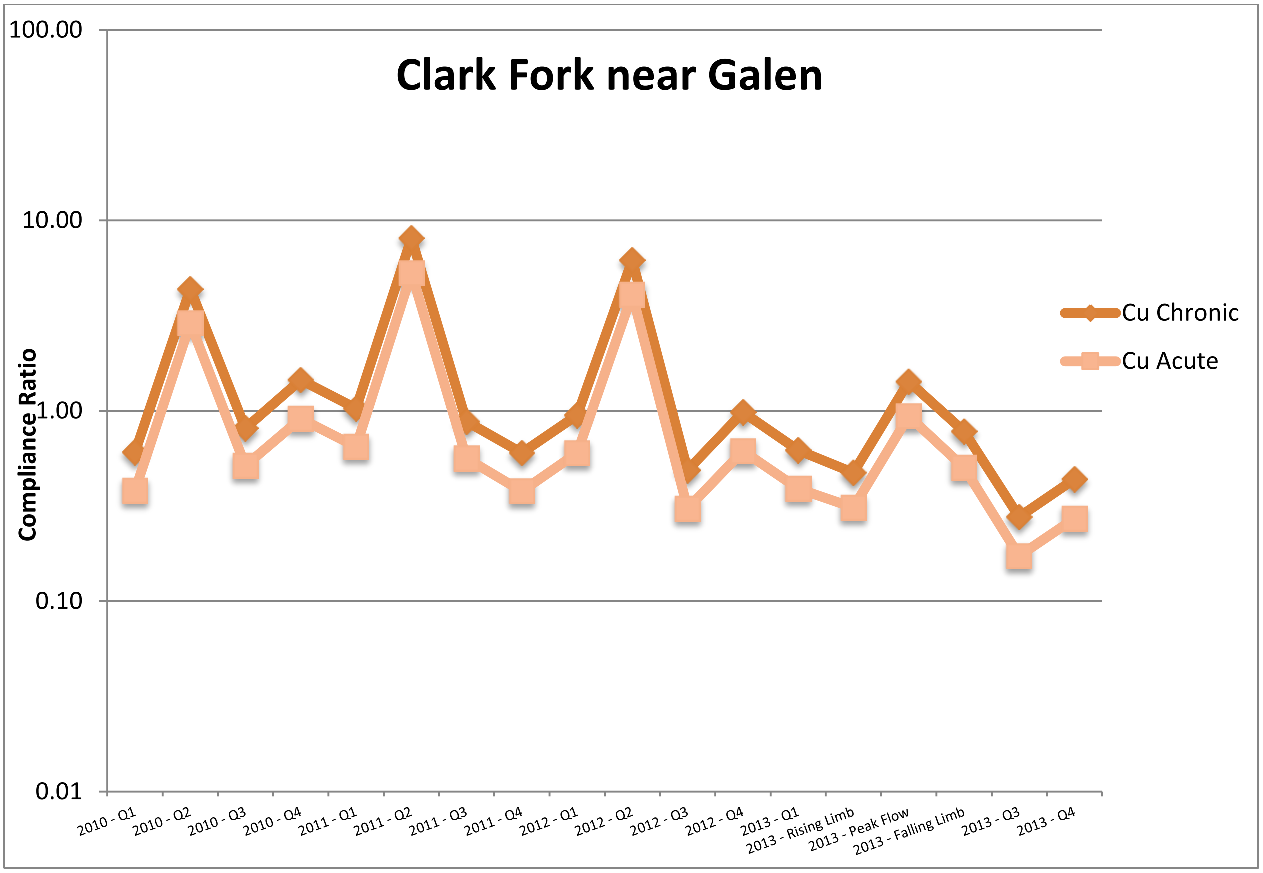


Figure 1-63. **Total recoverable copper (Cu) compliance ratios for Clark Fork River near Galen site, 2010-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

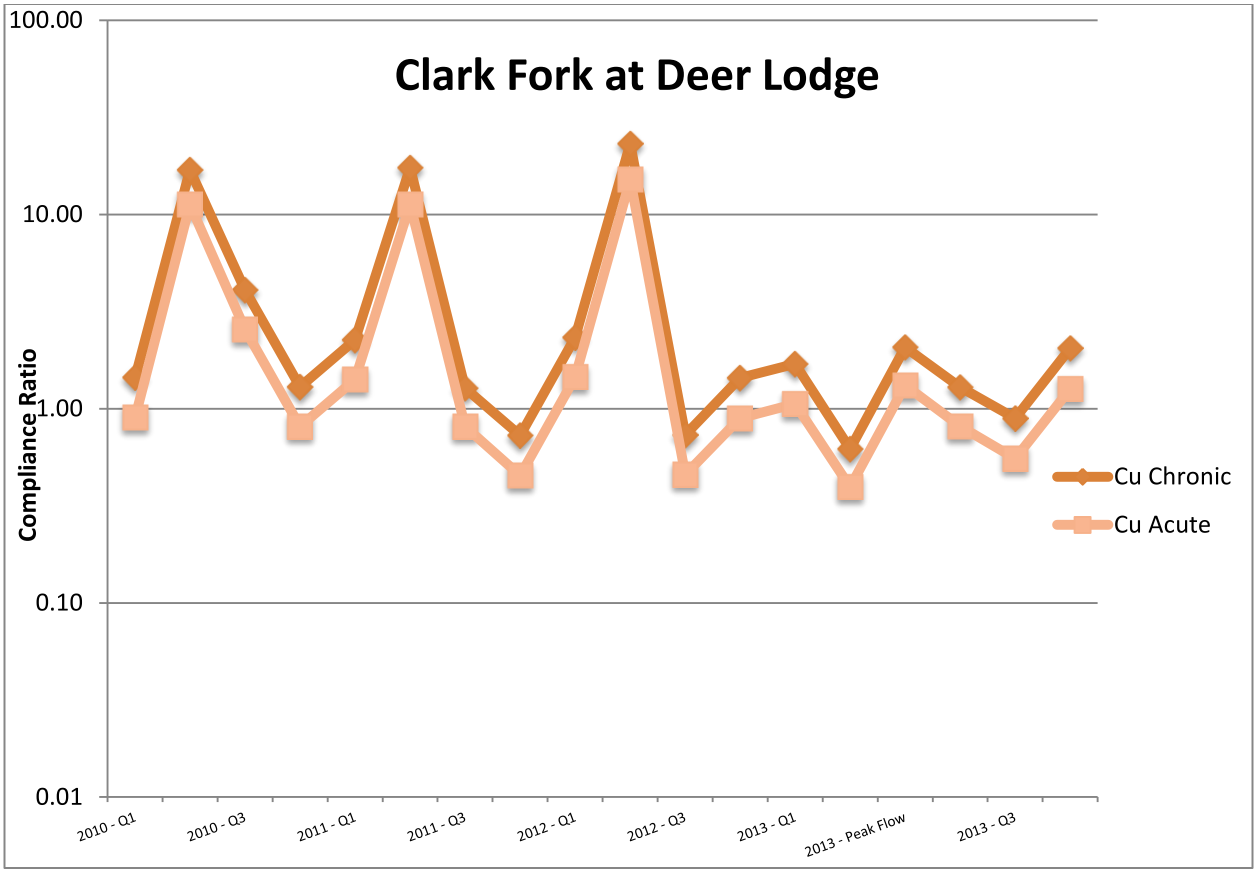


Figure 1-64. **Total recoverable copper (Cu) compliance ratios for Clark Fork River at Deer Lodge site, 2010-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

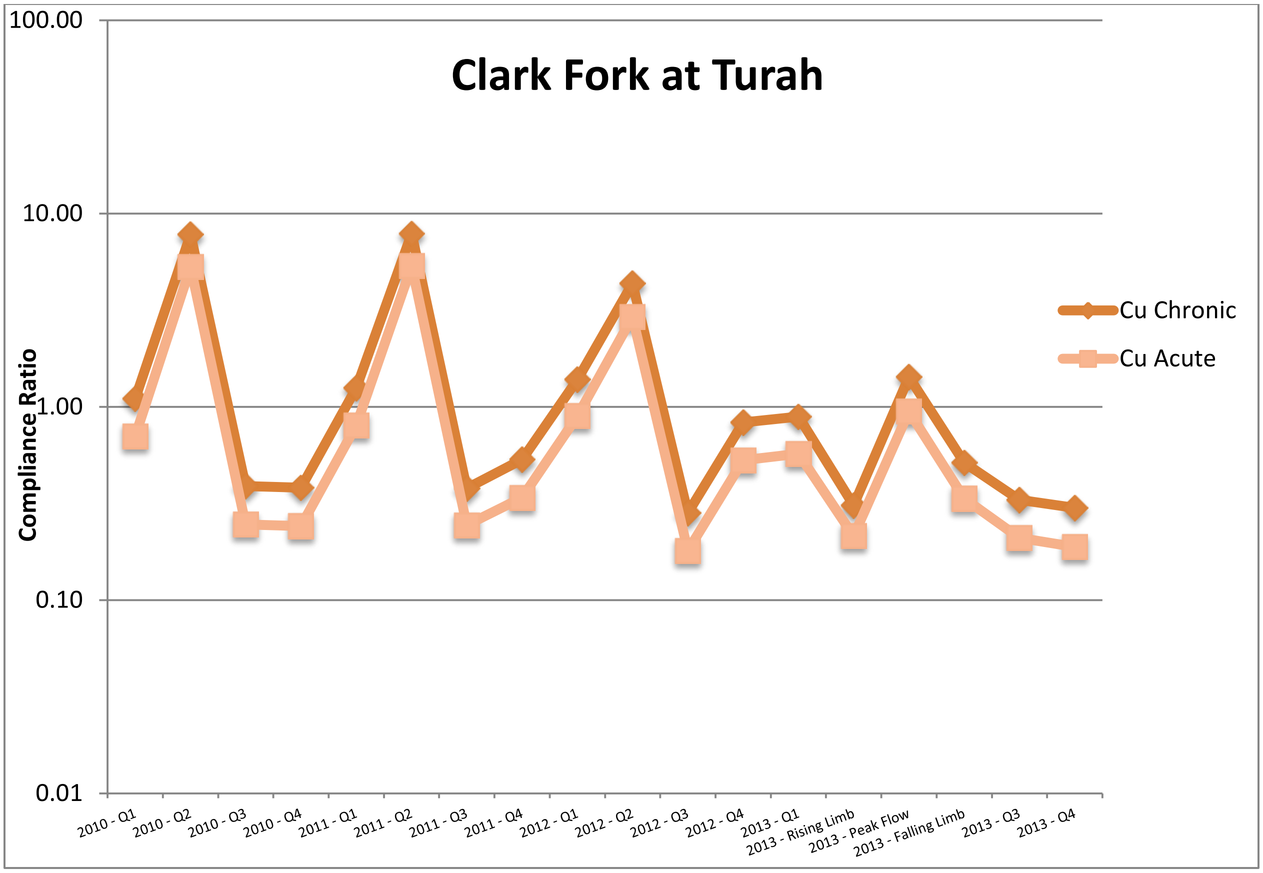


Figure 1-65. **Total recoverable copper (Cu) compliance ratios for Clark Fork River at Turah site, 2010-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

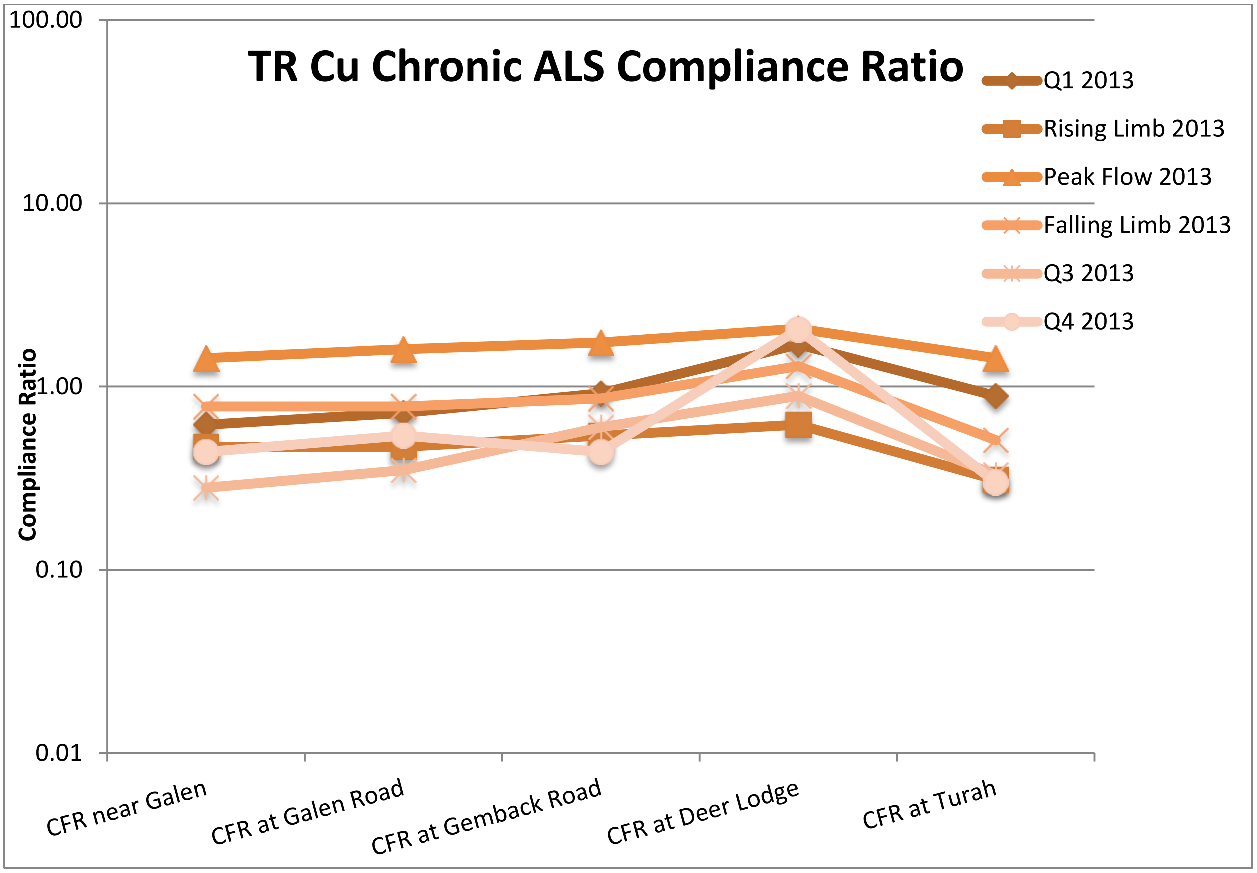


Figure 1-66. **Total recoverable (TR) copper (Cu) compliance ratio in the Clark Fork River (CFR) mainstem sites, 2013. Compliance ratio is based on the chronic aquatic life standard (ALS) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

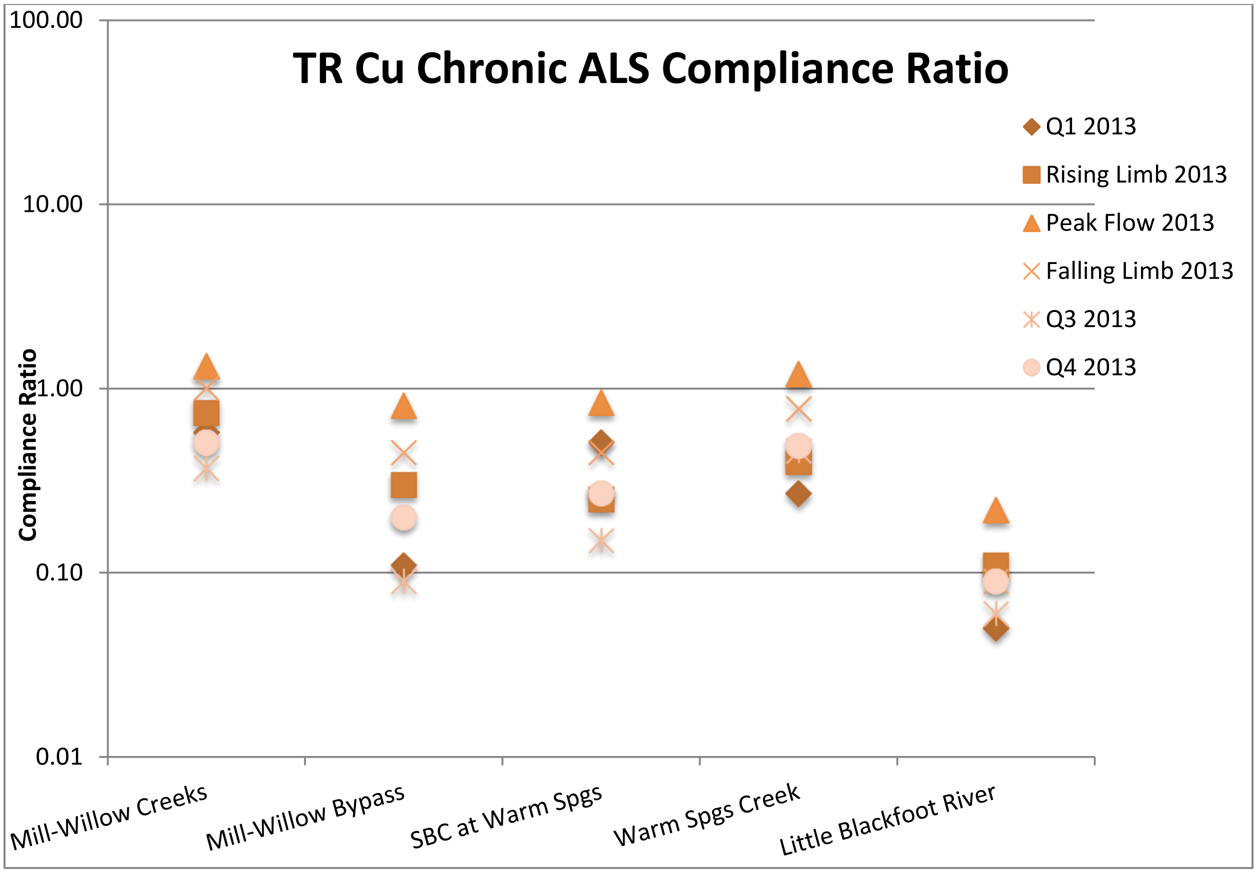


Figure 1-67. **Total recoverable (TR) copper (Cu) compliance ratio in Clark Fork River (CFR) tributary sites, 2013. Compliance ratio is based on the chronic aquatic life standard (ALS) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

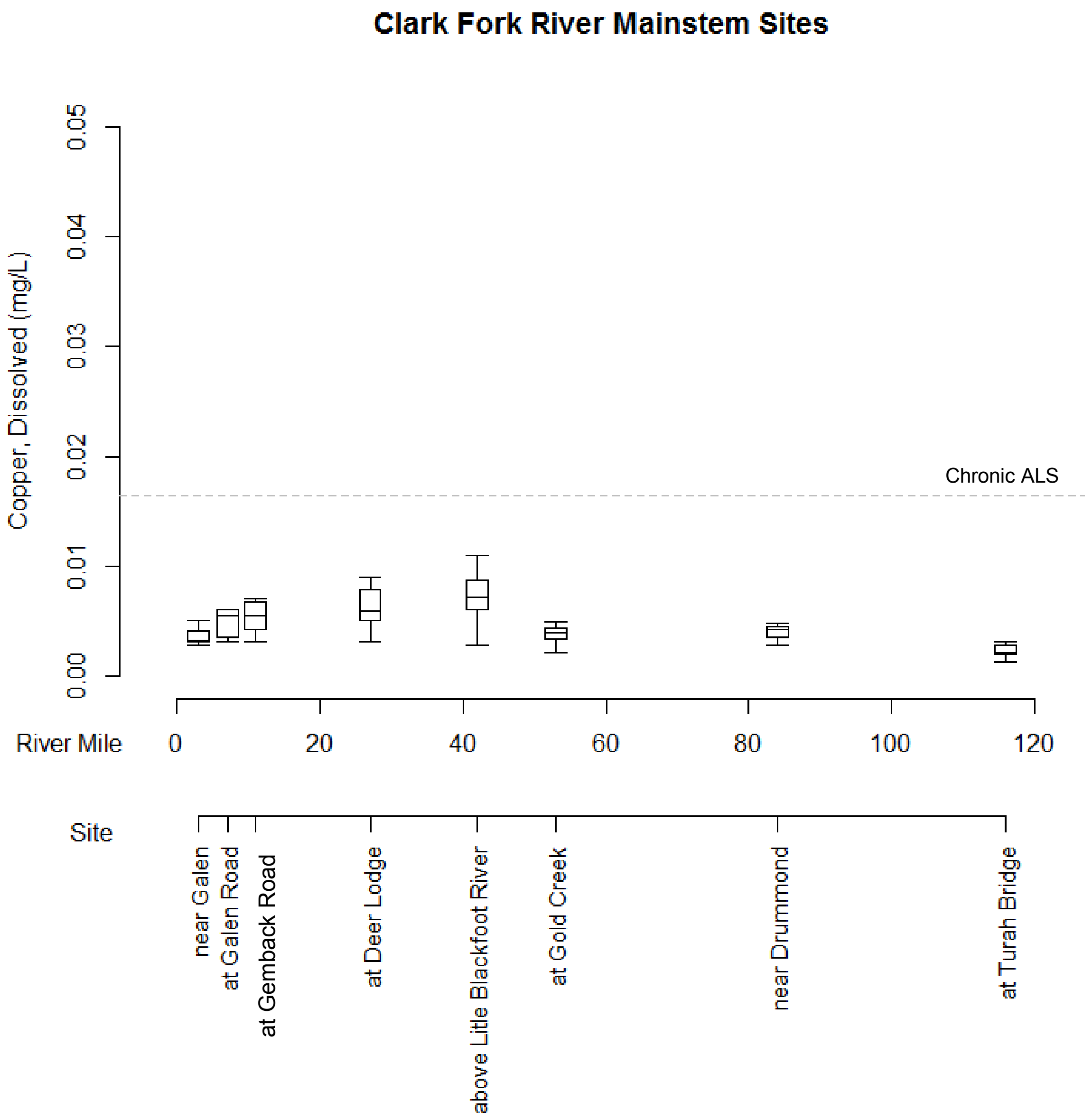


Figure 1-68. Dissolved copper concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.

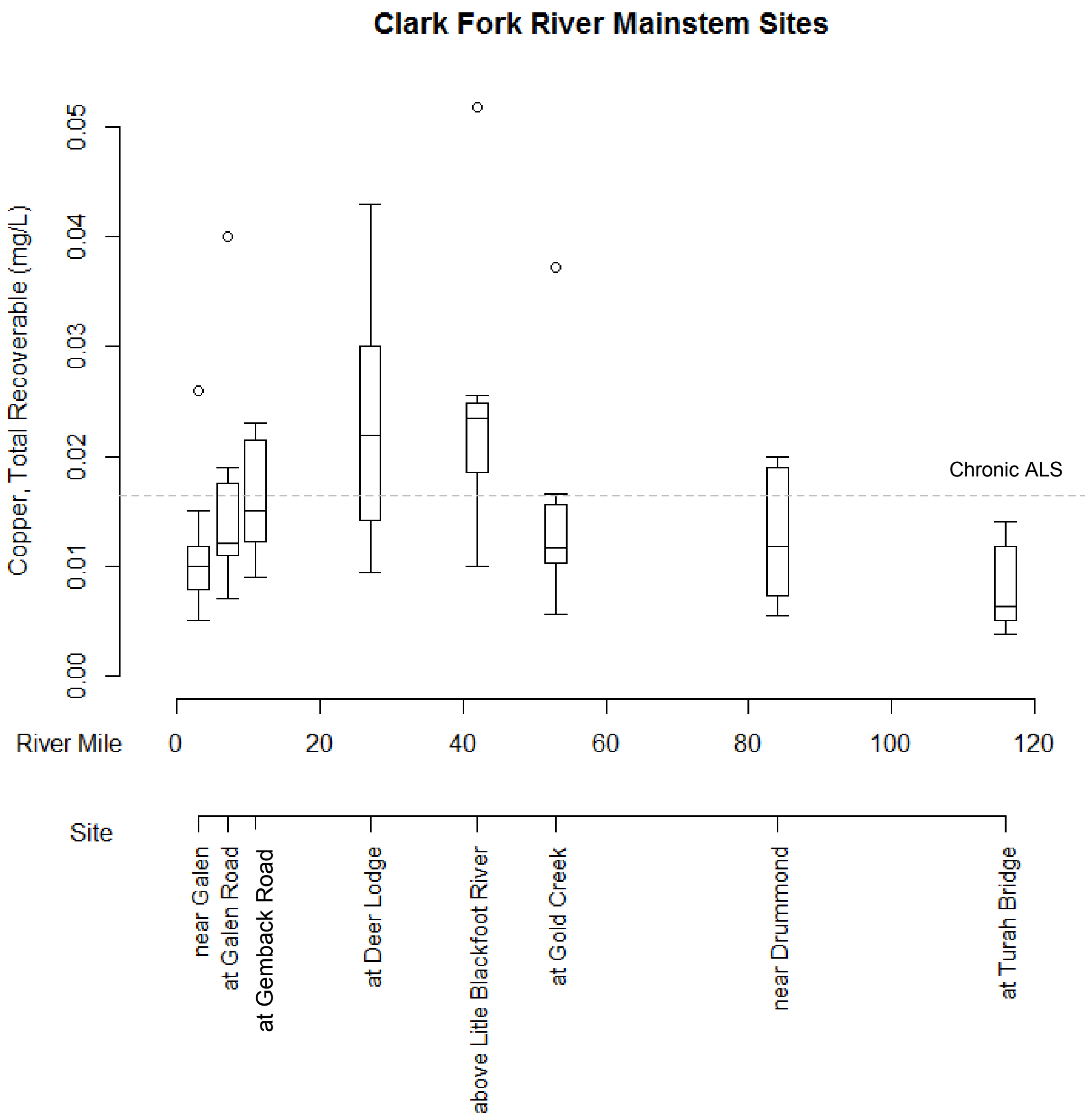


Figure 1-69. **Total recoverable copper concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.**

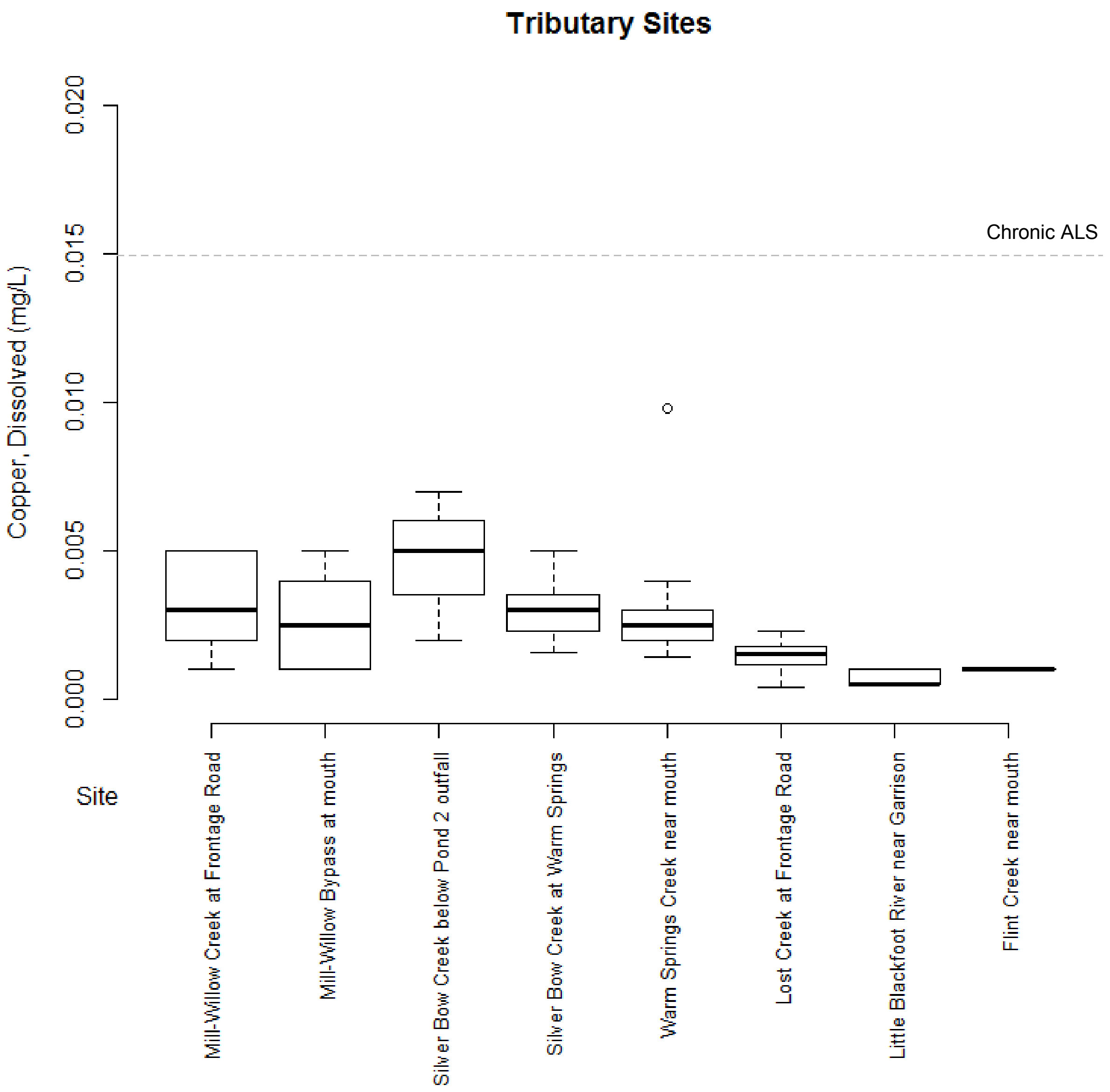


Figure 1-70. **Dissolved copper concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**

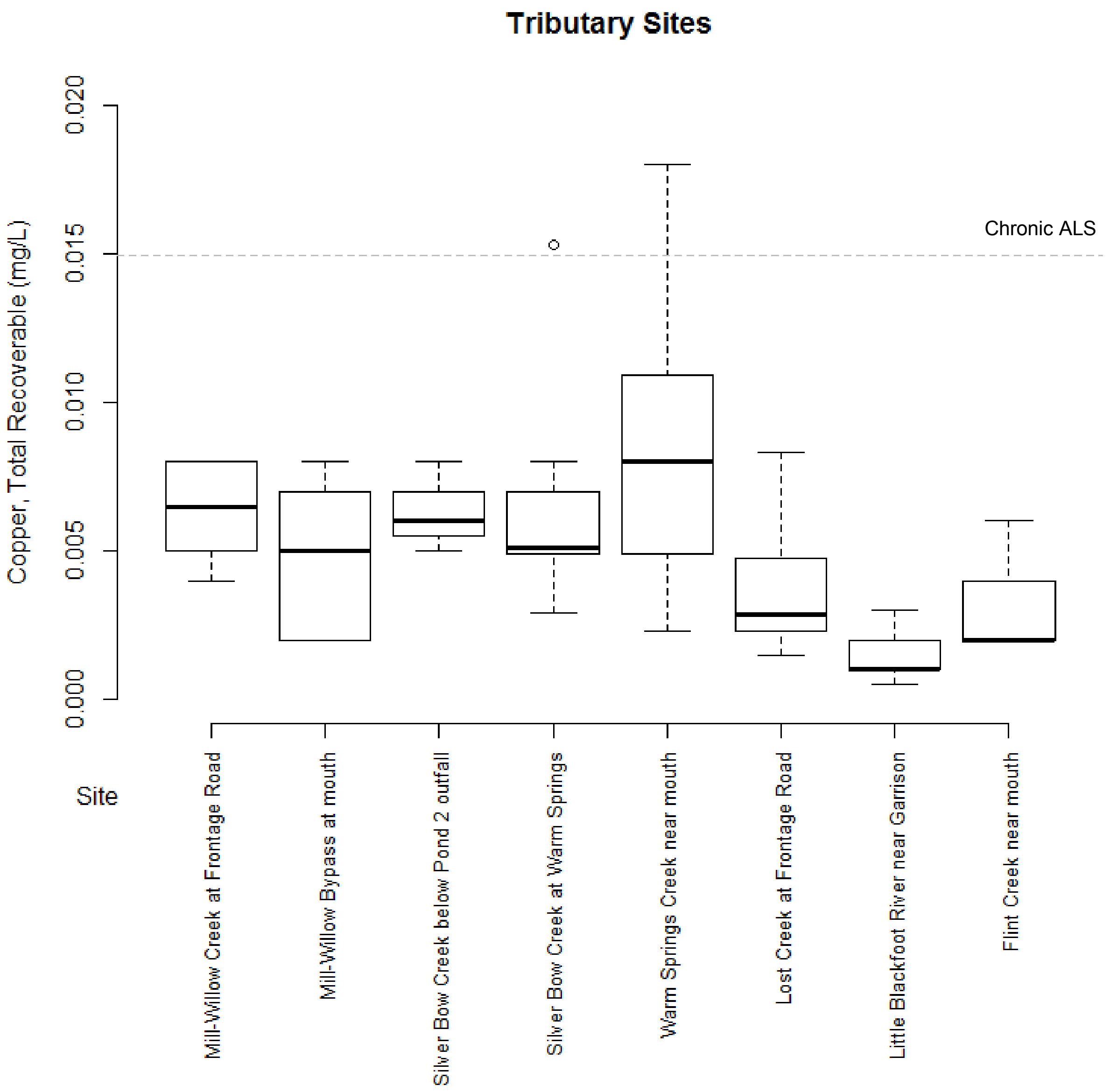
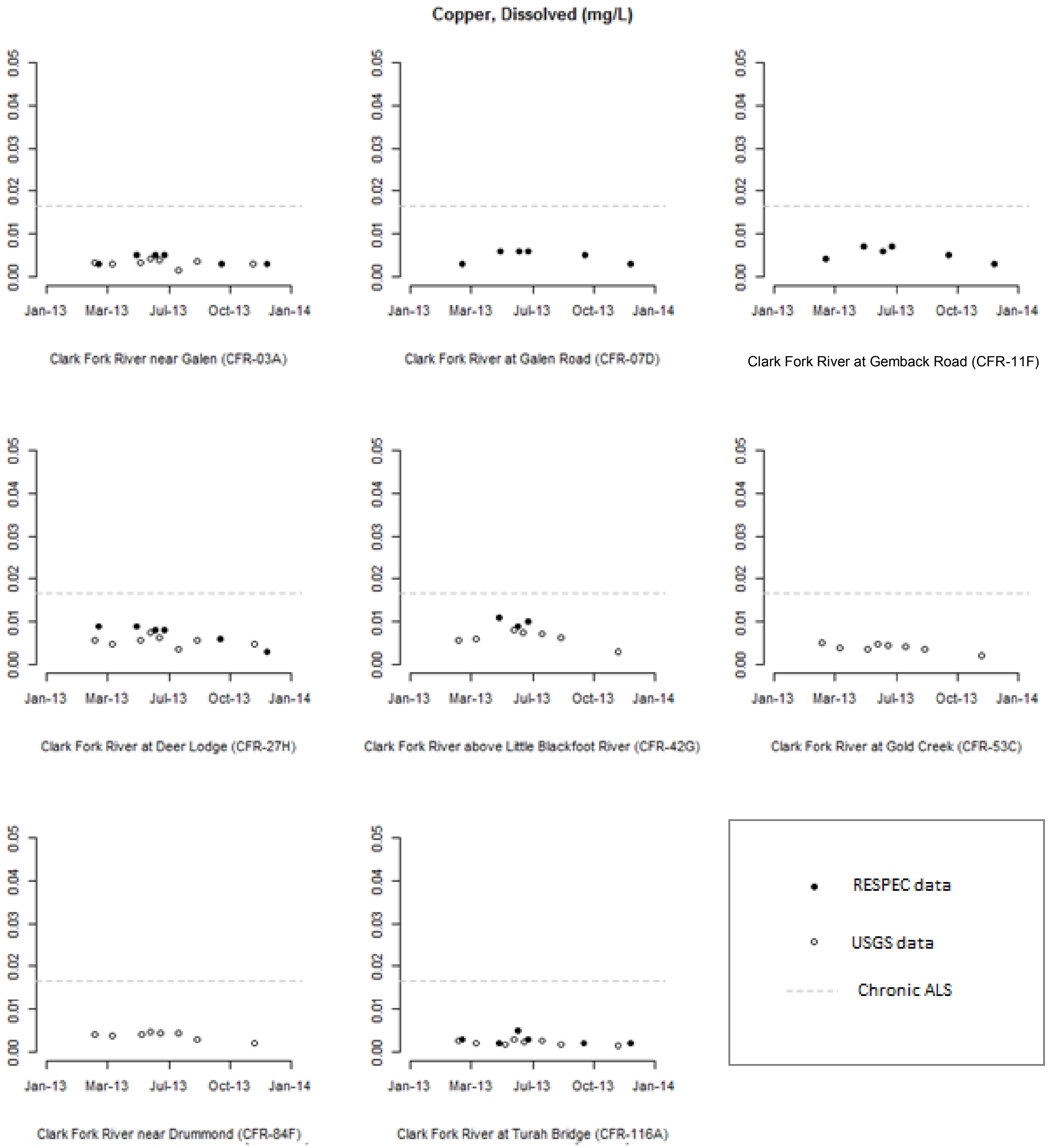


Figure 1-71. **Total recoverable copper concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**



Clark Fork River near Galen (CFR-03A)

Clark Fork River at Galen Road (CFR-07D)

Clark Fork River at Gemback Road (CFR-11F)

Clark Fork River at Deer Lodge (CFR-27H)

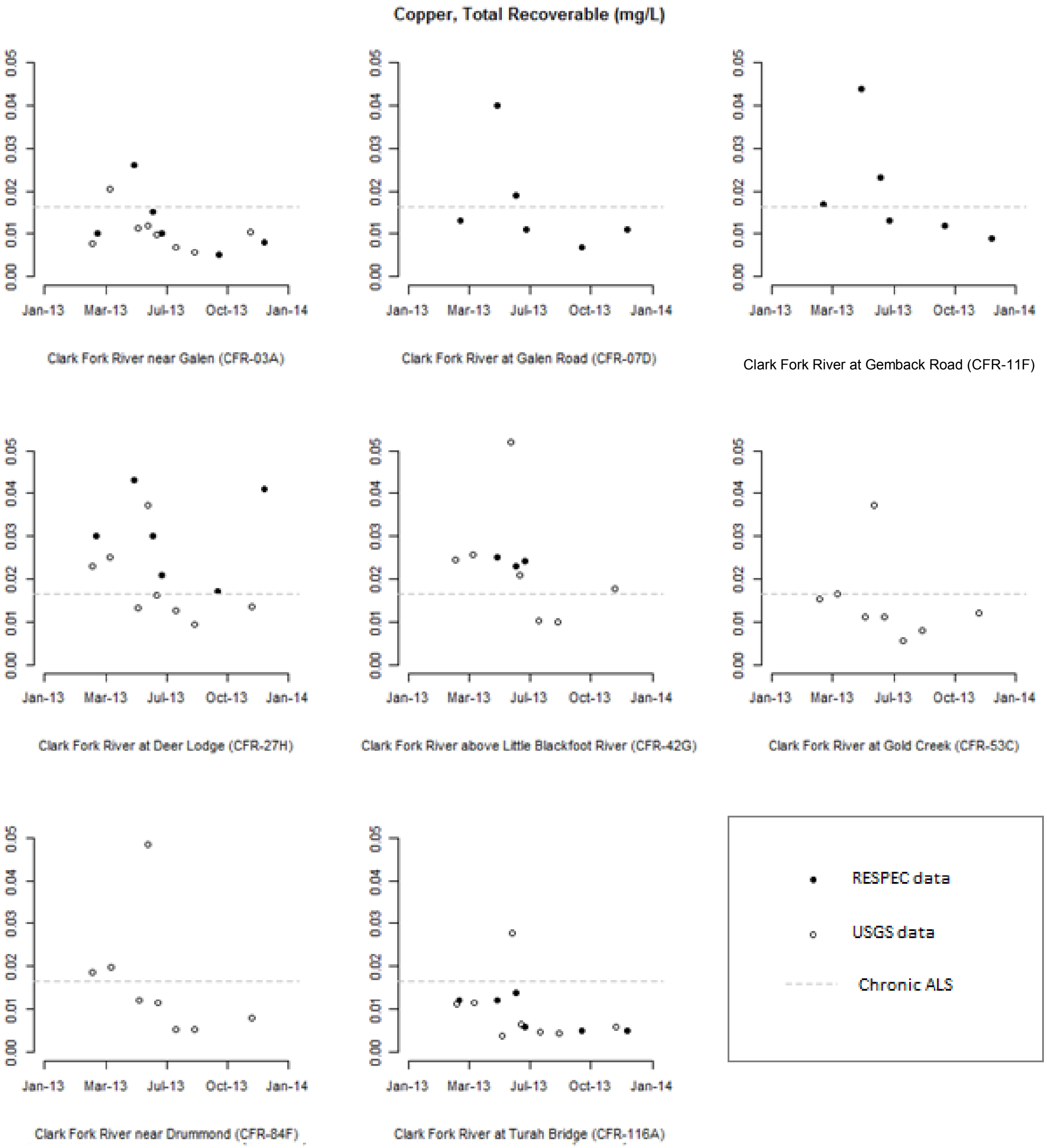
Clark Fork River above Little Blackfoot River (CFR-42G)

Clark Fork River at Gold Creek (CFR-53C)

Clark Fork River near Drummond (CFR-84F)

Clark Fork River at Turah Bridge (CFR-116A)

Figure 1-72. **Dissolved copper concentrations plotted by time at Clark Fork River mainstem sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013).**



Clark Fork River near Galen (CFR-03A)

Clark Fork River at Galen Road (CFR-07D)

Clark Fork River at Gemback Road (CFR-11F)

Clark Fork River at Deer Lodge (CFR-27H)

Clark Fork River above Little Blackfoot River (CFR-42G)

Clark Fork River at Gold Creek (CFR-53C)

Clark Fork River near Drummond (CFR-84F)

Clark Fork River at Turah Bridge (CFR-116A)

Figure 1-73. **Dissolved copper concentrations plotted by time at Clark Fork River mainstem sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013).**

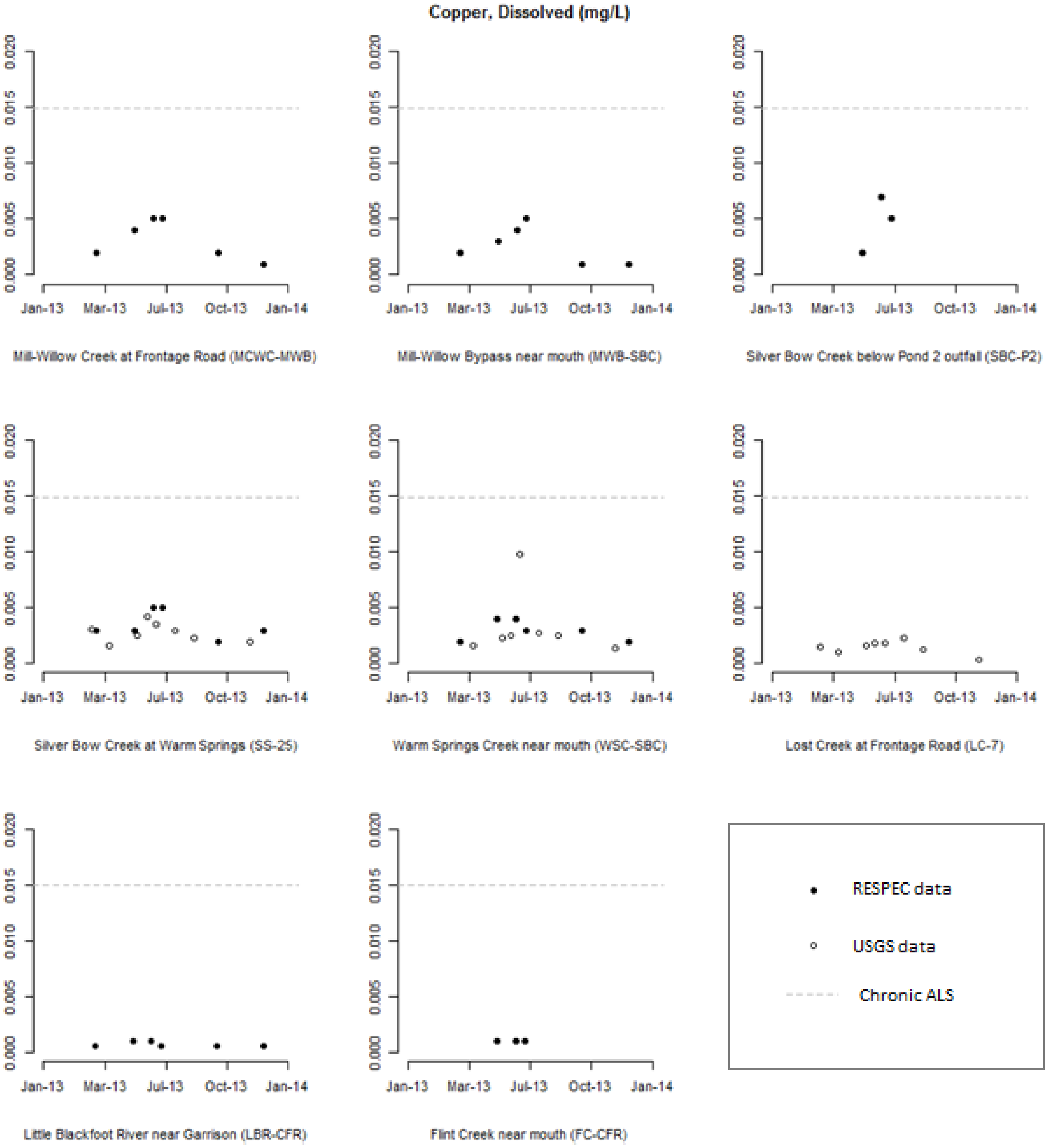


Figure 1-74. Dissolved copper concentrations plotted by time at Clark Fork River tributary sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 174 mg/L as $CaCO_3$ (median hardness from all tributary samples collected in 2013).

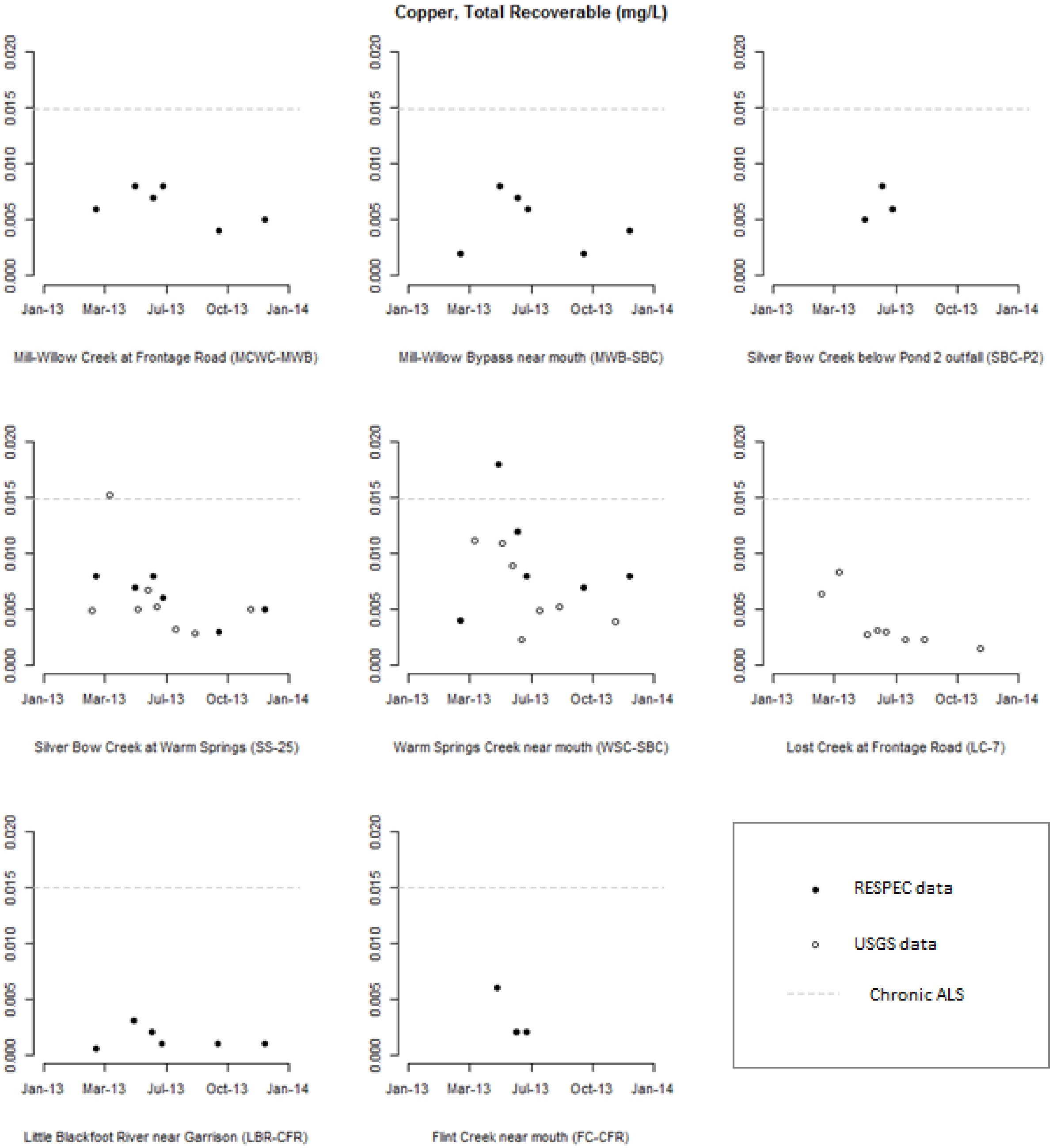


Figure 1-75. **Total recoverable copper concentrations plotted by time at Clark Fork River tributary sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**

1.3.7.4 Lead

MDEQ Data.-Increasing concentrations of total recoverable lead were observed in the mainstem Clark Fork River from the near Galen site to the Deer Lodge site during 2013, followed by lower total recoverable lead concentrations downstream at Turah (Figure 1-81). Concentrations of total recoverable lead were low at all tributary monitoring sites in 2013 (Figure 1-82). The highest concentrations of lead were observed at most stations during the Q2-Rising monitoring event. Nearly all detectable lead was present in a sediment associated state; dissolved lead concentrations were below the reporting limit in all samples except at Deer Lodge (Q1).

The maximum annual total recoverable lead concentrations at mainstem Clark Fork River monitoring stations in 2013 (0.0060 mg/) was lower than the maximum concentration in 2010 (0.0295 mg/L), 2011 (high of 0.0515 mg/L), or 2012 (high of 0.0366 mg/L). In 2013, the maximum total recoverable lead concentration at mainstem Clark Fork River monitoring stations occurred at Gemback Road during the Q2-Rising monitoring event. All of the maximum annual total recoverable lead concentrations from 2010 to 2012 occurred during the Q2 monitoring event at the Clark Fork River above the Little Blackfoot River station. (The Clark Fork River above the Little Blackfoot River station which was discontinued in 2013.)

Total recoverable lead concentrations exceeded the chronic ALS at three Clark Fork River mainstem stations during the Q2-Rising monitoring event: Clark Fork River at Galen Road, at Gemback Road, and at Turah (Table 1-12). The Clark Fork River at Deer Lodge station did not exhibit any exceedances of the chronic ALS in 2013.

The lead chronic and acute ALS compliance ratios for the Clark Fork River mainstem stations near Galen, at Deer Lodge, and at Turah appear to have declined slightly over since 2010 (Figures 1-83 through Figure 1-86). The seasonal and spatial trends in ALS compliance ratios for total recoverable lead during 2013 was similar to the pattern noted for cadmium and copper.

The Clark Fork River at Deer Lodge frequently exceeded the lead chronic ALS compliance ratio from 2010-2012, but did not exceed the chronic ALS in 2013 (Figure 1-85). The Clark Fork River at Turah site has also frequently had total recoverable lead exceedances of the chronic ALS (Figure 1-86) despite having relatively low lead concentrations (Table 1-12) due to low water hardness at the site. Among the tributary sites, Mill-Willow Creek at Frontage Road had the highest lead compliance ratios and Mill-Willow Bypass had the lowest compliance ratios (Figure 1-88). The highest lead compliance ratios at the mainstem monitoring stations were occurred during the Q2-Rising monitoring event. Among all samples, total recoverable lead ALS compliance ratios ranged from less than 0.1 to more than 1.0.

USGS and MDEQ Data.-Dissolved lead concentrations in the mainstem Clark Fork River sites were low relative to the chronic ALS (Figure 1-89). As with copper, median total recoverable lead concentrations in the mainstem Clark Fork River sites increased throughout Reach A, from near Galen to the Little Blackfoot River confluence, and decreased from the Little Blackfoot River confluence downstream to Turah (Figure 1-90.) As with the mainstem sites the tributary sites, had low dissolved lead concentrations relative to the chronic ALS (Figure 1-91). Most tributary samples had total recoverable lead concentrations which were below the chronic ALS (Figure 1-92). However, one sample in Flint Creek had high total recoverable lead concentration (Figure 1-96). Total recoverable lead concentrations in the mainstem and the tributaries were generally highest in the spring (Figure 1-94; Figure 1-96). As with other metals, it appeared that the USGS and RESPEC sample lead concentrations were similar (Figure 1-93 through Figure 1-96).

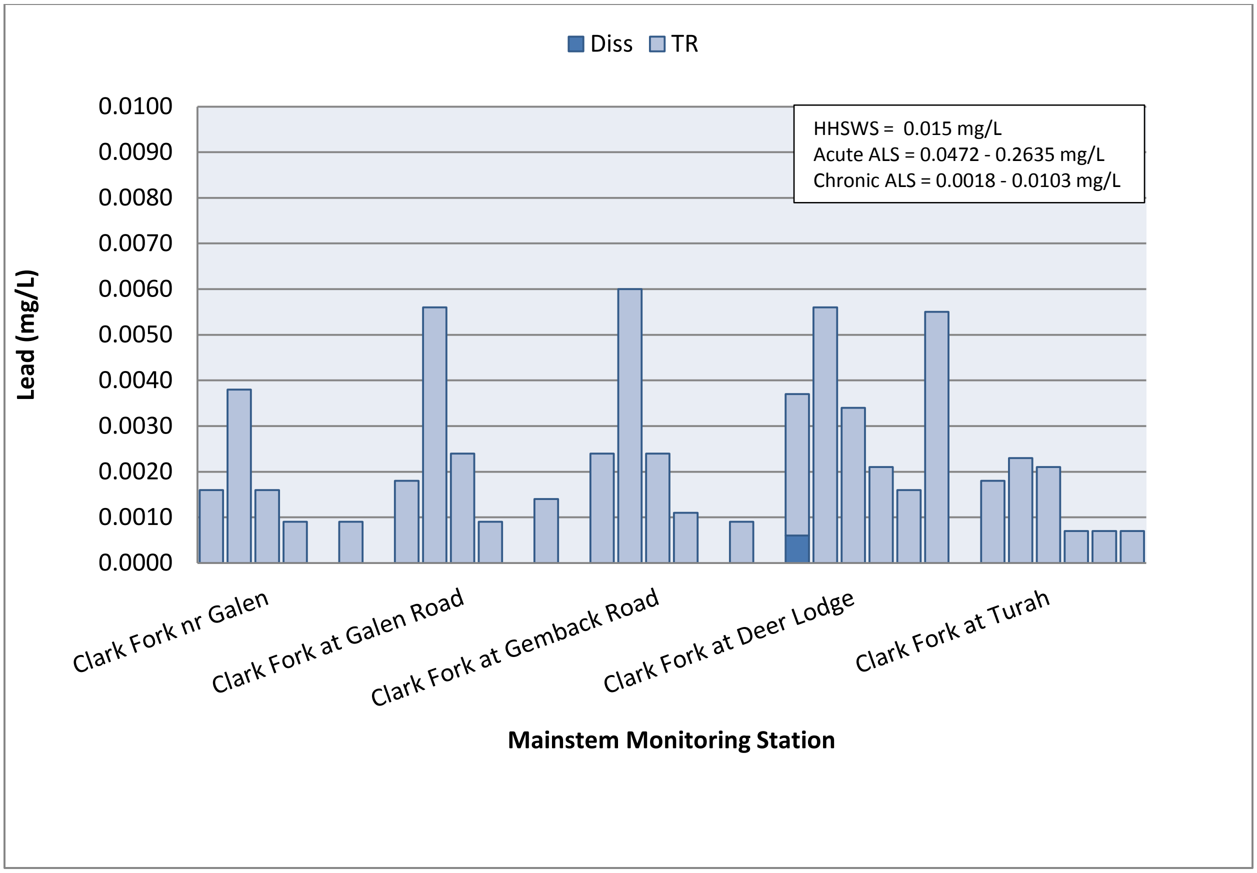


Figure 1-76. **Total recoverable (TR) and dissolved (Diss) lead concentrations at mainstem sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

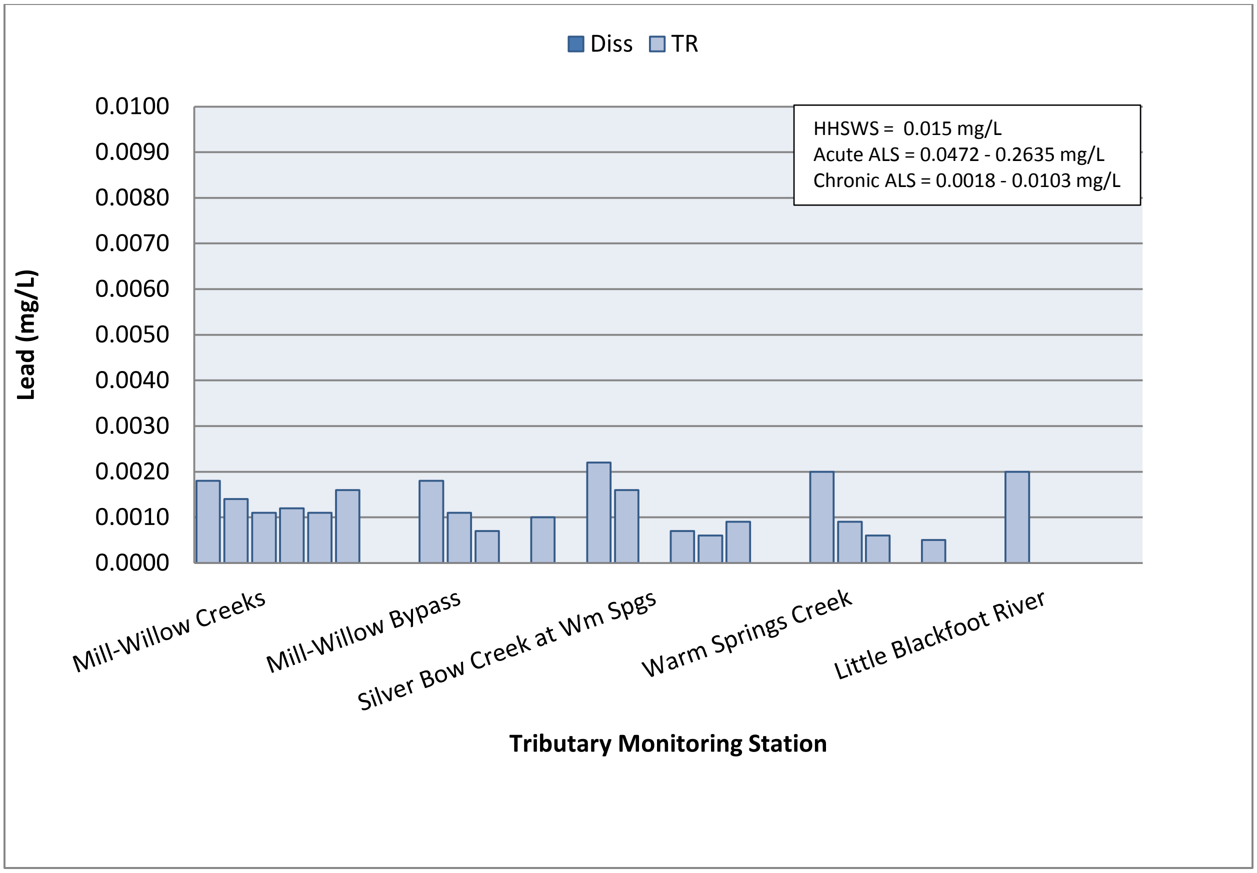


Figure 1-77. **Total recoverable (TR) and dissolved (Diss) lead concentrations at tributary sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

Table 1-12. **Total recoverable lead concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013. Table represents data collected under the Montana Department of Environmental Quality monitoring program.**

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-03A	Clark Fork River near Galen	0.0016	0.0038	0.0016	0.0009	ND	0.0009
CFR-07D	Clark Fork River at Galen Road	0.0018	0.0056	0.0024	0.0009	ND	0.0014
CFR-11F	Clark Fork River at Gemback Road	0.0024	0.006	0.0024	0.0011	ND	0.0009
CFR-27H	Clark Fork River at Deer Lodge	0.0037	0.0056	0.0034	0.0021	0.0016	0.0055
CFR-116A	Clark Fork at Turah	0.0018	0.0023	0.0021	0.0007	0.0007	0.0007
Tributary Sites							
SS-25	Silver Bow Creek at Warm Springs	0.0018	0.0014	0.0011	0.0012	0.0011	0.0016
MCWC-MWB	Mill-Willow Creek at Frontage Road	ND	0.0018	0.0011	0.0007	ND	0.001
MWB-SBC	Mill-Willow Bypass near mouth	0.0022	0.0016	0.001	0.0007	0.0006	0.0009
WSC-SBC	Warm Springs Creek near mouth	ND	0.002	0.0009	0.0006	ND	0.0005
LBR-CFR	Little Blackfoot River near Garrison	ND	0.002	ND	ND	ND	ND

ND	Not detected at analytical reporting limit.
🟨	Exceeds chronic aquatic life standard (MDEQ 2012b).
🟧	Exceeds acute aquatic life standard (MDEQ 2012b).

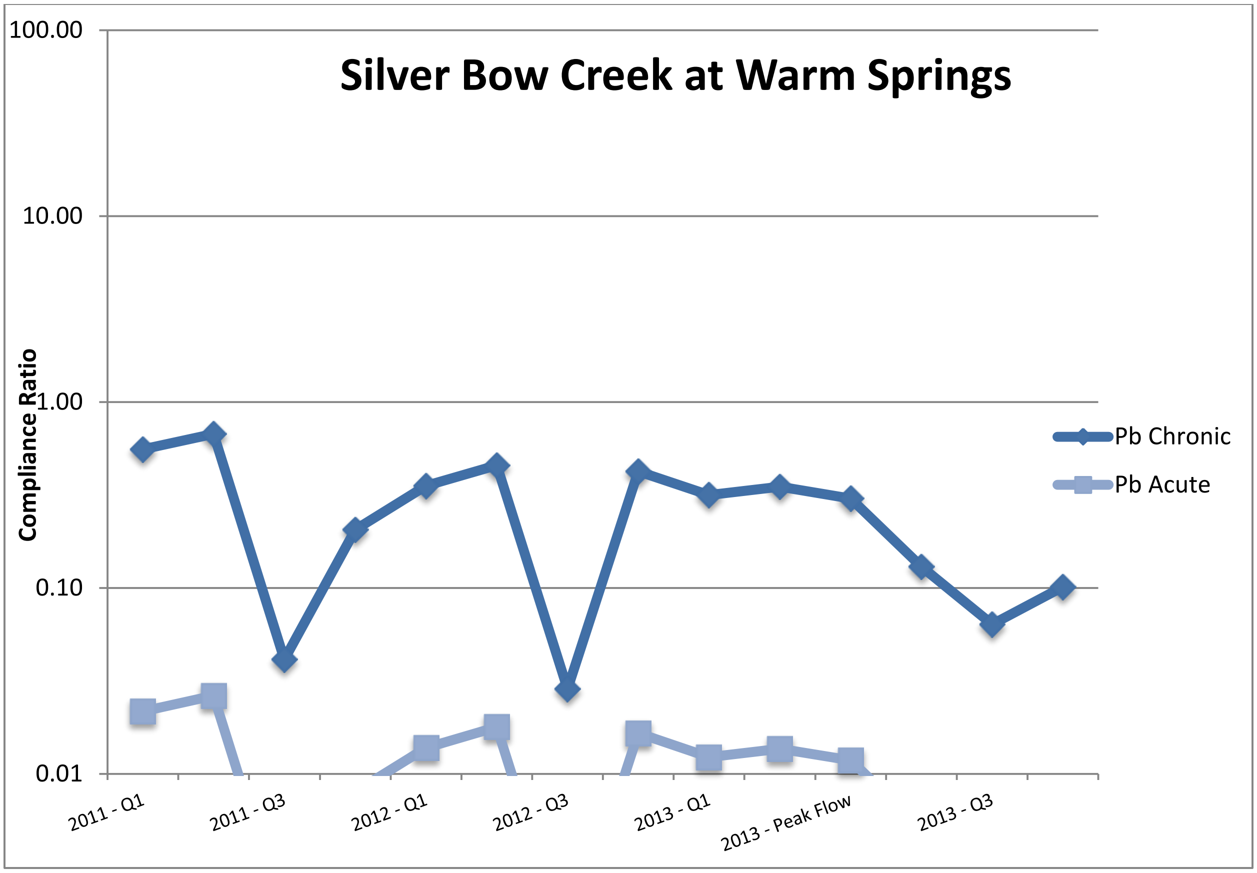


Figure 1-78. Total recoverable lead (Pb) compliance ratios for Silver Bow Creek at Warm Springs site, 2011-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.

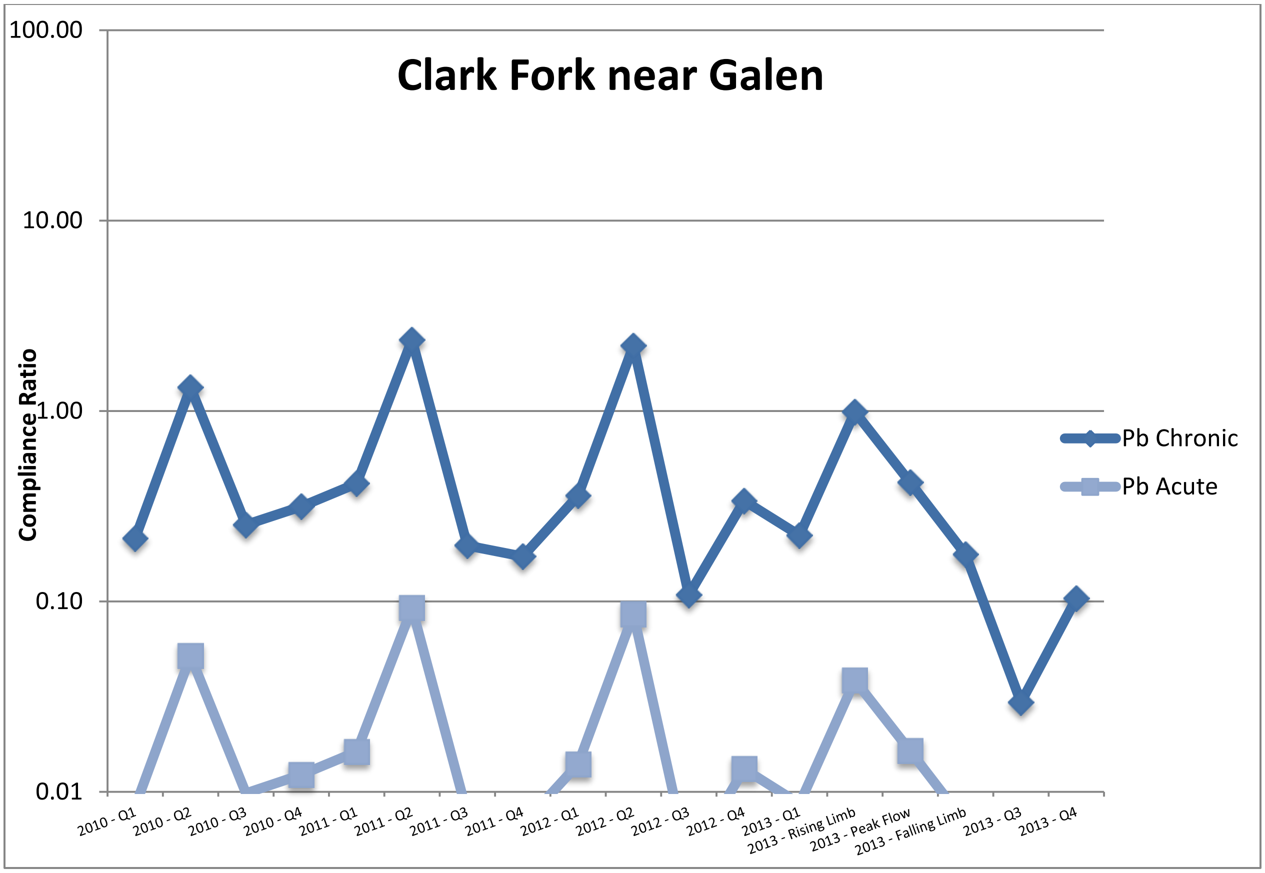


Figure 1-79. **Total recoverable lead (Pb) compliance ratios for Clark Fork River near Galen site, 2010-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

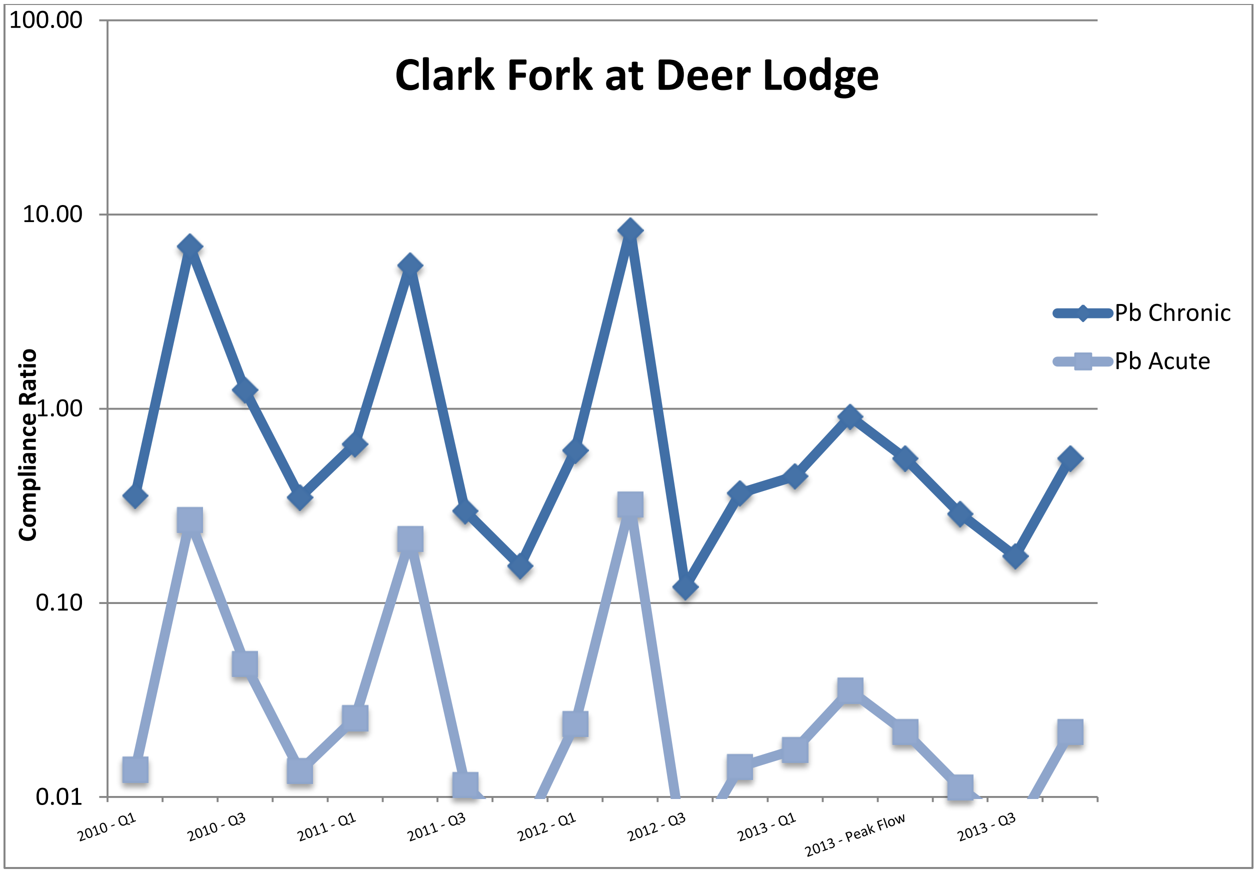


Figure 1-80. **Total recoverable lead (Pb) compliance ratios for Clark Fork River at Deer Lodge site, 2010-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

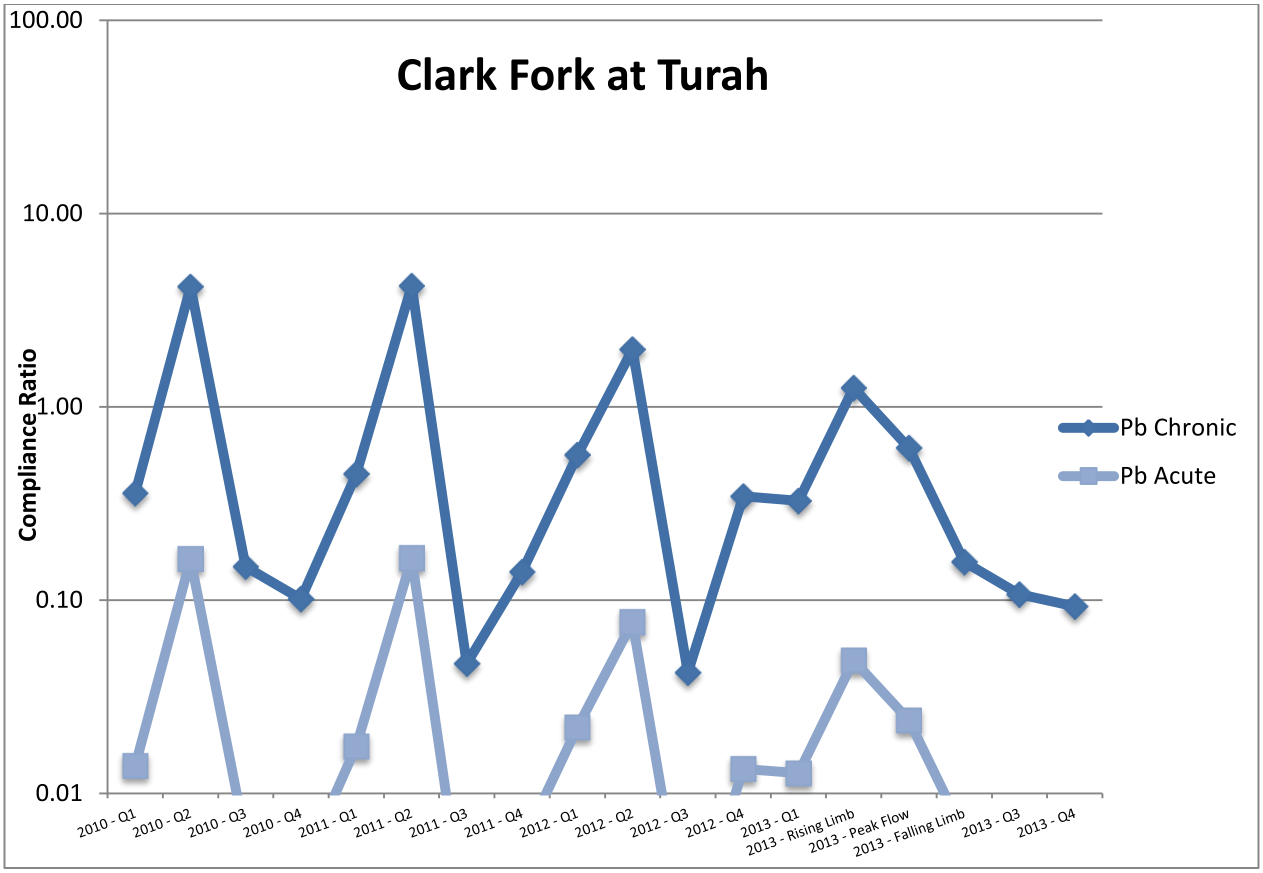


Figure 1-81. **Total recoverable lead (Pb) compliance ratios for Clark Fork River at Turah site, 2010-2013. Compliance ratios are based on the chronic and acute aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

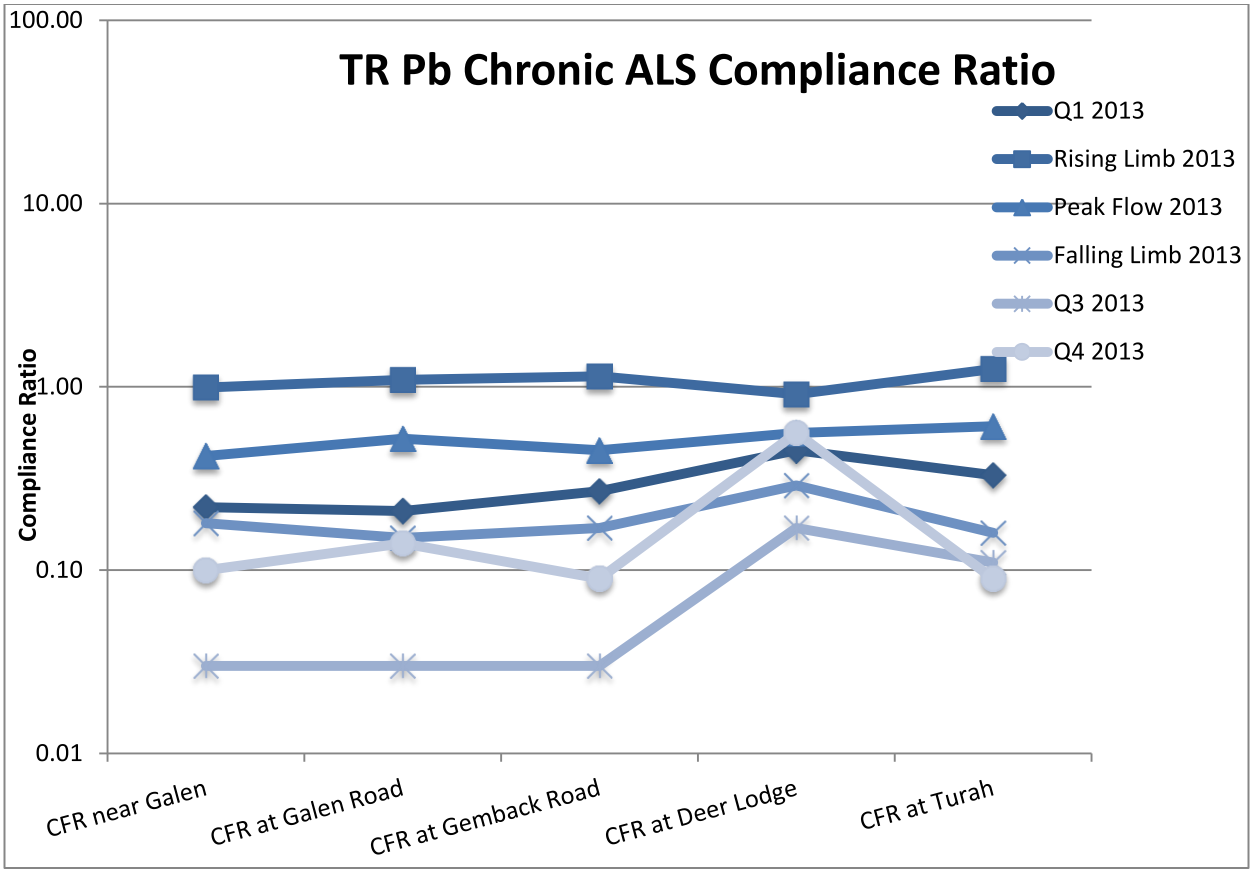


Figure 1-82. **Total recoverable (TR) lead (Pb) compliance ratio in the Clark Fork River (CFR) mainstem sites, 2013. Compliance ratio is based on the chronic aquatic life standard (ALS) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

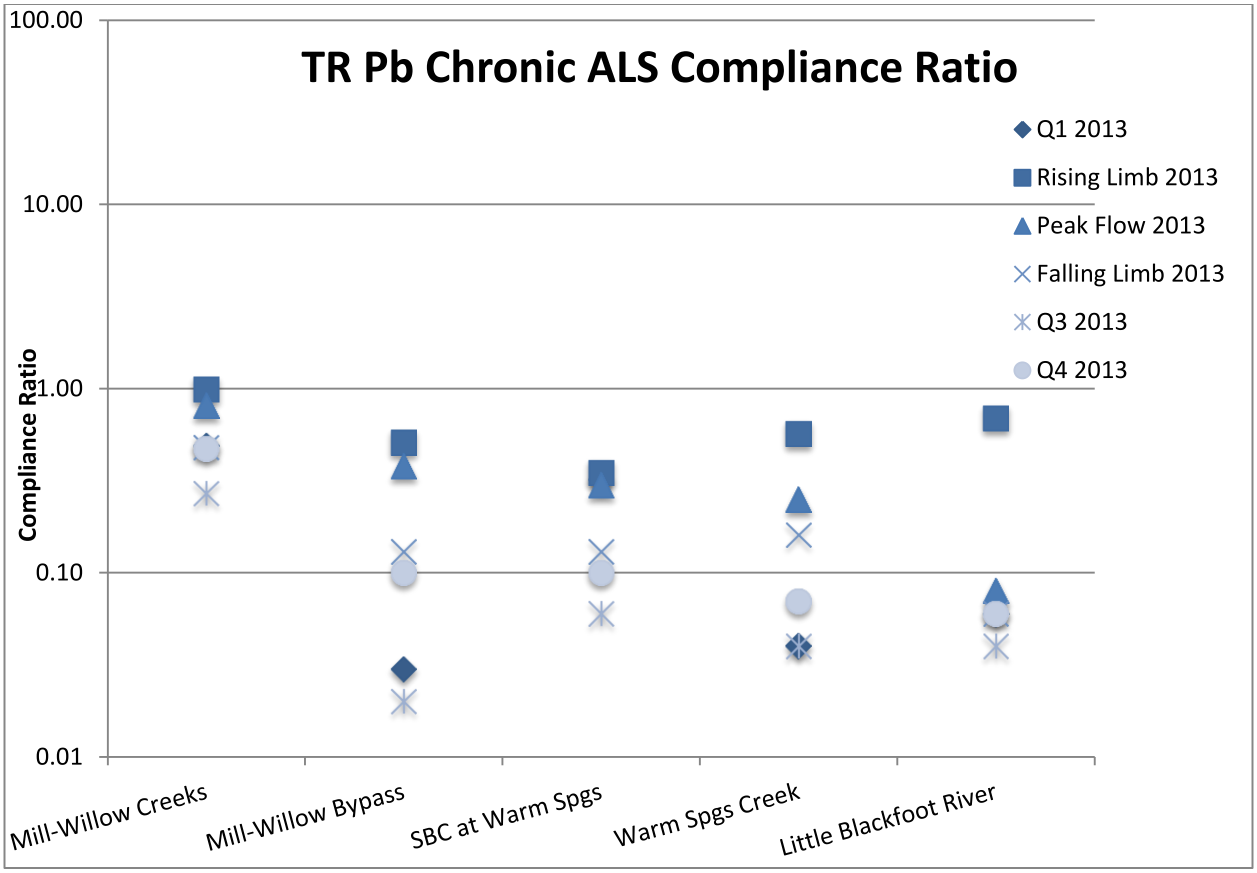


Figure 1-83. **Total recoverable (TR) lead (Pb) compliance ratio in Clark Fork River (CFR) tributary sites, 2013. Compliance ratio is based on the chronic aquatic life standard (ALS) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

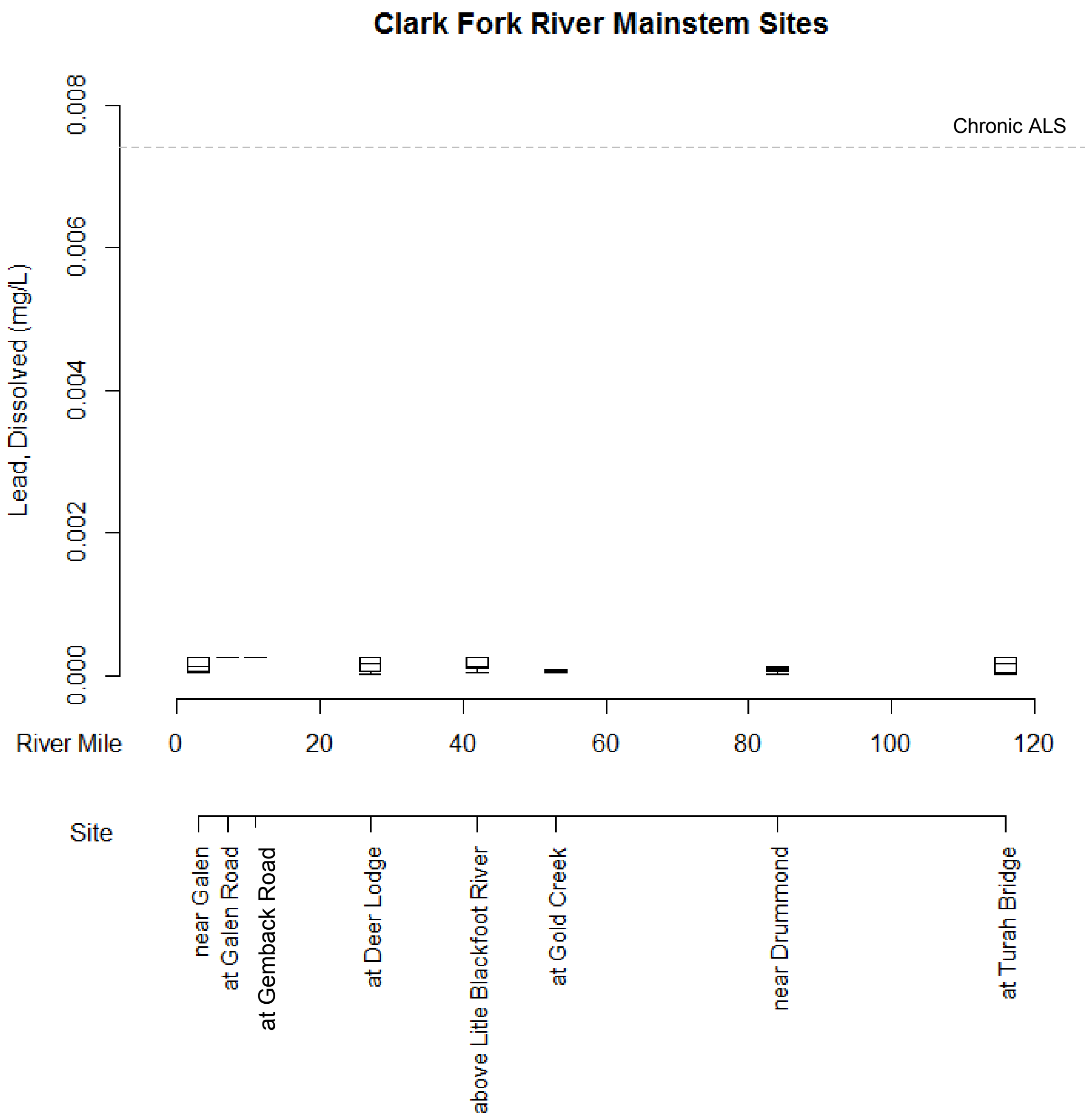


Figure 1-84. **Dissolved lead concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.**

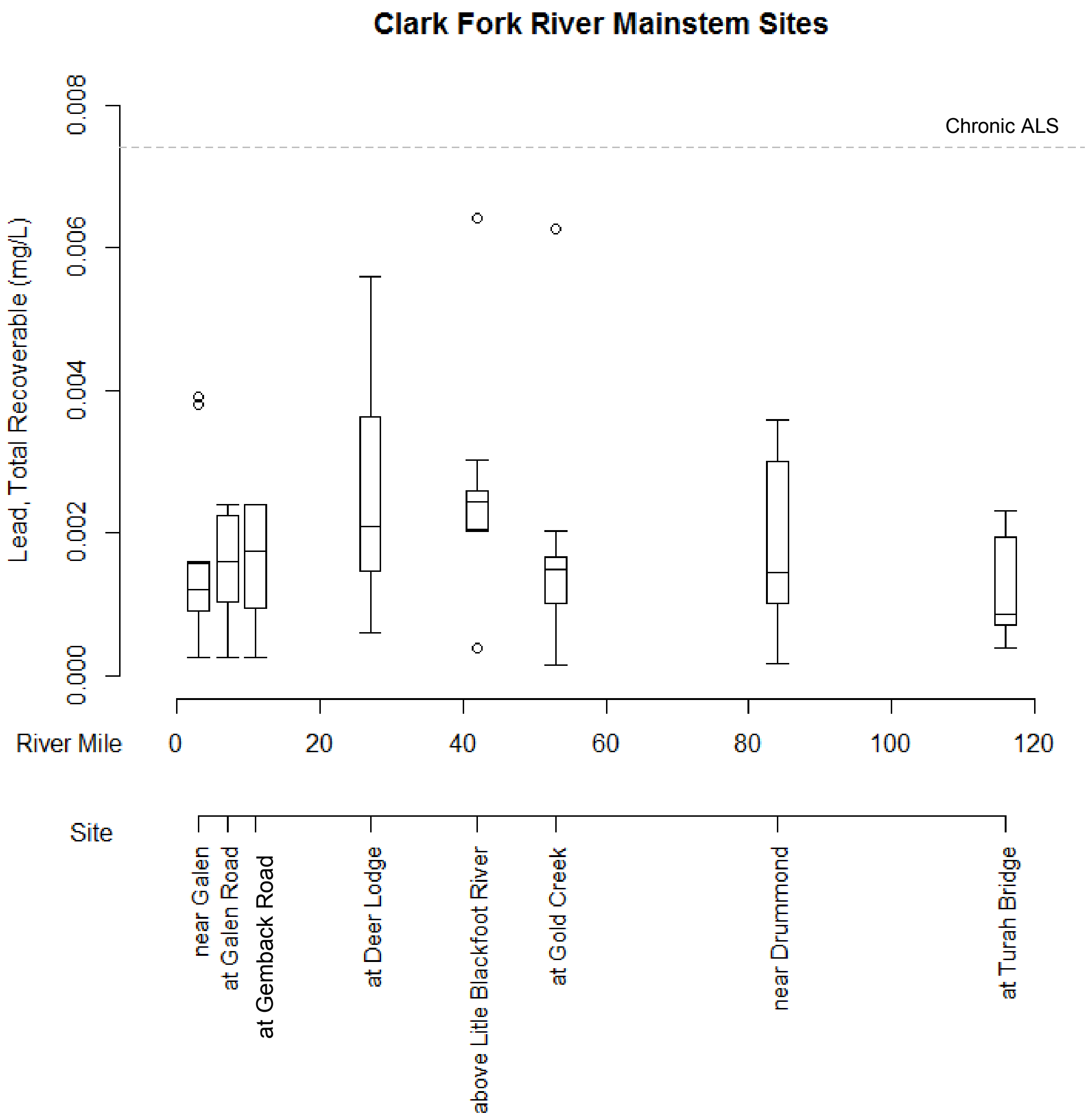


Figure 1-85. Total recoverable lead concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.

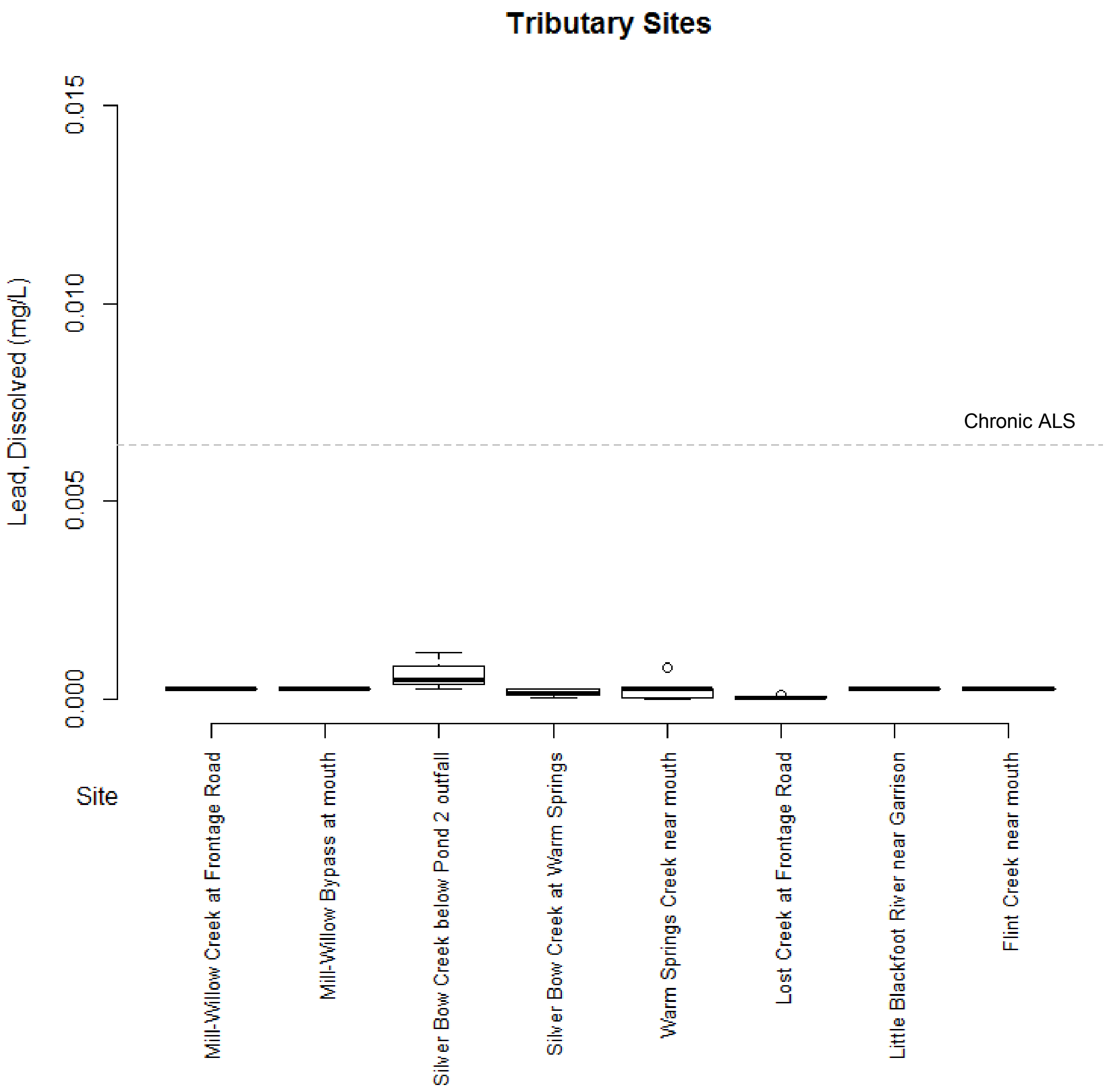


Figure 1-86. Dissolved lead concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).

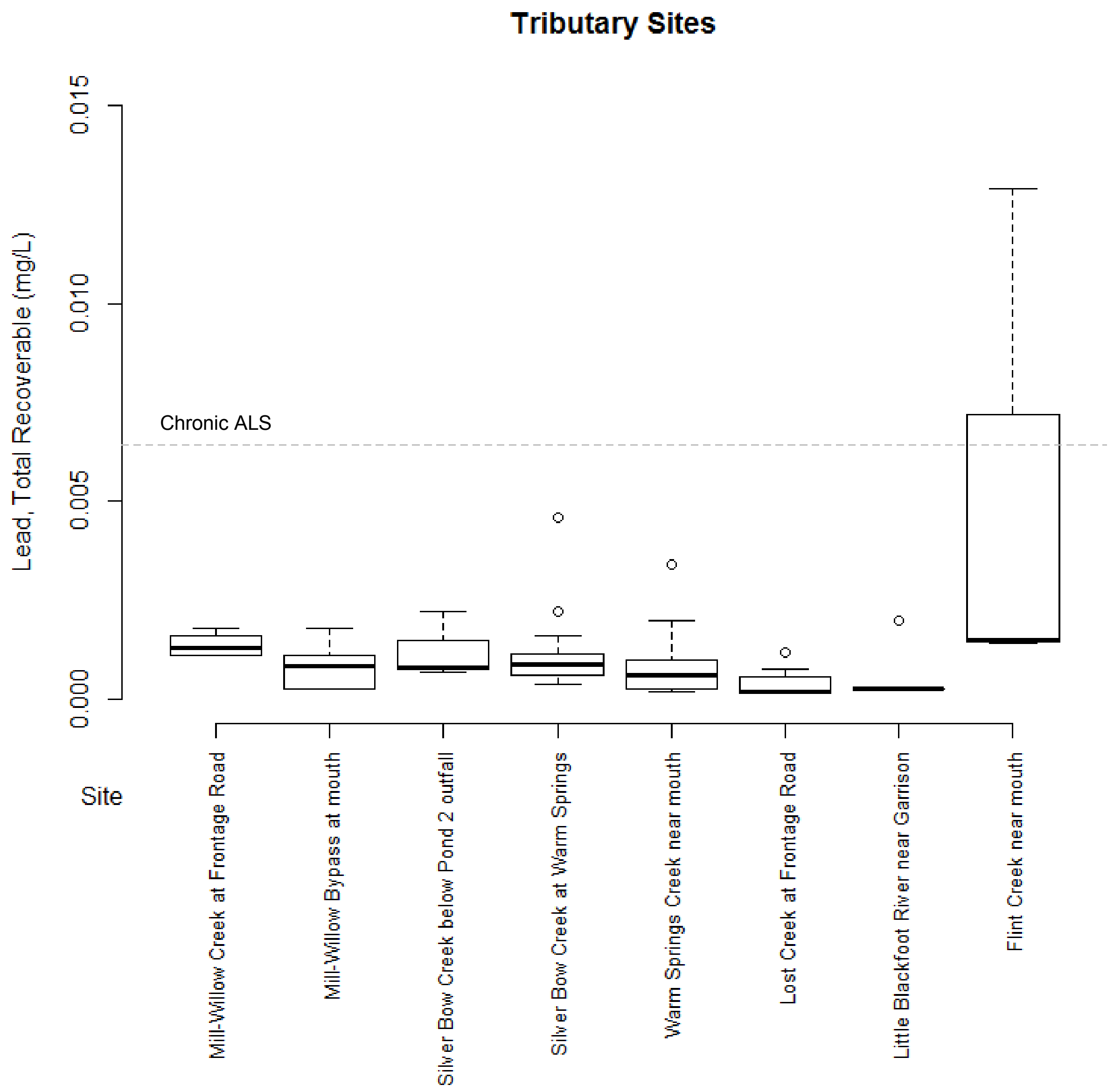
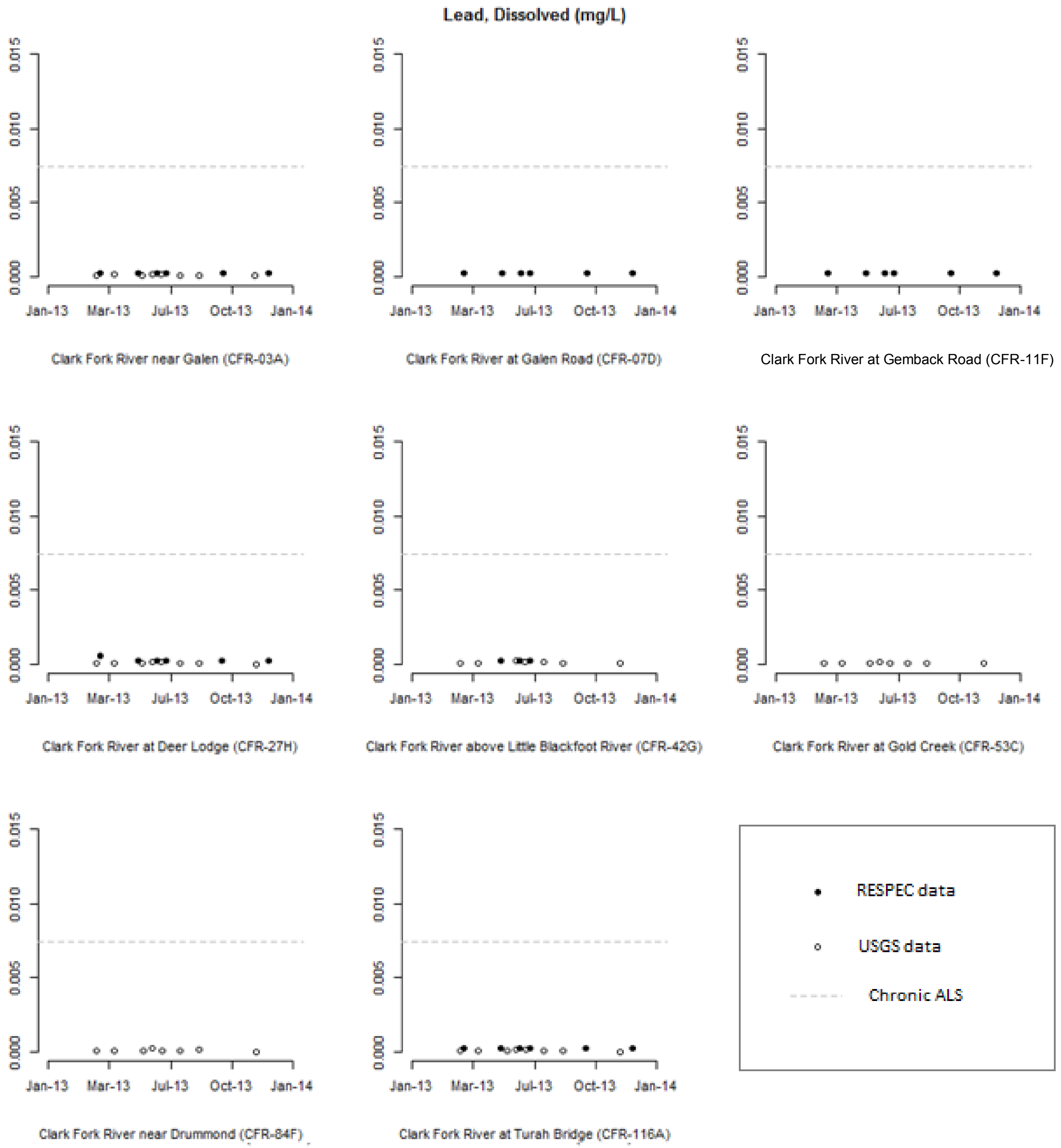


Figure 1-87. **Total recoverable lead concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**



Clark Fork River near Galen (CFR-03A)

Clark Fork River at Galen Road (CFR-07D)

Clark Fork River at Gemback Road (CFR-11F)

Clark Fork River at Deer Lodge (CFR-27H)

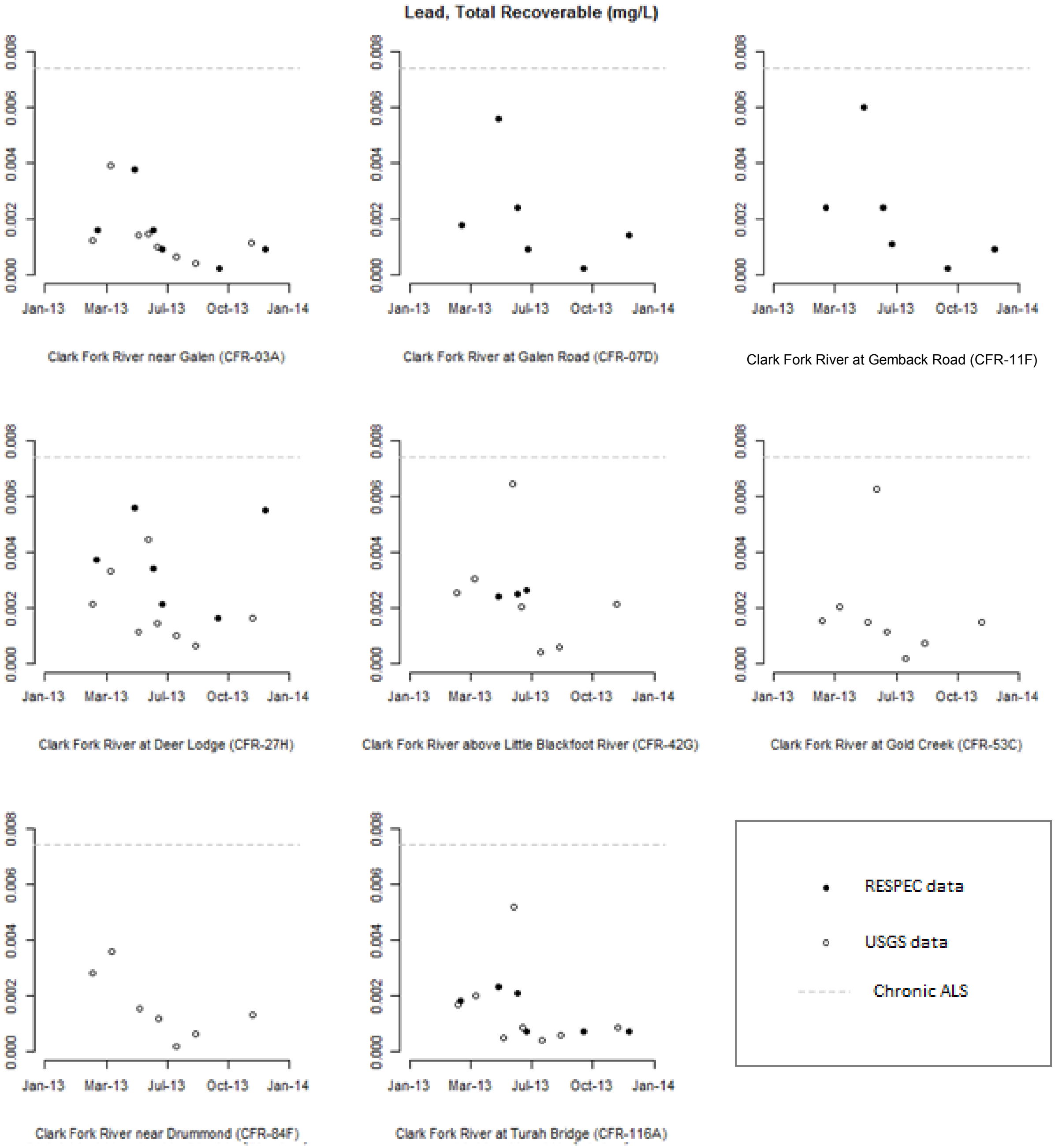
Clark Fork River above Little Blackfoot River (CFR-42G)

Clark Fork River at Gold Creek (CFR-53C)

Clark Fork River near Drummond (CFR-84F)

Clark Fork River at Turah Bridge (CFR-116A)

Figure 1-88. **Dissolved lead concentrations plotted by time at Clark Fork River mainstem sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013).**



Lead, Total Recoverable (mg/L)

Clark Fork River near Galen (CFR-03A)

Clark Fork River at Galen Road (CFR-07D)

Clark Fork River at Gemback Road (CFR-11F)

Clark Fork River at Deer Lodge (CFR-27H)

Clark Fork River above Little Blackfoot River (CFR-42G)

Clark Fork River at Gold Creek (CFR-53C)

Clark Fork River near Drummond (CFR-84F)

Clark Fork River at Turah Bridge (CFR-116A)

Figure 1-89. Dissolved lead concentrations plotted by time at Clark Fork River mainstem sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013).

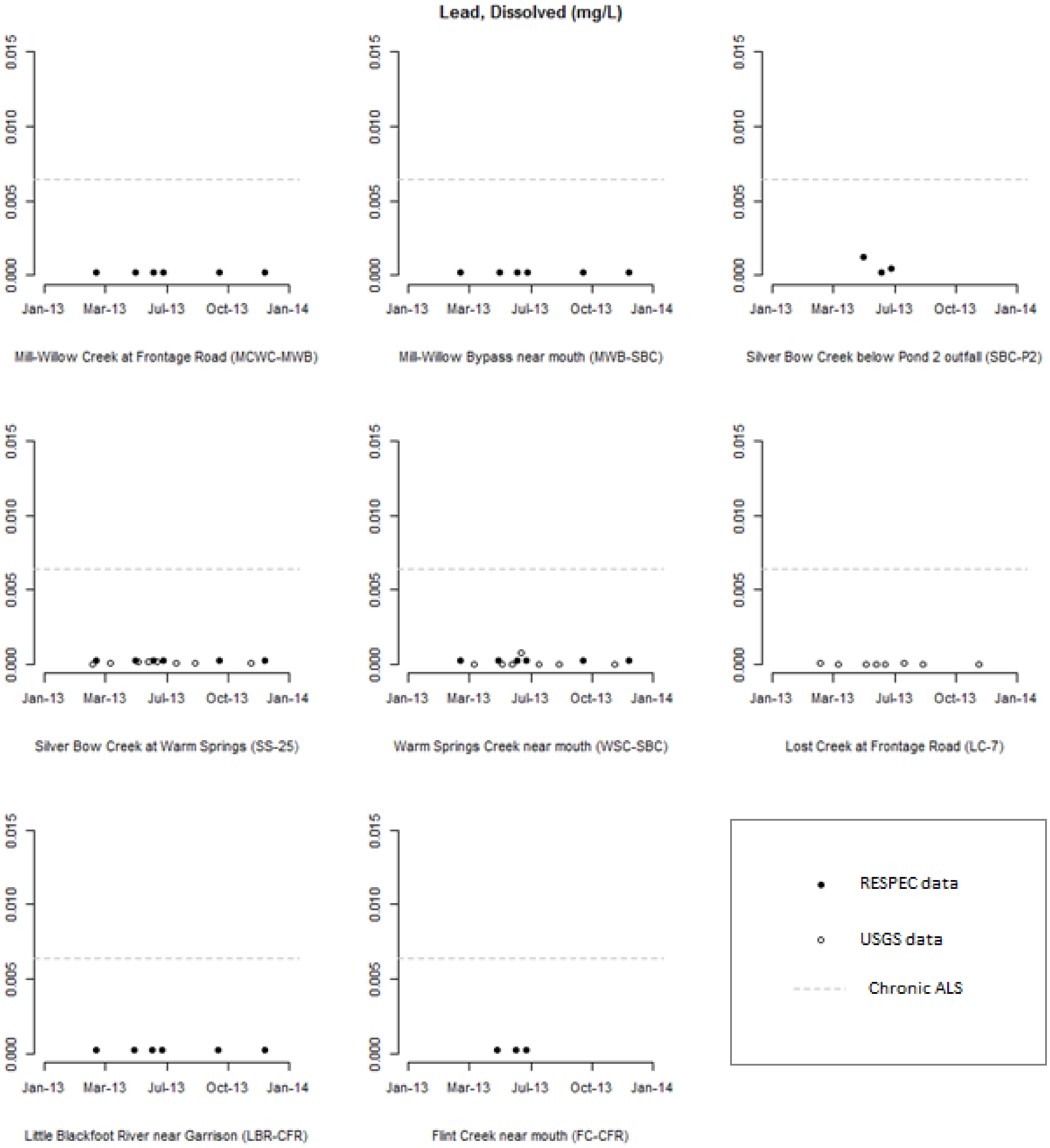


Figure 1-90. Dissolved lead concentrations plotted by time at Clark Fork River tributary sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).

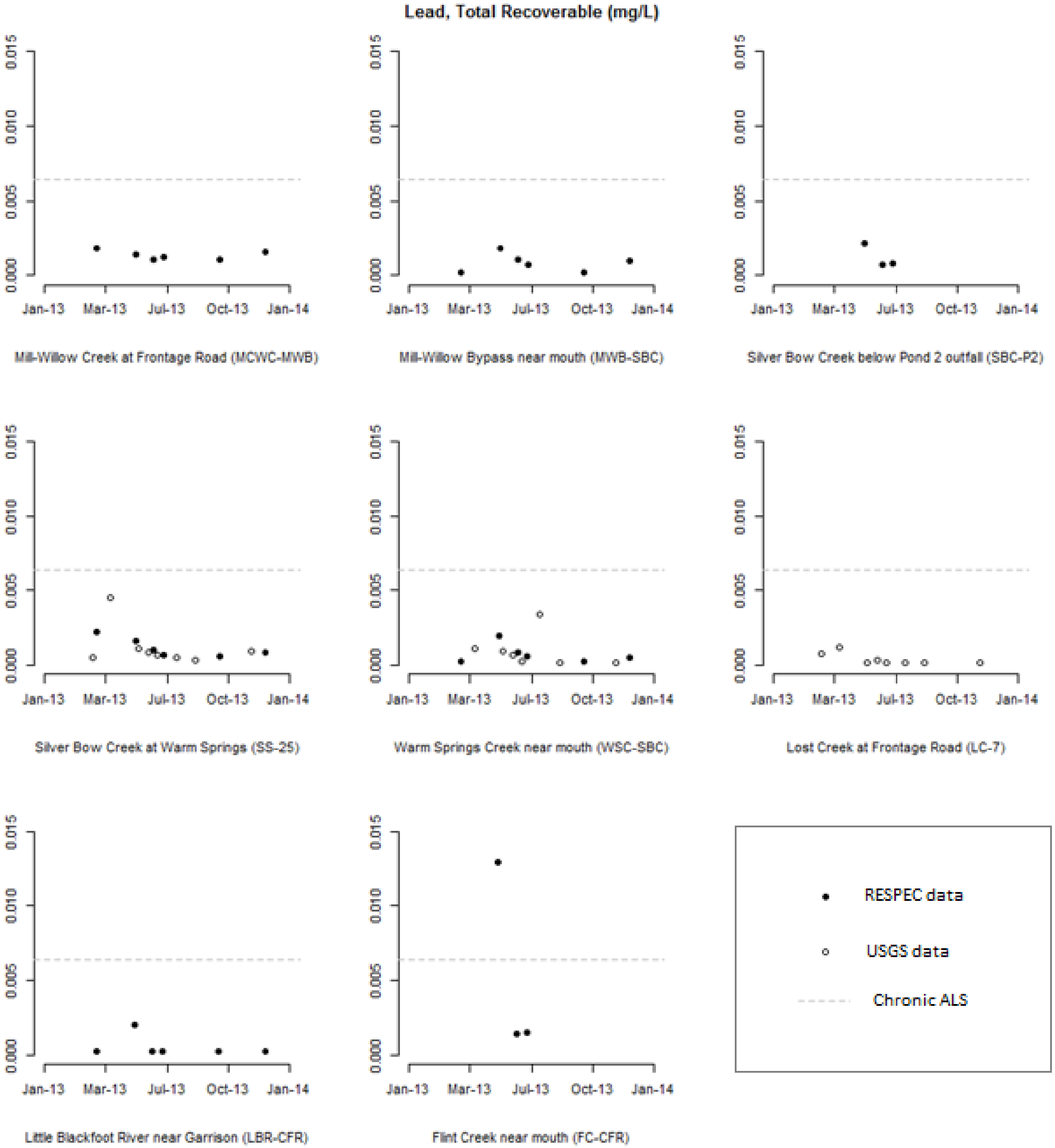


Figure 1-91. **Total recoverable lead concentrations plotted by time at Clark Fork River tributary sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**

1.3.7.5 Mercury

MDEQ Data.-Monitoring for mercury at CFROU monitoring stations began in 2012. Total mercury concentrations were below the analytical detection limit in 42 of 60 samples collected in 2012. However, in 2012 mercury was detected at least once at all Clark Fork River monitoring sites, at the Mill-Willow Creek at Frontage Road site, Silver Bow Creek at Warm Springs site, Little Blackfoot River near mouth site, the Flint Creek site, and the Rock Creek site. The highest frequency (67%) of mercury detections in 2012 occurred during Q1 monitoring event. However, the highest mercury concentrations occurred during Q2 in 2012. The highest mercury concentrations during 2012 occurred in Flint Creek near mouth (0.00150 mg/L) in Q2. Clark Fork River mainstem monitoring sites at Deer Lodge, near Garrison, and near Drummond had the next highest mercury concentrations; Q2 mercury concentrations ranged from 0.00010-0.00015 mg/L. In 2012, the spatial trend for mercury was generally of low concentrations in the mainstem Clark Fork River sites above Deer Lodge and the highest concentrations observed at the above Little Blackfoot River station. Elevated mercury in Flint Creek appeared to increase concentrations in the Clark Fork River at the near Drummond site.

Mercury was detected in 11 of 12 (92%) of the samples collected in 2013. The highest mercury concentrations occurred in Flint Creek during the Q2-Rising monitoring event. The second highest mercury concentrations occurred in Flint Creek in Q1 and the third highest concentration occurred in Flint Creek in Q4. The highest mercury concentration in the Clark Fork River near Drummond occurred in Q1 (Figure 1-97).

Four of six 2013 samples in Flint Creek exceeded the mercury HHSWS. No samples from the Clark Fork River near Drummond exceeded the HHSWS in 2013, however the Q1 sample concentration (0.000043 mg/L) approached the HHSWS (0.000050 mg/L). Overall, mercury concentrations at these two stations in 2013 were within the range of concentrations observed at these stations in 2012. However, maximum concentrations were substantially higher in 2012 compared to 2013. In 2012, Flint Creek had two of four samples exceeding the HHSWS and the Clark Fork River near Drummond showed one of four excursions. Compliance ratios for mercury at the Flint Creek near mouth and Clark Fork River near Drummond sites in 2012 and 2013 did not demonstrate a temporal trend (Figure 1-98; Figure 1-99).

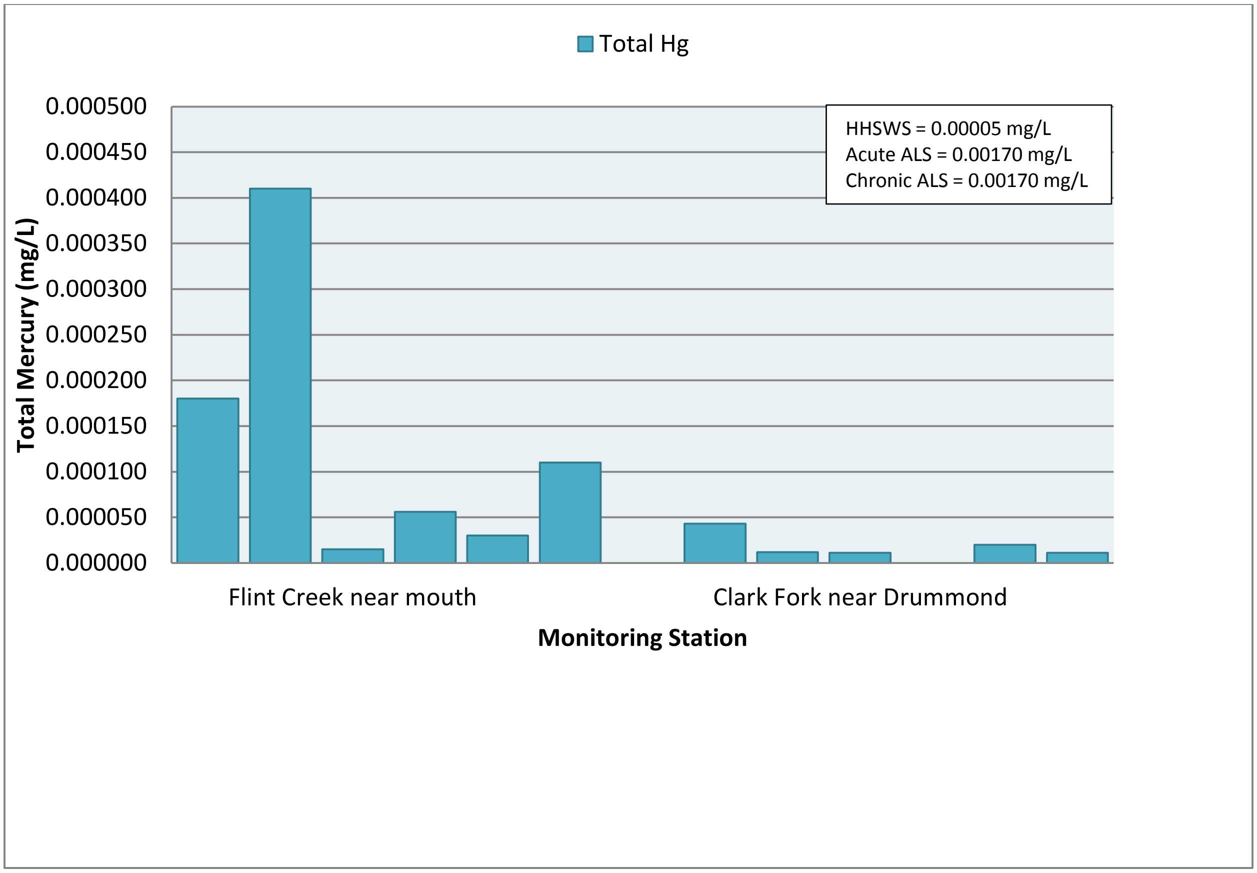


Figure 1-92. **Total mercury (Hg) concentrations at sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

Table 1-13. Total mercury concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013. Table represents data collected under the Montana Department of Environmental Quality monitoring program.

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-84F	Clark Fork near Drummond	0.000043	0.000012	0.000011	ND	0.000020	0.000011
Tributary Sites							
FC-CFR	Flint Creek near mouth	0.000180	0.000410	0.000018	0.000056	0.000030	0.000110

ND	Not detected at analytical reporting limit.
🟨	Exceeds chronic aquatic life standard (MDEQ 2012b).
🟧	Exceeds acute aquatic life standard (MDEQ 2012b).

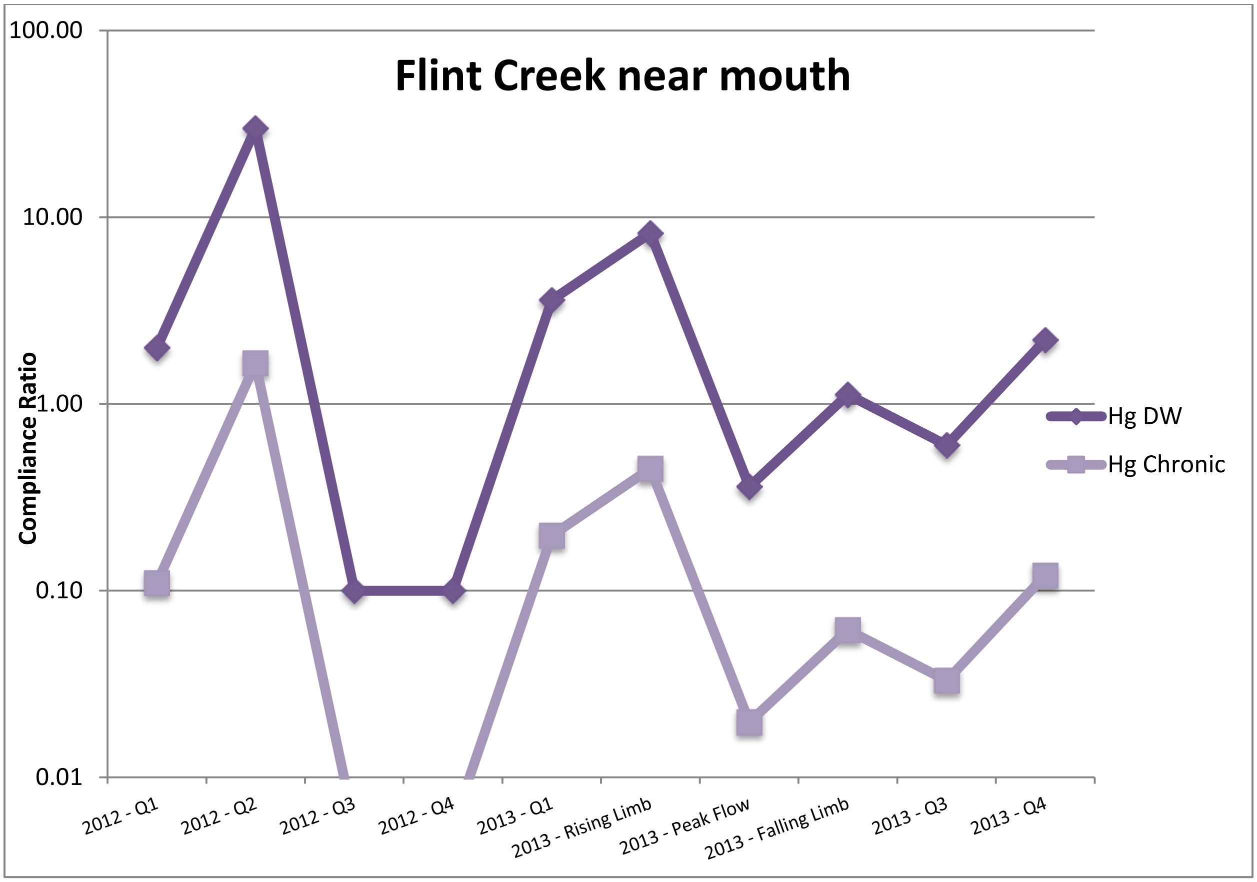


Figure 1-93. **Total mercury (Hg) compliance ratios for Flint Creek near mouth site, 2012-2013. Compliance ratios are based on the chronic aquatic life standard and the human health surface water standard, or the drinking water standard (DW) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

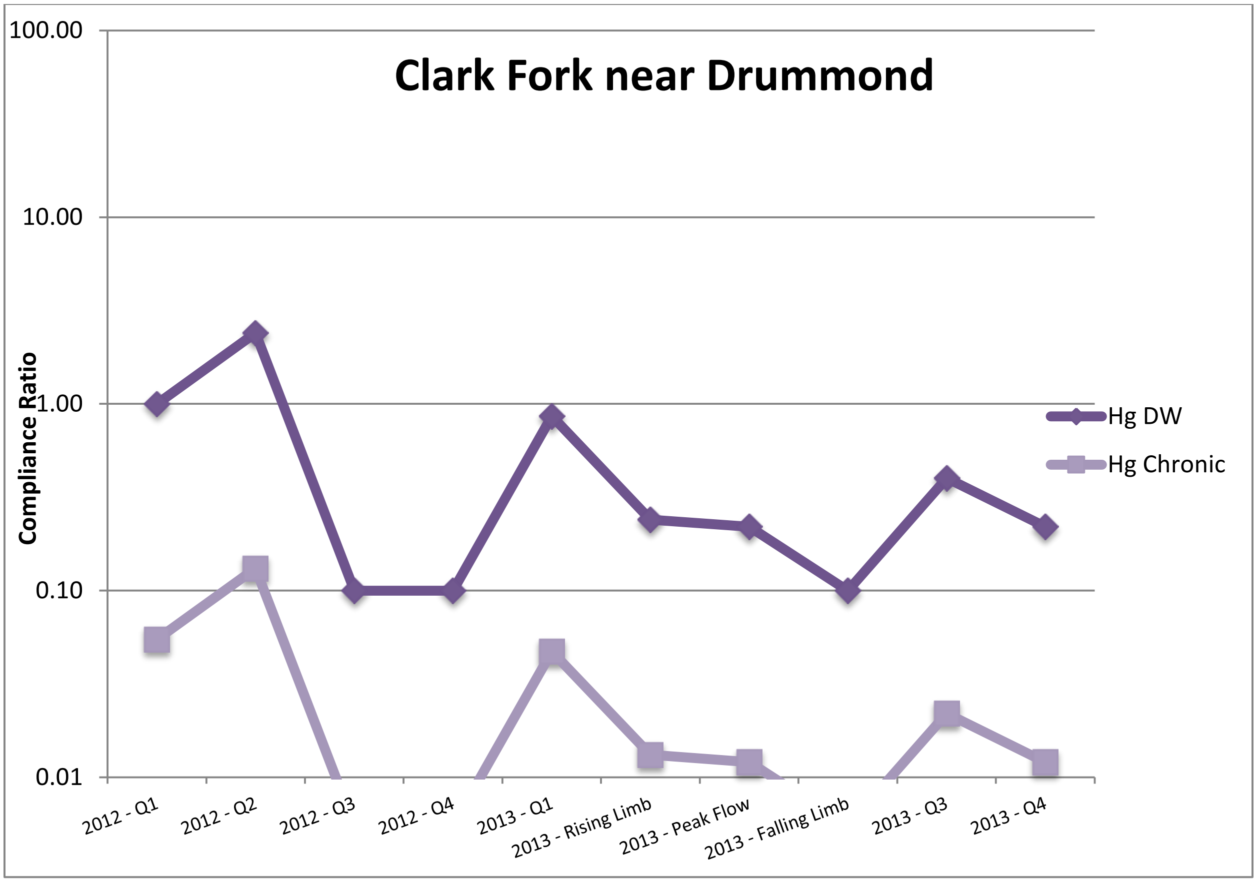


Figure 1-94. **Total mercury (Hg) compliance ratios for Clark Fork River near Drummond site, 2012-2013. Compliance ratios are based on the chronic aquatic life standard and the human health surface water standard, or the drinking water standard (DW) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

1.3.7.6 Methylmercury

MDEQ Data.-In 2012, methylmercury was detected in all CFROU samples. Methylmercury concentrations were higher at nearly all stations in Q2 compared to Q3in 2012. Stations with particularly high methylmercury concentrations in Q2 2012 included the Clark Fork River at Deer Lodge, the Clark Fork River near Garrison, the Clark Fork River near Drummond, and Flint Creek near mouth. Flint Creek overwhelmingly had the highest methylmercury concentrations among all CFROU monitoring stations in 2012. The methylmercury concentration in Flint Creek in Q2 concentration was nearly six times higher than any concentration measured in the Clark Fork River mainstem

In 2013, methylmercury was detected in all samples from the CFROU (Figure 1-100). Methylmercury concentrations in 2013 were within the range of concentrations observed in those sites in 2012. The maximum 2013 methylmercury concentrations at each site were low relative to the maximum concentrations observed in 2012, both of which occurred in Q2.

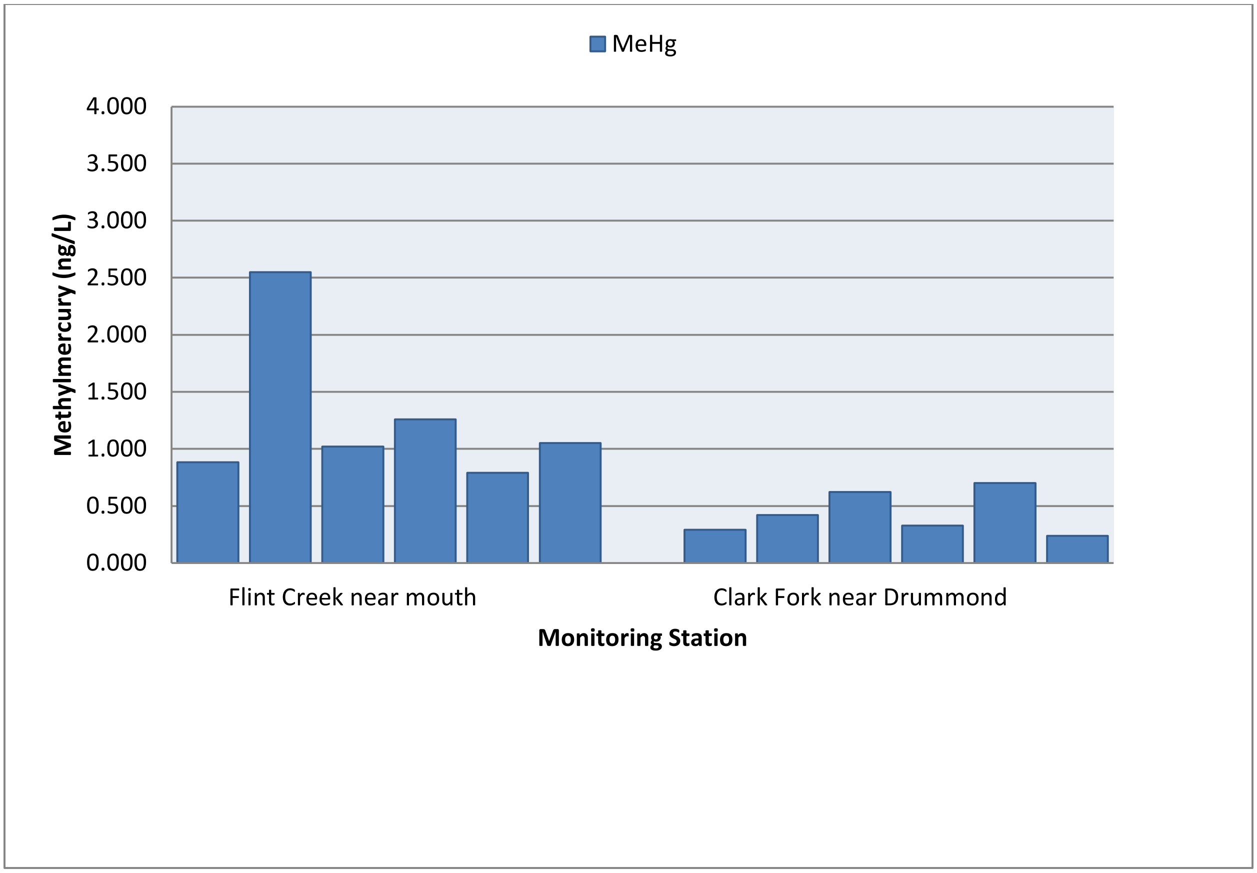


Figure 1-95. **Methylmercury concentrations at sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

Table 1-14. Methylmercury concentrations (ng/L) at Clark Fork River Operable Unit monitoring stations, 2013. Table represents data collected under the Montana Department of Environmental Quality monitoring program.

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-84F	Clark Fork near Drummond	0.291	0.42	0.623	0.327	0.7	0.239
Tributary Sites							
FC-CFR	Flint Creek near mouth	0.884	2.55	1.02	1.26	0.791	1.05

ND	Not detected at analytical reporting limit.
🟨	Exceeds chronic aquatic life standard (MDEQ 2012b).
🟧	Exceeds acute aquatic life standard (MDEQ 2012b).

1.3.7.7 Zinc

MDEQ Data.-Zinc concentrations in the Clark Fork River mainstem increased at each monitoring station throughout Reach A, from near Galen to Deer Lodge, and then decreased downstream at Turah in 2013 (Figure 1-101). All samples from the CFROU tributary sites had low zinc concentrations in 2013 (Figure 1-102). Like most of the COC metals, the highest zinc concentrations in 2013 were observed during the Q2-Rising monitoring event. This temporal pattern was less apparent for the tributary sites where zinc concentrations were lower overall. The Clark Fork River at Deer Lodge monitoring station also had elevated zinc concentrations in Q4.

A more or less consistent level of dissolved zinc occurred at most monitoring stations (near the reporting level), whereas total recoverable zinc concentrations were more variable. Zinc concentrations in Q2 2013 were lower than Q2 monitoring events in 2010, 2011, and 2012. However, zinc concentrations in Q1 and Q4 were similar in all of the 2010-2013 monitoring years. No samples from the CFROU monitoring stations in 2013 had zinc concentrations which exceeded the chronic ALS in 2013 (Table 1-15). However, several exceedances of the total recoverable zinc chronic ALS were occurred in 2010, 2011, and 2012.

The zinc ALS compliance ratios for the Clark Fork River mainstem stations near Galen, at Deer Lodge, and at Turah, and Silver Bow Creek at Warm Springs, appear to have declined somewhat since 2010 (Figures 1-103 through Figure 1-106). The seasonal and spatial trends in ALS compliance ratios for total recoverable zinc during the six 2013 monitoring events were similar to the patterns noted for cadmium, copper, and lead. The Clark Fork River at Deer Lodge most frequently had the highest zinc ALS compliance ratios during 2013, and the highest mainstem ratios occurred during the Q2-Rising and Q2-Peak monitoring events (Figure 1-107). All of the tributaries had compliance ratios that were consistently below 0.1 (Figure 1-108). The mainstem stations had compliance ratios during 2013 that were consistently below 1.0 and frequently below 0.1.

USGS and MDEQ Data.-All dissolved and total recoverable zinc concentrations were well below the estimated chronic ALS at all Clark Fork River mainstem and tributary sites (Figure 1-109 through Figure 1-112). As with other copper and lead, median total recoverable lead increased through Reach A (Figure 1-110). Generally, the USGS and RESPEC lead sample concentrations appeared similar (Figure 1-113 through Figure 116).

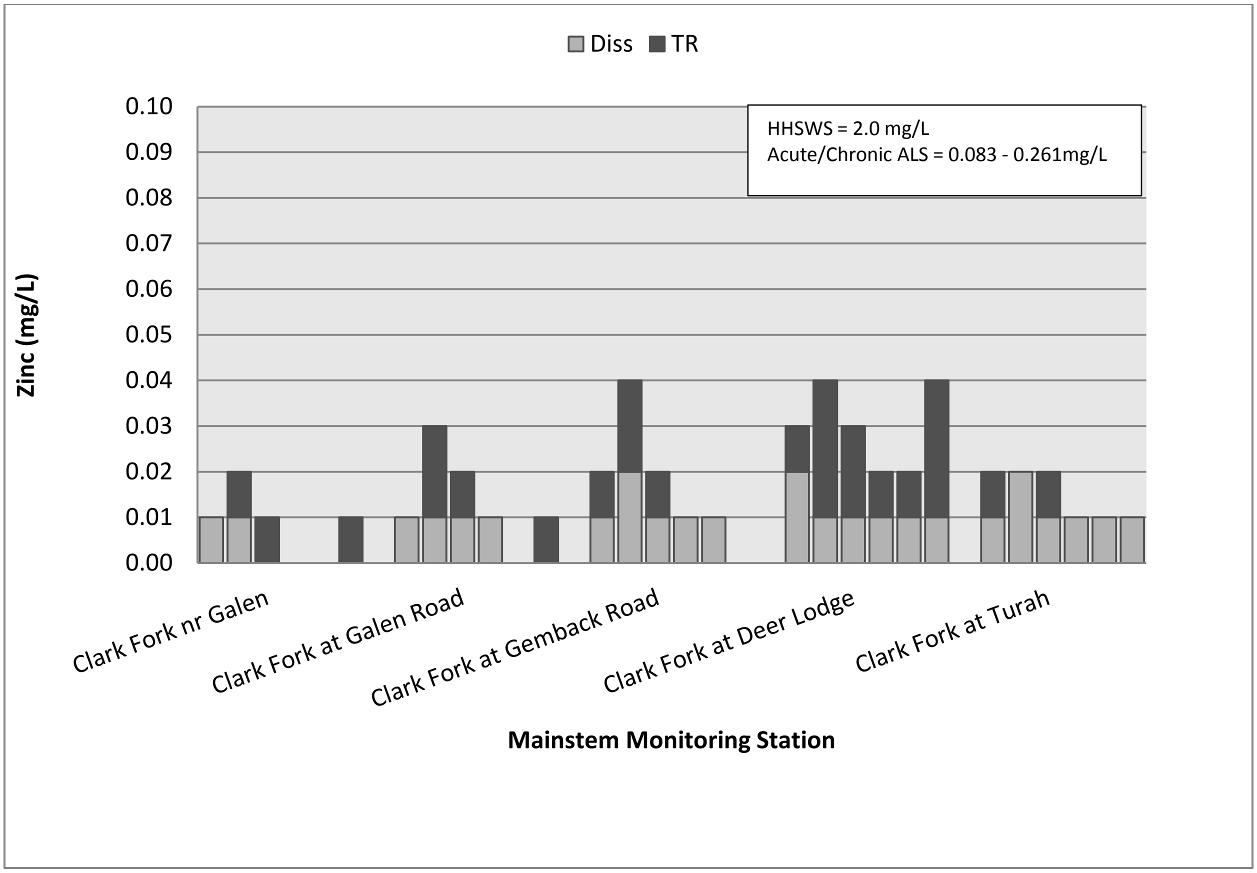


Figure 1-96. **Total recoverable (TR) and dissolved (Diss) zinc concentrations at mainstem sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

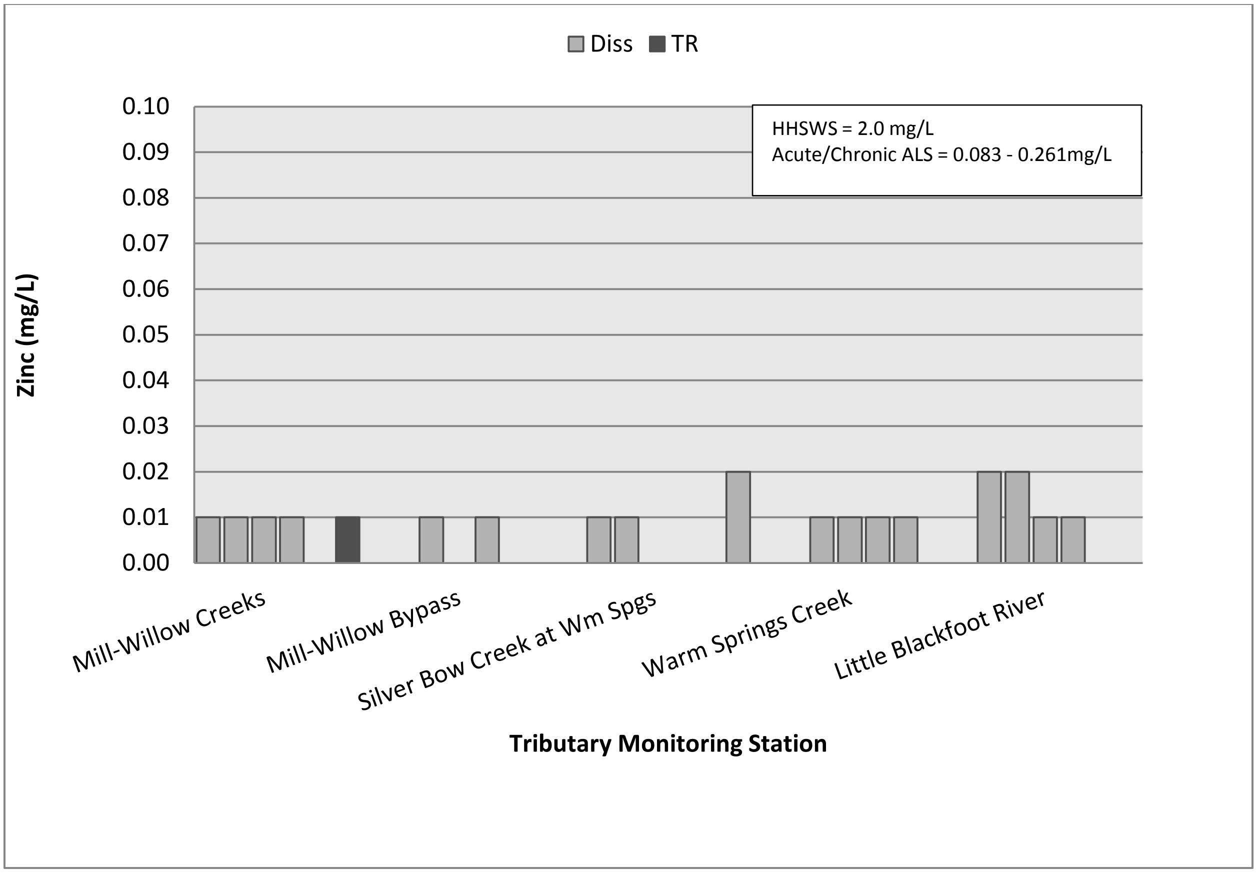


Figure 1-97. **Total recoverable (TR) and dissolved (Diss) zinc concentrations at tributary sampling sites in the Clark Fork River Operable Unit, 2013. Figure represents data collected under the Montana Department of Environmental Quality monitoring program. No bars indicate concentrations below the analytical reporting limit. Applicable water quality standards are the aquatic life standards (ALS) and the human health surface water standard (HHSWS) (MDEQ 2012b).**

Table 1-15. Total recoverable zinc concentrations (mg/L) at Clark Fork River Operable Unit monitoring stations, 2013. Table represents data collected under the Montana Department of Environmental Quality monitoring program.

Site ID	Site Location	Sample Period					
		Q1	Q2			Q3	Q4
			Rising	Peak	Falling		
Mainstem Sites							
CFR-03A	Clark Fork River near Galen	0.01	0.02	0.01	ND	ND	0.01
CFR-07D	Clark Fork River at Galen Road	0.01	0.03	0.02	ND	ND	0.01
CFR-11F	Clark Fork River at Gemback Road	0.02	0.04	0.02	0.01	ND	ND
CFR-27H	Clark Fork River at Deer Lodge	0.03	0.04	0.03	0.02	0.02	0.04
CFR-116A	Clark Fork at Turah	0.02	0.02	0.02	ND	ND	0.01
Tributary Sites							
SS-25	Silver Bow Creek at Warm Springs	ND	ND	ND	ND	ND	0.01
MCWC-MWB	Mill-Willow Creek at Frontage Road	ND	ND	ND	ND	ND	ND
MWB-SBC	Mill-Willow Bypass near mouth	0.01	ND	ND	ND	ND	0.01
WSC-SBC	Warm Springs Creek near mouth	ND	ND	ND	ND	ND	ND
LBR-CFR	Little Blackfoot River near Garrison	ND	0.01	ND	ND	ND	ND

ND	Not detected at analytical reporting limit.
🟨	Exceeds chronic aquatic life standard (MDEQ 2012b).
🟧	Exceeds acute aquatic life standard (MDEQ 2012b).

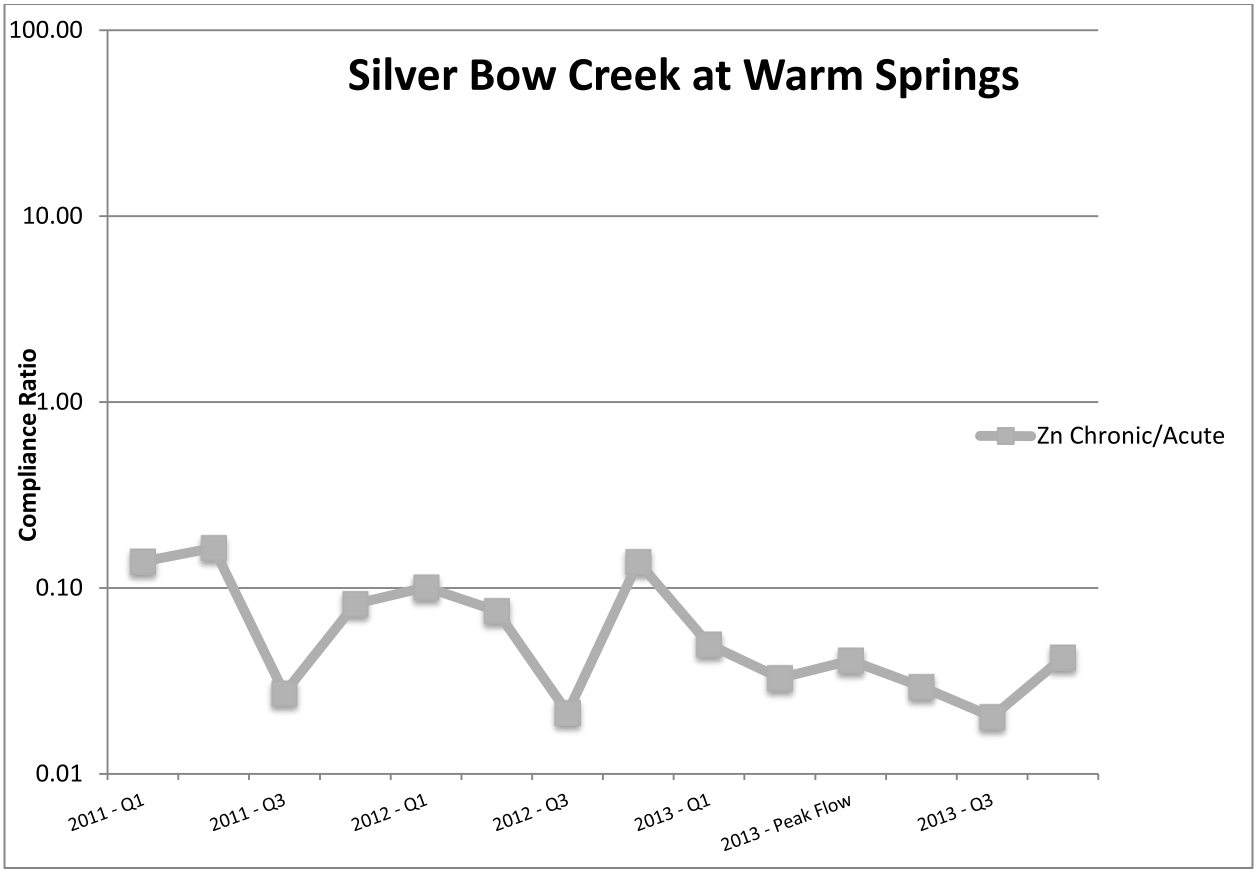


Figure 1-98. **Total recoverable zinc (Zn) compliance ratios for Silver Bow Creek at Warm Springs site, 2011-2013. Compliance ratios are based on the aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

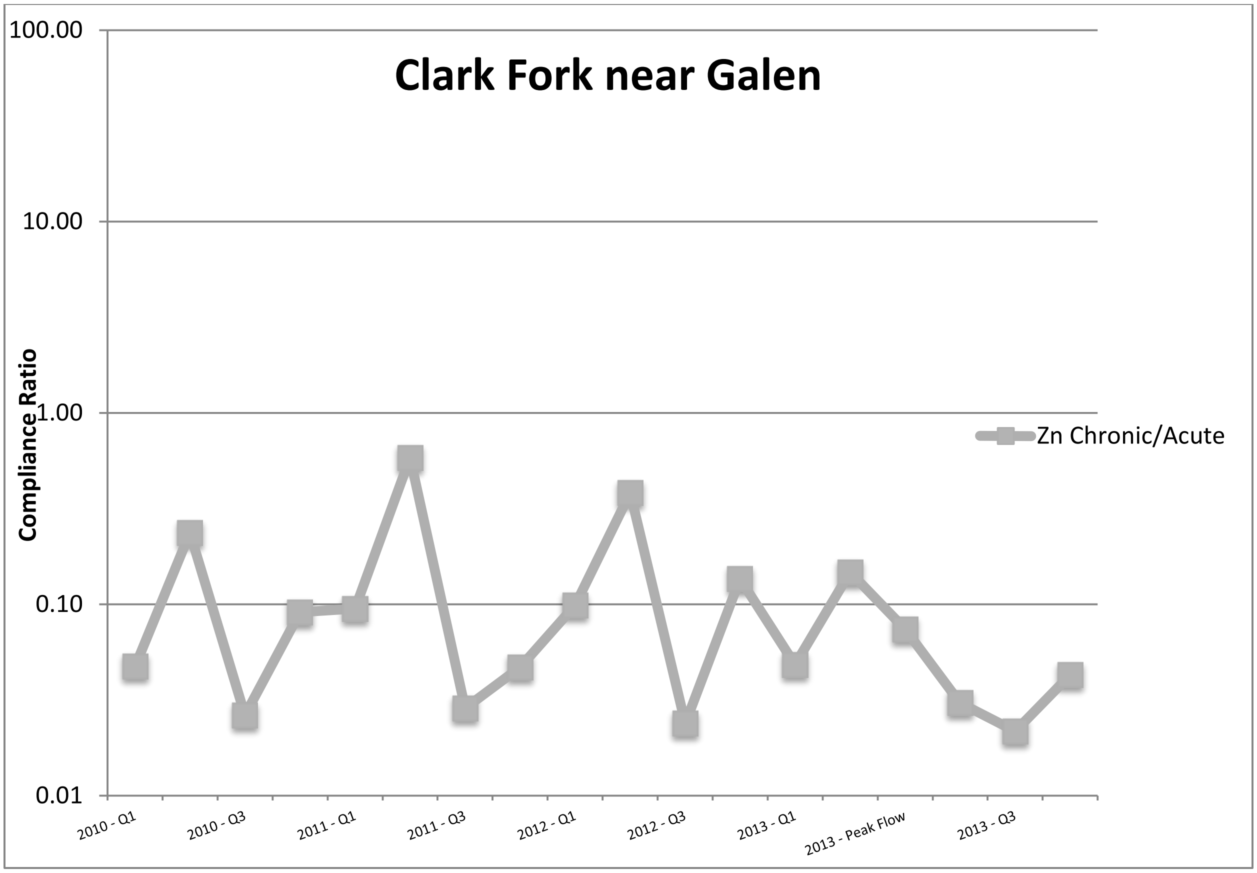


Figure 1-99. **Total recoverable zinc (Zn) compliance ratios for Clark Fork River near Galen site, 2010-2013. Compliance ratios are based on the aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

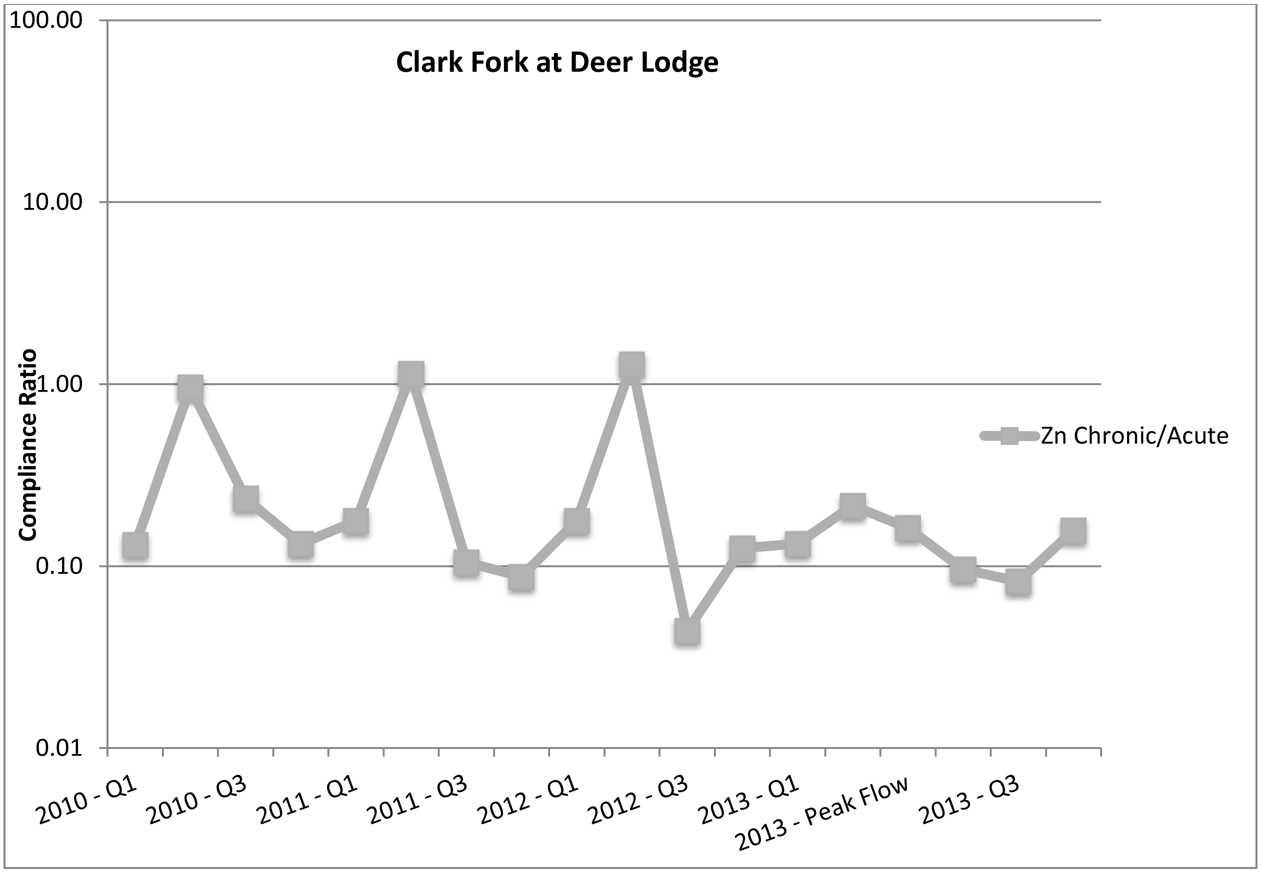


Figure 1-100. **Total recoverable zinc (Zn) compliance ratios for Clark Fork River at Deer Lodge site, 2010-2013. Compliance ratios are based on the aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

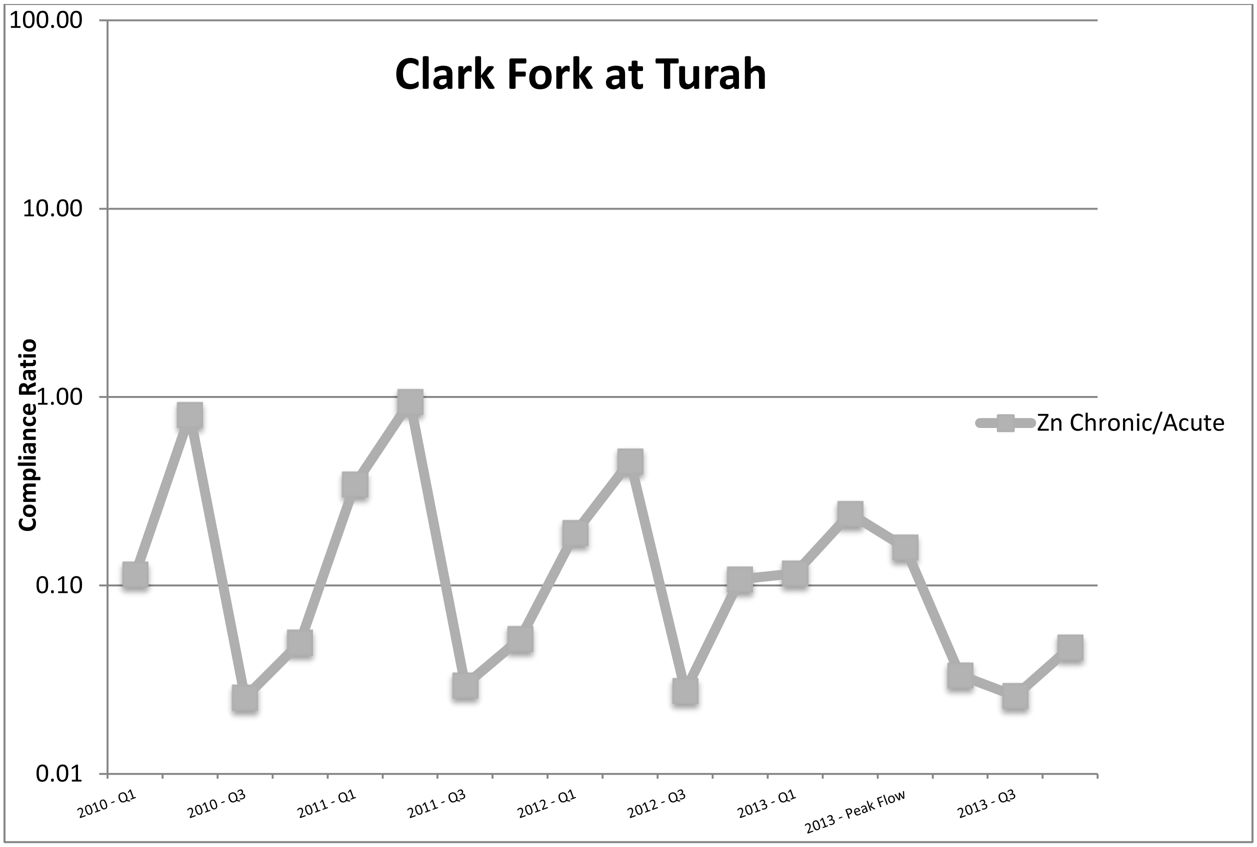


Figure 1-101. Total recoverable zinc (Zn) compliance ratios for Clark Fork River at Turah site, 2010-2013. Compliance ratios are based on the aquatic life standards (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.

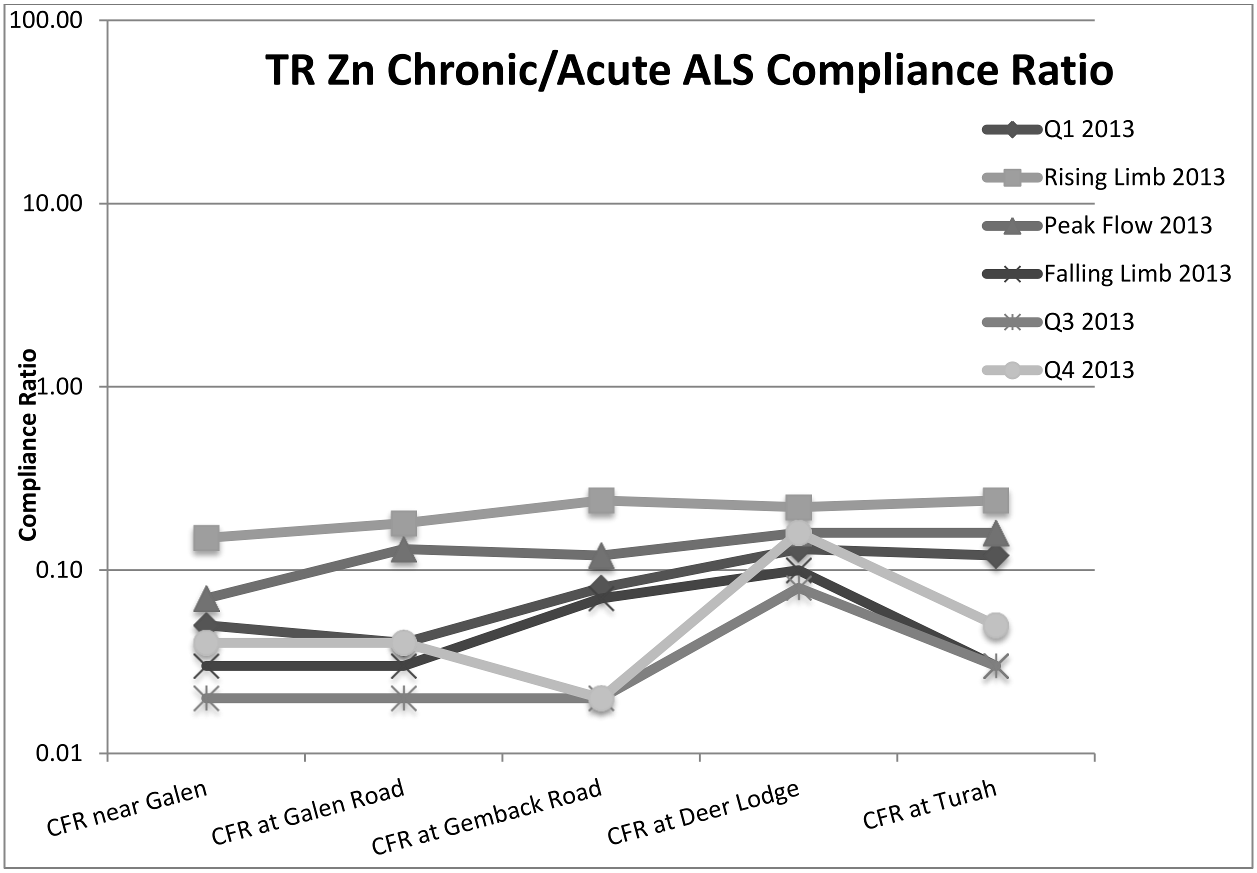


Figure 1-102. **Total recoverable (TR) zinc (Zn) compliance ratio in the Clark Fork River (CFR) mainstem sites, 2013. Compliance ratio is based on the chronic and acute aquatic life standard (ALS) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

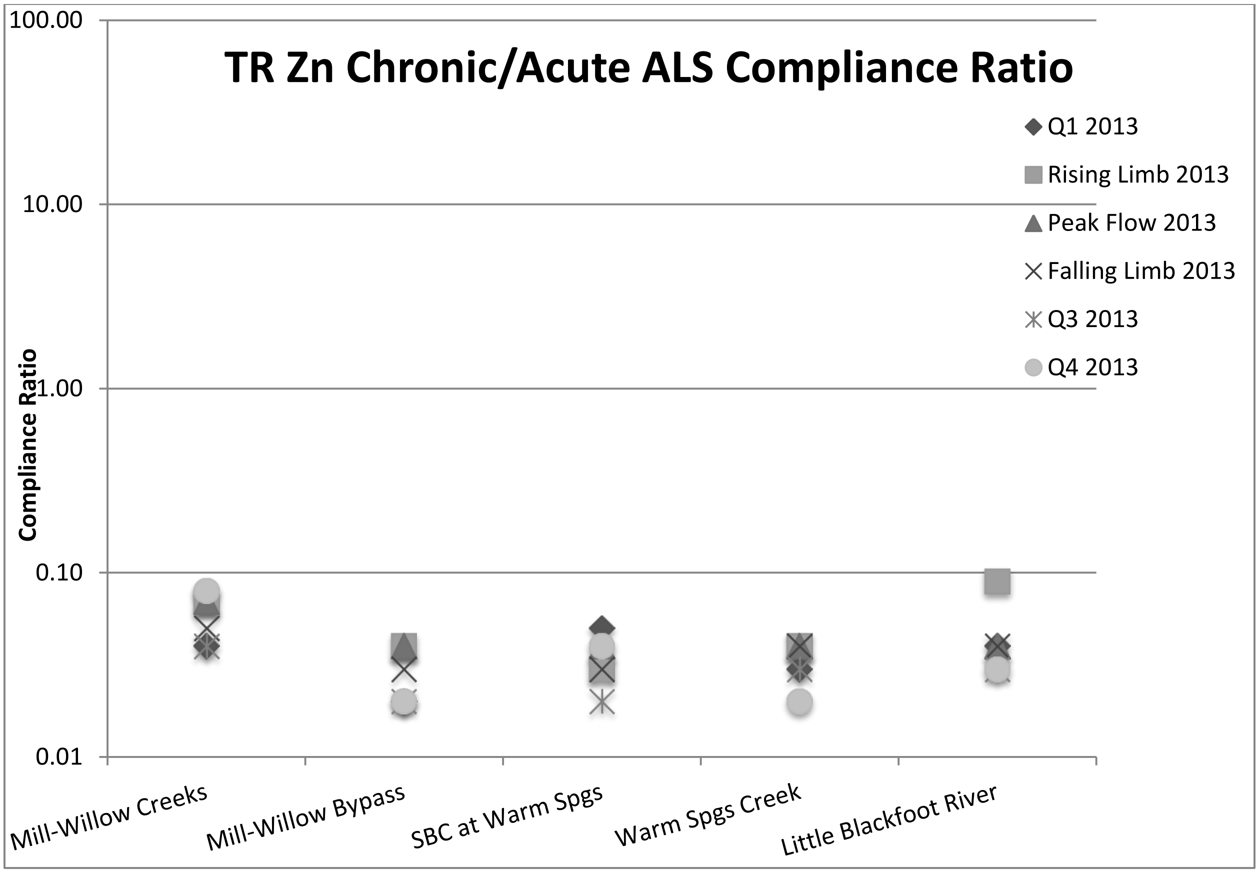


Figure 1-103. **Total recoverable (TR) zinc (Zn) compliance ratio in Clark Fork River (CFR) tributary sites, 2013. Compliance ratio is based on the chronic and acute aquatic life standard (ALS) (MDEQ 2012b). Figure represents data collected under the Montana Department of Environmental Quality monitoring program.**

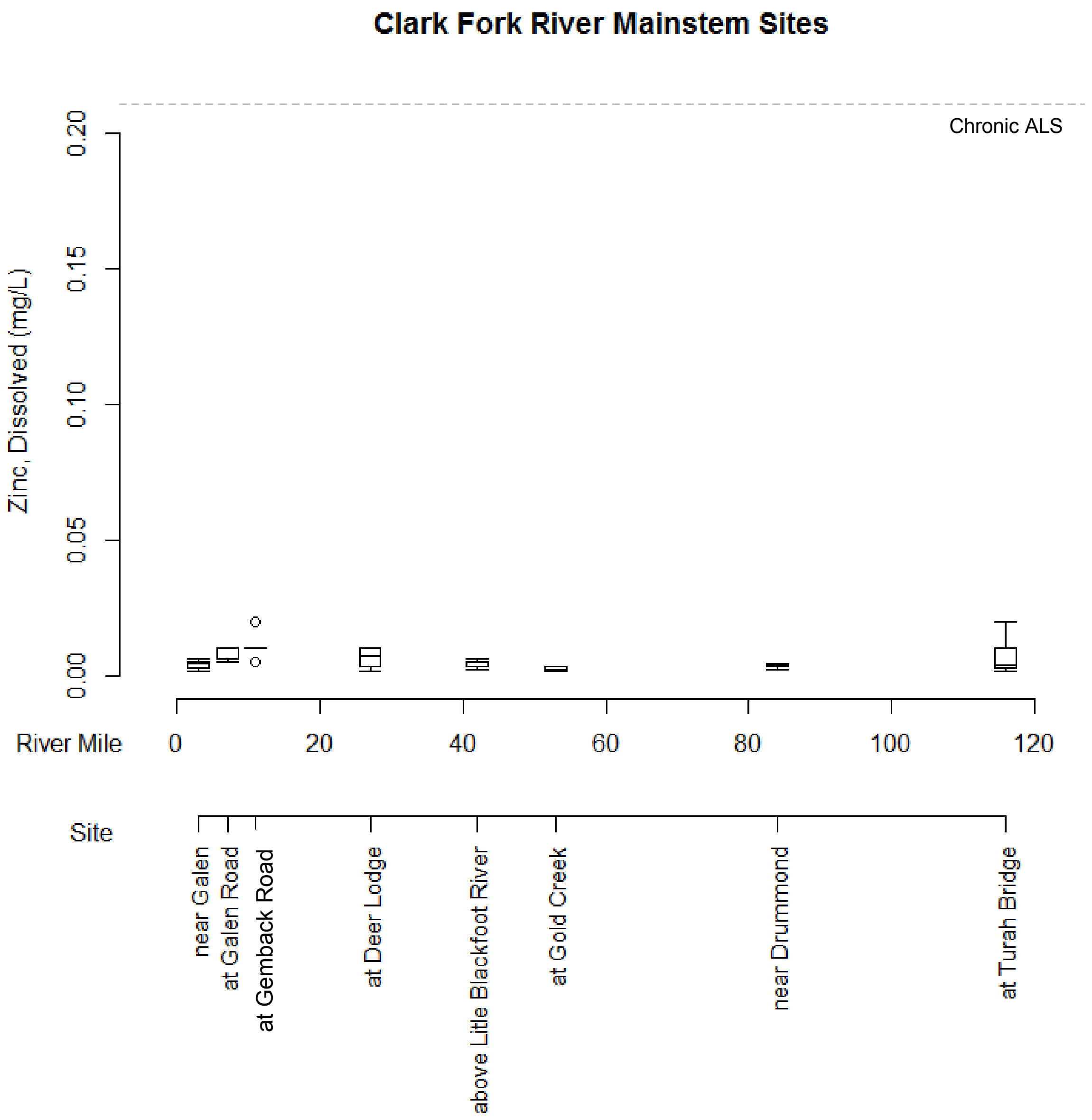


Figure 1-104. Dissolved zinc concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.

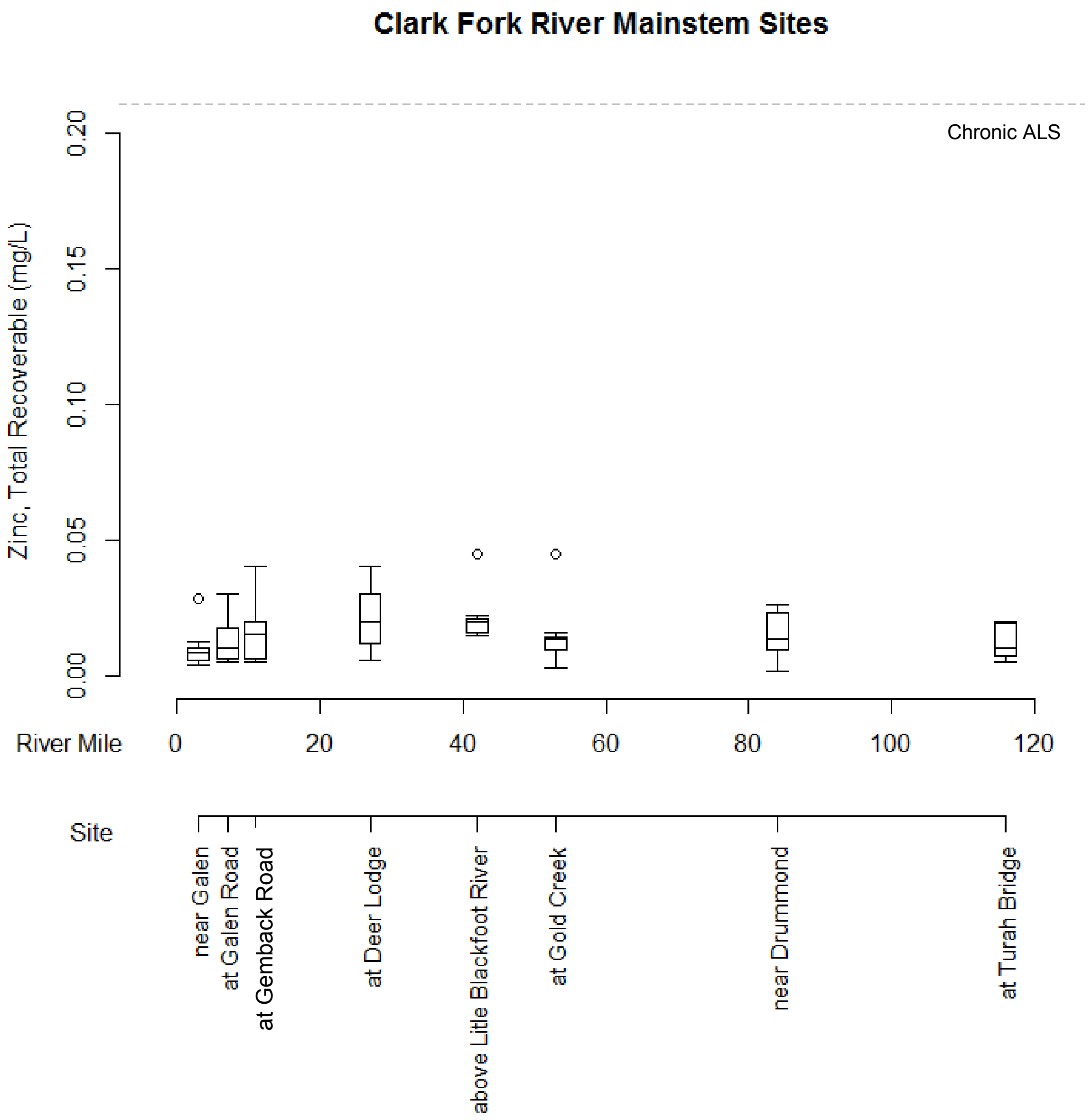


Figure 1-105. **Total recoverable zinc concentrations at Clark Fork River mainstem sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013). River miles are measured downstream from the Silver Bow Creek-Warm Springs Creek confluence.**

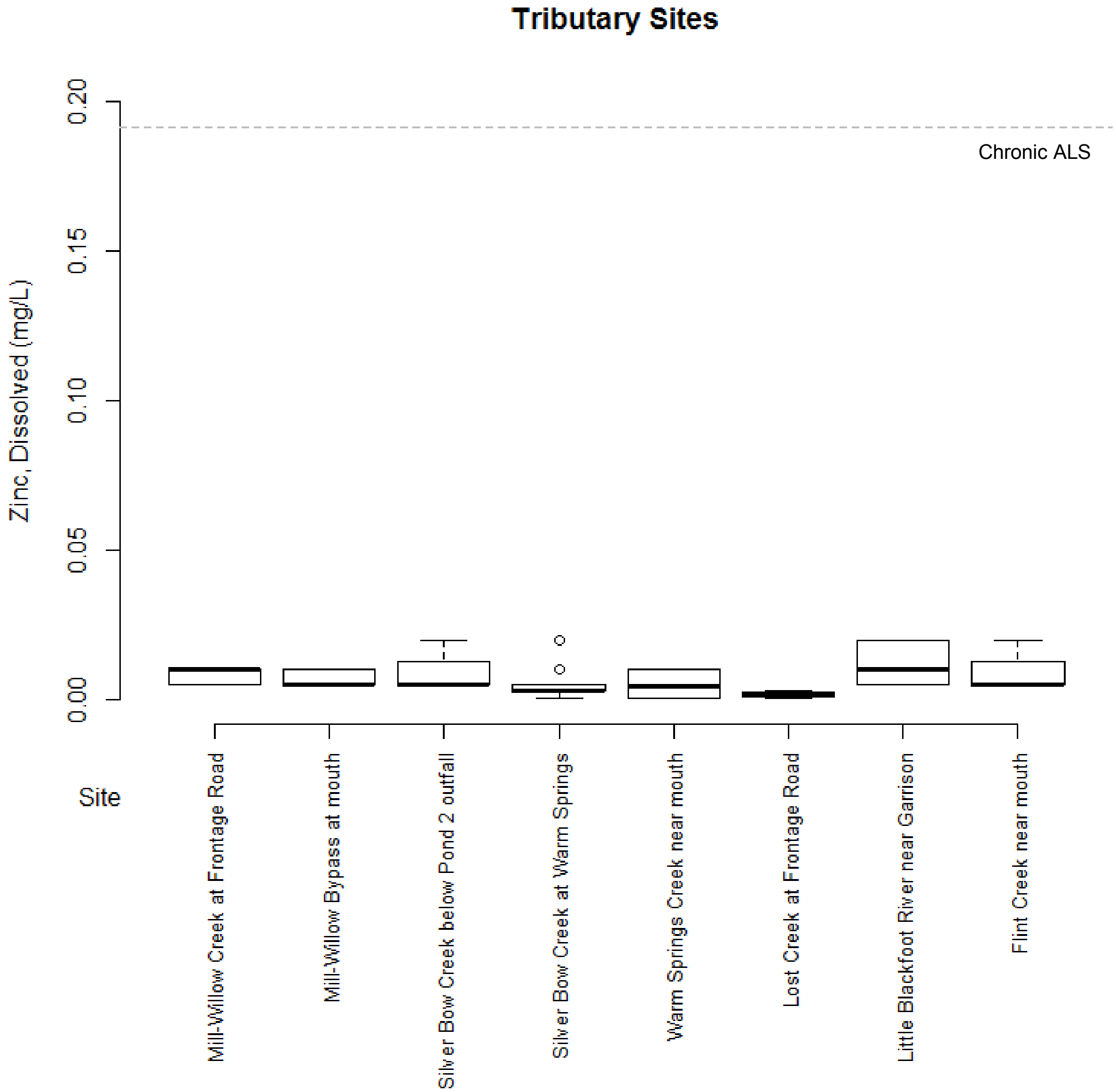


Figure 1-106. **Dissolved zinc concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**

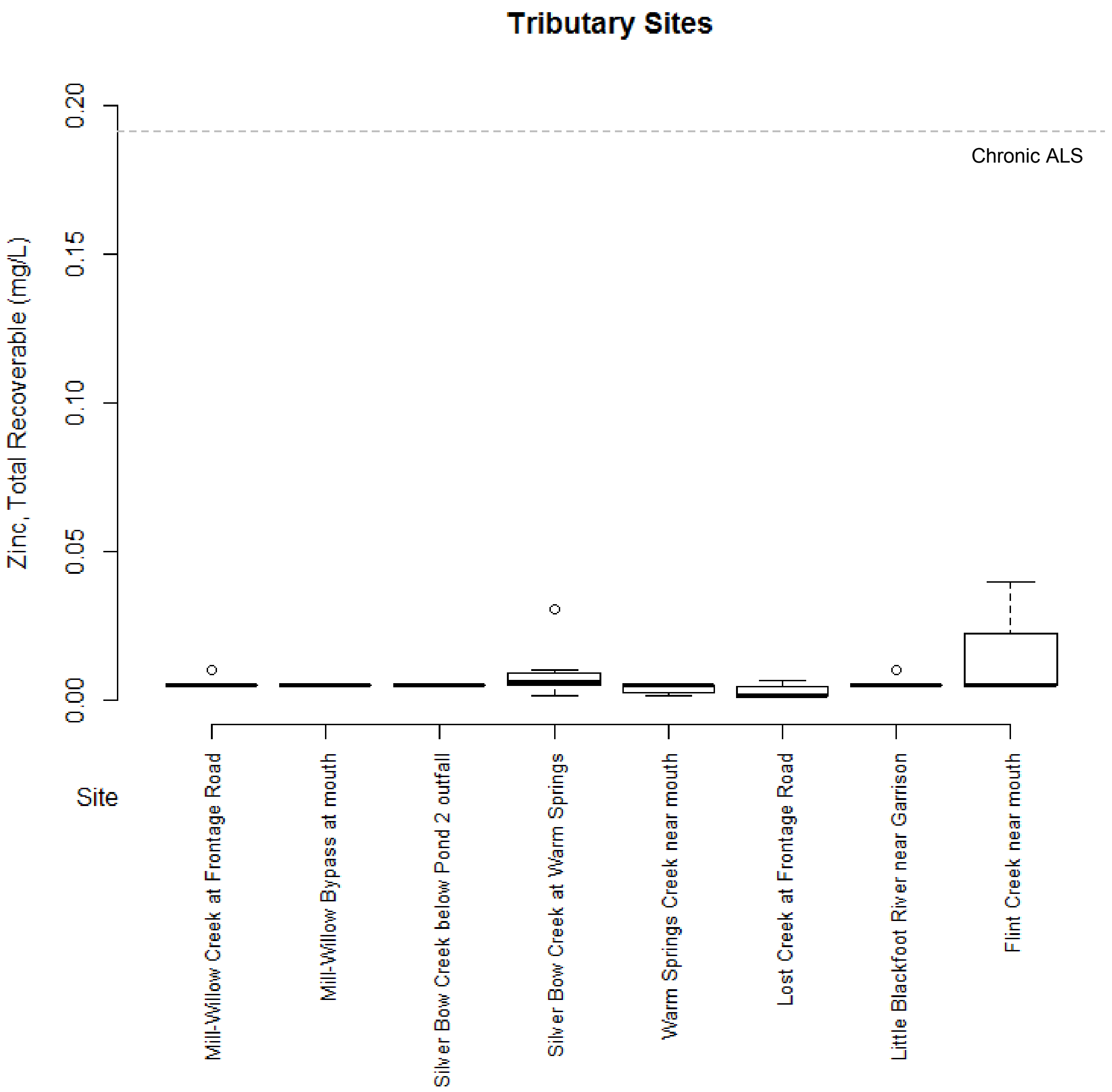


Figure 1-107. **Total recoverable zinc concentrations at Clark Fork River tributary sites, 2013. Boxplots include data collected by RESPEC for the Montana Department of Environmental Quality and preliminary data collected by the US Geological Survey (Source: USGS 2014). Dashed line represents the chronic aquatic life standard (ALS) (MDEQ 2012b) assuming water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**

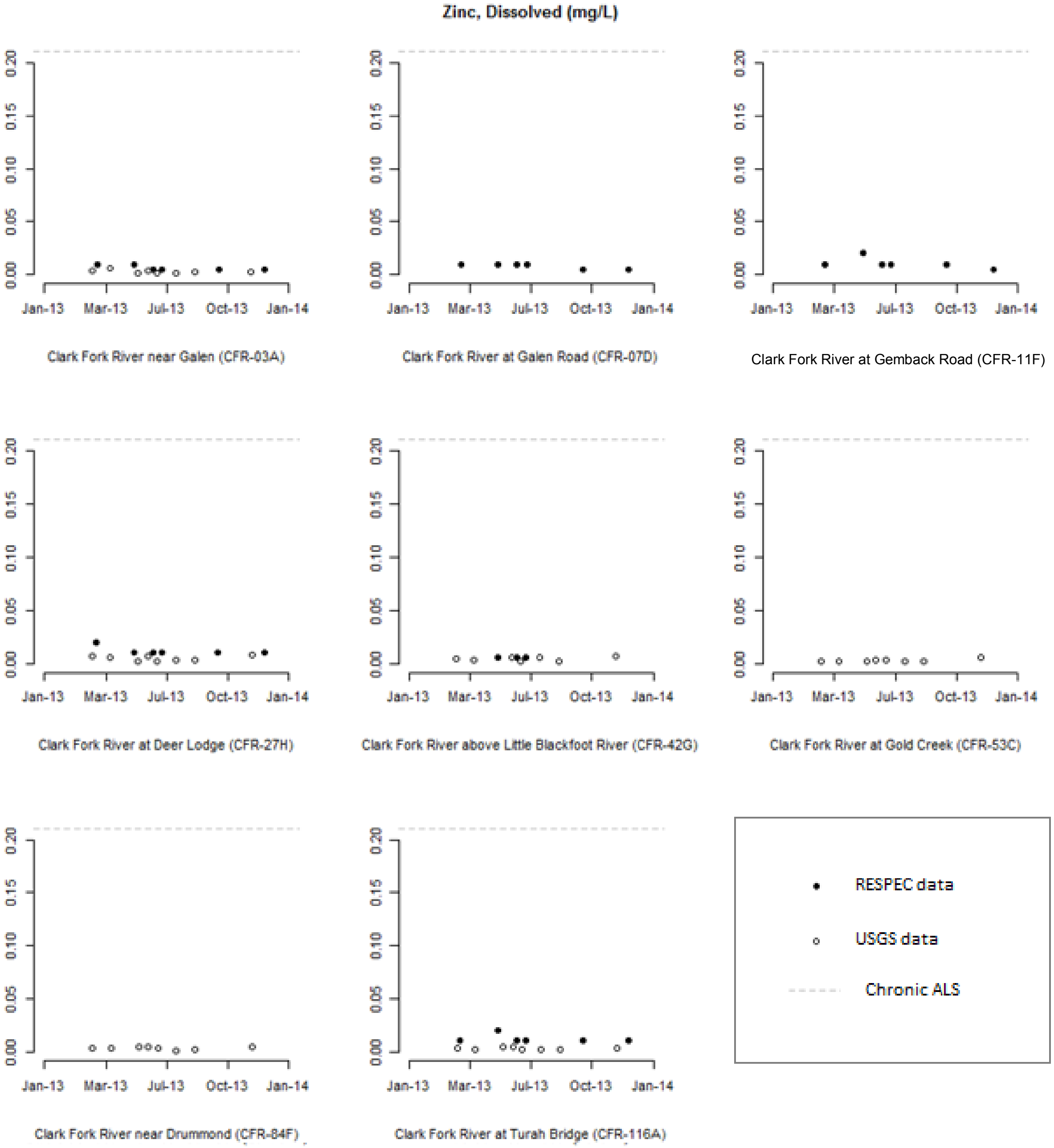


Figure 1-108. Dissolved zinc concentrations plotted by time at Clark Fork River mainstem sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013).

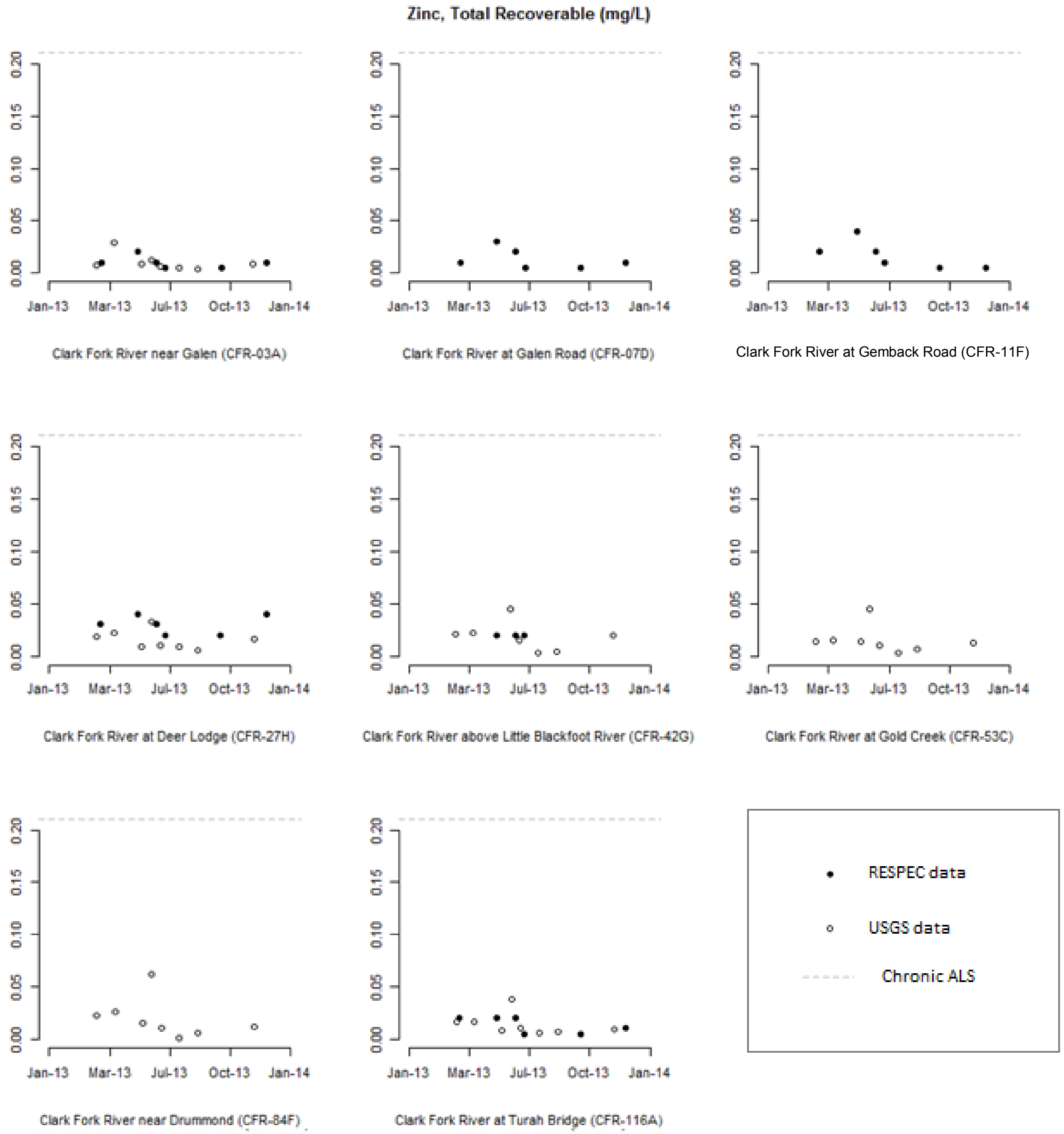


Figure 1-109. Dissolved zinc concentrations plotted by time at Clark Fork River mainstem sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 195 mg/L as CaCO3 (median hardness from all mainstem samples collected in 2013).

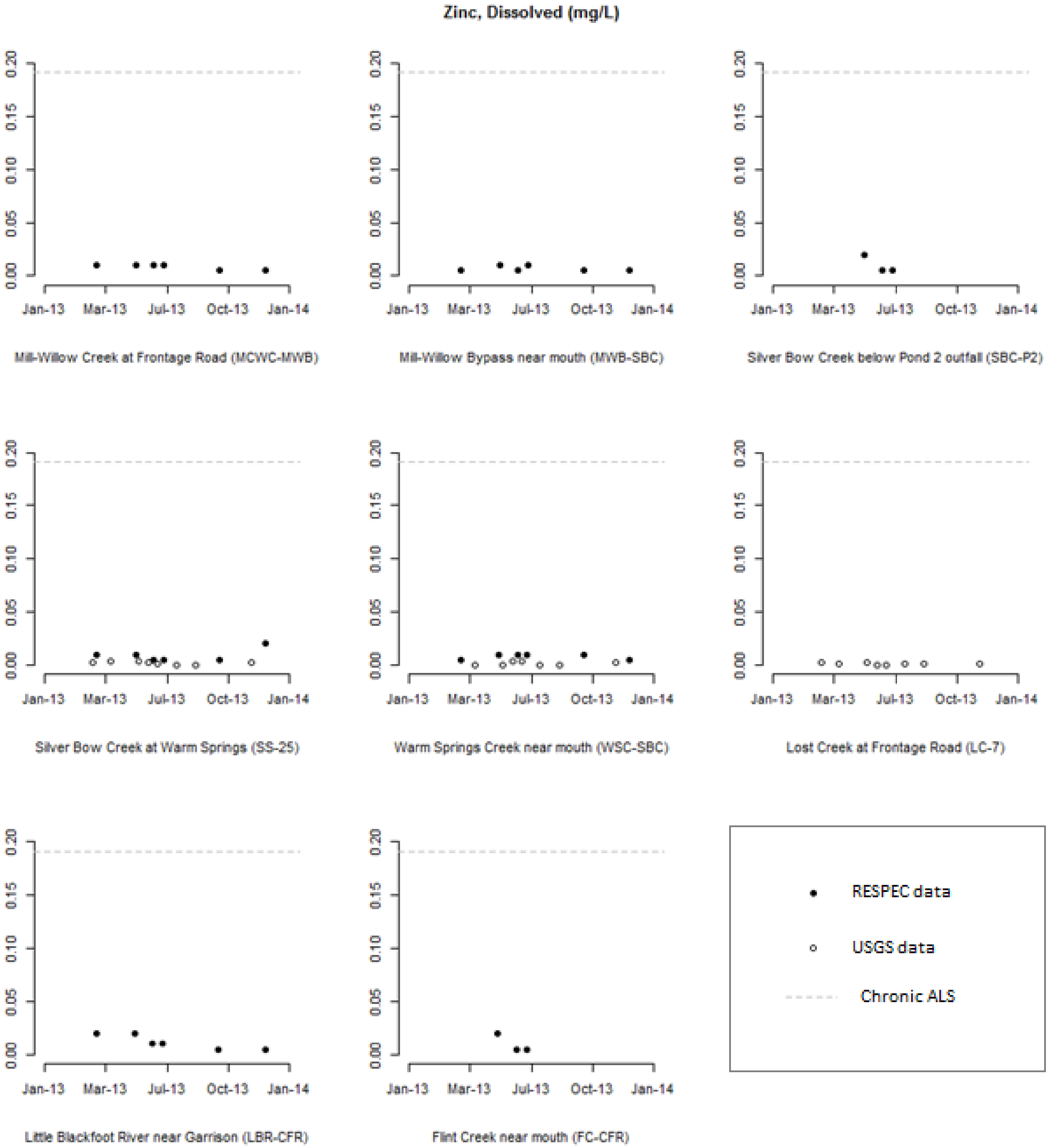


Figure 1-110. Dissolved zinc concentrations plotted by time at Clark Fork River tributary sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).

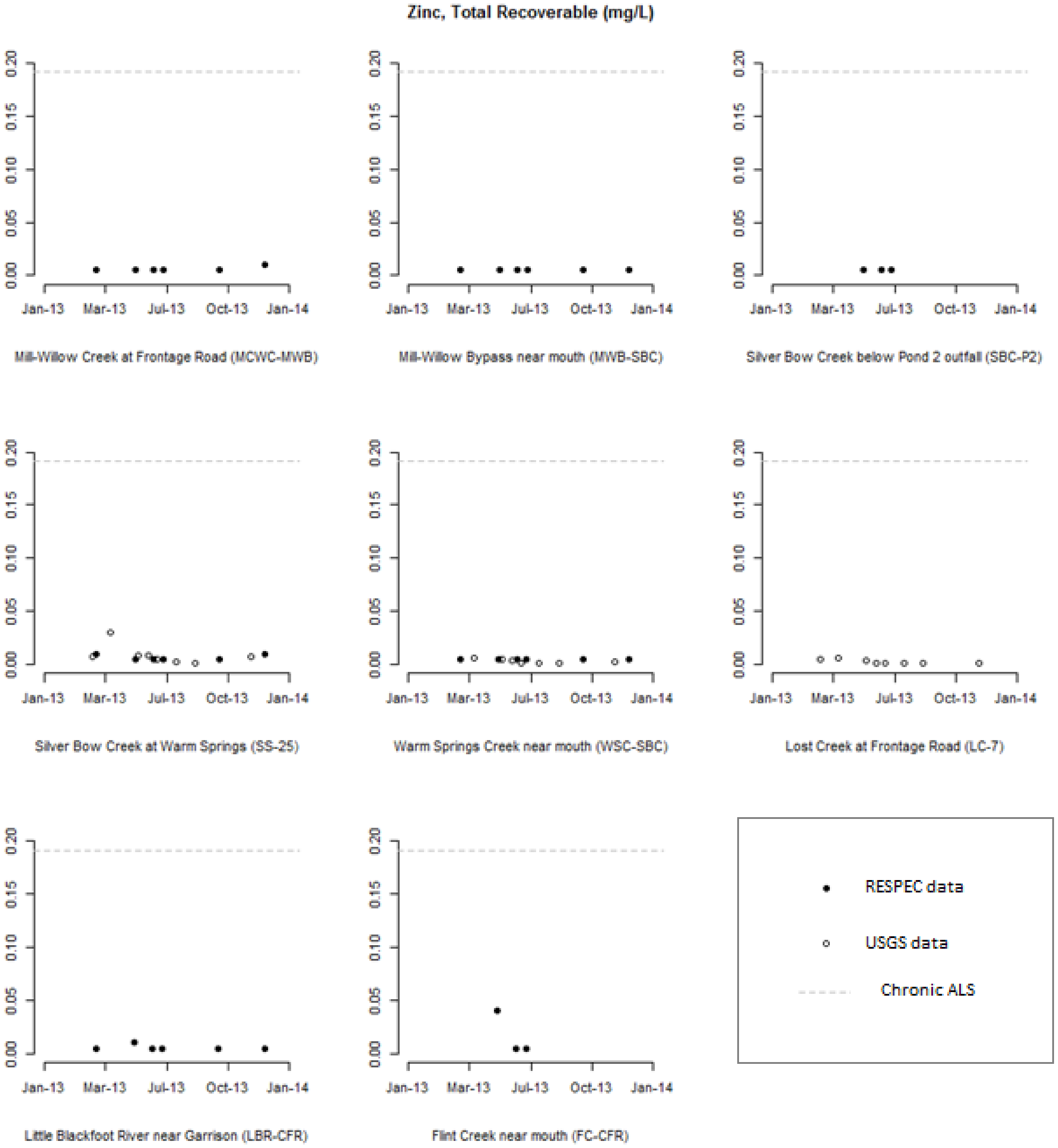


Figure 1-111. **Total recoverable zinc concentrations plotted by time at Clark Fork River tributary sites, 2013. Chronic aquatic life standard (ALS; MDEQ 2012b) assumes water hardness of 174 mg/L as CaCO3 (median hardness from all tributary samples collected in 2013).**

1.4 DISCUSSION

1.4.1 Data Validation

Generally, this monitoring program has satisfied the data quality objectives and data quality indicators specified in the quality assurance project plan (Atkins 2013). Moreover, it appears that the COC concentrations in samples collected and analyzed in this monitoring program are similar to those collected and analyzed by the USGS. However, this observation has not been tested empirically. A more formal method of assessing the degree of agreement between the USGS and RESPEC monitoring programs might be to fit regressions of observed COC concentrations on streamflows to compare the residuals of each program. Streamflows are known to be strong predictors of COC concentrations in the Clark Fork River (Sando et al. 2014).

Although quality control appears to be largely satisfactory, quality control results have consistently demonstrated that trace level contamination of dissolved field samples with zinc occurs in this monitoring program. We suspect that the field filtering apparatus may be responsible for the zinc contamination. Beginning in Q4 2012, all field filters were rinsed with deionized water prior to filtration of dissolved samples. However, this approach did not reduce the frequency of dissolved zinc contamination in 2013. In 2014, all dissolved sample bottles, field filters, and syringes have been triple rinsed with laboratory pure deionized water stored only in sterilized glass bottles in a further attempt to reduce zinc contamination in filtered samples. At the end of the 2014 sample period, we will reassess the success of these measures at reducing zinc contamination in the filtered samples. If necessary, based on 2014 results, we will consider additional measures to reduce zinc contamination. For example, we may consider using a peristaltic pump to filter samples, rather than handheld syringes, if it is determined that the syringes are responsible for the zinc contamination.

It is worth noting that contamination of samples with dissolved zinc is trace level and has resulted in a positive bias (i.e., reported dissolved zinc concentrations are higher than what is actually occurring). Despite this positive bias, all field sample zinc concentrations have been well below performance standards.

1.4.2 Streamflows

Streamflows in the Clark Fork River watershed were well below normal in 2013. These low streamflows presumably were largely responsible for the relatively low COC concentrations in 2013 compared to prior years. Low streamflows almost certainly also strongly influenced other parameters such as water temperatures, nutrient levels, conductivity, turbidity, common ion concentrations, and total suspended sediment concentrations.

1.4.3 Field Parameters

1.4.3.1 Water Temperature

Water temperature has considerable chemical and biological significance in riverine systems. Stream temperatures reflect seasonal changes in net solar radiation as well as daily changes in air temperature, and vary as a function of stream morphological characteristics, groundwater inputs, shading, the presence of particulate matter in the water column, and other variables. Optimal water temperatures for most trout species is approximately 12–14ºC. Sustained temperatures in the 20–25ºC temperature range can be fatal for trout.

Temperature monitoring results for the upper Clark Fork River monitoring stations during 2013 indicated modest seasonal and spatial variations that were generally within the preferred range for cold water organisms such as trout. However, stream temperatures are extremely variable as a result of weather and diel variation and this monitoring program is not intended to capture extreme temperature swings. More detailed hourly temperature data collected by Montana Fish Wildlife and Parks indicated that water temperatures in the Clark Fork River and tributaries are extremely stressful for trout, regularly exceeding 20ºC and occasionally exceeding 25ºC, in the summer months at many of these sites (see Section 5.0).

1.4.3.2 Acidity

Water pH measures the acidity of water as the concentration of hydrogen ions on a logarithmic scale. Acidity is influenced by water temperature, although the relationship is not linear, and typically shows a weak inverse relationship to streamflow as concentrations of base minerals tend to become diluted during runoff conditions. Acidity typically fluctuates on a diel cycle in relation to stream metabolism, with pH highest during the day. As dissolved carbon dioxide (a weak acid) levels increase during the night (because photosynthesis does not occur), pH levels decrease. Stream pH has direct and indirect effects on water chemistry and the biota of aquatic systems. Declines in pH below 6.5 may reduce salmonid egg production and hatching, and can reduce the emergence of some aquatic insects. The solubility of some metals varies with pH. This is important in systems such as the Clark Fork where metal concentrations in sediments are elevated. Stream pH also affects a variety of other instream chemical equilibria, for example the proportion of ammonia present in the toxic, unionized form.

MDEQ has concluded that pH levels need to be maintained within the 6.5-9.0 range to protect aquatic life. Generally, pH in the Clark Fork River was within recommended levels (6.5-9.0). However, pH in Silver Bow Creek immediately upstream from the Clark Fork River mainstem regularly exceeds 9.0 during the summer (S. Lubick, Pioneer-Technical Services, *unpublished data*). One measurement from the Silver Bow Creek at Warm Springs site had a pH (9.20). It is unclear if elevated daytime pH in Silver Bow Creek below the Warm Springs Ponds is the result of excessive liming, diel cycles related to high productivity from nutrient enrichment, or both (Nimmick et al. 2011; Chatham 2012).

1.4.3.3 Conductivity

Conductivity is a quantitative measure of the ability of an aqueous solution to convey an electrical current and is a function of water temperature and the concentration of dissolved ions in water. Conductivity provides an approximation of the concentration of dissolved solids in water as well as its potential suitability for uses that may be limited by excessive salinity. Conductivity also gives general insight into spatial and seasonal changes in water chemistry.

Elevated levels of conductivity reflecting high dissolved solids may limit some water uses, such as irrigation, or drinking water. Very low conductivity, as affected by watershed geology, may contribute to low productivity of associated biological systems. Conductivity tends to be inversely proportional to streamflow due to dilution from spring snowmelt runoff. Conductivity in the upper Clark Fork River in 2013 reflected seasonal variation consistent with annual snowmelt runoff.

1.4.3.4 Dissolved Oxygen

Dissolved oxygen refers to the amount of oxygen dissolved in water. The capacity of water to hold oxygen in solution is inversely proportional to water temperature. In addition to water temperature, instream dissolved oxygen concentrations are affected by respiration of organisms, photosynthesis of aquatic plants, the biochemical oxygen demand of substances in the water, and the dissolution of atmospheric oxygen in the water by rapid movement.

Dissolved oxygen levels fluctuate seasonally and over diel cycles due to the stream ecosystem's ability to produce and consume oxygen.

Acceptable levels of DO for the protection of aquatic life are defined in the Montana water quality standards (MDEQ 2012b). Values that apply to the upper Clark Fork range from a high of 9.5 mg/L, measured as a seven-day mean concentration where sensitive early life stages are present, to a low of 4.0 mg/L measured as a one day minimum for settings where other than early life stages of aquatic life are present (MDEQ 2012b).

Adequate levels of dissolved oxygen are required by biological stream communities and for the decomposition of organic matter in the stream. No dissolved oxygen measurements in the CFROU in 2013 indicated water quality or water use limitations associated with inadequate oxygen concentrations. However, the lowest dissolved oxygen concentrations generally occur in the pre-dawn hours and monitoring occurred in the daytime at all sites.

1.4.3.5 Turbidity

Turbidity refers to the amount of light that is absorbed or scattered by water, and is an optical property of water. Increasing turbidity or “cloudiness” in surface waters usually results from the presence of suspended silt or clay particles, organic matter, colored organic compounds, and microorganisms. Turbidity does not always correlate well with the weight of suspended matter in solution because of different particle sizes, weights and refractive properties of the substances that contribute to turbidity.

Elevated turbidity levels can impede recreational and aesthetic uses of water, and turbidity is an important parameter for drinking water. High turbidity adversely affects feeding, growth, and suitable habitat of salmonid fishes, and it may contribute to increases in surface water temperatures. The MDEQ has established maximum allowable increases above naturally occurring turbidity. The allowable increase is 10 nephelometric turbidity units (NTU) for C-2 class streams (Clark Fork from Warm Springs Creek to Cottonwood Creek), and five units for C-1 (Clark Fork from Cottonwood Creek to the Little Blackfoot River) and B-1 (remainder of Clark Fork) class streams (ARM 17.30.623, 2007; ARM 17.30.626–627, 2007).

Turbidity during 2013 Q2-Rising monitoring event was significantly elevated compared to other monitoring events presumably due to the initial onset of spring snowmelt runoff. The only exception to this pattern was Silver Bow Creek at Warm Springs, which is located downstream from the Warm Springs Ponds, which buffer the site from elevated turbidity. Although most sites had high turbidity during runoff as expected, the Clark Fork River at Deer Lodge site had elevated turbidity in Q4 2013, potentially due to ice scouring.

1.4.4 Total Suspended Sediment

Suspended sediment refers to sediment suspended in the water column, as opposed to sediment transported along the stream bottom, which is known as bedload. Suspended sediment in streams generally includes a range of particle sizes which will vary with watershed geology, stream velocity, bed form, and turbulence. Excess fine sediment interferes with most water uses and has particularly adverse effects on benthic invertebrate and salmonid fish growth and reproduction. Increased suspended sediment can reduce light penetration and affect primary production by aquatic plants, and may affect the morphology of alluvial stream channels. In the Clark Fork system, transport of many of the COCs is directly correlated with suspended sediment.

Total suspended sediment concentrations during most samples at most sites were similar to prior years and generally as expected given streamflow conditions. However, at the Clark Fork

River at Deer Lodge station in Q4 concentrations were quite high and may have been related to ice scouring of the streambanks and bed.

1.4.5 Common Ions

Common ions describe basic water chemistry. Certain ions, such as sulfate, may indicate the presence of mine related contaminants. Calcium and magnesium ions contribute to water hardness, which helps to buffer the toxic effects of some metals. Aquatic life toxicity criteria for metal COCs vary directly in relation to hardness. Hardness mitigates metals toxicity by impeding the rate at which aquatic organisms absorb metals through the gills. Carbonate and bicarbonate alkalinity contribute to the buffering system of surface waters to resist changes in pH. Levels of water hardness and alkalinity also strongly influence the productivity of aquatic systems. Western freshwater fisheries typically show alkalinity values of 100–200 mg/L. Based on previous monitoring, calcium is the dominant cation in the upper Clark Fork River monitoring network stations.

Water hardness in the Clark Fork River mainstem stations in 2013 would be categorized as “hard” to “very hard” except during major runoff conditions. Moderate alkalinity in the upper mainstem Clark Fork River reflect a well buffered system, with good potential for fish production barring other limitations. Sulfate is the second most prevalent anion in the upper Clark Fork River watershed, behind bicarbonate.

1.4.6 Nutrients

Numeric water quality standards have been adopted for nutrients in the Clark Fork River from the Warm Springs Creek confluence to the Blackfoot River confluence, a reach which encompasses most of the CFROU (ARM 17.30.631). The standards apply only to the summer season, defined as the period from June 21 through September 21. The standards for this segment of the Clark Fork River are 0.300 mg/L for total nitrogen and 0.020 mg/L for total phosphorus (ARM 17.30.631). The standards do not apply to sample sites located in tributaries to the Clark Fork River.

Total nitrogen concentrations were highest during lower streamflow periods, especially during the Q4 monitoring event. The maximum total nitrogen concentrations were observed in the Clark Fork at Deer Lodge in Q4 and in Silver Bow Creek at Warm Springs in Q3 and Q4. Elevated nitrogen levels at Deer Lodge in Q4 may have been related to ice scour.

Concentrations of total phosphorus were highest at most sites during the Q2 monitoring events. This may have been attributable to correspondingly high concentrations of total suspended sediment present during this period. Phosphorus readily adsorbs to sediment particles and there is a strong correlation between total phosphorus and total suspended sediment concentrations in surface water.

1.4.7 Contaminants of Concern

Surface water monitoring data collected in 2013 represents the fourth year of monitoring in the CFROU. Remediation activities were just beginning in the CFROU in 2013. Active remediation was in progress in only the uppermost 1.6 mile reach of the Clark Fork River (Phase 1 of Reach A), immediately downstream from the Warm Springs confluence. Reach A, extending from the Warm Springs Creek confluence to the Little Blackfoot River confluence, has the largest volume of streamside tailings in the CFROU. In particular, the uppermost portion of the river located upstream from the town of Deer Lodge has been identified as an area of relatively heavy COC loading to the Clark Fork River (Sando et al. 2014). Monitoring from 2010-2012 represented baseline conditions in the CFROU, immediately prior to remediation. As of 2013, remediation was just beginning and therefore it is unlikely that remedial activities would have influence COC levels in the river.

In 2013, COC levels were generally low compared to prior years and relatively few samples exceeded performance goals. For example, no total recoverable cadmium samples exceeded the chronic ALS in 2013 whereas exceedances were common in prior years: 2010 (21%), 2011 (21%), and 2012 (7%). In addition, no zinc concentrations exceeded the performance goals in 2013. Primary factors contributing to the relatively few COC performance goal exceedances in 2013 were likely the substantially reduced streamflows and elevated water hardness. Streamflows in the Clark Fork River are strongly related to COC concentrations (Sando et al. 2014) and water hardness plays a primary role because water quality standards for all CFROU COCs, except arsenic, are directly (positively) related to hardness.

Despite apparent improvements in surface water quality in 2013, exceedances of performance goals for arsenic and copper were common. In the Reach A Clark Fork River mainstem sites, arsenic concentrations exceeded the HHSWS in 83% (20 of 24) of the samples. Arsenic concentrations exceeded the HHSWS in 94% (17 of 18) of the samples from Silver Bow Creek, Mill-Willow Creek, and the Mill-Willow Bypass. These data clearly suggest that Silver Bow Creek and the Mill-Willow Bypass are primary sources of arsenic in the Clark Fork River mainstem. Recent analysis by the USGS identified the Warm Springs Ponds, the Mill-Willow Bypass, and groundwater in the vicinity of the Warm Springs Ponds as substantial arsenic sources to the upper Clark Fork River (Sando et al. 2014).

In addition to arsenic contamination in the Clark Fork River mainstem, copper exceeded the chronic ALS at all mainstem Clark Fork River sites during the Q2-Rising and Q2-Peak monitoring events, and at Deer Lodge during all sample periods except Q3. Again, these results support conclusions of Sando et al. (2014) that the Clark Fork River reach upstream from Deer Lodge is a major source of copper loading and copper concentrations throughout the river are strongly related to streamflows. Inclusion of the USGS data in these analyses demonstrated that in actuality, median copper concentrations (as well as other COCs such as lead) were actually higher downstream from Deer Lodge, at the above Little Blackfoot sample site.

Generally, all COC concentrations and compliance ratios at all sites were highest during the Q2-Rising monitoring event when the highest streamflows occurred and water hardness was lowest. The only exceedances of the chronic ALS for lead occurred during the Q2-Rising monitoring event.

1.4.8 Mercury and Methylmercury

Monitoring for methylmercury at CFROU monitoring stations began in 2012 at the request of Montana Fish Wildlife and Parks. Inorganic mercury is converted to methylmercury in aquatic systems by sulfate- and iron-reducing bacteria. Methylmercury is a highly toxic form of mercury that biomagnifies readily. Fish consumption is the main source of human exposure to methylmercury, and a number of adverse health effects associated with exposure to methylmercury have been identified in humans and animal studies.

Methylmercury is not commonly measured in water, but the U.S. Environmental Protection Agency has published a human health water quality criterion for methylmercury expressed as a concentration in fish and shellfish tissue. It is not practical to translate fish tissue concentrations into water column concentrations. Therefore, for the purposes of this report, methylmercury concentrations were reported by no evaluation of standards excursions was possible.

Sampling results in 2013 demonstrated that Flint Creek is clearly a source of mercury and methylmercury to the Clark Fork River. However, despite exceedances of the mercury HHSWS by nearly 10 times in Flint Creek in 2013, no exceedances occurred in the Clark Fork River. Maximum mercury levels in 2012 were higher than in 2013, mercury concentrations exceeded the HHSWS by 30 times in Flint Creek and by 2.4 times in the Clark Fork River in Q2 2013. Mercury and methylmercury were detected at levels above the reporting limits during all sample periods at each site sampled in 2013.

2.0 SEDIMENT

Mobilization of contaminated sediments originating from streamside tailings deposits reach the Clark Fork River through streambank erosion, overland flow, and re-suspension of deposited in-channel sediment, and are pathways for contamination of surface water, and aquatic and riparian resources (USEPA 2004). Data collected from Clark Fork River bed sediments indicates that concentrations of contaminants vary considerably in space and time due to streambed and streambank erosion, and deposition of streambed material that occurs naturally. Generally, metal and arsenic concentrations are three to five times higher in the fine grained fractions of the sediment than in the bulk fractions. Sediments from riffle areas have also been investigated and concentrations of metals were found to be 30-40% lower in these areas compared to depositional areas. Additionally, copper concentrations in streambed sediments decrease as grain size increases (NRDP 2007).

From a management standpoint, instream sediments are unlike surface water in that they typically have a longer residence time. Water moves into and out of the remediation reach of the Clark Fork River fairly rapidly. This can cause wide variations in water quality over short time periods. Sediment moves much more slowly, and contamination in sediment can have lasting effects on water quality and aquatic life.

2.1 REFERENCE BENCHMARKS

No specific remediation performance standards were established for COC concentrations of instream sediments in the CFROU ROD (USEPA 2004). However, reference benchmarks were established for instream sediments in the Streamside Tailings Operable Unit (SSTOU) of Silver Bow Creek, a headwater tributary to the Clark Fork River. The SSTOU reference benchmarks for each COC concentration in instream sediments are the “threshold of effect concentration” (TECs) and the “probable effect concentration” (PEC), which are consensus-based sediment quality guidelines for benthic organisms (MacDonald et al. 2000). At metal COC concentrations above the TEC, benthic organisms may be affected by that COC. At metal COC concentrations above the PEC, benthic organisms are likely to be affected by that COC. The TEC and PEC have been adopted as guidelines for predicting the ecological effects of instream sediment COC concentrations within the CFROU (Table 2-1).

The proposed reference benchmarks for the CFROU are to have sediment COC concentrations which are below the PEC and the TEC. Attainment of instream sediment reference benchmarks in the SSTOU, coupled with planned remedial actions within the CFROU to remove tailings deposits, reduce streambank erosion, and enhance riparian vegetation growth will contribute to reduced COC concentrations for instream sediments in the Clark Fork River. Therefore, instream sediment COC concentrations will be monitored in the CFROU.

Table 2-1. **Proposed reference benchmarks for contaminant of concern concentrations (dry weight [DW]) of instream sediments in the Clark Fork River Operable Unit. The threshold effect (TEC) and probable effect (PEC) concentrations were described in MacDonald et al. (2000).**

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

2.2 METHODS

2.2.1 Data Validation

Data quality objectives (DQOs) were established in the CFROU monitoring project sampling and analysis plan and quality assurance project plan (SAP/QAPP) for “data representativeness”, “comparability”, “completeness”, “sensitivity”, “precision”, “bias”, and “accuracy” (Atkins 2013). Methods for field and laboratory quality assurance and quality control (QA/QC) procedures are also described in detail in the project SAP/QAPP. A completed QA/QC checklist, summary tables of field duplicate and field blank results, and assessments of data quality objectives are included in Appendix A.

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

2.2.2 Monitoring Locations

Instream sediment was monitored at 12 CFROU sites in 2013 (Figure 2-1; Table 2-2). The monitoring network included five sites in the Clark Fork River mainstem and eight sites in tributary streams (Table 2-2). Monitoring sites changed between 2012 and 2013 to provide a more detailed spatial representation of the Clark Fork River mainstem in Reach A. Additionally, some sites were removed from the monitoring network to avoid duplication of water quality sampling efforts by the USGS.

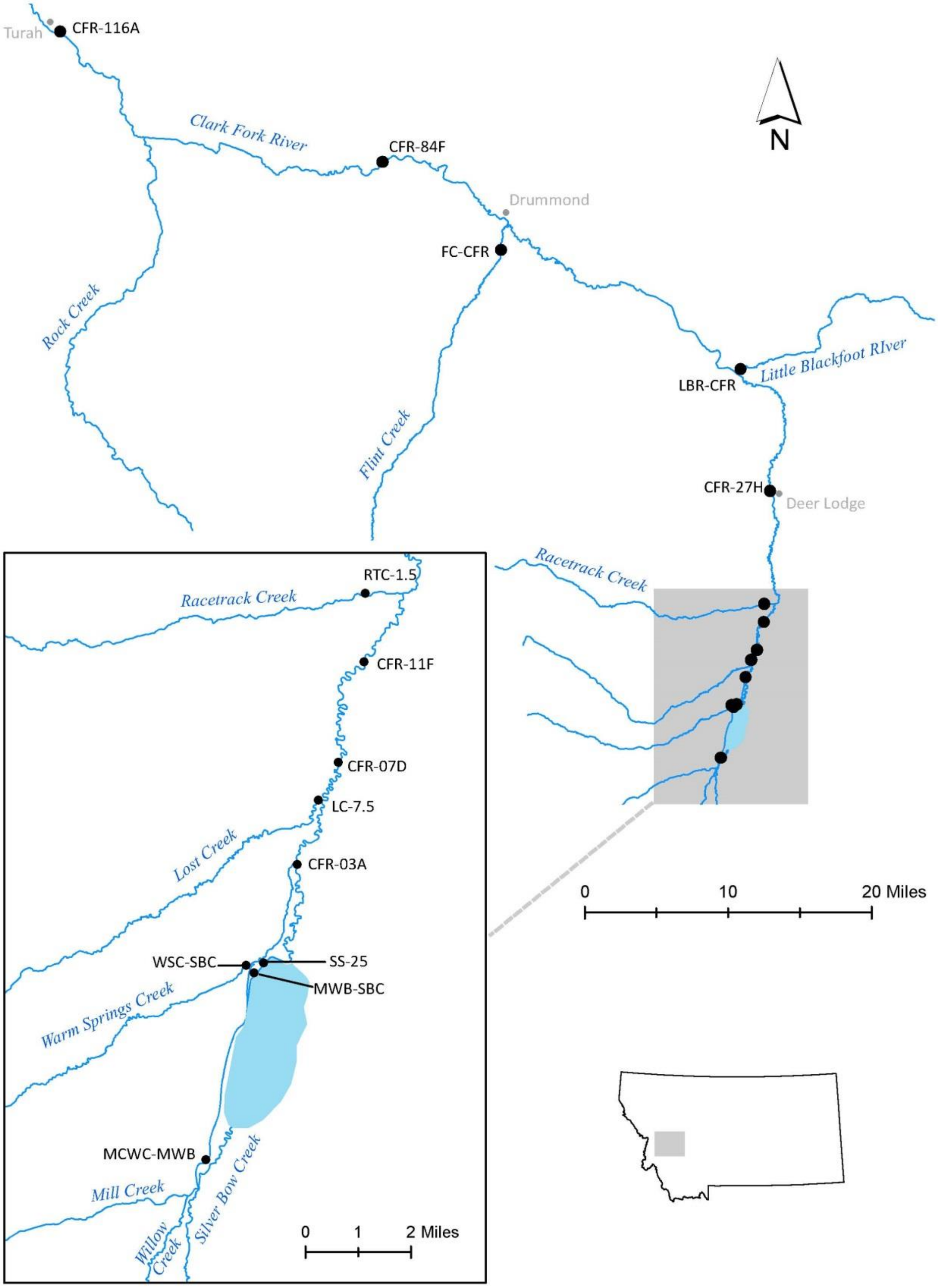


Figure 2-1. **Sampling locations for environmental monitoring of the Clark Fork River Operable Unit, 2013. Sediment samples were collected at all sites except CFR-84F and FC-CFR.**

Table 2-2. **Sediment sampling locations for the Clark Fork River Operable Unit, 2013. Streamflows were measured at all sample sites which did not have co-located USGS streamflow gauges.**

Site ID	Site Location	Co-located USGS Streamflow Gauge	Location (GPS coordinates, NAD 83)	
			Latitude	Longitude
Mainstem Sites				
CFR-03A	Clark Fork River near Galen	12323800	46.20877	-112.76740
CFR-07D	Clark Fork River at Galen Road	none	46.23725	-112.75302
CFR-11F	Clark Fork River at Gemback Road	none	46.26520	-112.74430
CFR-27H	Clark Fork River at Deer Lodge	12324200	46.39796	-112.74283
CFR-116A	Clark Fork at Turah	12334550	46.82646	-113.81424
Tributary Sites				
MCWC-MWB	Mill-Willow Creek at Frontage Road	none	46.12649	-112.79876
MWB-SBC	Mill-Willow Bypass near mouth	none	46.17839	-112.78270
SS-25	Silver Bow Creek at Warm Springs	12323750	46.18123	-112.77917
WSC-SBC	Warm Springs Creek near mouth	12323770	46.18041	-112.78592
LC-7.5[1]	Lost Creek near mouth	12323850	46.21862	-112.77384
RTC-1.5[1]	Racetrack Creek near mouth	none	46.28395	-112.74921
LBR-CFR	Little Blackfoot River near Garrison	12324590	46.51964	-112.79312

1. In 2013, sites LC-7 (GPS Location: 46.22665, -112.76017) and RTC-1 (GPS Location: 46.28406, -112.74484) were replaced by sites LC-7.5 and RTC-1.5 respectively. Sites LC-7 and RTC-1 were replaced because each appeared to be located within the Clark Fork River floodplain.

2.2.3 Monitoring Schedule

Monitoring occurred in the first quarter (Q1) and third quarter (Q3) of 2013. Each monitoring event occurred near the end of each quarter. The Q1 monitoring event occurred in the late winter on March 19-20. The Q3 monitoring event occurred during low streamflow conditions on September 17-18.

2.2.4 Monitoring Parameters

Instream sediment samples were analyzed for wet weight total extractable metal (arsenic, cadmium, copper, lead, and zinc) concentrations.

2.2.5 Sample Collection and Analysis Procedures

Sediment samples were collected by compositing subsamples from at least five deposition zones in wadeable locations at each monitoring site. Sediment was scooped from the streambed with a plastic spoon following the MDEQ standard operating procedure SOP WQPBWQM-020 (Revision 3.2, 2013).

The fine fraction (particle diameter <0.065 mm) portion of each sample was isolated from each composite sample by wet sieve in the laboratory shortly after collection and retained for analysis of metal concentrations. Each sample was analyzed for total extractable wet weight concentrations (mg/kg-WW) of arsenic, cadmium, copper, lead, and zinc following methods identified in Table 2-3. The relative proportion (by weight) of the fine fraction sediment in each sample was also determined. Sediment samples were analyzed by Energy Laboratories

(Helena, Montana). Prior 2013, each sediment sample was sieved into three size fractions (<0.065 mm, 0.065–1 mm, and 1–2 mm), and each size fraction was independently analyzed for metal concentrations. The proportion of each composited sample composed of fine fraction sediment was determined to evaluate if the proportion of fine fraction sediment in the sample influences metal concentrations.

Since the CFROU monitoring program began in 2010, all sediment metals samples have been analyzed on a wet weight (WW) basis. Wet weight analyte concentrations are normally lower than dry weight (DW) analyte concentrations because the sample drying process reduces the total mass of the sample without reducing the mass of the analyte. The TEC and PEC sediment performance goals are expressed on a DW basis. In this report, the WW sample concentrations are compared to the DW TEC and PEC performance goals but it must be recognized that the WW results likely underestimate the true DW concentrations.

Table 2-3. Sediment analysis methods for determination of wet weight (WW) metals concentrations in the Clark Fork River Operable Unit, 2013.

Parameter (mg/kg-WW)	Category	Method
Arsenic	Contaminant of Concern	SW6020 or SW6010B
Cadmium		SW6020 or SW6010B
Copper		SW6020 or SW6010B
Lead		SW6020 or SW6010B
Zinc		SW6020 or SW6010B

2.2.6 Data Analysis

Data were analyzed to assess spatial and temporal patterns in sediment metal and metalloid concentrations. In addition, metal and metalloid concentrations at each sample site were compared to performance goals (Table 2-1) to assess exceedances.

2.3 RESULTS

2.3.1 Data Validation

The RPDs between the field duplicate and field sample pairs ranged from 0-14.4% in Q1 and from 1.6-27.6% in Q3. The mean RPD among all field duplicate and field sample pairs in 2013 was 11.7%. RPDs in 2013 were similar to RPDs from previous years (2010-2012). The range of RPDs were 0-15.4% (2010), 2.1-20.9% (2011), and 1.0-22.2% (2012). The mean RPDs were 9.7% (2010), 9.9% (2011), and 9.6% (2012).

2.3.2 Sample Size Fraction

In the Clark Fork River mainstem sites the fraction of each sample with fine sediment generally increased at each downstream site, particularly during the Q1 2013 monitoring event (Table 2-4). Racetrack Creek near mouth had the lowest proportion of fine sediment in each sample (Table 2-4). Silver Bow Creek at Warm Springs, located just downstream of the Warm Springs treatment pond system (Figure 2-1), had the second lowest proportion of fine fraction sediment with ≤3.2% (Table 2-4). The Clark Fork at Turah sample in Q1 had the highest proportion of fine fraction sediment (Table 2-4).

Table 2-4. Proportion of each sample collected in the Clark Fork River Operable Unit with fine fraction (<0.065 mm) sediment particles, 2013.

Site ID	Site Location	Sample proportion (%)	
		Q1	Q3
Mainstem Sites			
CFR-03A	Clark Fork River near Galen	6.1	3.7
CFR-07D	Clark Fork River at Galen Road	7.9	6.1
CFR-11F	Clark Fork River at Gemback Road	7.9	3.8
CFR-27H	Clark Fork River at Deer Lodge	28.6	5.2
CFR-116A	Clark Fork at Turah	41.0	6.0
Tributary Sites			
MCWC-MWB	Mill-Willow Creek at Frontage Road	5.7	4.5
MWB-SBC	Mill-Willow Bypass near mouth	3.5	9.7
SS-25	Silver Bow Creek at Warm Springs	2.9	3.2
WSC-SBC	Warm Springs Creek near mouth	14.7	9.4
LC-7.5	Lost Creek near mouth	14.5	28.2
RTC-1.5	Racetrack Creek near mouth	1.2	1.9
LBR-CFR	Little Blackfoot River near Garrison	29.4	9.5

2.3.3 Contaminants of Concern

2.3.3.1 Arsenic

The spatial trend for sediment arsenic concentrations at mainstem Clark Fork River monitoring sites was an increase in concentrations from the near Galen site to the Galen Road site, followed by decreasing concentrations from the Galen Road to Turah sites (Figure 2-2). This spatial pattern was observed during both 2013 monitoring events, but was more pronounced during the Q3 monitoring event when concentrations were somewhat lower at all of the mainstem sites. Among the tributary stations that were monitored in 2013, the Mill-Willow Bypass showed the highest sediment arsenic concentrations (Figure 2-3). The Q1 2013 sediment arsenic concentration in Mill-Willow Bypass was much higher than concentrations observed at any of the mainstem Clark Fork sites. Mill-Willow Creek at Frontage Road, Silver Bow Creek at Warm Springs, and Warm Springs Creek near mouth had the second highest concentrations. Lost Creek, Racetrack Creek, and the Little Blackfoot River had the lowest sediment arsenic concentrations of the tributary sites. The Little Blackfoot River showed the lowest sediment arsenic concentrations of all of the tributaries monitored.

The 2013 sediment arsenic concentrations for the mainstem Clark Fork near Galen, at Deer Lodge, and at Turah were generally comparable to the concentrations observed in 2012.

Wet weight sediment arsenic concentrations exceeded the dry weight based TEC at all sites except the Little Blackfoot River near mouth (Table 2-5). Arsenic concentrations exceeded the PEC at Mill-Willow Creek, Mill-Willow Bypass, Silver Bow Creek at Warm Springs, Warm Springs Creek near mouth, and in the Clark Fork near Galen, at Galen Road, at Gemback Road, and at Deer Lodge during at least one monitoring event in 2013.

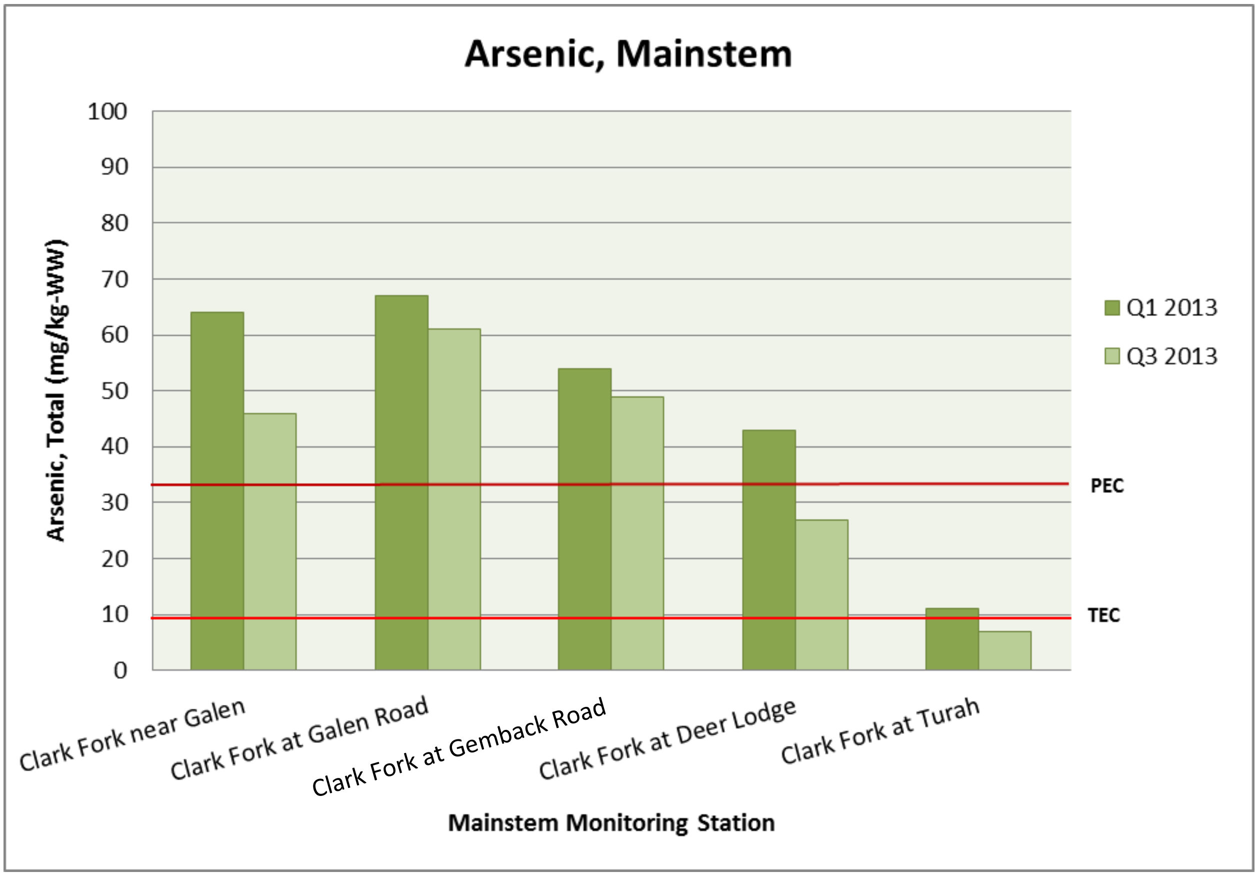


Figure 2-2. **Total arsenic concentrations (wet weight [WW]) in Clark Fork River mainstem sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).**

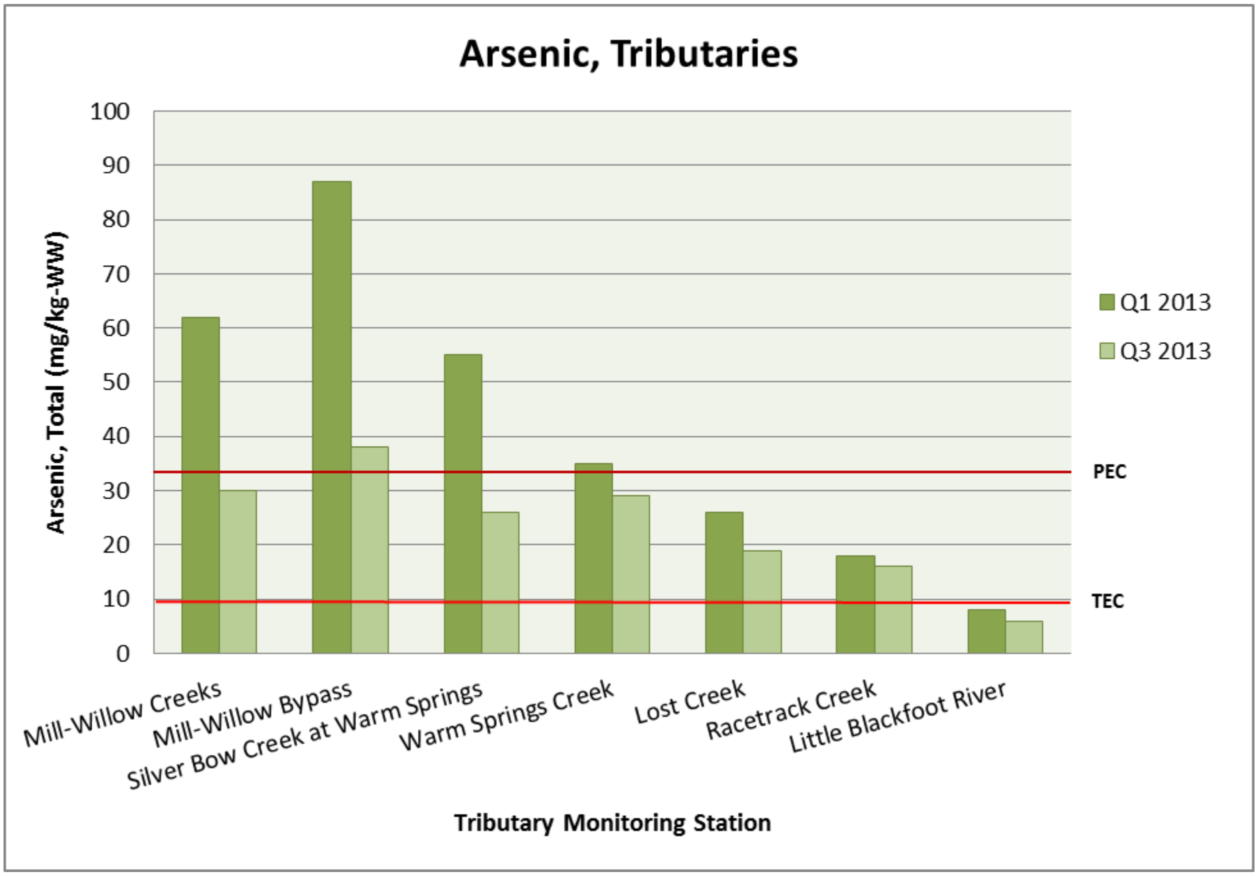


Figure 2-3. **Total arsenic concentrations (wet weight [WW]) in Clark Fork River tributary sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).**

Table 2-5. Total arsenic concentrations (mg/kg wet weight) in instream sediment samples from the Clark Fork River Operable Unit monitoring stations, 2013. Sample concentrations are from the fine sediment size fraction (<0.065 mm).

Site ID	Site Location	Sample concentration (mg/kg-WW)	
		Q1	Q3
Mainstem Sites			
CFR-03A	Clark Fork River near Galen	64	46
CFR-07D	Clark Fork River at Galen Road	67	61
CFR-11F	Clark Fork River at Gemback Road	54	49
CFR-27H	Clark Fork River at Deer Lodge	43	27
CFR-116A	Clark Fork at Turah	11	7
Tributary Sites			
MCWC-MWB	Mill-Willow Creek at Frontage Road	62	30
MWB-SBC	Mill-Willow Bypass near mouth	87	38
SS-25	Silver Bow Creek at Warm Springs	55	26
WSC-SBC	Warm Springs Creek near mouth	35	29
LC-7.5	Lost Creek near mouth	26	19
RTC-1.5	Racetrack Creek near mouth	18	16
LBR-CFR	Little Blackfoot River near Garrison	8	6

ND	Not detected at analytical reporting limit.
🟨	Exceeds threshold effect concentration (MacDonald et al. 2000).
🟥	Exceeds probable effect concentration (MacDonald et al. 2000).

2.3.3.2 Cadmium

Sediment cadmium concentrations were above the analytical reporting limit at all monitoring stations during each 2013 monitoring event (Figures 2-4; Figure 2-5). There was no distinct spatial trend for cadmium in sediment at CFROU monitoring stations during 2013. The maximum sediment cadmium concentration in the CFROU in 2013 was 3.1 mg/kg-WW at Gemback Road during Q3. Among the tributary monitoring stations, Racetrack Creek and the Little Blackfoot River had the lowest sediment cadmium concentrations. Mill-Willow Creek, Mill-Willow Bypass, Silver Bow Creek at Warm Springs, and Warm Springs Creek near mouth had higher sediment cadmium concentrations compared to other tributary sites. Cadmium concentrations in Mill-Willow Creek, Mill-Willow Bypass, Silver Bow Creek at Warm Springs, and Warm Springs Creek near mouth were nearly as high as in the mainstem Clark Fork River sites.

Sediment cadmium concentrations at the mainstem Clark Fork River monitoring stations during 2013 were generally similar to the values observed during 2012.

Sediment cadmium concentrations exceeded the TEC at four of the five mainstem monitoring stations and at five of the seven tributary monitoring stations during 2013 (Table 2-6). Only the Little Blackfoot River, Racetrack Creek, and the Clark Fork at Turah sites did not exceed the TEC for sediment cadmium in 2013. No exceedances of the PEC occurred in 2013.

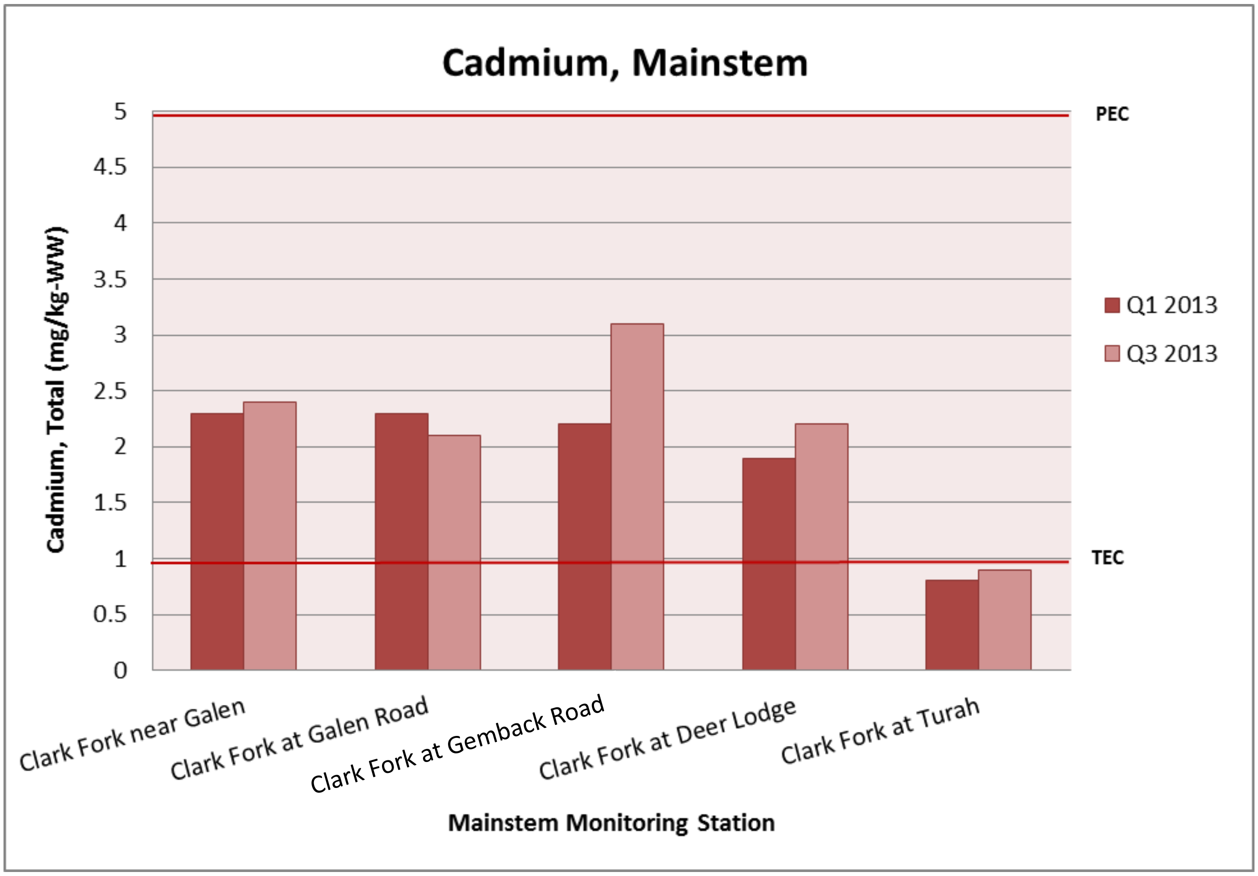


Figure 2-4. **Total cadmium concentrations (wet weight [WW]) in Clark Fork River mainstem sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).**

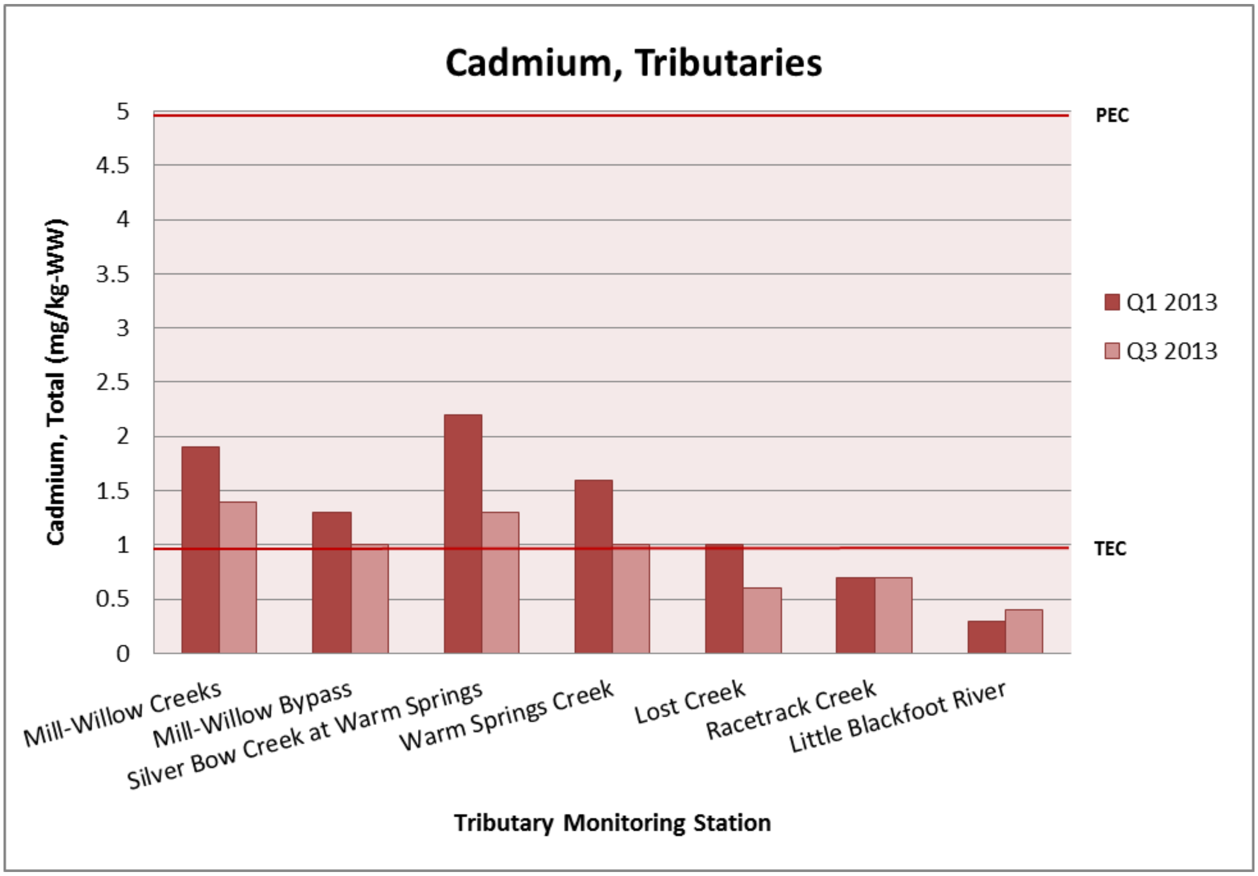


Figure 2-5. **Total cadmium concentrations (wet weight [WW]) in Clark Fork River tributary sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).**

Table 2-6. **Total cadmium concentrations (mg/kg wet weight) in instream sediment samples from the Clark Fork River Operable Unit monitoring stations, 2013. Sample concentrations are from the fine sediment size fraction (<0.065 mm).**

Site ID	Site Location	Sample concentration (mg/kg-WW)	
		Q1	Q3
Mainstem Sites			
CFR-03A	Clark Fork River near Galen	2.3	2.4
CFR-07D	Clark Fork River at Galen Road	2.3	2.1
CFR-11F	Clark Fork River at Gemback Road	2.2	3.1
CFR-27H	Clark Fork River at Deer Lodge	1.9	2.2
CFR-116A	Clark Fork at Turah	0.8	0.9
Tributary Sites			
MCWC-MWB	Mill-Willow Creek at Frontage Road	1.9	1.4
MWB-SBC	Mill-Willow Bypass near mouth	1.3	1
SS-25	Silver Bow Creek at Warm Springs	2.2	1.3
WSC-SBC	Warm Springs Creek near mouth	1.6	1
LC-7.5	Lost Creek near mouth	1	0.6
RTC-1.5	Racetrack Creek near mouth	0.7	0.7
LBR-CFR	Little Blackfoot River near Garrison	0.3	0.4

ND	Not detected at analytical reporting limit.
🟨	Exceeds threshold effect concentration (MacDonald et al. 2000).
🟥	Exceeds probable effect concentration (MacDonald et al. 2000).

2.3.3.3 Copper

The spatial trend for sediment copper concentrations in the mainstem Clark Fork River in 2013 was similar to that observed for arsenic. Copper concentrations increased from near Galen to Galen Road and decreased at each site downstream from Galen Road (Figure 2-6). The maximum sediment copper concentration (596 mg/kg-WW) occurred at Galen Road in Q1. The minimum mainstem sediment copper concentration (92 mg/kg-WW) was observed in the Clark Fork River at Turah in Q3. Sediment copper concentrations at the tributary stations were highly variable, ranging from a minimum of 10 mg/kg-WW in the Little Blackfoot River to a maximum of 296 mg/kg-WW in Warm Springs Creek.

Sediment copper concentrations at the mainstem Clark Fork monitoring stations during 2013 were generally comparable to the values recorded during 2012.

Copper concentrations exceeded the copper TEC at 11 of 12 CFROU monitoring stations during 2013; only the Little Blackfoot River was below the TEC (Figure 2-6; Figure 2-7). Sediment copper concentrations exceeded the PEC in Warm Springs Creek near mouth, and in the Clark Fork river mainstem near Galen, at Galen Road, at Gemback Road, and at Deer Lodge (Table 2-7).

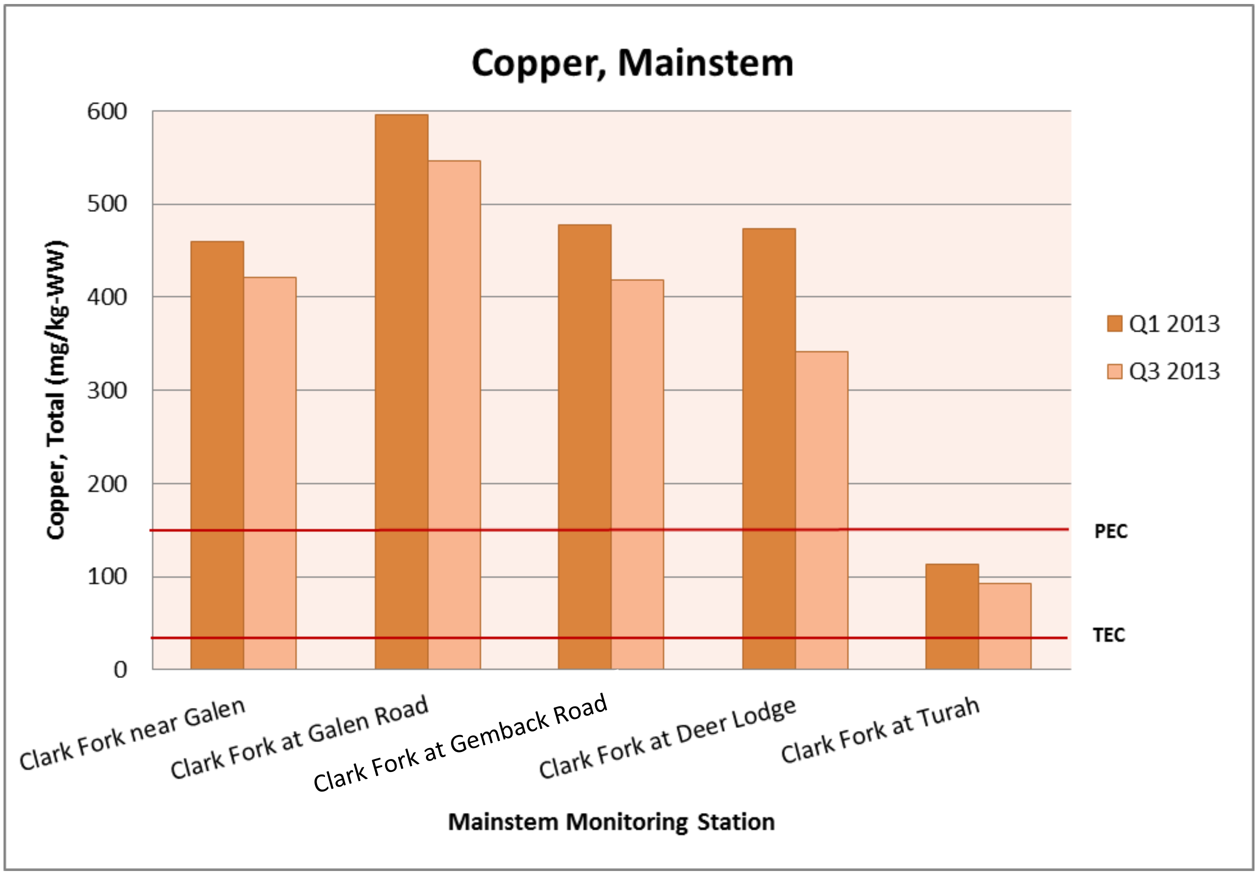


Figure 2-6. Total copper concentrations (wet weight [WW]) in Clark Fork River mainstem sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).

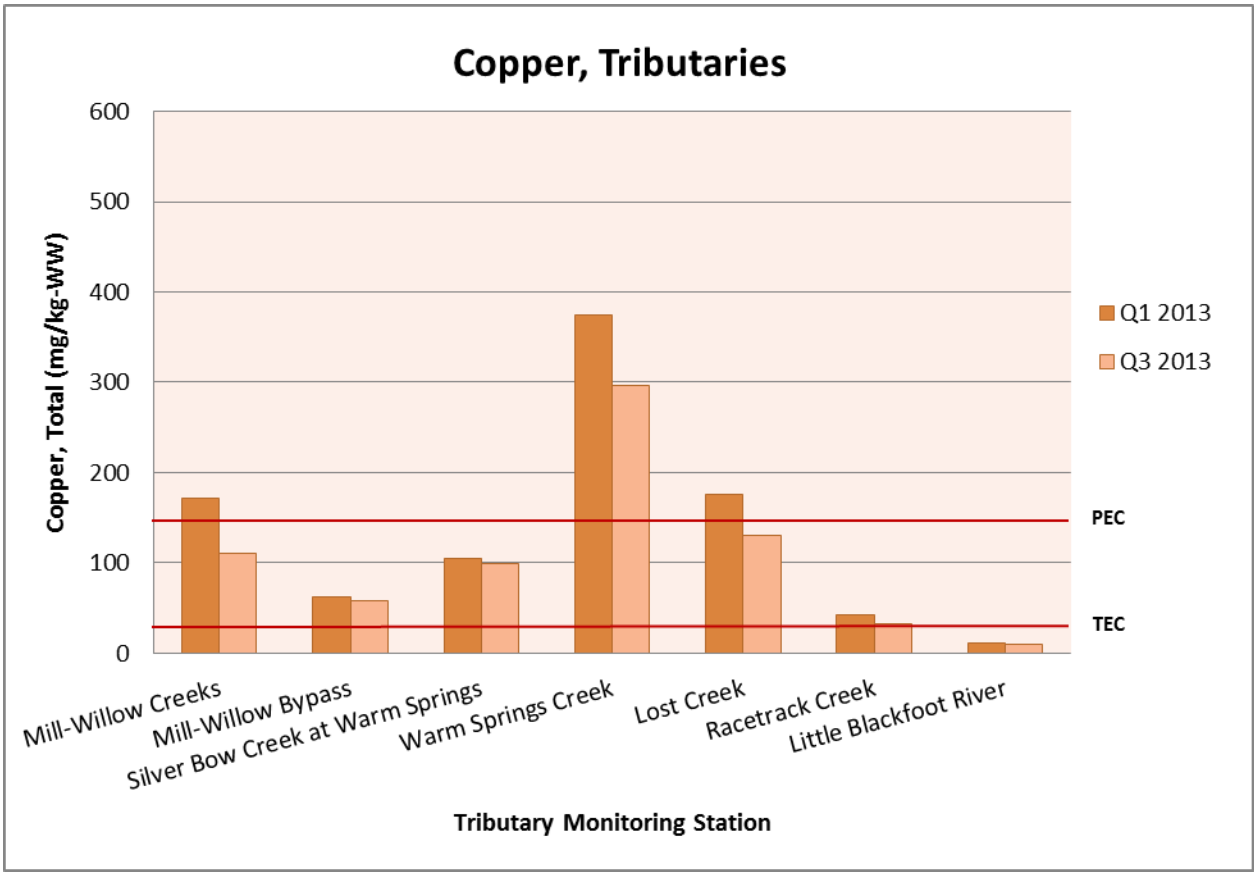


Figure 2-7. **Total copper concentrations (wet weight [WW]) in Clark Fork River tributary sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).**

Table 2-7. **Total copper concentrations (mg/kg wet weight) in instream sediment samples from the Clark Fork River Operable Unit monitoring stations, 2013. Sample concentrations are from the fine sediment size fraction (<0.065 mm).**

Site ID	Site Location	Sample concentration (mg/kg-WW)	
		Q1	Q3
Mainstem Sites			
CFR-03A	Clark Fork River near Galen	460	421
CFR-07D	Clark Fork River at Galen Road	596	547
CFR-11F	Clark Fork River at Gemback Road	477	418
CFR-27H	Clark Fork River at Deer Lodge	473	341
CFR-116A	Clark Fork at Turah	113	92
Tributary Sites			
MCWC-MWB	Mill-Willow Creek at Frontage Road	73	110
MWB-SBC	Mill-Willow Bypass near mouth	43	58
SS-25	Silver Bow Creek at Warm Springs	62	99
WSC-SBC	Warm Springs Creek near mouth	46	296
LC-7.5	Lost Creek near mouth	44	131
RTC-1.5	Racetrack Creek near mouth	57	33
LBR-CFR	Little Blackfoot River near Garrison	22	10

ND	Not detected at analytical reporting limit.
🟨	Exceeds threshold effect concentration (MacDonald et al. 2000).
🟥	Exceeds probable effect concentration (MacDonald et al. 2000).

2.3.3.4 Lead

The spatial trend for lead concentrations at Clark Fork mainstem monitoring locations in 2013 was similar to that for arsenic and copper. Lead concentrations increased in the Clark Fork Rive mainstem from near Galen to Galen Road and declined from Deer Lodge to Turah (Figure 2-8). The minimum mainstem lead concentrations were observed at Turah. The maximum lead concentrations were observed at Galen Road.

Among the tributary sites, Mill-Willow Creek at Frontage Road, Racetrack Creek, Silver Bow Creek at Warm Springs, Warm Springs Creek near mouth, Lost Creek, and Mill-Willow Bypass had elevated lead concentrations(Figure 2-9). The Little Blackfoot River near mouth had the lowest lead concentrations of all CFROU monitoring sites in 2013.

Sediment lead concentrations at mainstem Clark Fork River monitoring stations near Galen, at Deer Lodge and at Turah, and at common tributary sites were generally lower in 2013 compared to 2012.

Lead concentrations in the exceeded the TEC at 11 of 12 monitoring sites during at least one of the two monitoring events in 2013 (Table 2-8). Only the Little Blackfoot River had sediment lead concentrations that were consistently below the TEC. The PEC was not exceeded at any of the monitoring stations in 2013 or during prior monitoring years extending back to 2010.

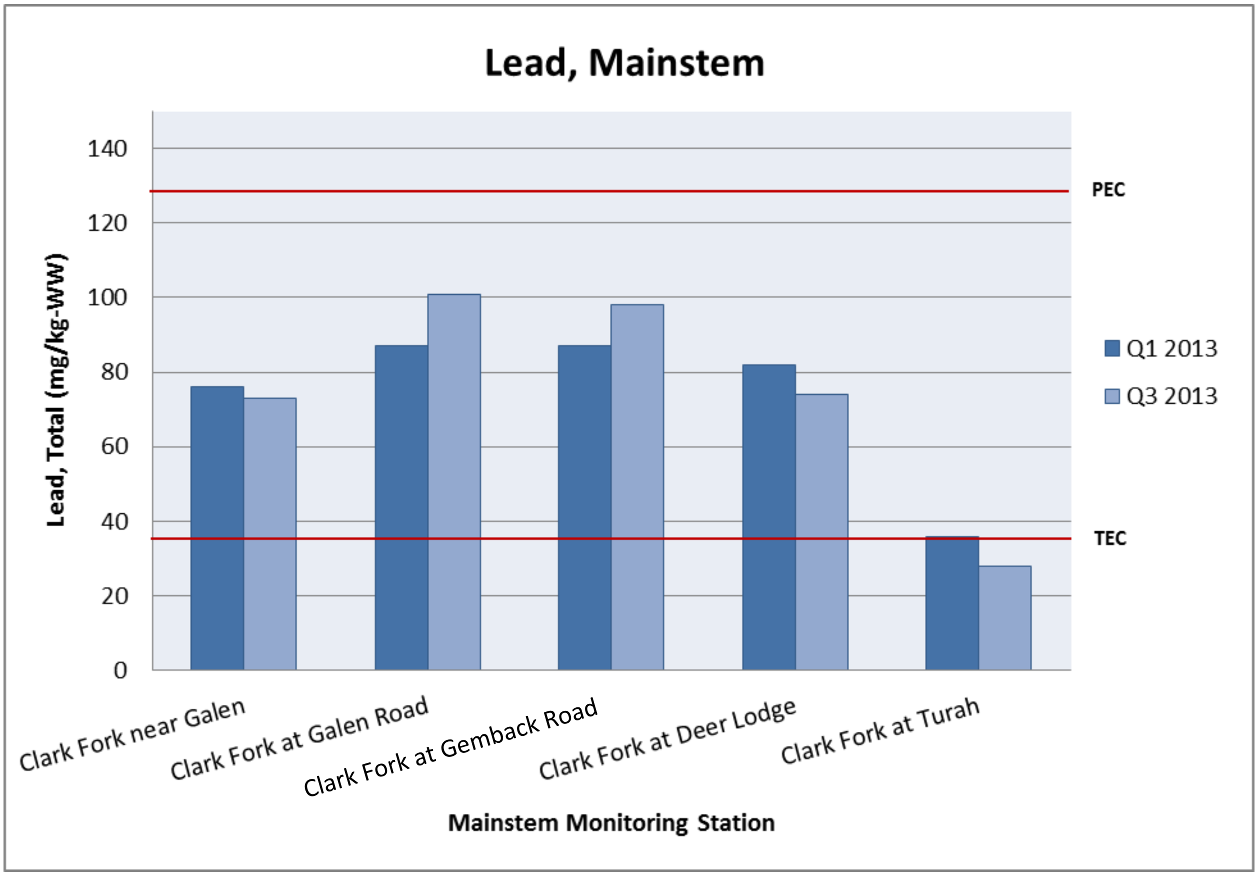


Figure 2-8. **Total lead concentrations (wet weight [WW]) in Clark Fork River mainstem sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).**

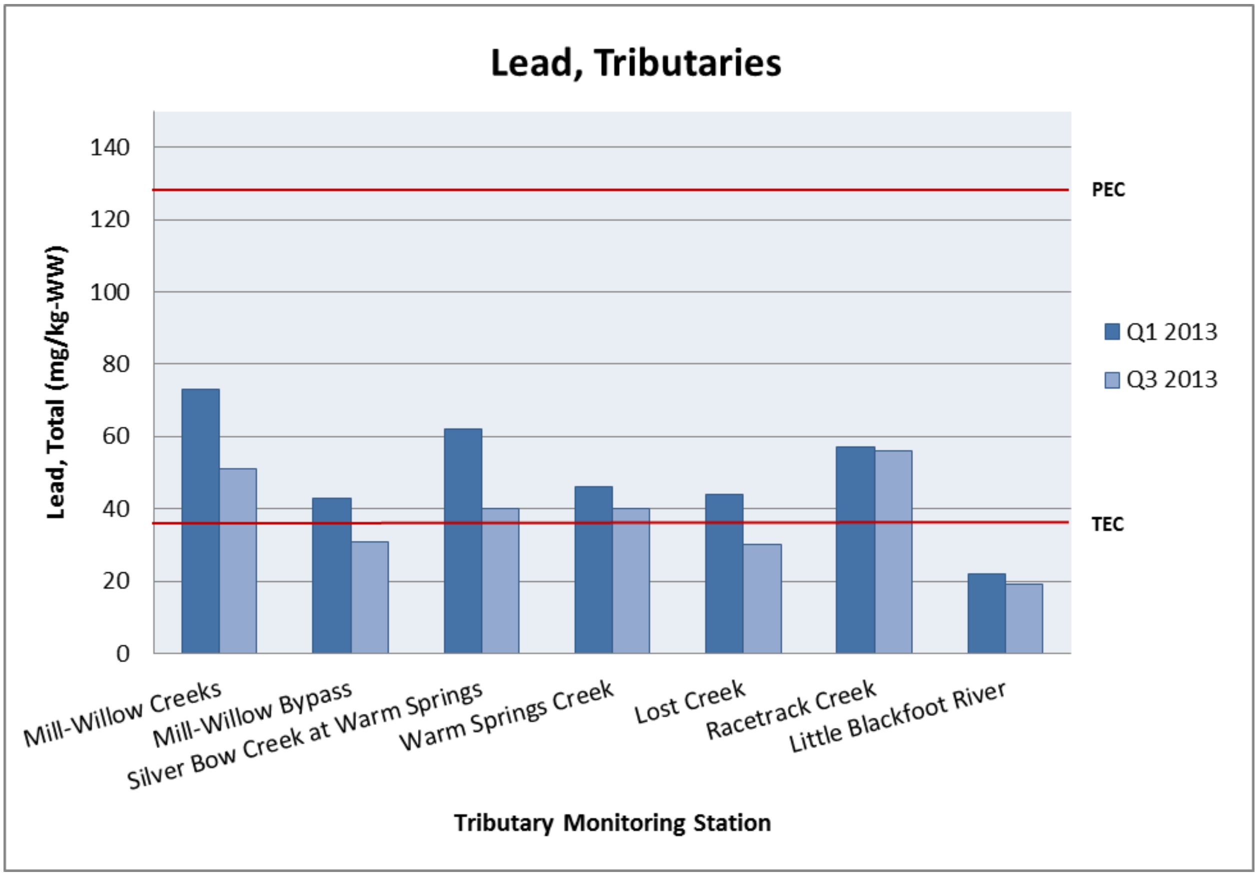


Figure 2-9. **Total lead concentrations (wet weight [WW]) in Clark Fork River tributary sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).**

Table 2-8. **Total lead concentrations (mg/kg wet weight) in instream sediment samples from the Clark Fork River Operable Unit monitoring stations, 2013. Sample concentrations are from the fine sediment size fraction (<0.065 mm).**

Site ID	Site Location	Sample concentration (mg/kg-WW)	
		Q1	Q3
Mainstem Sites			
CFR-03A	Clark Fork River near Galen	76	73
CFR-07D	Clark Fork River at Galen Road	87	101
CFR-11F	Clark Fork River at Gemback Road	87	98
CFR-27H	Clark Fork River at Deer Lodge	82	74
CFR-116A	Clark Fork at Turah	36	28
Tributary Sites			
MCWC-MWB	Mill-Willow Creek at Frontage Road	73	51
MWB-SBC	Mill-Willow Bypass near mouth	43	31
SS-25	Silver Bow Creek at Warm Springs	62	40
WSC-SBC	Warm Springs Creek near mouth	46	40
LC-7.5	Lost Creek near mouth	44	30
RTC-1.5	Racetrack Creek near mouth	57	56
LBR-CFR	Little Blackfoot River near Garrison	22	19

ND	Not detected at analytical reporting limit.
🟨	Exceeds threshold effect concentration (MacDonald et al. 2000).
🟥	Exceeds probable effect concentration (MacDonald et al. 2000).

2.3.3.5 Zinc

The spatial trend for sediment zinc concentrations at Clark Fork River mainstem monitoring sites in 2013 was elevated concentrations at the upper river sites (near Galen, at Galen Road, at Gemback Road, and at Deer Lodge), and lower concentrations at the downstream Turah site (Figure 2-10). Zinc concentrations at the upstream most four sites ranged from 322 mg/kg-WW (Deer Lodge in Q3) to 422 mg/kg-WW (Gemback Road in Q3) (Figure 2-10).

Elevated sediment zinc concentrations were observed among several tributary sites including Silver Bow Creek at Warm Springs, Mill-Willow Creek at Frontage Road, Mill-Willow Bypass, Warm Springs Creek, and Lost Creek (Figure 2-11).

Sediment zinc concentrations at sites sampled in 2013 were generally similar to the concentrations measured in Q3 2012.

Sediment zinc concentrations exceeded the TEC at all five of the mainstem Clark Fork monitoring stations during 2013 (Table 2-1). One site, the Clark Fork at Gemback Road, also exceeded the zinc PEC during Q3 2013. Zinc concentrations during both 2013 sampling events at the Galen Road site (Q1 and Q3), at the near Galen site (Q1), and at Gemback Road (Q1 and Q3) also closely approached the PEC (459 mg/kg-WW).

Sediment zinc concentrations measured at several tributary monitoring sites exceeded the TEC during one, or both, 2013 monitoring events (Table 2-9). The TEC was exceeded in Mill-Willow Creek, Mill-Willow Bypass, Silver Bow Creek at Warm Springs, Warm Springs Creek, and Lost Creek. Only Racetrack Creek and the Little Blackfoot River were consistently below the TEC threshold value for zinc. None of the tributary monitoring sites exceeded the PEC.

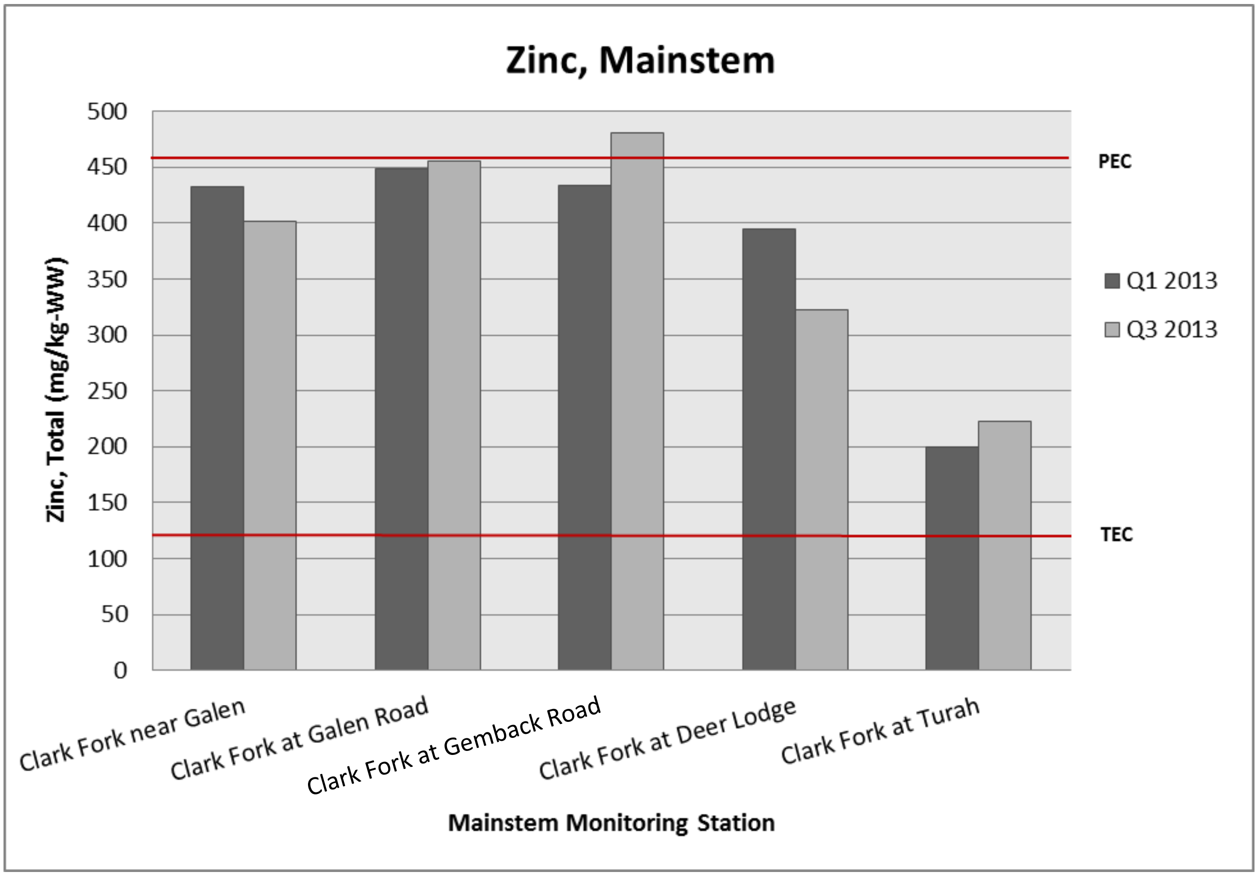


Figure 2-10. **Total zinc concentrations (wet weight [WW]) in Clark Fork River mainstem sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).**

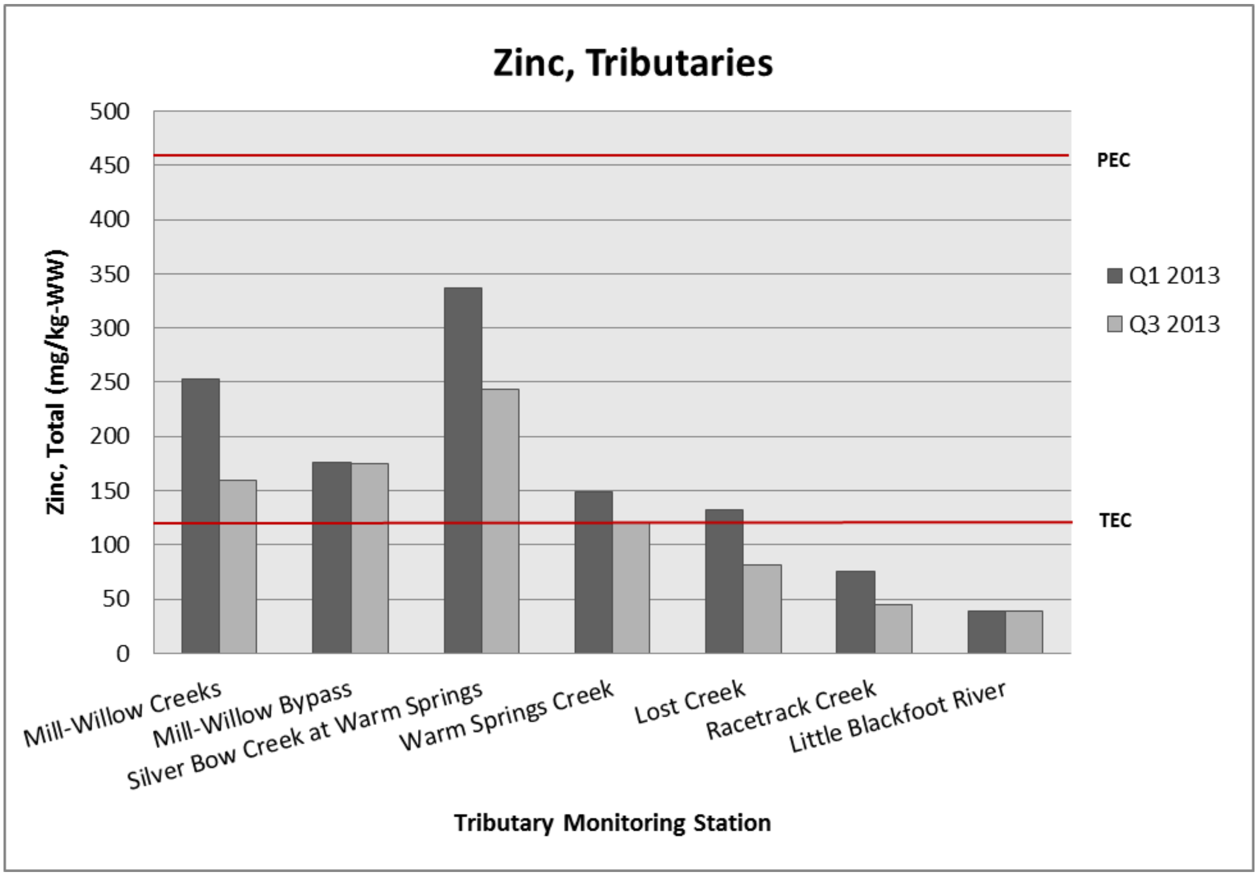


Figure 2-11. **Total zinc concentrations (wet weight [WW]) in Clark Fork River tributary sediment samples, 2013. Red lines represent the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) (MacDonald et al. 2000).**

Table 2-9. **Total zinc concentrations (wet weight) in instream sediment samples from the Clark Fork River Operable Unit monitoring stations, 2013. Sample concentrations are from the fine sediment size fraction (<0.065 mm).**

Site ID	Site Location	Sample concentration (mg/kg-WW)	
		Q1	Q3
Mainstem Sites			
CFR-03A	Clark Fork River near Galen	433	402
CFR-07D	Clark Fork River at Galen Road	448	455
CFR-11F	Clark Fork River at Gemback Road	434	481
CFR-27H	Clark Fork River at Deer Lodge	395	322
CFR-116A	Clark Fork at Turah	200	223
Tributary Sites			
MCWC-MWB	Mill-Willow Creek at Frontage Road	253	160
MWB-SBC	Mill-Willow Bypass near mouth	176	175
SS-25	Silver Bow Creek at Warm Springs	337	244
WSC-SBC	Warm Springs Creek near mouth	149	121
LC-7.5	Lost Creek near mouth	132	82
RTC-1.5	Racetrack Creek near mouth	75	45
LBR-CFR	Little Blackfoot River near Garrison	39	39

ND	Not detected at analytical reporting limit.
🟨	Exceeds threshold effect concentration (MacDonald et al. 2000).
🟥	Exceeds probable effect concentration (MacDonald et al. 2000).

2.4 DISCUSSION

2.4.1 Data Validation

All RPDs from field sample and field duplicate pairs in 2013 were within 40% thus satisfying the project goal for “overall precision”. A complete analysis of data validation procedures and results is described in Appendix A.

2.4.2 Sample Size Fraction

Variability in sediment metals concentrations at any given monitoring site may be related to the influence of complex channel morphology and depositional processes which influence the distribution of the sample across the respective size fractions. Sediment sample fractionation may vary widely from sample to sample. Large variation in sample faction proportions is most noticeable from monitoring site to site, but is also true of samples collected from the same site at different times, and in duplicate samples collected at the same site during the same monitoring event. This variability has an effect on reported sediment metals concentrations because COC concentrations are not consistent across sediment size fractions. The smaller size fractions have larger surface area to volume ratios and larger ion exchange capacity, and are capable of adsorbing larger concentrations of COC metals. It is not unusual for the smallest sediment size fraction tested (less than 0.065 mm) to yield metals concentration values that are an order of magnitude or more higher than the largest (1–2 mm) sediment size fraction. That is why the smallest sediment size fraction has been targeted for sampling in the CFROU monitoring program beginning in 2013.

2.4.3 Contaminants of Concern

The highest sediment metals concentrations tended to be found at the upper river mainstem monitoring locations: including at Galen Road, at Gemback Road, near Galen, and at Deer Lodge. The lowest mainstem sediment metals concentrations were observed in the Clark Fork at Turah. Clark Fork tributaries in the CFROU monitoring network showed highest sediment metals concentrations in the Mill-Willow Bypass (arsenic), Silver Bow Creek at Warm Springs (cadmium and zinc), Warm Springs Creek (copper), and Mill-Willow Creeks (lead). Lost Creek showed elevated concentrations of copper and Racetrack Creek showed elevated concentrations of lead. The lowest concentrations of sediment metals were found in the Little Blackfoot River. Overall, sediment metals concentrations at Clark Fork mainstem and tributary stations that were monitored in 2012 and 2013 were similar in both years, with the exception of lead which was lower in 2013 compared to 2012.

Concentrations of arsenic, copper, lead and zinc exceeded the TEC and/or PEC at several of the Clark Fork mainstem and tributary monitoring stations during the Q1 and Q3 2013 monitoring events. Sediment arsenic, copper, and lead concentrations frequently exceeded the performance goals. All five mainstem Clark Fork stations and six of seven tributary stations (11 of 12 total) exceeded the arsenic TEC. Four of the five mainstem Clark Fork monitoring stations and three or the seven tributary stations (7 of 12 total) exceeded the copper PEC. Four of the five mainstem Clark Fork monitoring stations and four of the seven tributary monitoring stations (8 of 12 total) exceeded arsenic PEC. Sediment zinc concentrations also frequently exceeded performance goals. All mainstem Clark Fork stations and five tributary stations (10 of 12 total) exceeded the zinc TEC. The Little Blackfoot River near mouth did not exceed the TEC for any COCs in 2013.

3.0 MACROINVERTEBRATES[8]

3.1 INTRODUCTION

This report describes the analysis of benthic macroinvertebrate samples collected from sites within the Clark Fork River Operable Unit in September 2013. The work is part of an adaptive, comprehensive long-term monitoring plan for evaluating the success of restoration and remediation activities, which are yet to be undertaken at most of these sites. Remediation activities have commenced on Silver Bow Creek.

The benthic invertebrate fauna was analyzed using a group of indices developed by D. McGuire (McGuire Consulting) and applied over a long course of sampling in the Clark Fork River dating to 1986. Information about probable stressors to water quality and habitat integrity, implied by the taxonomic and functional composition of the benthic fauna, is described in a series of site-specific narratives.

3.2 METHODS

3.2.1 Sampling

Benthic macroinvertebrates were sampled at four Clark Fork River headwater sites, three sites on the mainstem Clark Fork River, and three sites on tributaries of the Clark Fork on August 12-20, 2013. Four macroinvertebrate sample replicates were collected at each site, using a Hess sampling device. Sites are described in Table 3-1. Samples were collected by RESPEC staff and delivered to Rhithron Associates for processing and identification.

Table 3-1. Macroinvertebrate sampling sites in the Clark Fork River basin, August 12-20, 2013.

Site ID	Site location	USGS Gage	Latitude	Longitude
MCWC-MWB	Mill -Willow Creek at Frontage Road	NA	46.12649	-112.79876
WSC-SBC	Warm Springs Creek near mouth	12323770	46.18041	-112.78592
SS-17	Silver Bow Creek at Opportunity	NA	46.05494	-112.79611
SS-25	Silver Bow Creek at Warm Springs	12323750	46.18123	-112.77917
CFR-03A	Clark Fork near Galen	12323800	46.20877	-112.76740
CFR-07D	Clark Fork at Galen Road	12323800	46.23725	-112.75302
CFR-11F	Clark Fork at Gemback Road	NA	46.26520	-112.74430
LC-7.5	Lost Creek near mouth	12323850	46.21862	-112.77384
RTC-1.5	Racetrack Creek near mouth	NA	46.28395	-112.74921
LBR-CFR	Little Blackfoot River near Garrison	12324590	46.51964	-112.79312

3.2.2 Laboratory Analysis

Samples were completely picked of organisms, following procedures consistent with previous Clark Fork River biomonitoring projects (McGuire 2010; Rhithron 2011). Similar to the most recent study (Rhithron 2012), densities of abundant taxa were not estimated, but actual counts were obtained for all organisms. Caton trays (Caton 1991) were used to distribute the samples for sorting. Each individual sample was thoroughly mixed in its jar(s), poured out and evenly

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[8] Chapter 3 was completed by Rhithron Associates with formatting and minor editing by RESPEC.

spread into the Caton tray. Grids were systematically selected, and grid contents were examined under stereoscopic microscopes using 10x-30x magnification. All invertebrates were sorted from the substrate and placed in 95% ethanol for subsequent identification.

Organisms were individually examined by certified taxonomists, using 10x–80x stereoscopic dissecting scopes (Leica S8E) and identified to the lowest practical level consistent with previous Clark Fork River biomonitoring projects (McGuire 2010), using appropriate published taxonomic references and keys.

Identification, counts, life stages, and information about the condition of specimens were recorded. Organisms that could not be identified to the taxonomic targets because of immaturity, poor condition, or lack of complete current regionally-applicable published keys were left at appropriate taxonomic levels that were coarser than target levels. To obtain accuracy in richness measures, these organisms were designated as “not unique” if other specimens from the same group could be taken to target levels. Organisms designated as “unique” were those that could be definitively distinguished from other organisms in the sample. Identified organisms were preserved in 95% ethanol in labeled vials, and archived at the Rhithron laboratory.

Midges and worms were morphotyped using 10x–80x stereoscopic dissecting microscopes (Leica S8E) and representative specimens were slide mounted and examined at 200x–1000x magnification using an Olympus BX 51 compound microscope equipped with Hoffman Contrast. Slide mounted organisms were archived at the Rhithron laboratory.

3.2.3 Quality Assurance Systems

Quality control procedures for macroinvertebrate sample processing involved checking sorting efficiency on four randomly selected samples (10% of samples). These checks were conducted by independent observers who microscopically re-examined 100% of sorted substrate from each sample. Sorting efficiency was evaluated by applying the following calculation:

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

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

Quality control procedures for taxonomic determinations of invertebrates involved checking accuracy, precision and enumeration. Four samples (10% of all samples) were randomly selected and all organisms re-identified and counted by an independent taxonomist. Taxa lists and enumerations were compared by calculating a Bray-Curtis similarity statistic (Bray and Curtis 1957) for each selected sample. The percent taxonomic disagreement (PTD) and percent difference in enumeration (PDE) were also calculated (Stribling et al. 2003).

Quality control and quality assurance results are reported in Appendix F.

3.2.4 Data Analysis

Taxa lists and counts for each sample were constructed. Standard metric calculations were made using customized database software. McGuire’s indices are “.....specifically designed to evaluate water quality in the Clark Fork River Basin” (McGuire 2010) and are composed of 11 metrics. Two subsets of three metrics each are scored and summed separately to obtain values for organic/nutrient impairment and for metals impairment. Individual metrics and the expected response of each to environmental stress are described in the interim monitoring plan document (PBSJ 2010).

3.2.5 Ecological Interpretations: Approach

Narrative interpretations of the taxonomic and functional composition of invertebrate assemblages are based on demonstrated associations between assemblage components and habitat and water quality variables gleaned from the published literature, the writer's own research (especially Bollman 1998) and professional judgment, and those of other expert sources (especially Wisseman 1996). These interpretations are not intended to replace canonical procedures for stressor identification, since such procedures require substantial surveys of habitat, and historical and current data related to water quality, land use, point and non-point source influences, soils, hydrology, geology, and other resources that were not readily available for this study. Instead, attributes of invertebrate taxa that are well-substantiated in diverse literature, published and unpublished research, and that are generally accepted by regional aquatic ecologists, are combined into descriptions of probable water quality and instream and reach-scale habitat conditions. Replicate samples were electronically combined into composited samples for this analysis.

The approach to this analysis uses some assemblage attributes that are interpreted as evidence of water quality and other attributes that are interpreted as evidence of habitat integrity. To arrive at impairment classifications, attributes are considered individually, so information is maximized by not relying on a single cumulative score, which may mask stress on the biota. Such an approach also minimizes the possibility of using inappropriate assessment strategies when the biota at a site is atypical of "characteristic" sites in a region.

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

Thermal characteristics of the sampled site are predicted by the richness and abundance of cold stenotherm taxa (Clark 1997), and by calculation of the temperature preference of the macroinvertebrate assemblage (Brandt 2001). Hemoglobin-bearing taxa are also indicators of warm water temperatures (Walshe 1947), since dissolved oxygen is directly associated with water temperature; oxygen concentrations can also vary with the degree of nutrient enrichment.

Increased temperatures and high nutrient concentrations can, alone or in concert, create conditions favorable to hypoxic sediments, habitats preferred by hemoglobin-bearers.

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

The condition of instream and streamside habitats is also estimated by characteristics of the macroinvertebrate assemblages. Stress from sediment is evaluated by caddisfly richness and by “clinger” richness (Kleindl 1995; Bollman 1998; Karr and Chu 1999). A newer tool, the Fine Sediment Biotic Index (FSBI; Relyea et al. 2011) shows promise when applied to the montane and foothills regions. This index and its interpretation are modified in this report, based on the author’s professional judgment, to more effectively characterize the Clark Fork River and tributaries in the sampled reaches.

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

3.3 RESULTS

3.3.1 Bioassessment

Mean bioassessment scores over all replicates and their associated impairment classifications, are given in Table 3-2. Raw scores for each macroinvertebrate replicate sample are given in Appendix G.

Table 3-2. **Mean macroinvertebrate bioassessment scores and impairment classifications: McGuire's indices for general biointegrity, nutrient/organic impairment, and metals impairment. Scores are mean values over four replicate samples, and are expressed as the percent of maximum score. Clark Fork River basin, August 12-20, 2013.**

Site ID	Site location	McGuire biointegrity metrics (McGuire 2010)		McGuire metals-sensitive subset (McGuire 2010)		McGuire organic/nutrient-sensitive subset (McGuire 2010)	
		score	impairment class	score	impairment class	score	impairment class
MCWC-MWB	Mill -Willow Creek at Frontage Road	92.1	None	90.3	None	93.1	None
WSC-SBC	Warm Springs Creek near mouth	84.5	Slight	76.4	Slight	97.2	None
SS-17	Silver Bow Creek at Opportunity	63.6	Slight	70.8	Slight	61.1	Slight
SS-25	Silver Bow Creek at Warm Springs	80.3	Slight	76.4	Slight	80.6	None
CFR-03A	Clark Fork near Galen at Perkins Lane	78.8	Slight	83.3	None	86.1	None
CFR-07D	Clark Fork at Galen Road	83.0	Slight	80.6	None	91.7	None
CFR-11F	Clark Fork at Gemback Road	91.7	None	91.7	None	95.8	None
LC-7.5	Lost Creek at Frontage Road	88.6	Slight	86.1	None	93.1	None
RTC-1.5	Racetrack Creek at Frontage Road	75.0	Slight	59.7	Slight	97.2	None
LBR-CFR	Little Blackfoot River near mouth near Garrison	86.7	Slight	88.9	None	81.9	None

3.3.1.1 Overall Biointegrity Index

Mean scores for McGuire's overall biointegrity index (Table 3-2) indicate unimpaired biological integrity at the headwaters site on Mill-Willow Creek (MCWC-MWB) and at the Clark Fork River site at Gemback Road (CFR-11F). All other studied sites are classified as slightly impaired using this index. There was little variation in overall biological integrity scores among sample replicates. The mean coefficient of variation (CV) among replicates for this index (scores as percent of maximum score) was 4.10%. Mean, maximum and minimum scores, with 95% confidence intervals are graphed in Figure 3-1.

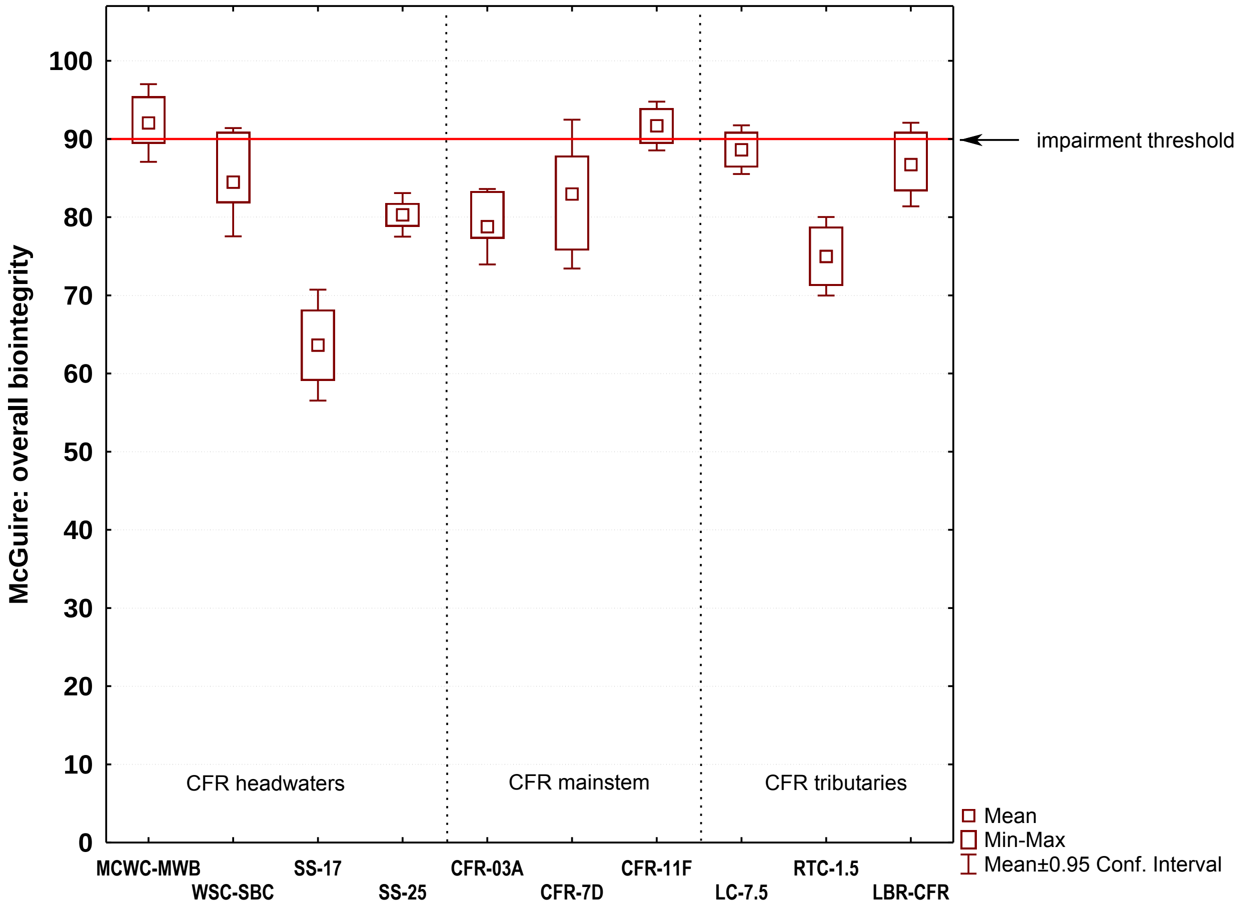

Figure 3-1. **Variability among replicates: mean scores, maximum and minimum scores, and 95% confidence intervals for McGuire's overall biointegrity index. Clark Fork River basin, August 12-20, 2013.**

3.3.1.2 Metals Subset

Mean scores for McGuire's metals index (Table 3-2) indicate unimpaired conditions at all but four sites: metals impairment was indicated at three headwaters sites and one tributary site. Impaired sites included Silver Bow Creek at Opportunity (SS-17), Warm Springs Creek near mouth (WSC-SBC), Silver Bow Creek at Warm Springs (SS-25), and Racetrack Creek near mouth (RTC-1.5). Scores at these sites indicated slight impairment due to metals. The mean CV among replicates for the metals subset index score (scores as percent of maximum score) was 8.33%, suggesting greater variability in these scores compared to the overall biointegrity scores. Mean, maximum and minimum scores, with 95% confidence intervals are graphed in Figure 3-2.

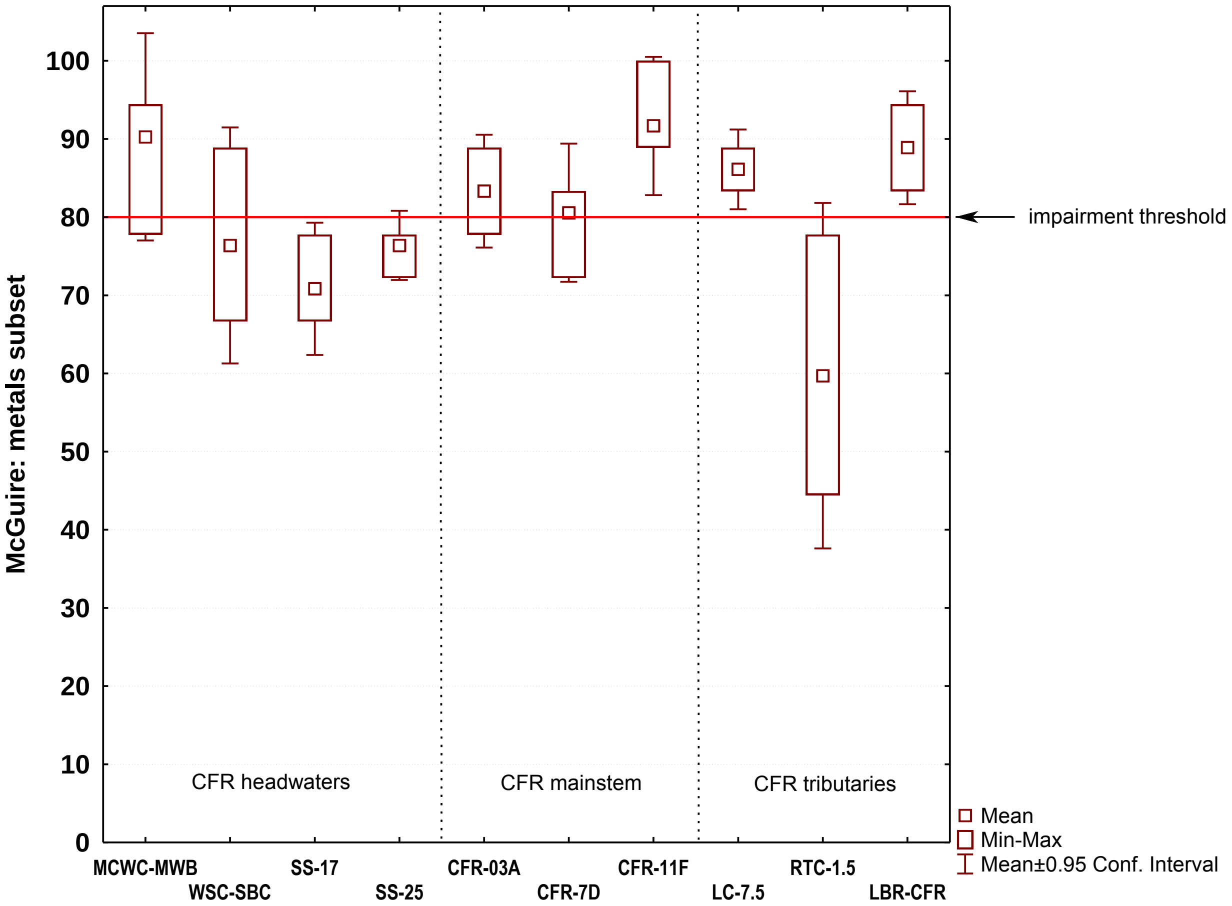

Figure 3-2. Variability among replicates: mean scores, maximum and minimum scores, and 95% confidence intervals for McGuire's metals pollution metric subset. Clark Fork River basin, August 12-20, 2013.

3.3.1.3 Organic/Nutrient Subset

Mean scores for McGuire's organic/nutrient index (Table 3-2) indicate unimpaired conditions at all sites except Silver Bow Creek at Opportunity (SS-17), where slight impairment due to organics/nutrients was indicated. The mean CV among replicates for the organic/nutrient subset index score (scores as percent of maximum score) was 4.89%, indicating little variation in these scores. Mean, maximum and minimum scores, with 95% confidence intervals are graphed in Figure 3-3.

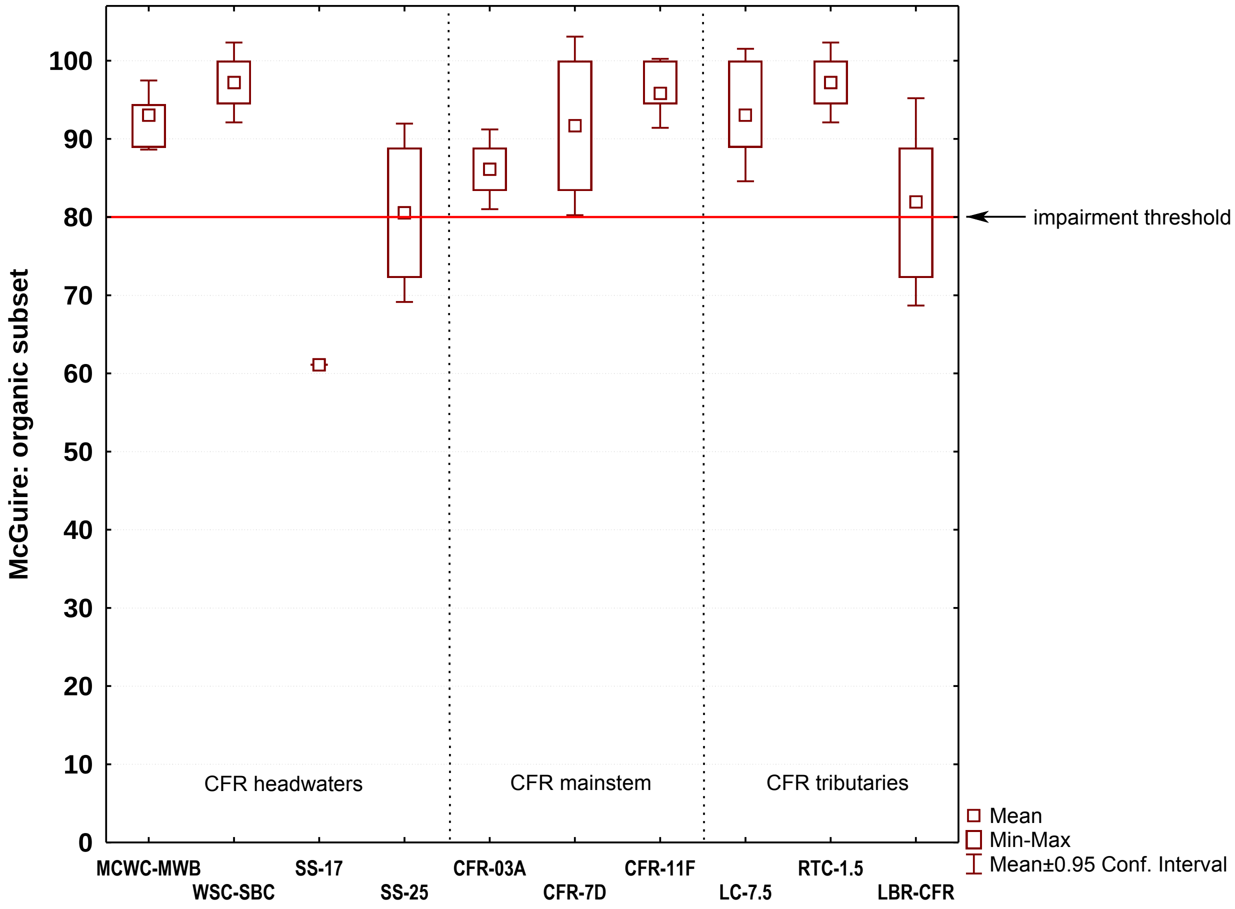

Figure 3-3. **Variability among replicates: mean scores, maximum and minimum scores, and 95% confidence intervals for McGuire's organic/nutrient pollution metric subset. Clark Fork River basin, August 12-20, 2013.**

3.3.2 Ecological Interpretation of Aquatic Invertebrate Assemblages

3.3.2.1 MCWC-MWB: Mill-Willow Creek

Mayfly taxa richness (8) was high at this site, but the HBI value (4.41) was somewhat elevated, compared to expectations for a low-order valley stream, indicating a moderately tolerant invertebrate assemblage. Large numbers of the gregarious *Optioservus* sp. were collected, and *Cricotopus (Nostococladius)* sp. was also very abundant. The later taxon, a chironomid associated with the blue-green alga *Nostoc* sp., is assigned a tolerance value of six, which seems higher than the actual tolerance the species exhibits. And dominance by a gregarious taxon may result in a skewed HBI value. Thus, the high HBI value may not be a wholly accurate representation of the sensitivity of the sampled assemblage. Notably, the MTI value (4.45) exceeded the HBI value, suggesting metals contamination. Heptageniid mayflies (*Ecdyonurus criddlei*) were present but not common, but the metals-sensitive caddisfly *Lepidostoma* sp. accounted for 3.23% of sampled animals and was among the ten dominant taxa in composited samples collected here. It seems likely that metals contamination was not a major influence on the composition of the benthic fauna. There is some indication that filamentous algae may have been present here, since the midges *Cricotopus* spp. and *Orthocladius* spp. and the micro-caddisfly *Hydroptila* sp., as a group, were abundant. The thermal preference of the assemblage was estimated at 15.3°C.

At least 14 caddisfly taxa and 33 “clinger” taxa were supported here: sediment deposition probably did not limit colonization of stony substrate habitats. The FSBI value (3.94) indicated a moderately sediment-tolerant assemblage. Overall taxa richness (69) was within expectations for a low-order valley stream in the Middle Rockies ecoregion, suggesting diverse and intact instream habitats. Ten semivoltine taxa were collected. Catastrophes such as dewatering, thermal extremes, or severe sediment pulses were probably not influential. All expected functional groups were represented, and the proportions of each seemed appropriate for a valley stream.

3.3.2.2 WSC-SBC: Warm Springs Creek near mouth

This site supported at least seven mayfly taxa, and the HBI value (4.06) was within expectations for a valley stream. It seems likely that pollution from nutrients or organics was minimal here. The dominant taxon was the gregarious elmid beetle *Optioservus* sp.; the assigned tolerance value of this taxon is five. Midges in the genera *Orthocladius* and *Eukiefferiella* were abundant, as were hydroptilid caddisflies, suggesting the presence of filamentous algae. The MTI value (5.10) was much higher than the HBI value, and metals-sensitive taxa such as heptageniid mayflies and *Lepidostoma* sp. were either rare or absent. Metals contamination cannot be ruled out here. The thermal preference calculated for the fauna was 15.8°C.

It seems likely that sediment deposition did not appreciably limit colonization of stony substrates, since 17 caddisfly taxa and 34 “clinger” taxa were collected. The FSBI value (4.86) indicated a moderately sediment-tolerant assemblage. Overall taxa richness (54) was moderately depressed: instream habitats may have been monotonous or depressed. Semivoltine taxa were well-represented, indicating that dewatering or thermal stress did not interrupt long life cycles. All functional groups were present, and the proportions of each seemed appropriate for a valley stream.

3.3.2.3 SS-17: Silver Bow Creek at Opportunity

Mayfly taxa richness (2) and mayfly abundance (0.80% of the sampled fauna) were very low at this site, suggesting water quality impairment. However, the HBI value (4.32) was not much higher than expectations for a valley stream in the Middle Rockies ecoregion, suggesting that the invertebrate assemblage was not especially pollution-tolerant. The dominant taxa included the caddisflies *Hydropsyche occidentalis* and *Brachycentrus occidentalis*, suggesting that the sampled site may have been below an impoundment. The MTI value (4.88) exceeded the HBI value, and heptageniid mayflies were not encountered in samples. The metals-sensitive caddisfly *Lepidostoma* sp. was poorly represented: a single specimen was present. Metals contamination cannot be ruled out at this site. The thermal preference of the assemblage was calculated at 16.5°C.

Nine caddisfly taxa were counted in samples, but only 15 “clinger” taxa were present. Fine sediment deposition may have prevented colonization of stony substrates in some areas of this reach. However, the FSBI value (5.53) indicated a sediment-sensitive assemblage. Overall taxa richness (36) was lower than expected for a valley stream, suggesting disrupted or monotonous instream habitats. Long lived taxa (4) included a pioneering species of dytiscid beetle, and the remaining three taxa were not abundant. Periodic dewatering, thermal extremes, or toxic pollutants may have influenced the composition of the fauna in this reach. Filterers overwhelmed the functional composition of the samples, indicating that suspended organic material was a major energy source in the reach, and supporting a hypothesis of water quality impairment.

3.3.2.4 SS-25: Silver Bow Creek at Warm Springs

Metric indicators of water quality suggested that this site may be impaired: mayfly taxa richness (3) was much lower than expected, and the HBI value (5.32) was considerably higher than expected for a functioning valley stream in the Middle Rockies ecoregion. Mayflies accounted for only 1.11% of the sampled fauna. Hemoglobin-bearing taxa, especially the midges *Microtendipes* sp. and *Polypedilum* sp., accounted for 6.7% of sampled organisms. This suggests that there were areas of hypoxic substrates in the reach. These findings are consistent with nutrient pollution and warmer-than-expected water temperatures. The thermal preference of the assemblage was 17.3°C. Although there were no heptageniid mayflies in the samples collected here, the MTI value (4.21) was lower than the HBI value: metals contamination was not demonstrated by these data.

Although ten caddisfly taxa were counted, there were only 15 “clinger” taxa in the composited sample. Sediment deposition may have limited colonization of stony substrates. The FSBI value (4.01) indicated a moderately sediment-tolerant assemblage. Overall taxa richness (50) was lower than expected, suggesting monotonous or disrupted instream habitats. Five semivoltine taxa were collected, and these accounted for nearly 28% of sampled animals. Dewatering, thermal extremes, or scouring sediment pulses apparently did not influence the fauna here. Filterers, especially among the hydropsychid caddisflies (*Ceratopsyche* spp., *Cheumatopsyche* spp., *Hydropsyche* spp.) and the midges (*Microtendipes* spp.) and gatherers, especially the elmid *Zaitzevia* sp., dominated the functional mix. This pattern is sometimes interpreted as evidence of nutrient enrichment. All other expected feeding groups were present, although shredders were notably scarce. A poor showing of shredders suggests that large organic material such as leaves and woody debris from riparian inputs may have been limited, or that hydrologic conditions did not favor retention of such material.

3.3.2.5 CFR-03A: Clark Fork River near Galen

The four replicate samples collected from the Clark Fork River site at Galen yielded nine unique mayfly taxa, within expectations of a small- to mid-order river in the Middle Rockies ecoregion. The moderately elevated HBI value (4.89) may be skewed by the large number of *Cricotopus (Nostococladius)* sp. in the collection: this was the dominant taxon in the samples, accounting for 35% of the sampled fauna. The relatively high tolerance value (6) assigned to this midge may overestimate its tolerance. It seems likely that nutrient pollution did not substantially influence the macroinvertebrate assemblage here. Nitrogen was likely a limiting nutrient, since abundant *C. (Nostococladius)* sp. suggests a large crop of the blue-green alga *Nostoc* sp. The MTI value (4.65) was lower than the HBI value, but metals-sensitive taxa such as heptageniid mayflies and the caddisfly *Lepidostoma* sp. were poorly represented. Metals contamination cannot be ruled out based on these data. The thermal preference of the fauna was calculated at 16.3°C.

Twelve caddisfly taxa and 22 “clinger” taxa were counted in these samples, suggesting that sediment deposition did not limit colonization of stony substrates. The FSBI value (4.54) indicated a moderately sediment tolerant assemblage. Overall taxa richness (52) was lower than expected, suggesting that instream habitats were monotonous or disrupted. The dominance of *C. (Nostococladius)* sp. suggests that the benthic substrate may have been composed primarily of *Nostoc* sp. colonies. At least seven semivoltine taxa were supported here, and several of these taxa were abundant. Catastrophes such as dewatering or thermal extremes were probably not influential here. Shredders, especially *C. (Nostococladius)* sp. were the dominant functional form in this assemblage, but this midge does not respond to riparian inputs of large organic material: these may have been limited in the reach. All other expected feeding groups were well-represented.

3.3.2.6 CFR-07D: Clark Fork River at Galen Road

Seven mayfly taxa were counted in the samples collected at the Clark Fork River site at Galen Road, which is somewhat fewer than expected, while the biotic index value (4.21) was within expectations for a small- to mid-order river in the Middle Rockies ecoregion. Nutrient pollution was probably minimal here. The MTI value (4.39) was higher than the HBI value, and metals sensitive taxa such as heptageniid mayflies and *Lepidostoma* sp. were uncommon in samples. Metals contamination cannot be ruled out in this reach. The thermal preference of the benthic fauna was calculated at 15.8°C.

The site supported no fewer than 11 caddisfly taxa, but only 19 “clinger” taxa: sediment deposition may have limited colonization of stony substrates to some extent. The FSBI value (4.51) indicated a moderately sediment tolerant assemblage. Overall taxa richness (50) was lower than expected, suggesting monotonous or disturbed instream habitats. Dewatering or thermal extremes probably did not influence the composition of the benthic fauna, since seven semivoltine taxa were counted in samples. Filterers, especially the caddisflies *Brachycentrus occidentalis* and *Ceratopsyche* spp., dominated the functional composition, suggesting that suspended fine organic material was a major energy source in the reach. All other feeding groups were well-represented.

3.3.2.7 CFR-11F: Clark Fork River at Gemback Road

Only seven mayfly taxa were collected in samples taken at this site: this is somewhat fewer than expected. However, the HBI value (3.93) indicated a relatively sensitive benthic fauna. Some areas of hypoxic sediment may have been present, since hemoglobin-bearing taxa (e.g., *Polypedilum* sp., *Cryptochironomus* sp., and *Microtendipes* sp.) accounted for 3.0% of the sampled animals. The MTI value (3.76) did not exceed the HBI value, and a substantial number of the metals-sensitive caddisfly *Lepidostoma* sp. were counted. The thermal preference of the assemblage was 15.8°C.

Sediment deposition did not seem to limit colonization of stony substrate habitats: the site supported at least 14 caddisfly taxa and 24 “clinger” taxa. The FSBI value (4.27) indicated a moderately sediment tolerant fauna. Overall taxa richness (57) was somewhat lower than expected, suggesting that instream habitats may have been more monotonous than expected. Semivoltine taxa were well-represented: 8 such taxa were counted in samples. Catastrophic dewatering or thermal stresses did not appear to be influential. Scrapers dominated the functional mix, suggesting significant crops of diatoms and other benthic algae. Some nutrient enrichment may be indicated. Although all other feeding groups were represented, shredders were notably uncommon. Riparian inputs of large organic material such as leaves and woody debris may have been limited in the reach.

3.3.2.8 LC-7.5: Lost Creek at Frontage Road

Five mayfly taxa were collected in samples taken at this site, somewhat fewer than expected for a low order stream in the Middle Rockies ecoregion. The HBI value (4.32) indicated a mildly tolerant assemblage. Some degree of water quality impairment may have been present here. Tolerant taxa were abundant: these included snails (*Gyraulus* sp., *Physa* sp.), leeches (*Helobdella stagnalis*, unidentified Erpobdellidae), hydroptilid caddisflies (*Hydroptila* sp., *Ochrotrichia* sp.) and other tolerant caddisflies (*Helicopsyche* sp., *Oecetis* sp.). Some of these taxa are associated with filamentous algae, large crops of which may be an indication of nutrient enrichment. There was no discernible evidence of metals contamination. The thermal preference of the invertebrate fauna was calculated at 17.1°C.

The site supported at least 12 caddisfly taxa, but there were fewer “clinger” taxa (19) than expected. These findings suggest that sediment deposition may have compromised stony substrate habitats. The FSBI value calculated for the assemblage was 3.67, indicating a moderately sediment tolerant fauna. However, overall taxa richness (58) was moderately high, suggesting diverse instream habitats. Six semivoltine taxa were counted in samples: catastrophic dewatering or thermal stress probably did not influence the biota in this reach. Scrapers, especially the caddisfly *Helicopsyche* sp., dominated the functional composition of the assemblage, suggesting well-developed algal films. Shredders were notably rare: riparian inputs of leafy and woody material may have been limited.

3.3.2.9 RTC-1.5: Racetrack Creek at Frontage Road

Six mayfly taxa, somewhat fewer than expected, were counted in replicate samples collected at this site. The HBI value (4.07) was within expectations for a low order stream in the Middle Rockies ecoregion. However, the MTI value (5.06) exceeded the HBI value. A few metals-sensitive taxa (*Ecdyonurus criddlei*, *Lepidostoma* sp.) were present; abundance of these taxa was so limited that metals contamination cannot be ruled out at this site. Among the dominant taxa were midges (*Micropsectra* sp., *Orthocladius* spp.) that are frequently associated with filamentous algae. Large crops of filamentous algae may be an indication of nutrient enrichment. The thermal preference of the assemblage was calculated at 16.2°C.

Although six caddisfly taxa were collected, two of these taxa were hydroptilids (*Hydroptila* sp., *Ochrotrichia* sp.), and no caddisfly taxa were abundant. Hydroptilid caddisflies are associated with filamentous algae and do not contribute information about the condition of stony substrates. Only 17 “clinger” taxa were counted. These findings suggest that sediment deposition limited habitats at this site. The FSBI value (4.01) indicated a moderately sediment tolerant fauna. Overall taxa richness (51) indicated a less diverse assemblage than expected: notably, invertebrate abundance was also lower than expected. Only 1,642 specimens were present in the four replicate samples collected here. Three of the eight semivoltine taxa counted in samples were pioneering taxa with more mobility than other benthic invertebrates. Still, it seems unlikely that the site was influenced by catastrophic dewatering, thermal extremes or scouring sediment pulses. Gatherers overwhelmed the functional composition of the assemblage, filterers were rare, and other feeding groups were uncommon. This pattern represents a likely disturbance of the expected functional condition, which is related to either water quality problems or habitat disruption, or both.

3.3.2.10 LBR-CFR: Little Blackfoot River near mouth near Garrison

No fewer than 13 mayfly taxa were supported at this site. However, the HBI value (5.27) was higher than expected for a mid order river in the Middle Rockies ecoregion. The HBI value was influenced by the large number of *Cricotopus (Nostococladius*) sp. in samples. It seems likely that water quality was good in the reach. The MTI value (4.97) was lower than the HBI value, but heptageniid mayflies (*Ecdyonurus criddlei*, *Rhithrogena* sp.) were present, as was the metals-sensitive caddisfly *Lepidostoma* sp. Although none of these taxa was abundant, it seems likely that the site was not contaminated by metals pollution. The presence of filamentous algae is suggested by abundant midges in *Orthocladius* spp., and the caddisfly *Hydroptila* sp. Large crops of filamentous algae may be associated with nutrient enrichment. The thermal preference of the benthic fauna was estimated at 15.7°C.

Other than *Hydroptila* sp., ten caddisfly taxa were collected at this site, and samples yielded 27 “clinger” taxa. Sediment deposition probably did not substantially limit colonization of stony substrate habitats here. The FSBI value (5.00) indicated a relatively sediment sensitive fauna. Overall taxa richness (67) was high, suggesting diverse and intact instream habitats. Nine semivoltine taxa were counted: year-round surface flow and absence of events that would interrupt long life cycles are indicated. All expected functional groups were represented. The functional composition was dominated by gatherers and filterers, a pattern which is sometimes interpreted as evidence of impaired water quality.

3.4 CONCLUSIONS

Among Clark Fork River headwater and tributary sites, four sites did not meet the reference benchmarks stated in the Clark Fork River monitoring plan (i.e., a score above 80% for the metals pollution subset). Headwaters sites not meeting the benchmark were: Warm Springs Creek near mouth (WSC-SBC) with a mean score of 76.39%, Silver Bow Creek at Opportunity (SS-17) with a mean score of 70.83%, and Silver Bow Creek at Warm Springs (SS-25) with a mean score of 76.39%. Among tributary sites, Racetrack Creek at Frontage Road (RTC-1.5) achieved a score of 59.72%. All three Clark Fork River mainstem sites sampled had scores for the metals pollution subset that exceeded the 80% threshold, thus meeting the reference benchmark.

On the basis of the taxonomic composition of the macroinvertebrate fauna and the performance of the MTI, the influence of metals contamination was a possible stressor at three headwaters sites: Mill-Willow at Frontage Road (MCWC-MWB), Warm Springs Creek near mouth (WSC-SBC), and Silver Bow Creek at Opportunity (SS-17). Metals contamination also could not be ruled out at the mainstem Clark Fork River sites near Galen (CFR-03A) and at Galen Road (CFR-7D), and at the tributary site on Racetrack Creek (RTC-1.5).

4.0 PERIPHYTON

4.1 INTRODUCTION

This chapter describes results of periphyton monitoring within the CFROU in 2013. A total of twelve sites were sampled; six sites in the Clark Fork River or Silver Bow Creek mainstem and six sites in tributaries. The work is part of an adaptive, comprehensive long-term monitoring plan for evaluating the success of restoration and remediation activities, which are yet to be undertaken at these sites.

Periphyton samples were analyzed for non-diatom algae, diatom taxonomy, and community structure. A suite of metrics were applied to these diatom data to assess the degree of impairment from metals, nutrients, and sedimentation. These metrics included a stressor-specific tool developed for the Middle Rockies Ecoregion (Teply 2010a; 2010b) and adopted by MDEQ as a periphyton standard operating procedure for determining the probability of sediment impairment (MDEQ 2011). In addition, a variety of diatom metrics developed for Montana mountain streams were used (Bahls et al. 1992; Bahls 1993; Teply and Bahls 2005) which are based on autecological preferences or requirements of freshwater diatoms (Lowe 1974; Van Dam et al. 1994).

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

4.2 METHODS

4.2.1 Sampling

In September 2013, periphyton (benthic algae) was sampled at five sites in the Clark Fork River, one site in Silver Bow Creek, and at six sites in tributary streams (Table 4-1). Tributary sites were located in Mill-Willow Creek (two sites), Warm Springs Creek, Lost Creek, Racetrack Creek, and the Little Blackfoot River. Atkins collected periphyton samples from September 17-18, 2013. One composited periphyton sample was collected at each of the twelve sites. Periphyton samples were collected following the MDEQ standard operating procedure for flowing streams where a defined reach has not been established (MDEQ 2011). Periphyton samples were preserved in the field with Lugols IKI solution and kept on ice prior to refrigeration in the laboratory.

Monitoring emphasis in September 2013 was shifted to locations in the upper reaches of the CFROU with the addition of two upper Clark Fork mainstem sites, while four lower CFROU sites sampled in 2012 were discontinued. New periphyton sites sampled in 2013 included: Clark Fork at Galen Road (CFR-7D) and Clark Fork at Gemback Road (CFR-11F). Sites not sampled in 2013 included: Rock Creek near mouth (RC-CFR), Flint Creek near mouth (FC-CFR), Clark Fork at Gold Creek (CFR-53C) and Clark Fork near Drummond (CFR-84F).

Table 4-1. Periphyton sampling sites in the Clark Fork River Operable Unit, September 2013.

Site description	Site number	USGS site number	Latitude	Longitude
Mill-Willow Creek at Frontage Road	MCWC-MWB	none	46.12649	-112.79876
Mill-Willow Bypass near mouth	MWB-SBC	none	46.17839	-112.78270
Silver Bow Creek at Warm Springs	SS-25	12323750	46.18123	-112.77917
Warm Springs Creek near mouth	WSC-SBC	12323770	46.18041	-112.78592
Lost Creek near mouth	LC-CFR	12323850	46.22665	-112.76017
Racetrack Creek near mouth	RC-CFR	none	46.28406	-112.74484
Little Blackfoot River near mouth	LBR-CFR	12324590	46.51964	-112.79312
Clark Fork near Galen (Perkins Lane)	CFR-03A	12323800	46.20877	-112.76740
Clark Fork at Galen Road	CFR-07D	none	46.23725	-112.75302
Clark Fork at Gemback Road (Racetrack)	CFR-11F	none	46.26520	-112.74430
Clark Fork at Deer Lodge	CFR-27H	12324200	46.39796	-112.74283
Clark Fork at Turah	CFR-116A	12334550	46.82646	-113.81424

4.2.2 Laboratory Analysis

4.2.2.1 Non-Diatom Algae

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

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

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

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

4.2.2.2 Diatom Algae

To prepare samples for diatom analysis, organic matter was oxidized and permanent fixed mounts of cleaned diatom material were prepared. Each raw periphyton sample was vigorously shaken in the original sample container to thoroughly homogenize the material, and a subsample of approximately 20 mL was poured into a 250 mL Pyrex beaker. Each beaker was treated with 30-50 mL of concentrated sulfuric acid (H_2SO_4), and a small quantity 30% hydrogen peroxide (H_2O_2) and granulated potassium dichromate ($K_2Cr_2O_7$). Samples were then covered with a Pyrex watch glass and gently heated to near-boiling for 1-2 hours to completely oxidize all organic matter in the sample. Samples were allowed to cool, and then were topped off with deionized water. The diatom material was allowed to settle for at least 8 hours, and the clear supernatant decanted; this process was repeated at least five times to thoroughly flush all traces of oxidants from the diatom material.

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

4.2.3 Data Analysis

4.2.3.1 Non-Diatom Algae

Non-diatom algae genera identified at each of the twelve monitoring sites, with the estimated relative abundance and biovolume ranking of each taxon, are presented in Appendix H. Estimated relative abundance and biovolume of diatom algae at each site, with all taxa considered collectively under the division Bacillariophyta, are included for comparison with non-diatom algae. The number of “major” non-diatom genera present at each site (defined as those genera with estimated occurrence in a sample of at least “occasional”) are presented in Table 4-2 by algal division.

4.2.3.2 Diatom Algae

Diatom species identified at each site, with cell counts and the calculated percent relative abundance of each taxon, are presented in Appendix H. A suite of diatom metrics and bioassessment indices were calculated to assess water quality impairment at each site and are also presented in Appendix H. Diatom metrics are based on diatom autecology and community structure, some of which were developed specifically for Montana streams. Several diatom metrics utilize the concept of “increaser taxa”, which recognize that some diatom species are particularly tolerant of specific environmental conditions such as sedimentation, metal contamination, or nutrient enrichment (Teply 2010a; 2010b; Teply and Bahls 2005). Additional metrics were developed based on known environmental preferences, functional groupings, or other autecological requirements of diatom species (Van Dam et al. 1994; Bahls 1993).

Sediment impairment probabilities were calculated based on discriminate functions developed for MDEQ (Teply 2010a).

4.2.3.3 Bioassessment Indices

Sediment increaser taxa (Teply 2010a; 2010b)
Diatom taxa counts were evaluated to determine the probability of sediment impairment using a list of sediment increaser taxa for coldwater streams in the Middle Rockies Ecoregion (Teply (2010a and b). Sediment increaser taxa have autecological preferences for sediment impaired habitats. The current impairment probability threshold for sediment impairment in Middle Rockies Ecoregion streams is 51%. Sites with a percent relative abundance of sediment increaser taxa >15.34 exceed the impairment probability threshold and are therefore classified as “sediment impaired”. The percent relative abundance values of sediment increaser taxa are included in Appendix H and plotted in Figure 4-1.

Diatom biocriteria for Montana mountain streams (Teply and Bahls 2005).-
Teply and Bahls (2005) proposed lists of diatom increaser taxa indicative of impairment in Montana mountain streams resulting from sediment, nutrients, metals, or non-specific causes. They developed equations to determine impairment probabilities based on the percent relative abundance of diatoms from each list that are present in a given sample. The increaser taxa criteria were based on empirical observations of ecological attributes of diatoms from Montana mountain ecoregions. The diatom increaser taxa identified in Teply and Bahls (2005) were not adopted as SOPs because the likelihood for meeting performance criteria may be low, and the ability of these criteria to differentiate between specific causes of impairment may be low. For the sake of comparison, percent relative abundance values of metal and nutrient increaser taxa for each site are presented in Appendix H and plotted in Figure 4-2 and Figure 4-3.

Diatom association metrics for Montana mountain streams (Bahls 1993).-
Bahls (1993) proposed a set of seven metrics to evaluate biological integrity in mountain streams in Montana (Appendix I). These metrics are based on diatom associations in reference (i.e., relatively unimpaired) and impaired streams under a variety of impairment circumstances. Included are metrics indicative of impairment for sedimentation, nutrient enrichment, and metal contamination.

Of these metrics, the Pollution Index (Bahls 1993) synthesizes the three pollution tolerance groups defined by Lange-Bertalot (1979) with diatom autecological profiles described by Lowe (1974), and unpublished Montana diatom data described later in Bahls (2006). Diatom species were assigned to numerical categories 1, 2 or 3 (i.e., “most-tolerant”, “less-tolerant”, “sensitive”) for tolerance to nutrient enrichment, mineral salts, elevated temperatures, and metal toxicity.

A large number of diatom taxa are motile (i.e., capable of locomotion). The Siltation Index (Bahls 1993) is calculated as the total percent abundance of motile diatom taxa (e.g., species belonging to the genera *Navicula*, *Nitzschia, Surirella* and their allies). Motility may be an adaptation to siltation, as a mechanism that allows individual diatom cells to avoid inundation.

The Disturbance Index (Bahls 1993) considers the percent abundance of the diatom *Achnanthidium minutissimum,* which is highly specialized in the post-disturbance recolonization of stream substrates. Elevated numbers may be indicative of recent environmental stress caused by elevated or highly variable streamflows, water velocities, and temperatures at a site.

Biocriteria evaluate the level of environmental stress or impairment, rate biological integrity, and evaluate any impairment to beneficial aquatic life uses. Values for the seven biological integrity metrics and the overall rating for each site are presented in Appendix H and summarized in Table 4-3, based on criteria in Appendix I.

Additional diatom association metrics (Van Dam et al. 1994).-
The percent relative abundance of diatoms representing a range of tolerance of inorganic nutrients (trophic state) is presented for each site in Figure 4-4. The percent relative abundance of diatoms with specific nitrogen metabolism processes, which determine the degree of organic nitrogen tolerance for those organisms, is presented for each site in Figure 4-5. The percent relative abundance of diatoms intolerant of hypoxia and elevated biological oxygen demand is presented for each site in Figure 4-6.

4.2.3.4 Ecological Interpretations

Narrative interpretations infer the degree and potential causes of water quality impairment for each site. These interpretations are based on the taxonomic composition, autecological preferences, and functional organization of non-diatom and diatom components of the periphyton assemblage at each monitoring site.

Varying tolerance to inorganic and organic nutrients has been established among non-diatom and diatom algae; some taxa are sensitive to nutrient enrichment and other taxa are tolerant of nutrient enrichment (Prescott 1962; Wehr and Sheath 2003).

Many soft-bodied algae are sensitive to dissolved metals, particularly copper. Filamentous green algae (Chlorophyta) generally are more sensitive to copper than are colonial (i.e., mat-forming) blue-green algae (Cyanobacteria). Colonial blue-green algae (e.g. *Nostoc* and *Rivularia*) can tolerate metals due to a protective gelatinous mucilage (i.e., slime coating). However, some green algae (e.g., *Cladophora, Mougeotia, Scenedesmus, Stigeoclonium,* and *Ulothrix* sp.) have demonstrated higher tolerance of dissolved metals (Shaw 1990).

Diatom assemblages may also indicate metal contamination. Diatom species that increase in abundance in response heavy metals were identified by Teply and Bahls (2005) and Stoermer and Smol (1999). Elevated metals can cause teratological growth forms (i.e., abnormalities in cell walls) in diatoms (Falasco et al. 2009).

4.3 RESULTS

4.3.1 Non-Diatom Algae

The number of “major” (i.e., those with a ranking for estimated abundance of “occasional” or greater) non-diatom algae genera identified at each site monitored in 2013 are presented in Table 4-2. The complete list of non-diatom algae genera identified in the 2013 samples, with their estimated relative abundance and biovolume rank, are presented in Appendix H.

Major non-diatom algae genera at the seven CFROU tributary sites numbered from 6-15 in September 2013 (Table 4-2). The fewest genera (6) occurred at Lost Creek (LC-7.5), while the most genera (15) occurred at two sites: the combined Mill and Willow Creeks (MCWC-MWB) and the Little Blackfoot River (LBC-CFR). Silver Bow Creek (SS-25) had only 7 major non-diatom genera, while 13 were present at Racetrack Creek (RTC-1.5). At the five mainstem Clark Fork sites, 9-12 major non-diatom genera were identified in 2013. The greatest number (12) occurred at the uppermost Clark Fork site near Galen (CFR-03A). The four remaining

Clark Fork sites between Galen and Turah had comparable numbers of major non-diatom genera, with either 9 or 10 genera present.

A total of 48 genera of non-diatom algae, representing five algal divisions, were identified from the twelve CFROU sites monitored in 2013 (Appendix H). Among all sites, Chlorophyta (green algae) and Cyanobacteria (blue-green algae) were most numerous, with far fewer genera belonging to Xanthophyta (yellow-green algae), Rhodophyta (red algae) and Phaeophyta (brown algae). Each algal division was represented by at least one genus as a “major” taxon, at one or more of the monitoring sites (Table 4-2). Some of these algae are of interest as indicators of specific environmental conditions.

Chlorophyta outnumbered (or were equal to) Cyanophyta at all but three of the twelve CFROU sites in 2013: Clark Fork near Galen (CFR-03A), Clark Fork at Galen Road (CFR-07D) and Clark Fork at Turah (CFR-116A). The total number of major genera belonging to divisions Rhodophyta, Xanthophyta and/or Phaeophyta did not exceed two at any site, and at six sites was zero (Table 4-2). A high diversity of non-diatom algae generally indicates nutrient rich water. Very low diversity of non-diatom algae suggests toxic pollutants, although unimpaired, nutrient-poor waters may have naturally low algal diversity.

Table 4-2. Number of major non-diatom algae genera, by algal division, present at Clark Fork River Operable Unit monitoring sites, 2013[9].

Algal Division:	**Chlorophyta** Green Algae	**Cyanobacteria** Blue-green Algae[10]	**Rhodophyta** Red Algae	**Xanthophyta** Yellow-green Algae	**Phaeophyta** Brown Algae	**Total Major Genera**
Monitoring Site						
MCWC-MWB	7	6	1	1	0	**15**
MWB-SBC	5	4	0	0	0	**9**
SS-25	5	2	0	0	0	**7**
WSC-SBC	4	4	1	1	0	**10**
LC-7.5	3	2	0	1	0	**6**
RTC-1.5	9	2	0	2	0	**13**
LBR-CFR	8	5	0	2	0	**15**
CFR-03A	4	8	0	0	0	**12**
CFR-07D	3	6	0	0	0	**9**
CFR-11F	5	4	0	0	0	**9**
CFR-27H	6	4	0	0	0	**10**
CFR-116A	4	5	0	0	1	**10**

4.3.2 Diatom Bioassessment Indices

4.3.2.1 Diatom Increaser Taxa

The percent relative abundance and probability of impairment of diatom increaser taxa are plotted for sediment (Figure 4-1), metals (Figure 4-2), and nutrients (Figure 4-3) at the twelve sites monitored in 2013, and are presented in Appendix H. As previously noted (see Section 4.2.3.2), the metals and nutrient increaser taxa indices have not been adopted as SOPs by MDEQ.

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[9] Major" defined as at least "occasional" in estimated abundance (see Section 4.2.2.1).

[10] Formerly classified as Cyanophyta.

4.3.2.2 Sediment Increaser Taxa

Sediment increaser taxa were most abundant at site MCWC-MWB (Mill-Willow Creek at Frontage Road) (Figure 4-1). The probability of impairment by sediment at MCWC-MWB (86%) exceeded the impairment threshold (51%) for sediment increaser taxa. Five other sites had impairment probabilities exceeding the sediment impairment threshold: site MWB-SBC (Mill-Willow Bypass near mouth, 66%), site WSC-SBC (Warm Springs Creek near mouth, 75%), site LBR-CFR (Little Blackfoot River near mouth, 54%), site CFR-03A (Clark Fork near Galen, 62%) and site CFR-11F (Clark Fork at Gemback Road, 75%). The six remaining sites had sediment impairment probabilities which were less than the threshold; the range of sediment impairment probabilities among the remaining sites was 20-46% (Figure 4-1).

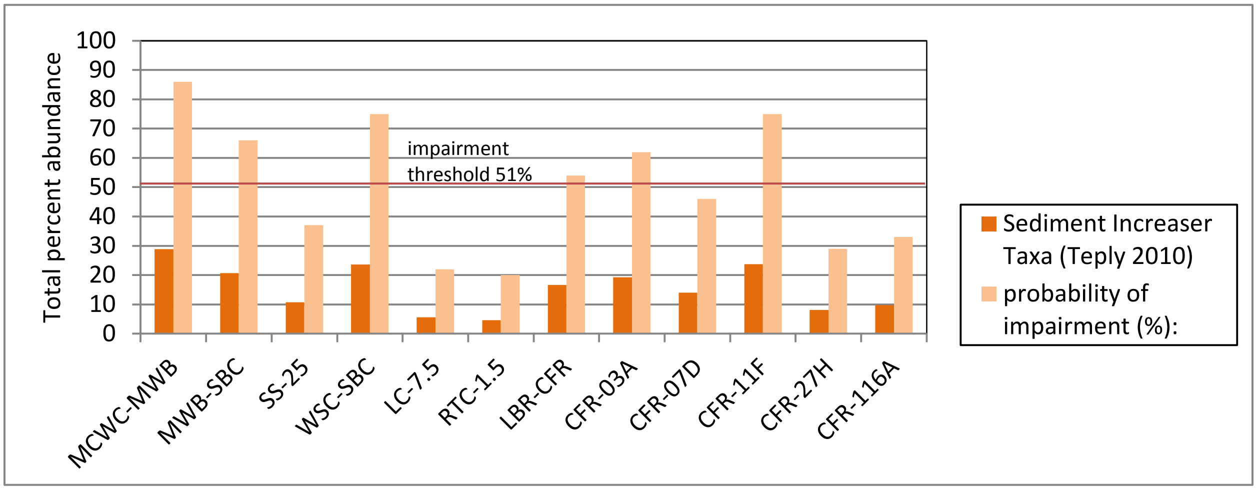

Figure 4-4-1. Total percent abundance and probability of impairment for diatom sediment increaser taxa bioassessment index (Teply 2010a) at Clark Fork River Operable Unit sites in 2013.

4.3.2.3 Metals Increaser Taxa

Metals increaser taxa were most abundant at site SS-25 (Silver Bow Creek at Warm Springs) and site CFR-116A (Clark Fork at Turah), followed by site CFR-03A (Clark Fork near Galen) and CFR-07D (Clark Fork at Galen Road) (Figure 4-2). The probability of heavy metals impairment at these four sites exceeded 90% (range 93-97%) (Figure 4-2). Site CFR-11F (Clark Fork at Gemback Road) and site LBR-CFR (Little Blackfoot River near mouth) had probabilities of heavy metals impairment of just over 80%. Three sites had heavy metals impairment probabilities that exceeded 50%: site MCWC-MWB (Mill-Willow Creek at Frontage Road, 66%), site MWB-SBC (Mill-Willow Bypass near mouth, 54%) and site LC-7.5 (Lost Creek at Frontage Road, 55%) (Figure 4-2). The probability of metals impairment at the three remaining sites was less than 50%: site WSC-SBC (Warm Springs Creek at Warm Springs, 45%), site CFR-27H (Clark Fork at Deer Lodge, 29%) and site RTC-1.5 (Racetrack Creek at Frontage Road, 18%) (Figure 4-2). No impairment threshold has been established for metals increaser taxa in the CFROU. This index is provided to allow for comparisons of the relative magnitude of impairment probabilities between sites.

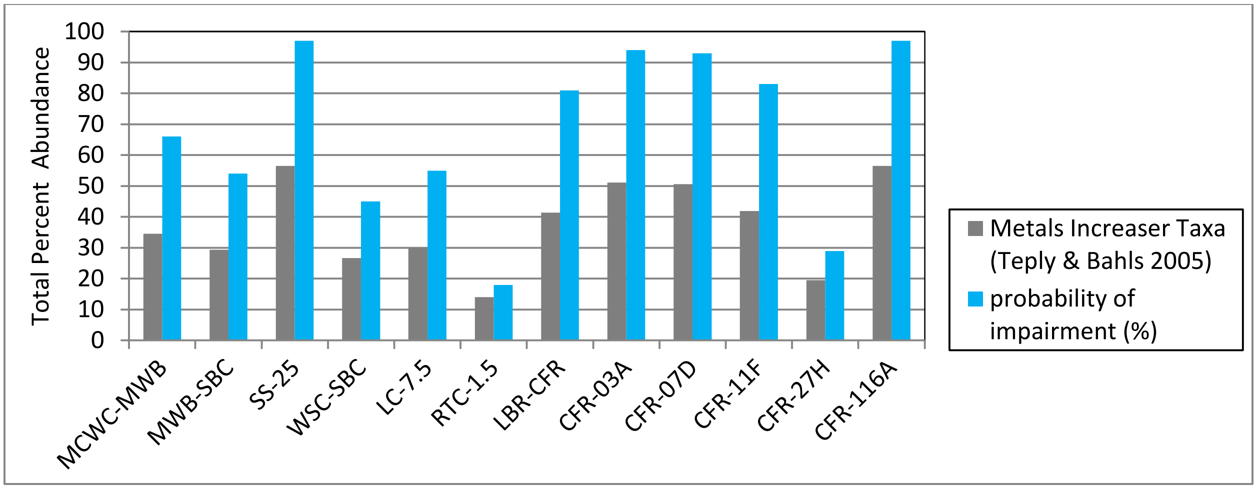

Figure 4-2. **Total percent abundance and probability of impairment for diatom metals increaser taxa bioassessment index (Teply and Bahls 2005) at Clark Fork River Operable Unit sites in 2013.**

4.3.2.4 Nutrient Increaser Taxa

The highest probability of impairment by nutrients, based on nutrient increaser taxa relative abundances (Figure 4-3), was 97% at site LBR-CFR (Little Blackfoot River near mouth). Three upper Clark Fork River mainstem sites had probabilities of nutrient impairment that exceeded 80%: site CFR-03A (near Galen, 83%), site CFR-07D (at Galen Road, 85%), and site CFR-11F (at Gemback Road, 89%) (Figure 4-3). The probability of nutrient impairment was 75% at site MCWC-MWB (Mill-Willow Creek at Frontage Road), 60% at site SS-25 (Silver Bow Creek at Warm Springs) and 59% at site CFR-116A (Clark Fork at Turah). The remainder of the sites had probabilities of impairment less than 50%: site MWB-SBC (Mill-Willow Bypass at mouth, 43%), site WSC-SBC (Warm Springs Creek at Warm Springs, 33%), and site LC-7.5 (Lost Creek at Frontage Road, 46%). The lowest probability of impairment by nutrients (<10%) was at site RTC-1.5 (Racetrack Creek at Frontage Road) (Figure 4-3). No impairment threshold has been established for nutrient increaser taxa in the CFROU. This index is provided to allow for comparisons of the relative magnitude of impairment probabilities between sites.

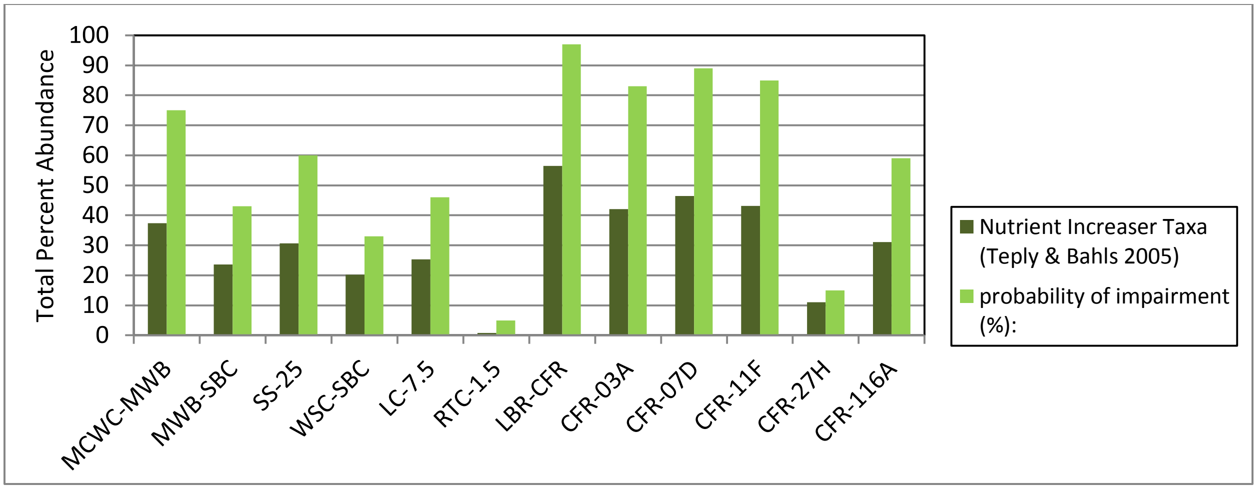

Figure 4-3. **Total percent abundance and probability of impairment for diatom nutrient increaser taxa bioassessment index (Teply and Bahls 2005) at Clark Fork River Operable Unit sites in 2013.**

4.3.2.5 Diatom Association metrics for Montana Mountain Streams

Metrics proposed by Bahls (1993) to evaluate biological integrity in Montana mountain streams, based on criteria in Appendix H, were determined for the diatom associations present at each CFROU site monitored in 2013. Results are summarized in Table 4-3, and are presented in Appendix H.

Table 4-3. **Diatom association metrics and biological integrity[11] and impairment[12] ratings for Clark Fork River Operable Unit monitoring sites, 2013 (after Bahls 1993).**

Diatom Metric: Monitoring Site	Diatom Species Richness	Shannon Diversity Index	Dominant Taxon, percent	Disturbance Index	Pollution Index	Siltation Index	Abnormal Cells, percent	Biological Integrity[a]
MCWC-MWB	75	3.55	10.38	6.38	2.65	**22.00**	0.00	**Good**
MWB-SBC	63	3.42	16.00	2.63	**2.46**	**23.75**	0.00	**Good**
SS-25	48	3.04	19.25	0.38	**2.50**	**39.75**	0.00	**Good**
WSC-SBC	56	3.24	11.63	11.63	2.66	**37.50**	0.00	**Good**
LC-7.5	48	**2.81**	20.75	13.75	2.62	5.38	**5.13**	**Fair**
RTC-1.5	52	**2.57**	**29.75**	**29.75**	2.76	9.63	0.00	**Good**
LBR-CFR	59	3.11	21.00	0.88	2.58	**20.88**	0.00	**Good**
CFR-03A	60	3.44	13.63	0.13	2.68	**28.13**	0.00	**Good**
CFR-07D	65	3.21	**28.00**	1.75	2.74	**20.13**	0.00	**Good**
CFR-11F	65	3.45	13.13	2.88	2.64	**25.75**	0.00	**Good**
CFR-27H	64	3.37	15.38	13.13	2.53	**42.00**	1.00	**Fair**
CFR-116A	66	3.29	18.25	2.63	2.69	**20.63**	**2.38**	**Good**

Of the twelve CFROU sites monitored in 2013, ten (83%) were rated “good” for biological integrity, while two were rated “fair” for biological integrity (Table 4-3). No sites received ratings of “excellent” or “poor” in 2013.

The “good” rating for biological integrity at five of the CFROU sites was due to slightly-to-moderately elevated values for siltation index; these included: MCWC-MWB (Mill and Willow

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[11] Biological integrity rating is based numerical criteria for each diatom metric, see Appendix I.

[12] Impairment ratings coding: no accent = no impairment; bold accent = minor impairment; bold and underscored = moderate impairment.

Creeks at Frontage Road), WSC-SBC (Warm springs Creek near mouth), LBR-CFR (Little Blackfoot River near mouth), CFR-03A (Clark Fork near Galen) and CFR-11F (Clark Fork at Gemback Road), (Table 4-3). The "good" rating for biological integrity at site MWB-SBC (Mill-Willow Bypass near mouth) and site SS-25 (Silver Bow Creek at Warm Springs) was due to elevated values for both the siltation index and pollution index. At site CFR-07D (Clark Fork at Galen Road), the "good" rating for was due to elevated values for both the siltation index and the dominant diatom taxon. At site RTC-1.5 (Racetrack Creek at Frontage Road) the "good" rating for was due to a slightly depressed Shannon diversity value, along with elevated values for the dominant taxon and the disturbance index (Table 4-3).

The "fair" rating for biological integrity at LC-7.5 (Lost Creek at Frontage Road) was due to an elevated percentage of abnormal diatom cells, while the "fair" rating at CFR-27H (Clark Fork at Deer Lodge) was due to a moderately elevated siltation index value (Table 4-3).

4.3.2.6 Additional Diatom Association Metrics

For each of the sites monitored in 2013, three metrics based on ecological attributes of diatom associations are presented. The diatom trophic state index is the total percent relative abundance of diatoms with different tolerance levels of inorganic nutrients (i.e., nitrogen and phosphorus) (Figure 4-4). The nitrogen metabolism metric is the total percent relative abundance of diatoms exhibiting different tolerance levels of organic nitrogen compounds (Figure 4-5). The oxygen demand metric is the total percent relative abundance diatoms that require high dissolved oxygen saturation and are intolerant of elevated biological oxygen demand conditions (Figure 4-6). Values for all three of these metrics are tabulated in Appendix I.

The level of inorganic nitrogen and phosphorus enrichment, or trophic state of a water body influences the algal community at a site. The response of many diatom taxa to inorganic nutrient enrichment (i.e., eutrophic conditions) is well known and provides the basis of the diatom trophic state index (Figure 4-4). Nutrient tolerant diatom species do not necessarily require high nutrient levels. Nutrient intolerant diatom species however are at a competitive disadvantage in nutrient enriched conditions. As a result, nutrient intolerant species tend to be reduced in relative abundance or absent under conditions of nutrient enrichment.

Figure 4-4 suggests moderately enriched inorganic nutrients (i.e., slightly-to-moderately eutrophic conditions) at all Clark Fork mainstem sites. At those sites, intolerant taxa abundance was low whereas tolerant taxa were considerably more abundant. Similar conditions were exhibited at all but one of the tributary sites. The exception was site RTC-1.5 (Racetrack Creek at Frontage Road) where the percent abundance of intolerant taxa was relatively high, and levels of inorganic nutrients likely were lower.

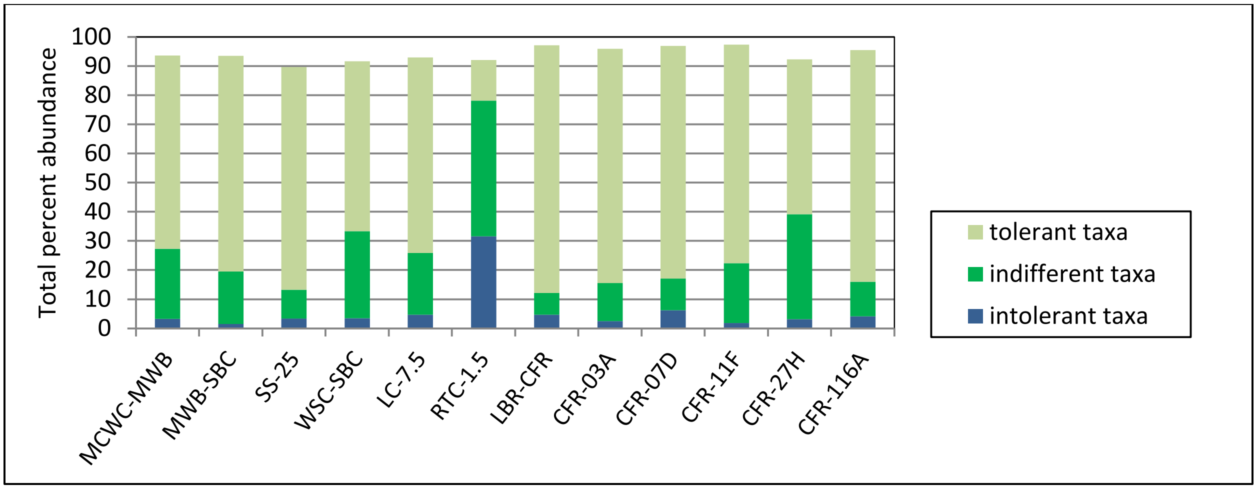

Figure 4-4. **Variation in diatom trophic state tolerance among Clark Fork River Operable Unit monitoring sites, 2013; percent abundance of taxa tolerant to inorganic nutrients (after Van Dam et. al 1994).**

Enrichment by organically-derived nitrogen compounds can influence the composition of the algal community. Diatoms exhibit a broad range of tolerance to organic nitrogen. Most diatoms are nitrogen autotrophs and are unable to utilize organic nitrogen, whereas some diatoms are metabolic specialists and are able to directly assimilate organic nitrogen in addition to, or as an alternative to inorganic nitrogen (i.e., facultative nitrogen heterotrophs).

Nitrogen-autotrophic diatoms were dominant at all sites monitored in 2013, and autotrophic taxa with a higher tolerance to organic nitrogen were more abundant than intolerant forms at all sites (Figure 4-5). Nitrogen-heterotrophic diatoms comprised less than 10% relative abundance of taxa present at all but three of the sites. At site MWB-SBC (Mill-Willow Bypass near mouth) nitrogen heterotrophs comprised 30% relative abundance of diatoms, with 16% at site SS-25 (Silver Bow Creek at Warm Springs) and 11% at site LBR-CFR (Little Blackfoot River near mouth), (Appendix H). The lowest proportion of nitrogen-heterotrophic diatoms (2%) was at site RTC-1.5 (Racetrack Creek at Frontage Road). These data indicate that diatom assemblages at CFROU sites in 2013, while tolerant of relatively high organic nitrogen concentrations, were predominantly autotrophs requiring inorganic nitrogen. While this suggests the possibility of organic nitrogen inputs to tributary and mainstem sites, it does not indicate organic nitrogen had adverse impacts or toxic effects by on the diatom assemblages.

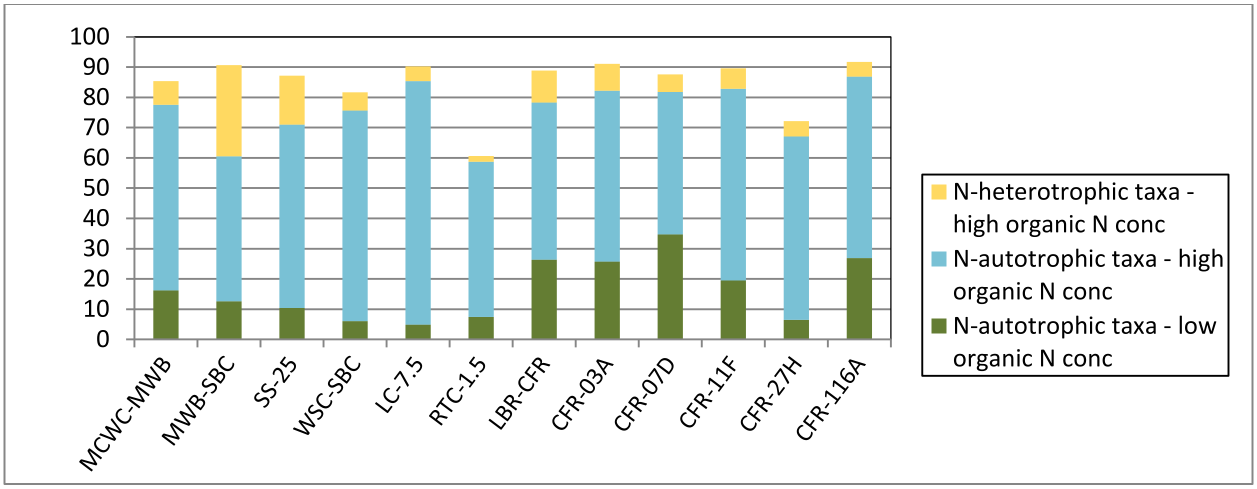

Figure 4-5. **Variation in diatom nitrogen metabolism among Clark Fork River Operable Unit monitoring sites, 2013; percent abundance of taxa tolerant of organic nitrogen (after Van Dam et. al 1994).**

The percent abundance of diatoms requiring oligosaprobous (i.e., low levels of organic matter decomposition and high dissolved oxygen concentrations, inorganic nitrogen only) and β-mesosaprobous (i.e., moderate levels of organic matter decomposition, high dissolved oxygen concentrations, predominantly inorganic nitrogen) conditions ranged from 49-83%, and generally exceeded 50% at all sites in 2013 (Figure 4-6). Diatoms requiring >75% dissolved oxygen saturation were dominant at all sites, with percent abundances ranged from 40-69%, and generally exceeded 45% at all sites in 2013 (Figure 4-6). These data suggest that no CFROU sites had impairments to diatom assemblages from hypoxia or elevated biological oxygen demand resulting from decomposition of organic matter in 2013.

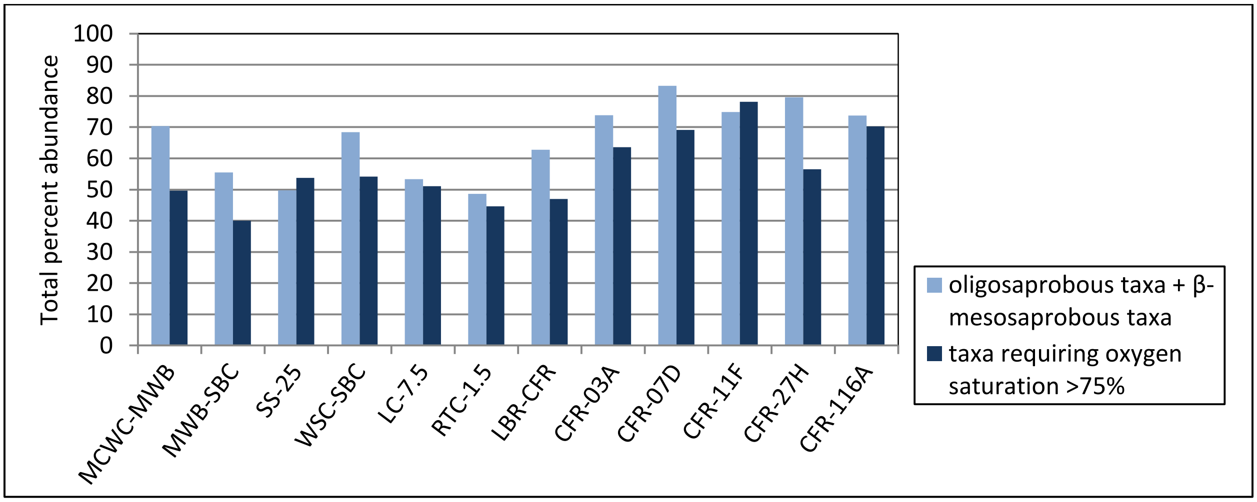

Figure 4-6. **Variation in diatom oxygen demand among Clark Fork River Operable Unit monitoring sites, 2013; percent abundance of taxa intolerant to elevated biological oxygen demand (BOD) and hypoxia (after Van Dam et. al 1994).**

4.3.3 Ecological Interpretations of Periphyton Assemblages

4.3.3.1 Non-Diatom Algae

From one to nine genera of Chlorophyta (green algae) were observed at the twelve CFROU monitoring sites in 2013 (Table 4-2). Genera observed at monitoring sites included filamentous forms (*Cladophora, Mougeotia, Oedogonium, Spirogyra, Stigeoclonium,* and *Ulothrix),* colonial forms (*Scenedesmus),* single-celled desmid algae (*Closterium* and *Cosmarium*) and coarse, macroscopically-branched forms (*Chara*). These algae are generally indicative of cool, moderately rich water. Many of these species are relatively tolerant of elevated nutrients, acidity, metals, or combinations of those conditions. *Mougeotia, Stigeoclonium,* and *Ulothrix* have been observed in streams with elevated zinc concentrations (Shaw 1990). *Scenedesmus* is known to tolerate elevated copper concentration, and *Cladophora* and *Ulothrix* are resistant to copper used in paint for watercraft and ship hulls (Shaw 1990). *Chara* occurs in streams that have high pH and elevated bicarbonate concentrations. *Cladophora* was a major taxon at eleven of twelve sites in 2013, whereas *Oedogonium* was a major taxon at ten of twelve sites. Estimated biovolume for both *Cladophora* and *Oedogonium* generally ranked within top four taxa (including diatoms as a whole) identified at the five mainstem Clark Fork sites in 2013 (Appendix H).

Of the Cyanobacteria (blue-green algae), the genus *Nostoc* was a major component at 75% (nine of twelve) of the monitoring sites, including all five Clark Fork mainstem sites. *Nostoc* is generally indicative of cool, moderately rich, relatively unpolluted water. Masses of *Nostoc* trichomes (i.e. filaments composed of individual cells) are encased in a tough colonial mucilage that is resistant to scour and desiccation. More importantly, *Nostoc* and several related Cyanobacteria genera (e.g. *Tolypothrix* and *Rivularia*) possess specialized cells called heterocytes that permit fixation of atmospheric nitrogen through enzyme reactions. This provides *Nostoc* with a competitive advantage over other non-diatom algae in water with low inorganic nitrogen concentrations. Additionally, several diatom species of the order Rhopalodiales (*Epithemia sorex, Epithemia turgid,* and *Rhopalodia gibba*) are known to harbor single-celled blue-green algae that can also fix nitrogen. All of these diatom taxa (and particularly *Epithemia sorex)* were present at several of the monitoring sites in 2013, and are the basis for the percent Rhopalodiales metric in Appendix H.

From two to seven major genera of Cyanobacteria in addition to *Nostoc* occurred at the twelve sites monitored in 2013. These included the filamentous forms *Tolypothrix, Phormidium, Heteroleibleinia* and *Homoeothrix.* All are microscopic benthic forms commonly identified in mountain ecoregion streams. *Tolypothrix* occurs in unpolluted freshwaters attached to stones, macrophytes or other algae, sometimes forming wooly mats or tufts. *Phormidium* is a cosmopolitan form which occurs within a relatively broad range of habitats and water quality conditions, and can form extensive macroscopic growths. *Chamaesiphon* is a solitary or colonial form that generally prefers low to moderate levels of nutrients and dissolved solids and often is found on submerged substrates in coldwater mountain streams. In relatively unpolluted waters, large abundances of *Chamaesiphon, Heteroleibleinia* and *Homoeothrix* commonly occur as epiphytes (i.e., plants that grow on other plants) on filamentous green algae (e.g., *Cladophora* or *Oedogonium*) in densities that often nearly cover the cell walls of the host alga.

The filamentous alga *Audouinella,* a member of the division Rhodophyta (red algae), is a cosmopolitan form that prefers circumneutral (i.e., pH between 6 and 8) to slightly alkaline water that is moderately low in nutrients and dissolved solids. *Audouinella* was identified as a major taxon at only two of the twelve sites monitored in 2013, whereas it had been a major taxon at ten of fifteen CFROU sites monitored in 2012.

The filamentous genera *Tribonema* and *Vaucheria* are yellow-green algae (division Xanthophyta). They were major taxa either together or singly at several tributary sites in 2013, including MCWC-MWB (Mill and Willow Creeks at Frontage Road), LTC-7.5 (Lost Creek at Frontage Road), RTC-1.5 (Racetrack Creek at Frontage Road) and LBR-CFR (Little Blackfoot River near mouth), but were not present in Silver Bow Creek (SS-25) or any of the five Clark Fork mainstem sites. Often these taxa occur in cool, nutrient-poor water that is slightly acidic due to elevated levels of dissolved humic substances (e.g., tannins) associated with decaying vegetation and bog environments.

The uncommon filamentous brown alga *Heribaudiella* (division Phaeophyta) was found only at site CFR-116A (Clark Fork at Turah). *Heribaudiella* is known to occur in cool water at higher current velocities, often with moderate levels of nutrients and alkalinity (Wehr and Sheath 2003).

4.3.3.2 Diatom Algae

Diatom algae dominated the periphyton assemblage at all CFROU sites monitored in 2013, ranking first in estimated biovolume relative to non-diatom algae at nine of twelve sites (Appendix H). Over 150 species and varieties of diatoms were identified among the CFROU sites in 2013. Several diatoms were of particular interest for because of specific autecological preferences and environmental requirements of those organisms (Appendix H).

Epithemia sorex, E. turgid and *Rhopalodia gibba* often harbor single-celled endosymbotic (i.e., internal to the cell wall) nitrogen-fixing cyanobacteria, with an assumed benefit to both organisms in nitrogen-limited waters. These taxa, considered collectively as the percent Rhopalodiales metric suggests low levels of inorganic nitrogen relative to phosphorus in the water column.

Achnanthidium minutissimum is a specialist in re-colonizing stream substrates that have been subjected to physical disturbance such as scour or impacted by dewatering. The percent relative abundance of *A. minutissimum* is the basis for the disturbance index (Bahls 1993).

4.3.3.3 Site Specific Narratives

The narratives that follow are based on review of results from analyses of data from individual sites, including the taxonomy and community structure of non-diatom and diatom algae and the suite of metrics derived from those data. Biological integrity and the degree of impairment of the aquatic biota are assessed for each monitoring site. The focus of each narrative is on water quality; specifically the influence of metals, nutrients, and sediment on diatom assemblages.

MCWC-MWB (combined Mill and Willow Creeks)

Non-diatom algae were diverse at site MCWC-MWB. Fifteen major genera, representing four algal divisions were present (Table 4-2). Seven of these genera were green algae (order Chlorophyta), while six were blue-green algae (order Cyanobacteria). The presence of green algae *Cladophora* and *Oedogonium*, blue-green alga *Nostoc*, yellow-green (order Xanthophyta) alga *Vaucheria*, and red (order Rhodophyta) alga *Audouinella* indicated “good” water quality, moderately nutrient rich, and conditions that were likely nitrogen-limited. Diatom algae had the highest species richness and Shannon diversity of the twelve sites monitored (Table 4-3). Dominant diatom taxa at site MCWC-MWB included *Epithemia sorex, Cocconeis pediculus* and *C. placentula* (Appendix I), all forms that occur as epiphytes on filamentous algae. Diatom increaser taxa indicated a high probability of impairment by sediment (Figure 4-1) and moderate probabilities of impairment by metals (Figure 4-2), and nutrients (Figure 4-3). A majority of diatom taxa at site MCWC-MWB were tolerant of elevated levels of inorganic nutrients (Figure 4-4) and organic nitrogen (Figure 4-5). The percentage of diatoms requiring higher levels of dissolved oxygen saturation was relatively high (Figure 4-6). Biological integrity at site MCWC-MWB was “good”, with minor impairment related to sediment, and a low level of environmental stress (Table 4-3; Appendix I).

MWB-SBC (Mill-Willow Bypass near mouth)

Non-diatom algae were considerably less-diverse at site MWB-SBC than at the upstream site on Mill-Willow Creek (Table 4-2). The nine major genera were divided between green algae (5 taxa) and blue-green algae (4 taxa). Green algae, primarily *Cladophora* and *Oedogonium,* comprised much of the algal biovolume in the sample (Appendix H). Moderate enrichment by inorganic nutrients was indicated, with limited levels of inorganic nitrogen relative to phosphorus suggested by the relative importance of the blue-green algae *Nostoc* and *Tolypothrix*. Diatom species richness and Shannon diversity values decreased slightly from those seen at the upstream site, but remained relatively high compared to other CFROU sites in 2013 (Table 4-3). Dominant diatoms at site MWB-SBC included *Melosira varians* and *Stephanocyclus meneghiniana,* both tolerant of elevated nutrients, and the cosmopolitan epiphytic taxon *Cocconeis placentula*. Diatom increaser taxa indicated moderately high probability of impairment by sediment (Figure 4-1), and moderate probabilities of impairment by metals (Figure 4-2) and nutrients (Figure 4-3). A majority of diatoms at site MWB-SBC were tolerant of inorganic nutrients (Figure 4-4) and elevated organic nitrogen (Figure 4-5). Diatoms requiring high dissolved oxygen levels comprised 40% of taxa at site MWB-SBC, the lowest percentage of all CFROU sites monitored in 2013. Biological integrity at site MWB-SBC was “good”, with minor impairment from sediment, metals and nutrients indicated by the siltation index and pollution index, and a low level of environmental stress suggested by the disturbance index (Table 4-3; Appendix I).

SS-25 (Silver Bow Creek at Warm Springs)

Seven “major” genera of non-diatom algae at were identified at site SS-25 in 2013 (Table 4-2). This was the second lowest number of the twelve sites sampled, and one of five sites with fewer than ten major non-diatom algae taxa present (Table 4-2). The flora was dominated by green algae (5 taxa), with three filamentous genera (*Cladophora, Oedogonium* and *Stigeoclonium*) responsible for most of the non-diatom algal biovolume at site SS-25. Only two genera of blue-green algae were present as “major” taxa at site SS-25, but ranked well below the green algae in estimated biovolume; no other algal divisions were represented (Appendix H). The filamentous green algae are indicative of water relatively rich in nutrients, particularly nitrogen, and are relatively tolerant of metals. Diatom species richness and Shannon diversity values at site SS-25 were slightly depressed compared to upstream site MWB-SBC, above the Silver Bow Creek discharge from Warm Springs Pond 2 (Table 4-3). A very low disturbance index value at site SS-25 suggested relatively stable conditions and low levels of environmental stress (Table 4-3). Several diatom taxa dominant at site SS-25, including *Epithemia sorex, Cocconeis pediculus* and *C. placentula, Nitzschia fonticola* and *Synedra acus*, commonly occur as epiphytes on filamentous algae and aquatic macrophytes in alkaline, nutrient-rich streams (Appendix H). Diatom increaser taxa indicated a high probability of impairment by metals (Figure 4-2), a moderate probability of impairment by nutrients (Figure 4-3) and a moderately low probability of impairment by sediment (Figure 4-1) at site SS-25. Diatoms tolerant of elevated inorganic nutrients (Figure 4-4) and organic nitrogen (Figure 4-5) comprised relatively high percentages of taxa at site SS-25, and suggest eutrophic conditions in the reach below the Warm Springs Ponds. The percentage of diatoms requiring high dissolved oxygen levels at site SS-25 was slightly higher than at upstream site MWB-SBC (Figure 4-6). Biological integrity at site SS-25 was “good” with minor impairment of the biota indicated by the siltation index and pollution index (Table 4-3; Appendix I).

WSC-SBC (Warm Springs Creek near mouth)

Ten “major” genera of non-diatom algae were identified at site WSC-SBC in 2013 (Table 4-2). A relatively diverse assemblage included within the top five non-diatom taxa the filamentous green alga *Cladophora,* the colonial blue-green alga *Nostoc,* the filamentous red alga *Audouinella* and the filamentous yellow-green alga *Vaucheria* (Appendix H). All of these algae are indicative of cool, relatively unpolluted water with low to moderate levels of inorganic nutrients. The abundance of *Nostoc* suggests that inorganic nitrogen may have been limiting relative to phosphorus. Diatom species richness and Shannon diversity at WSC-SBC were near-average for the 12 CFROU sites monitored in 2013 (Table 4-3). The disturbance index value suggested at least some environmental stress, with *Achnanthidium minutissimum* as the dominant diatom taxon at nearly 12%. Diatom increaser taxa indicated moderately low probability of impairment by nutrients (Figure 4-3) and metals (Figure 4-2), but a moderately high probability (75%) of impairment by sediment at WSC-SBC (Figure 4-1, Appendix I). Most diatom taxa present at WSC-SBC were relatively intolerant of inorganic nutrients (Figure 4-4) and organic nitrogen (Figure 4-5), and required a relatively high level of oxygen saturation (Figure 4-6; Appendix H). Biological integrity at WSC-SBC was “good” (Table 4-3), with minor impairment of the biota indicated by the siltation index (Table 4.3; Appendix I).

CFR-03A (Clark Fork near Galen)

Twelve “major” genera of non-diatom algae were identified at Clark Fork headwaters site CFR-03A in 2013 (Table 4-2). Eight genera of blue-green algae (cyanobacteria) and four genera of green algae were present as major taxa at site CFR-03A; no other algal divisions were represented. Estimated biovolume was distributed relatively evenly between green and blue-green algae, with the cyanobacteria *Nostoc* and *Tolypothrix*, and the filamentous green algae *Cladophora* and *Oedogonium* ranking as the top four taxa after diatom algae (Appendix H). This suggests moderate nutrient enrichment, with somewhat limited levels of nitrogen relative to phosphorus at site CFR-03A. Diatom species richness and Shannon diversity were moderately high and fairly comparable to those at tributary sites immediately upstream (Table4-3). Dominant diatom taxa included *Cocconeis pediculus, Epithemia* sorex and *Nitzschia fonticola,* all forms living as epiphytes on filamentous algae (Appendix H). Diatom increaser taxa at site CFR-03A indicated a moderately high probability of impairment by sediment (Figure 4-1) and a high probability of impairment by metals (Figure 4-2) and by nutrients (Figure 4-3, Appendix H). Most of the diatom taxa present were tolerant of elevated inorganic nitrogen (Figure 4-4) but were less tolerant of organic nitrogen (Figure 4-5), and required a relatively high level of dissolved oxygen saturation (Figure 4-6). Biological integrity at site CFR-03 was “good” (Table 4-3), with only minor impairment indicated by a slightly elevated value for siltation index. All other diatom metrics for Montana mountain streams indicated “excellent” biological integrity and an unimpaired biota at site CFR-03 (Table 4-3; Appendix I).

CFR-07D (Clark Fork at Galen Road)

Site CFR-07D was added to the CFROU monitoring network in 2013. Nine “major” genera of non-diatom algae were identified at site CFR-07D in 2013, with six genera of blue-green algae and three genera of green algae present; no other algal divisions were represented by major taxa at site CFR-07D (Table 4-2). The top four non-diatom taxa at site CFR-07D, by biovolume, included the cyanobacteria *Nostoc* and *Tolypothrix*, and the filamentous green algae *Cladophora* and *Oedogonium.* This assemblage was nearly identical to that seen at upstream site CFR-03A (Appendix H). Water moderately rich in inorganic nutrients, but possibly somewhat limited by nitrogen, is suggested by the dominant non-diatom algae at CFR-07D. Diatom species richness was slightly higher, and Shannon diversity slightly lower at site CFR-07D compared to upstream site CFR-03A (Table 4-3). The diatom *Epithemia sorex* was strongly dominant at site CFR-07D, with a percent abundance of 28% (Appendix H). Diatom increaser taxa at site CFR-07D indicated high probability of impairment by metals (Figure 4-2) and by nutrients (Figure 4-3), but were below the threshold value for impairment by sediment (Figure 4-1, Appendix H). Most of the diatom taxa present were tolerant of elevated inorganic nitrogen (Figure 4-4) and organic nitrogen (Figure 4-5), although the percentage of intolerant taxa was slightly higher at site CFR-07D than at upstream site CFR-03A. Diatoms with a low tolerance of decomposing organic matter (i.e. BOD) and requiring moderately high levels of dissolved oxygen saturation were present at site CFR-07D in some of the highest percentages seen in 2013 (Figure 4-6). Biological integrity at site CFR-07D was “good”, with minor impairment indicated by a high percent abundance of the dominant diatom taxon, and by a slightly elevated siltation index (Table 4-3; Appendix I).

LC-7.5 (Lost Creek at Frontage Road)

The site on Lost Creek was relocated in 2013 to a point at Frontage Road crossing, upstream from the location sampled in 2012 (site LC-7, near the mouth), because site LC-7 was believed to be located within the Clark Fork River floodplain. Six “major” genera of non-diatom algae were present at LC-7.5, the fewest identified at any CFROU tributary or mainstem site in 2013 (Table 4-2). Three genera of green algae, two genera of blue-green algae, and one yellow-green alga were “major taxa” at LC-7.5 (Table 4-2, Appendix H). The macroscopic filamentous green alga *Chara* ranked first for algal biovolume at LC-7.5, with the filamentous green alga *Cladophora* third, after the diatom assemblage (Appendix H). The two “major” genera of cyanobacteria, *Chamaesiphon* and *Heteroleibleinia,* are very small epiphytic forms that occurred in large numbers on the filamentous algae. LC-7.5 was the only site where *Chara* were present. The occurrence of *Chara* is consistent with the alkaline nature of Lost Creek, presumably because of limestone geology in the Lost Creek watershed. Diatom species richness and Shannon diversity values at site LC-7.5 were relatively low in 2013 (Table 4-3). *Diatoma moniliformis* and *D. vulgaris* had the highest relative abundance values of the diatoms identified at site LC-7.5 (Appendix H). These taxa prefer cool, well-oxygenated, alkaline water of moderate conductivity, with low to moderate inorganic nutrients. Over 4% of *Diatoma moniliformis* frustules at site LC-7.5 had abnormal cell walls (i.e. teratological growth forms), while 0.6% of *D. vulgaris* frustules appeared abnormal; this response has been attributed to heavy metals. Diatom increaser taxa indicated a moderate probability of impairment by metals (Figure 4-2) and nutrients (Figure 4-3), but a low probability of impairment by sediment (Figure 4-1) at site LC-7.5 (Appendix H). A majority of diatoms present at site LC-7.5 were tolerant of inorganic nutrients (Figure 4-4) and organic nitrogen (Figure 4-5), but were intolerant of high BOD levels and required high dissolved oxygen saturation (Figure 4-6). Biological integrity at site LC-7.5 was rated as “fair”, with moderate impairment indicated solely by the percent abnormal diatom cells (Table 4-3). Unimpaired or minor impairment with “good” to “excellent” biological integrity was indicated by the remainder the diatom association metrics at site LC-7.5 (Table 4-3; Appendix I).

CFR-11F (Clark Fork at Gemback Road)

Site CFR-11F was added to the CFROU monitoring network in 2013. Nine “major” genera of non-diatom algae were identified at site CFR-11F in 2013, with five genera of green algae and four genera of blue-green algae present; no other algal divisions were represented by major taxa at site CFR-11F (Table 4-2). The cyanobacterium *Nostoc* ranked first in biovolume at site CFR-11F, with the filamentous green algae *Cladophora* and *Oedogonium* third and fourth, respectively, after the diatoms. The non-diatom algae assemblage at site CFR-11F was very similar to those at both sites CFR-03A and CFR-07D (Appendix H), again suggesting water moderately rich in inorganic nutrients, but possibly somewhat limited by nitrogen. The diatom *Epithemia sorex* was again dominant at site CFR-11F with a percent abundance of 13%; this about the same as at site CFR-03A, but half that seen at CFR-07D (Appendix H). Other dominant diatom species at site CFR-11F, including *Cocconeis palcentula*, *Diatoma moniliformis* and *Nitzschia fonticola,* each contributed about 6% relative abundance. All of these diatom species prefer water with low to moderate levels of inorganic nitrogen and phosphorus and moderate conductivity, and occur as epiphytes on, or in close association with, filamentous green algae. Diatom increaser taxa at site CFR-11F indicated high probabilities of impairment by sediment (Figure 4-1), by metals (Figure 4-2) and by nutrients (Figure 4-3, Appendix H). The percent abundance of diatoms tolerant of inorganic nutrients (Figure 4-4) and organic nitrogen (Figure 4-5) increased slightly at site CFR-11F, compared to upstream sites CFR-03A and CFR-07D. The percent abundance of diatoms at site CFR-11F intolerant of high BOD levels and requiring high dissolved oxygen saturation remained high at over 70% (Figure 4-6). Biological integrity at site CFR-07D was “good”, with minor impairment indicated by a slightly elevated siltation index (Table 4-3). The remainder the diatom association metrics for site CFR-07D indicated “excellent” biological integrity with a largely unimpaired biota (Table 4-3; Appendix I).

RTC-1.5 (Racetrack Creek at Frontage Road)

The site on Racetrack Creek was relocated in 2013 to a point at Frontage Road crossing, upstream from the location sampled in 2012 (site RTC-1, near the mouth), because RTC-1 was believed to be located within the Clark Fork River floodplain. A relatively diverse assemblage of thirteen “major” non-diatom genera from three algal divisions was present at site RTC-1.5 in 2013 (Table 4-2, Appendix H). Included in the “major” taxa having the greatest biovolume at site RTC-1.5 were the cyanobacterium *Phormidium,* a cosmopolitan taxon with relatively broad ecological tolerances, and the yellow-green algae *Vaucheria* and *Tribonema,* which are often found in somewhat acidic waters containing dissolved humic compounds (Appendix H). Six genera of filamentous green algae were less important “major” taxa at site RTC-1.5, including: *Microspora, Ulothrix, Spirogyra, Oedogonium, Mougeotia* and *Stigeoclonium* (Appendix H). The diverse group of green algae suggests cool, circumneutral, relatively unpolluted water with adequate levels of inorganic nitrogen relative to phosphorus. The diatoms *Achnanthidium minutissimum* and *A. pyrenaicum* were dominant at site RTC-1.5 with nearly 30% and 23% relative abundance, respectively, while *Encyonema minutum* and *E. silesiacum* accounted for 5% and 6% relative abundance, respectively (Appendix H). All of these taxa prefer cool, low-conductivity water that is relatively low in nutrients. *Achnanthidium minutissimum* is well adapted to re-colonizing recently disturbed substrates, and as such is the basis for the disturbance index. The dominance of *Achnanthidium minutissimum* at site RTC-1.5 suggests that physical factors such as high current velocities and substrate scour likely impacted the periphyton assemblage. Diatom increaser taxa indicated a very low probability of impairment by sediment (Figure 4-1), metals (Figure 4-2), or nutrients (Figure 4-3), at RTC-1.5 (Appendix F). The diatom assemblage at site RTC-1.5 was relatively indifferent or intolerant of inorganic nitrogen (Figure 4-4), and somewhat tolerant of elevated organic nitrogen (Figure 4-5). Nearly 50% of diatom species present at site RTC-1.5 required high levels of dissolved oxygen and were intolerant of elevated BOD conditions (Figure 4-6). Overall biological integrity at site RTC-1.5 was “good” (Table 4-3), with minor impairment indicated by a slightly depressed Shannon diversity value, and slightly elevated values for % dominant taxon and the disturbance index (Table 4-3; Appendix I).

CFR-27H (Clark Fork at Deer Lodge)

Ten “major” non-diatom genera were identified at site CFR-27H in 2013, with six genera of green algae and four genera of blue-green algae present; no other algal divisions were represented by major taxa at site CFR-27H (Table 4-2). The non-diatom algae *Cladophora, Nostoc* and *Oedogonium* were the most numerous forms at site CFR-27H, as was the case at all three mainstem sites upstream of Deer Lodge in 2013. Along with the diatom assemblage, they ranked as the top four taxa by estimated biovolume (Appendix H). *Cladophora* and *Oedogonium* again indicate relatively high-quality water moderately rich in inorganic nutrients. The importance of *Nostoc* suggests that nitrogen may have been limited relative to available phosphorus at site CFR-27H; however, the low percent abundance of the diatom *Epithemia sorex* did not support that case (Appendix H). Diatom species richness and Shannon diversity values at CFR-27H were comparable to the other mainstem sites in 2013 (Table 4-3). The dominant diatom taxon at site CFR-27H, *Navicula cryptotenella*, is a cosmopolitan form in the Pacific Northwest in streams with relatively low conductivity and moderate nutrient levels. *Achnanthidium* minutissimum was second in relative abundance at site CFR-27H, suggesting some degree of recent physical disturbance. Diatom increaser taxa at site CFR-27H indicated lowest probabilities of impairment by sediment (Figure 4-1), metals (Figure 4-2) and nutrients (Figure 4-3; Appendix H) of any of the Clark Fork mainstem sites in 2013, and was second only to tributary site RTC-1.5 (Racetrack Creek at Frontage Road). The diatom assemblage as a whole was relatively indifferent to inorganic nitrogen, had a relatively high tolerance of organic nitrogen, and mostly required high oxygen saturation (Figures 4-4 through 4-6). Overall biological integrity at CFR-27H was “fair” (Table 4-3), with moderate impairment indicated by the siltation index. Sediment impairment was not supported by other metrics (Figure 4-1), and all other diatom metrics for Montana mountain streams indicated “excellent” biological integrity and an unimpaired biota at CFR-27H (Table 4-3; Appendix I).

LBR-CFR (Little Blackfoot River near mouth)

A relatively diverse assemblage of fifteen “major” genera of non-diatom algae representing three algal divisions was identified at LBR-CFR, including eight genera of green algae, five genera of blue-green algae, and two genera of yellow-green algae (Table 4-2). Dominant green algae taxa included the filamentous forms *Cladophora*, *Oedogonium, Spirogyra,* and *Mougeotia,* the blue-green algae included *Nostoc* and *Tolypothrix,* and the filamentous yellow-green algae *Vaucheria* and *Tribonema* (Appendix H). This non-diatom algae assemblage suggests high quality, nutrient-rich water with little indication of impairment by toxic metals. Diatom species richness and Shannon diversity values at LBR-CFR were about median for tributary sites, but somewhat below median values for the Clark Fork sites in 2013 (Table 4-3). *Epithemia sorex* was the dominant diatom taxon at site LBR-CFR, as was the case at a many of the CFROU sites monitored in 2013. The dominance of *Epithemia sorex* along with the non-diatom alga *Nostoc* suggests nitrogen was the limiting nutrient at site LBR-CFR, with inorganic phosphorus readily available. *Diatoma moniliformis* was second in percent abundance at LBR-CFR; this diatom prefers cool, well-oxygenated, alkaline water of moderate conductivity, with low to moderate levels of inorganic nutrients. Diatom increaser taxa at LBR_CFR indicated a moderately low probability of impairment by sediment (Figure 4-1) and high probabilities of impairment by metals (Figure 4-2) and nutrients (Figure 4-3; Appendix H). Most of the diatom taxa present at LBR-CFR were tolerant of elevated inorganic nitrogen (Figure 4-4), somewhat less tolerant of organic nitrogen (Figure 4-5); and required a relatively high level of dissolved oxygen saturation (Figure 4-6). Biological integrity at site LBR-CFR was “good”, with minor impairment indicated by a slightly elevated siltation index (Table 4-3). The remainder the diatom association metrics for site LBR-CFR indicated “excellent” biological integrity with a largely unimpaired biota (Table 4-3; Appendix I).

CFR-116A (Clark Fork at Turah)

Ten “major” non-diatom genera were identified at site CFR-116A in 2013, including four genera of green algae, five genera of blue-green algae, and one genus of brown algae (Table 4-2). The filamentous green alga *Cladophora* and the small colonial green alga *Scenedesmus* ranked second and third in estimated biovolume after diatom algae, the colonial blue-green alga *Nostoc* and the filamentous blue-green algae *Heteroleibleinia* and *Tolypothrix* ranked fourth through sixth, respectively, the filamentous green alga *Stigeoclonium* ranked seventh, and the uncommon filamentous brown alga *Heribaudiella* was eighth at site CFR-116A (Appendix H). The non-diatom algae assemblage at site CFR-116A was generally indicative of cool, nutrient-rich water, and likely tolerant of moderate levels of toxic metals. Diatom species richness was relatively high, and Shannon diversity about average at site CFR-116A for Clark Fork mainstem sites in 2013 (Table 4-3). *Diatoma vulgaris* was the dominant diatom species at site CFR-116A, and prefers well-oxygenated, alkaline water with moderately low nutrient levels. About 2% of *Diatoma vulgaris* frustules were abnormal in structure, indicating possible impairment by metals (Appendix H). *Epithemia sorex* was also relatively abundant, undoubtedly as an epiphyte on *Cladophora*, and prefers alkaline waters with relatively low levels of organic nitrogen (Appendix G). Diatom increaser taxa at CFR-116A indicated a low probability of impairment by sediment (Figure 4-1), a high probability of metals impairment (Figure 4-2) and a moderate probability of impairment by nutrients (Figure 4-3; Appendix H). Most of the diatom taxa present at CFR-116A were tolerant of elevated inorganic nitrogen (Figure 4-4), somewhat less tolerant of organic nitrogen (Figure 4-5); and required a high level of dissolved oxygen saturation (Figure 4-6). Biological integrity at site CFR-116A was “good”, with minor impairment indicated by slightly elevated values for siltation index and percent abnormal diatom cells (Table 4-3). The remainder the diatom association metrics for site CFR-116A indicated “excellent” biological integrity with a largely unimpaired biota (Table 4-3; Appendix I).

5.0 UPPER CLARK FORK RIVER FISHERIES MONITORING STUDY: 2013 ANNUAL REPORT[13]

5.1 INTRODUCTION

In the Upper Clark Fork River Basin, mines and mills were operated for roughly 100 years, from the 1880s to 1980s. These mining and mill operations were relatively large-scale operations s that produced large amounts of product by processing large quantities of material. As a result of these operations, material wastes were discharged, released, or deposited directly into the Clark Fork River System (MultiTech 1987). It was later discovered that these wastes were largely metals and hazardous to the environment (Copeland 2002).

Fish are known to accumulate metals through water borne exposure and their diet and these accumulations are known as tissue metal burdens. Erickson et al. (2008) stated that fish absorb metals through their gills and skin through water, as well as through ingestion. Marr et al. (1995a; 1995b) exposed trout to water with similar metal concentrations to those found in the Clark Fork River, and fish were found to accumulate metals. Studies by Farag et al. (1994) and Louma et al. (2008) showed metals accumulation occurred when fish were fed invertebrates from the Clark Fork River.

Upper Clark River Basin fish have been adversely affected by metals pollution from historic mining and mill operations. Studies have shown both acute and chronic effects including reduced survival and growth (Marr et al. 1995a; 1995b), and cell damage (Woodward et al. 1995a). Factors such as water discharge and water temperature may also exacerbate these effects as a greater number of fish mortalities have been found during high spring discharges and also during the descending limb of the hydrograph as temperatures rise (Mayfield and McMahon 2010; 2011). In addition, tolerance to metals pollution varies by species, with more tolerant species having increased metallothionein (a metals binding protein that protects against metals toxicity). Farag et al. (1995) found that brown trout (*Salmo trutta*) from the Clark Fork River possessed elevated levels of metallothionein and were more tolerant to metals pollution than rainbow trout (*Oncorhynchus mykiss*), and this has in turn created low trout species diversity and brown trout dominance throughout much of the Upper Clark Fork Basin. Fish also avoid areas with elevated metal levels even if they are able to tolerate them, meaning not all available habitat is used (Woodward et al. 1995b; Louma et al. 2008). Metals pollution may be the main factor affecting fish population numbers in the Upper Clark Fork River Basin.

It is believed that much of the Upper Clark Fork River has experienced declines in fish populations in due to impacts by historic mining operations in the upper drainage. More recently, declines have been documented in trout abundance and young trout detected in a section of river below Warm Springs Ponds (Lindstrom 2011). At the same time, other sections of the Clark Fork River and its tributaries have not shown declining populations in recent surveys. Low density of young trout may indicate metals pollution as young fish are more susceptible to metals poisoning than larger, older trout (Louma et al. 2008).

Previous studies have utilized fish cages and have shown variation in fish mortality based on metals, space, and time. A fish cage study was conducted by Phillips and Spoon (1990) in the Clark Fork River from 1986 to 1989 and another fish cage study was conducted by Richards et

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[13] Section 5 was prepared by Montana Fish Wildlife and Parks with minor edits and formatting by RESPEC.

al. (2013) in the Upper Clark Fork River in 2011 and 2012. Philips and Spoon (1990) found that mortality was high at Beavertail, consistently low at Clinton below Rock Creek, and mortality elsewhere varied in space and time and metals pollution implicated as contributing to poor fish production in the Clark Fork River. Richards et al. (2013) found similar results with high mortality at upstream sites (Galen and Warm Springs), and with mortality elsewhere varying in time and space, unrelated to metals pollution, except for one site (Turah) below Rock Creek which displayed high mortality. Richards et al. (2013) suggest that mine wastes and potentially elevated pH in the Upper Clark Fork River Basin had negative effects on fish populations and revealed spatial and temporal variability within the Upper Clark Fork River Basin.

Although research has suggested negative effects from mine wastes in the Upper Clark Fork River Basin, more research is needed to further address this issue. Metals concentrations (including copper) continue to exceed acute and chronic aquatic toxicity criteria in the Upper Clark Fork River (see Section 1.3.7) and other conditions have changed. Remediation work on Silver Bow Creek, and possibly other factors, may currently affect mortality rates at sites in the Upper Clark Fork River. Assessment of potential confounding factors that may mask the response of trout populations to metals cleanup and cause high mortality in the mainstem is warranted. A more current and complete understanding of mortality rates would aid in planning and monitoring Clark Fork River remediation efforts.

In 2013, Montana Fish, Wildlife and Parks (MFWP) received funding from Montana Department of Environmental Quality (MDEQ) to complete a similar caged fish study to that completed by Richards et al. (2013) in addition to collecting fish population information on the mainstem Clark Fork River. The focus of this project is to assess the effects of current levels of metals contamination in the Upper Clark Fork River on the mortality of fishes, and along with current trout population monitoring, to use this information as pre-remediation monitoring data for future assessment of remediation efforts. Another objective of the study was to assess impacts ongoing in-stream remediation efforts are having on Clark Fork River fish populations.

5.1.1 Objectives

1) Determine mortality rates of age 0 brown trout in the upper Clark Fork River at nine sites (from Warm Springs Ponds to Turah, Montana), two control streams, and one handling control site.
2) Identify water quality factors affecting the mortality rates of young trout, including non-metal stressors.
3) In terms of metals tissue burdens, draw comparisons between:
    a. control and treatment sites,
    b. sites above and below the construction area in Warm Springs, Montana, upper river and lower river sites, and
    c. live versus dead fish.
4) Explore possible trends between data collected in previous years and the current year.
5) Provide information to remediation project managers that will aid in the planning and implementation of cleanup efforts.

5.2 METHODS

5.2.1 Trout Population Monitoring

Population estimates were calculated for the following sample reaches of the Upper Clark Fork River in 2013: Bearmouth, Flint Creek Mouth, Phosphate, Williams-Tavenner, Below Sager Lane, and pH Shack. Field methods were conducted in the same manner as Lindstrom (2011). Trout populations were monitored with electrofishing completed in April 2013. Fish were collected with the use of a 14 foot long aluminum drift boat with a mounted electrofishing unit and two front boom anodes. The system was powered by a 5,000-watt generator and current was modified with a Coffelt VVP-15 or Smith-Root VVP-15B rectifying unit. Estimates were made using two mark passes and two recapture passes of which recapture passes were completed roughly one week later. All captured trout were identified to species, weighed (g) and measured (mm), and given a small fin clip unique to the sampling section and day. Resulting data was analyzed by sample reach and species and was summarized by the population estimate (if available; standardized to number of fish per mile), 95% confidence interval with upper and lower bounds, capture efficiencies, number of fish handled, mean length, length range, and percent of species composition. Population estimates were generated using the Chapman modification (Chapman 1951) of the Petersen method provided in MFWP's Fisheries Information System database. Estimates and capture efficiencies were calculated for trout species that had a minimum of four marked fish that were recaptured (B. Liermann, MFWP, personal communication). Due to low numbers, poor capture efficiency, or both of smaller size classes, only estimates for fish greater than 175 mm (~7 in) in length were reported.

Estimates from previous years (2008-2012) were included in this report for completeness as they are part of the long-term dataset required for this study. A Chapman modification of the Petersen method, as described above, was used to generate estimates in the Fisheries Information System for data from 2011, 2012, two sample reaches from 2010 (Bearmouth and Flint Creek Mouth), and two sample reaches from 2009 (Bearmouth and Flint Creek Mouth). Estimates from 2008, remaining sample reaches in 2009 (pH Shack, Below Sager Lane, Williams-Tavenner, and Phosphate), and remaining sample reaches in 2010 (pH Shack, Below Sager Lane, Williams-Tavenner, and Phosphate) were generated using a Chapman estimator for the Peterson method provided in Montana Fish, Wildlife and Park's Fisheries Analysis Plus (FA+) software package, and are presented here as originally reported in Lindstrom 2011. Both programs produce identical population estimates, but confidence intervals around the estimates are calculated differently, with FA+ assuming sample data is normally distributed and the Fisheries Information System assuming sample data is binomially distributed (see Ogle 2010 for details).

5.2.2 Cage Construction

Thirty-six wooden cages constructed for a previous study were used for this 2013 study. The cages resembled those used by MFWP on the Middle Clark Fork River, but were 34% larger to accommodate the brown trout used in this study (Figure 5-1). The internal volume of the cages was 0.75 ft3 (actual volume of water available). Knotless nylon seine material (1/16 inch bar mesh) was used for the netting on the sides and bottom of the cages. Cages were also fitted with floats to provide buoyancy.

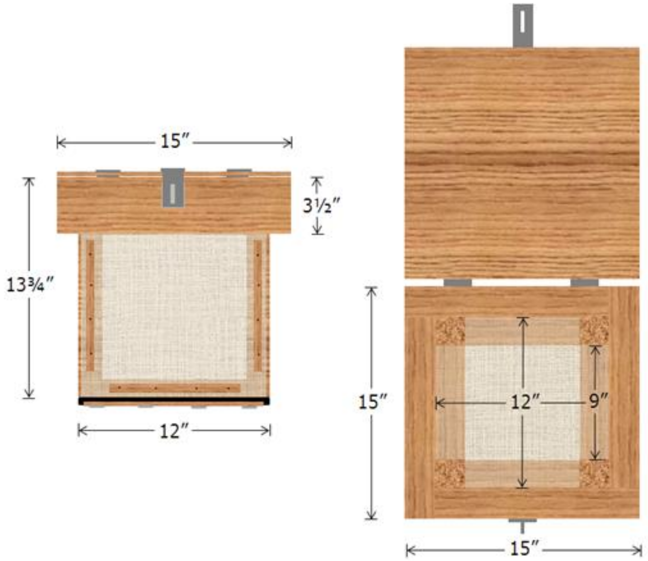

Figure 5-1. Dimensions of the cages constructed for the study.

5.2.3 Study Sites

Cages were deployed at twelve locations in the Upper Clark Fork River Drainage in early April 2013 (Figure 5-2).

Nine treatment sites were located at the following locations:

1) Mill Willow Bypass at Warm Springs, Montana (Mill Willow)
2) Pond 2 Outlet at Warm Springs, Montana (Pond 2)
3) Silver Bow Creek at Warm Springs, Montana (Silver Bow)
4) Warm Springs Creek at Warm Springs, Montana (Warm Springs)
5) Galen, Montana – River Left (Galen Left)
6) Galen, Montana – River Right (Galen Right)
7) Deer Lodge, Montana (Deer Lodge)
8) Upstream of the Little Blackfoot River
9) Turah, Montana (Turah)

Two control sites were located on tributaries:

10) Lower Little Blackfoot River
11) Lower Flint Creek (Flint Creek)

One handling control site was located in a spring-fed channel:

12) Clinton, Montana (Clinton Spring)

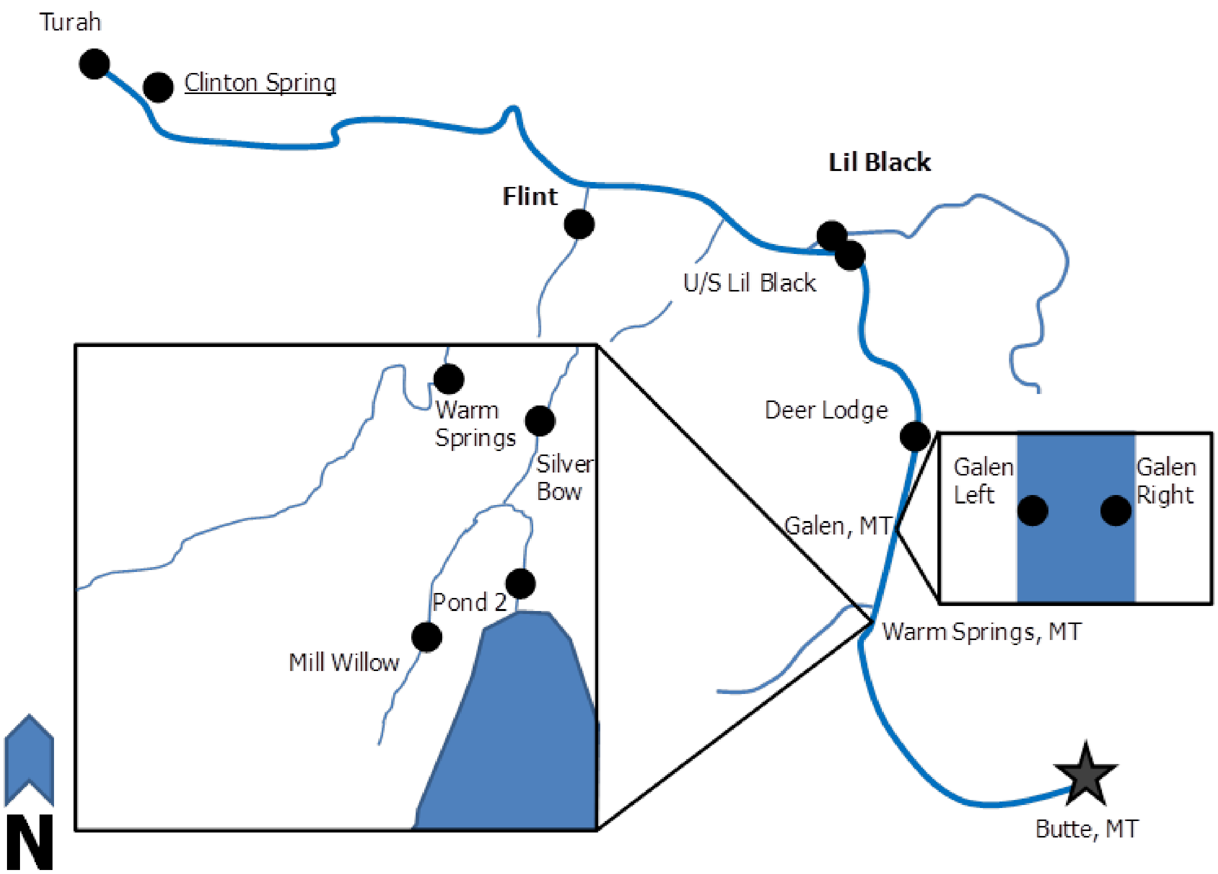

Figure 5-2. Distribution of the eleven study sites in the Upper Clark Fork River drainage. Control sites are shown in bold and the handling control is underlined.

All sites except the Mill Willow Bypass in Warm Springs, Montana, the Pond 2 Outlet in Warm Springs, Montana, and the spring channel near Clinton, Montana (handling control), were located near U.S. Geological Survey (USGS) gauging stations equipped to measure discharge four times per hour. The handling control served as a reference to adjust mortality rates if cage checks (e.g., cleaning and relocating) or stress from initial fish delivery to the cages negatively impacted survival, independent of water quality.

5.2.4 Cage Deployment

Exact locations of the cages were dependent on the availability of low velocity habitats with access to refuge during periods of high runoff. Cages were positioned in velocities less than 0.75 ft/s. Three cages were deployed at each site. Two served as treatment cages (i.e., one replicate) and the third held fish for replacement of individuals in the treatment cages. The study began with 25 brown trout per cage and these densities were maintained in the treatment cages as long as possible by replacing them with individuals from the replacement cage. Cages were secured with sections of reinforcing bar (rebar) driven into the substrate, as well as sash weights and tether lines (Figure 5-3). The sash weights provided additional anchoring during rising water levels, and tether ropes insured the cages were not completely lost should a flood event occur.

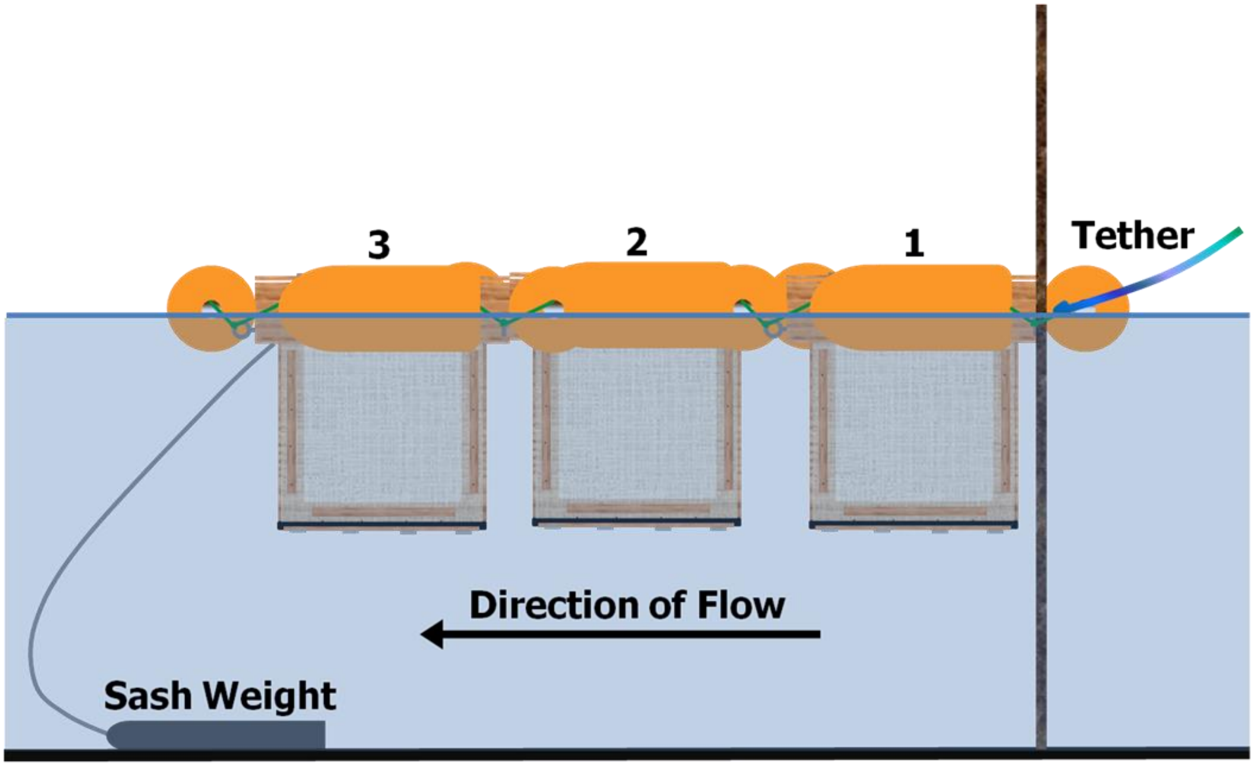

Figure 5-3. **Representation of cage deployment (arrangement of cages differed by site, and cages often drifted together).**

Brown trout were selected for this study given their dominance in the Upper Clark Fork River. Due to low densities of young trout in the upper river, study specimens were obtained from a state hatchery. The fingerlings ranged from 51-85 mm and were feed-trained on pellet feed upon delivery.

In late March approximately 900 fingerling brown trout were obtained from Big Springs Hatchery in Lewistown, Montana. The trout were transported from the hatchery to Helena, Montana in a hauling truck and from Helena to the sites in an aerated cooler. At each site trout were anesthetized with clove oil, measured to total length, and divided into one of the three cages. Prior to being anesthetized, fish were acclimated to the water temperature at each site with the addition of onsite water. In 2013 at the first site stocked, the hatchery water was 6.7 °C and water temperatures at the sites varied from 4.4 °C to 12.2 °C. Mean length of trout stocked in cages was 71.3 mm (SD = 5.8 mm) in 2013.

5.2.5 Mortality Monitoring

Beginning the first week of April each year, trout mortality was monitored twice per week. At each visit the trout in each cage were fed one tablespoon of pellet feed. During the first three months trout were fed 1.0 mm sinking feed (Silver Cup Extruded Salmon). The remaining months, trout were fed slightly larger No. 3 sinking feed (Silver Cup Crumbled Salmon/Trout). Cages were repositioned to seams and eddies with reduced velocities as discharge varied at each site. Velocities around the cages were measured periodically to ensure velocities did not exceed 0.75 ft/s. The exterior of the cages were brushed clean as needed to provide for exchange of water between the cage and the site. At each visit mortalities were removed from the treatment cages (cages 1 and 2) and were replaced with individuals from the replacement cage (cage 3). All mortalities were measured to total length in millimeters and archived in a freezer at the Region 2 MFWP headquarters.

Statistical analyses of trout survival at the nine treatment sites consisted of chi-square comparisons between observed and expected survival and mortality in 2013 with $\alpha = 0.05$. Yates's correction for continuity was applied to all chi-square tests as the degrees of freedom for each test was one (Yates 1934). Expected mortality for each year was determined by using the mean mortality at the two control sites located in the Little Blackfoot River and Flint Creek (mean mortality = 20.5). Expected survival at each site was set to 50 as this was the number of live fish maintained in cages one and two combined. Mortalities during the first week of April each year and mortalities after the end of July were not included in the analyses because any mortalities occurring at the treatment sites during this period may have been due to fish being held in cages based on previous data from the Clinton Spring handling control.

5.2.6 Growth

A subsample of all specimens placed in cages was taken for each site at the beginning of each field season and those fish were measured to the nearest millimeter and a one-way analysis of variance (ANOVA) was used to determine if initial lengths of fish placed in treatment cages differed among sites. Initial lengths did not differ significantly among sites in 2013 (ANOVA: F11, 348 = 0.9021, P = 0.5385); however, a subsample of 30 fish (15 surviving fish randomly selected from both cages 1 and 2) per site was measured at the completion of the field season to remain consistent with analyses in previous years. If there were less than 30 surviving fish at site (Pond 2 and Flint Creek) at the end of the field season all surviving fish were sampled. Subsamples were also used to evaluate growth by calculating change in mean total length by site.

5.2.7 Tissue Metals Burdens

Tissue metals burdens in fish can be used as a measure of exposure and can be correlated to histopathological effects (Hansen et al. 2004). Upon completion of the study, all mortalities from the replicate cages from April through August each year were submitted to the Montana Department of Health and Human Services Environmental Laboratory in Helena for analysis of tissue metals burdens. Mortalities from each site during each month of each year were submitted as individual samples for tissue analysis. In addition, 14 fish surviving at the conclusion of the field season at the end of August at each site were randomly selected and were submitted as individual samples. Due to close proximity, similar results in other analyses, and budget constraints Galen Left fish were submitted for tissue metals burdens analysis and Galen Right fish were not submitted for tissue metals burdens analysis.

Samples were blended to a powder to ensure homogeneity, and then the samples were weighed, dried, and reweighed to determine moisture content. The dried samples were then crushed and dissolved with nitric acid, diluted with deionized water, and analyzed for copper and zinc with inductively coupled plasma optical emission spectrometry (ICP-OES) using the U.S. Environmental Protection Agency (USEPA) Method 200.7 (USEPA 2001). The samples were also analyzed with inductively coupled plasma mass spectrometry (ICP-MS) for contaminants that have a lower detection limit including arsenic, cadmium, lead and selenium using USEPA Method 200.8 (USEPA 1999). All results were reported as µg/g dry weight.

Analyses of tissue metals burdens data was completed both graphically and statistically. Graphical comparisons were made between tissue metals burdens (copper and zinc) and each of the following variables: month, mortalities, site location, and site type (control vs. treatment, above construction vs. below construction, upper river vs. lower river, and live fish vs. dead fish). Fish from the hatchery were sacrificed prior to stocking fish cages in order to determine baseline tissue metals burdens. Comparisons to the previous years of this study (2011 and 2012) were included for discussion. In addition, statistically significant differences between copper tissue burden and fate (live versus dead) were tested for using a logistic regression. Zinc tissue burdens were not used for statistical analyses because zinc tissue burden results were always above minimum effect thresholds. Lastly, copper tissue metals burdens of dead fish from treatment sites in the main area of concern (Pond 2 downstream to upstream of the Little Blackfoot River) were analyzed graphically against the maximum water temperature (°C) experienced within the previous 5 days prior to death to try and discern causes of mortality. Four quadrants were created based on the minimum effect threshold of copper (Colt et al. 1979) and the upper critical temperature threshold for brown trout (Elliot 1994). Quadrant one (Q1) contained fish mortalities due to water temperature, quadrant two (Q2) contained fish mortalities due to a combination of water temperature and copper tissue metals burdens, quadrant three (Q3) contained fish mortalities due to copper tissue metals burdens, and quadrant 4 (Q4) contained fish mortalities due to unknown causes. Equal sample sizes were assumed (12 for each quadrant due to total sample size of 46) and differences from this were considered evidence for a relationship.

5.2.8 Water Contaminants

Water samples were collected three times at each of the twelve sites (known as “main events”), with the exception of the Little Blackfoot River site from which samples were only collected twice due to obstructed access. Collections roughly coincided with low-elevation runoff (ascending limb of the hydrograph), peak runoff, and the descending limb of the hydrograph (Figure 5-4). Grab samples were collected for the caged fish study using the techniques outlined by the MDEQ Field Procedures Manual for Water Quality Assessment Monitoring (MDEQ 2012a). Samples were collected on May 28, June 14, and July 18 in 2013. All samples were delivered to Energy Laboratories Inc. in Helena, Montana and were analyzed for dissolved and total recoverable metals including copper, arsenic, lead, cadmium, and zinc, as well as calcium, magnesium, and total ammonia nitrogen (NH3-N). Atkins collected additional water data under a contract for MDEQ during the quarterly monitoring of the Clark Fork River Operating Unit (CFROU) (Figure 5-4). The Atkins report detailing the 2013 data was not yet available at the time of preparation of this manuscript. In addition, site-specific water samples were collected during suspected rain events (known as Rain Events) throughout the 2013 field season (Figure 5-4).

Performance standards have been identified for contaminants in the upper Clark Fork River (USEPA 2004; Atkins 2013) and are defined as the more stringent of the freshwater aquatic life standards (ALS) published by the MDEQ (2012b). Because the chronic ALS is the most stringent and since this study focuses on chronic effects, the chronic ALS was used to evaluate contaminant data. Freshwater ALS are a function of total water hardness and are evaluated on the basis of total recoverable metals concentrations (MDEQ 2012b). Chronic freshwater ALS values were obtained from the table of standards for Montana waters or calculated using the hardness relationships described by MDEQ (2012b). The chronic ALS values were calculated as:

$$Chronic = exp.\{mc[ln(hardness)] + bc\}$$

where mc and bc = values listed by MDEQ (2012b). Chronic ALS compliance ratios were calculated by dividing the measured contaminant values by the calculated chronic ALS values, and were plotted for each site and sampling period. Compliance ratio values <1 indicate contaminant levels below the chronic ALS, while values >1 indicate contaminant levels above the chronic ALS.

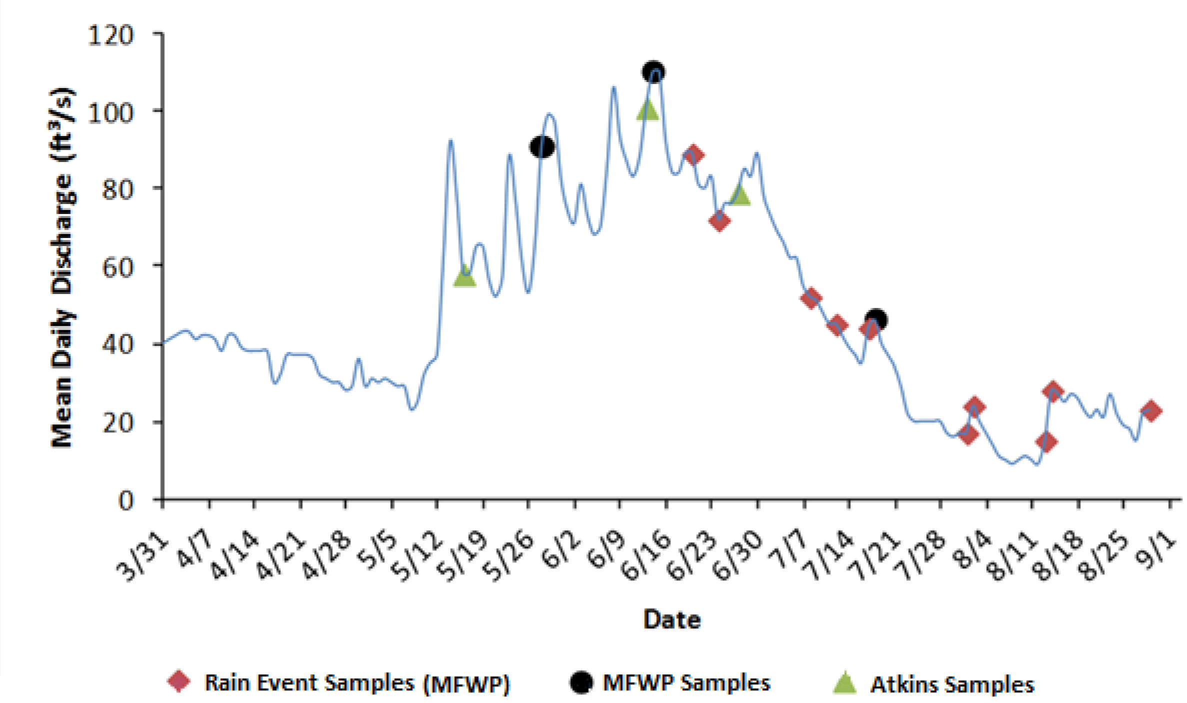

Figure 5-4. **Clark Fork River hydrograph for 2013 at the Warm Springs gauging station in Warm Springs, Montana.**

5.2.9 Discharge and Water Temperature

Discharge data presented in this report were obtained from USGS gauge stations recording measurements four times per hour. Estimates of mean daily discharge were downloaded from the USGS National Water Information System: Web Interface. It is important to note that not all estimates presented in this report have been reviewed and approved for publication. All gaps in datasets during the 2013 field season were the result of equipment malfunctions. No station existed at the Mill Willow, Pond 2, or Clinton Spring sites.

Maximum daily water temperatures were obtained for each site with water temperature data loggers (HOBO ® U22 Pro v2). Loggers were attached to the rebar securing the cages in the channel and the units were most often set 6-12 inches above the substrate. Due to logger malfunctions temperature data may contain gaps at some sites; when available, this data was substituted with data from the appropriate USGS station.

5.2.10 Water Quality

Water quality parameters were recorded in the Clark Fork River at five sites in 2013 with continuously recording multiparameter water quality probes (Hydrolab ® MS5). Cross referencing of data collected with continuously recording multiparameter water quality probes was achieved by sampling intermittently at the nine treatment and three control sites using a handheld multiprobe (YSI ® 556 MPS). Hydrolab and YSI probes were calibrated at regular intervals during each field season. Probes were deployed at Mill Willow, Pond 2, Silver Bow, Galen, and upstream of the Little Blackfoot River in 2013. Water quality parameters recorded include temperature, pH, oxidation reduction potential (ORP), specific conductivity, and luminescent dissolved oxygen (LDO) at all sites, with the addition of total ammonia (NH4 + NH3) at Pond 2, Silver Bow, and at Galen. Toxicity of total ammonia is dependent on other water parameters including water temperature and pH (Emerson et al. 1975; MDEQ 2012b). The increased toxicity is due to the conversion of the generally inert form (NH4) to the highly toxic form (NH3) through the process of de-ionization (Barton 1996). Acute freshwater ALS for total ammonia based on hourly average measurements and chronic ALS based on a 30 day average were calculated based on equations published by MDEQ (2012b). The acute ALS values were calculated as:

$$Acute = (0.275/(1 + 107.204 - pH)) + (39.0/(1 + 107.204 - pH))$$

and the chronic ALS were calculated as:

$$\begin{aligned} Chronic = {} & ((0.0577/(1 + 107.688 - pH)) + (2.487/(1 + 10pH4 \\ & - 7.688))) \; x \; MIN(2.85, 1.45 \; x \; 100.028 \; x \; (25 - T)) \end{aligned}$$

where T = temperature (°C). Thirty day averages for comparison to chronic ALS values were calculated around peaks in total ammonia measurements.

5.3 RESULTS

5.3.1 Trout Population Monitoring

Trout population estimates were calculated for brown trout from 2011-2013 for every stream reach and 2009-2010 for the Bearmouth and Flint Creek Mouth sections (Table 5-1 through Table 5-6). 2008-2010 population estimates in the Below Sager Lane, Williams-Tavenner, and Phosphate electrofishing sections from Lindstrom (2011) are included an appendix to this report (Appendix J). Figure 5-5 displays all brown trout population estimates by sample reach from 2008-2013, including population estimates already reported in Lindstrom (2011). The pH shack Section consistently had the highest brown trout population estimates, with a population estimate of 1878 fish/mile in 2013. Conversely, the Bearmouth Section consistently had the lowest brown trout population estimates, with a population estimate of 60 fish/mile in 2013. Flint Creek Mouth, Below Sager Lane, Williams-Tavenner, and Phosphate sections had 2013 brown trout population estimates of 197, 462, 532, and 506 fish/mile respectively. All catch statistics and other trout species population estimates are displayed in Table 5-1 through Table 5-6.

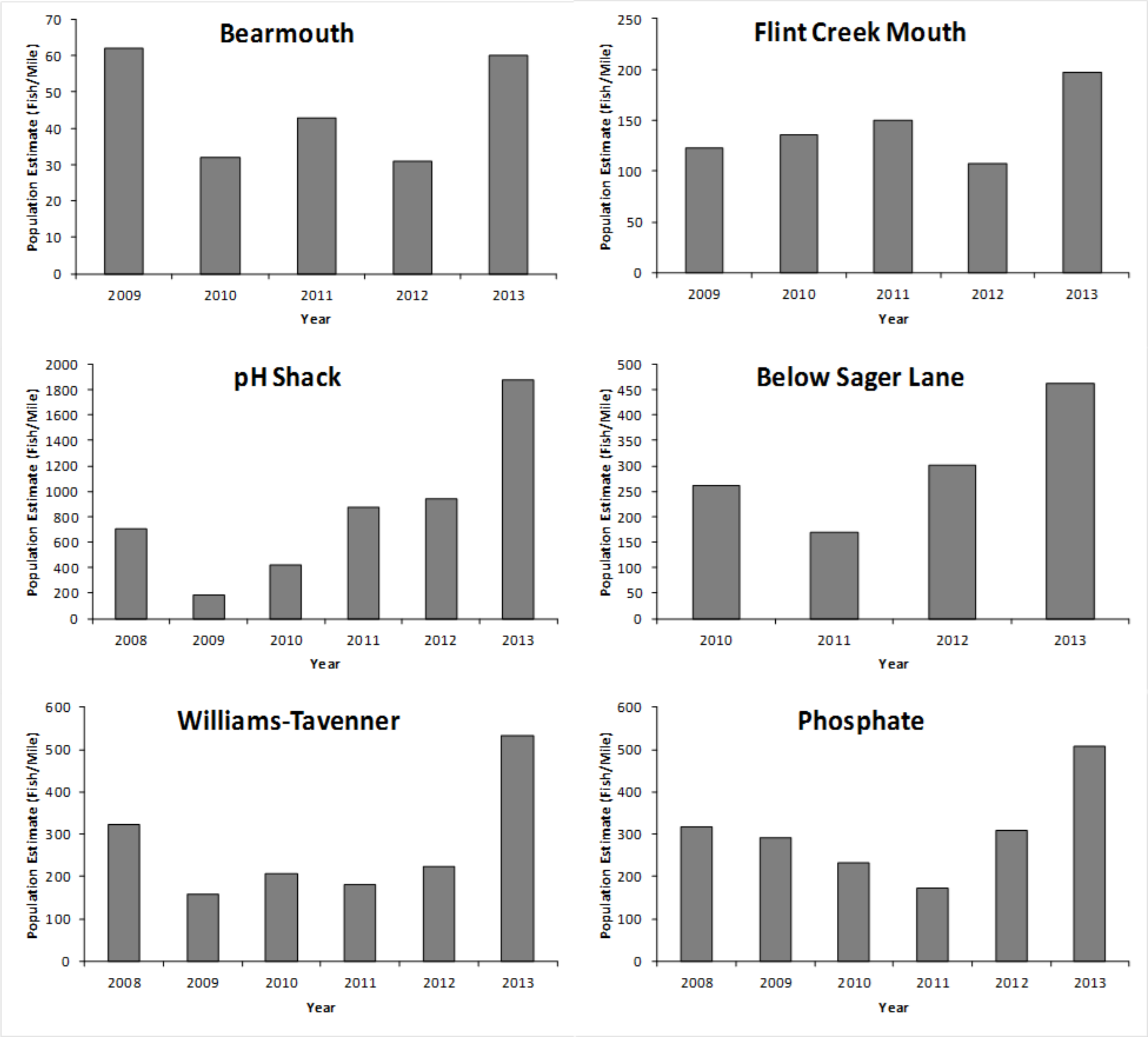

Figure 5-5. **Clark Fork River brown trout population estimates from 2008-2013 by sample reach. Please note that x-axis and y-axis values are not the same for every sample reach.**

Table 5-1. **Electrofishing data collected on the Upper Clark Fork River at the Bearmouth Section from 2009-2013. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7") in total length. Cutt x Rbow represents a phenotypic hybrid between a cutthroat and rainbow trout.**

Year	Species	Population Estimate (Fish/Mile)	95% Confidence Interval		Capture Efficiency (%)	Number Captured	Mean Length (mm)	Minimum Length (mm)	Maximum Length (mm)	Species Composition (%)
			Lower Bound	Upper Bound						
2009	Brown	62	38	102	13	134	358	119	528	69
2009	Cutthroat	7	4	14	27	26	314	152	410	13
2010	Brown	32	23	49	35	106	362	157	525	45
2010	Bull	-	-	-	-	2	321	297	345	1
2010	Cutt x Rbow	-	-	-	-	8	371	320	458	3
2010	Cutthroat	6	4	11	42	27	308	100	400	12
2010	Rainbow	-	-	-	-	13	345	242	442	6
2011	Brown	43	30	65	27	123	342	152	523	27
2011	Bull	-	-	-	-	2	424	362	486	<1
2011	Cutthroat	13	9	20	38	54	309	182	414	12
2011	Rainbow	7	4	13	38	28	342	152	479	6
2012	Brown	31	21	47	29	95	326	177	502	21
2012	Bull	-	-	-	-	2	266	260	272	<1
2012	Cutthroat	41	30	59	27	134	290	168	434	30
2012	Rainbow	21	14	34	31	69	285	178	467	16
2013	Brown	60	43	87	21	169	339	191	476	32
2013	Bull	-	-	-	-	3	379	337	400	1
2013	Cutthroat	45	32	66	27	134	321	175	426	26
2013	Rainbow	19	11	35	24	49	344	230	455	9

Table 5-2. **Electrofishing data collected on the Upper Clark Fork River at the Flint Creek Mouth Section from 2009-2013. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7") in total length. Cutt x Rbow represents a phenotypic hybrid between a cutthroat and rainbow trout. Brook x Bull represents a phenotypic hybrid between an eastern brook and bull trout.**

Year	Species	Population Estimate (Fish/Mile)	95% Confidence Interval		Capture Efficiency (%)	Number Captured	Mean Length (mm)	Minimum Length (mm)	Maximum Length (mm)	Species Composition (%)
			Lower Bound	Upper Bound						
2009[14]	Brown	123	88	177	18	273	369	97	550	95
2010	Brown	136	105	181	20	377	345	115	535	94
2010	Cutt x Rbow	-	-	-	-	4	332	305	352	1
2010	Cutthroat	-	-	-	-	16	284	227	355	4
2010	Rainbow	-	-	-	-	4	389	326	421	1
2011	Brook	-	-	-	-	1	287	287	287	<1
2011	Brook x Bull	-	-	-	-	1	393	393	393	<1
2011	Brown	150	122	187	25	481	311	110	509	89
2011	Cutthroat	14	8	24	20	54	275	195	390	10
2011	Rainbow	-	-	-	-	3	441	425	468	1
2012	Brown	107	82	141	19	334	293	124	515	87
2012	Bull	-	-	-	-	2	374	373	375	1
2012	Cutthroat	-	-	-	-	42	289	186	445	11
2012	Rainbow	-	-	-	-	6	352	232	468	2
2013	Brown	197	161	245	20	572	315	195	502	96
2013	Bull	-	-	-	-	1	273	273	273	<1
2013	Cutthroat	6	3	11	21	25	326	220	378	4

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[14] In 2009 entire Upper Clark Fork River was sampled and as a result the Flint Creek Mouth section is roughly half a mile longer than in other years.

Table 5-3. **Electrofishing data collected on the Upper Clark Fork River at the pH Shack Section from 2011-2013. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7") in total length. Cutt x Rbow represents a phenotypic hybrid between a cutthroat and rainbow trout**

Year	Species	Population Estimate (Fish/Mile)	95% Confidence Interval		Capture Efficiency (%)	Number Captured	Mean Length (mm)	Minimum Length (mm)	Maximum Length (mm)	Species Composition (%)
			Lower Bound	Upper Bound						
2011	Brown	878	531	1476	13	265	311	89	498	98
2011	Cutt x Rbow	-	-	-	-	1	423	423	423	<1
2011	Cutthroat	-	-	-	-	3	350	292	424	1
2011	Rainbow	-	-	-	-	2	531	472	590	1
2012	Brown	943	686	1322	17	403	293	105	473	98
2012	Cutt x Rbow	-	-	-	-	1	323	323	323	<1
2012	Cutthroat	-	-	-	-	2	306	292	319	<1
2012	Rainbow	-	-	-	-	7	369	256	540	2
2013	Brown	1878	1595	2223	19	1056	296	156	630	98
2013	Cutt x Rbow	-	-	-	-	1	282	282	282	<1
2013	Cutthroat	-	-	-	-	6	327	271	352	1
2013	Rainbow	-	-	-	-	13	447	314	610	1

Table 5-4. **Electrofishing data collected on the Upper Clark Fork River at the Below Sager Lane Section from 2011-2013. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7”) in total length.**

Year	Species	Population Estimate (Fish/Mile)	95% Confidence Interval		Capture Efficiency (%)	Number Captured	Mean Length (mm)	Minimum Length (mm)	Maximum Length (mm)	Species Composition (%)
			Lower Bound	Upper Bound						
2011	Brook	-	-	-	-	1	202	202	202	<1
2011	Brown	170	119	251	20	205	313	103	495	98
2011	Cutthroat	-	-	-	-	4	335	280	392	2
2012	Brook	-	-	-	-	15	216	134	273	3
2012	Brown	302	232	397	17	533	240	90	595	96
2012	Cutthroat	-	-	-	-	6	314	277	347	1
2013	Brook	-	-	-	-	6	245	194	275	1
2013	Brown	462	390	553	25	655	308	139	497	99
2013	Cutthroat	-	-	-	-	2	323	308	337	<1
2013	Rainbow	-	-	-	-	1	324	324	324	<1

Table 5-5. Electrofishing data collected on the Upper Clark Fork River at the Williams-Tavenner Section from 2011-2013. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7") in total length.

Year	Species	Population Estimate (Fish/Mile)	95% Confidence Interval		Capture Efficiency (%)	Number Captured	Mean Length (mm)	Minimum Length (mm)	Maximum Length (mm)	Species Composition (%)
			Lower Bound	Upper Bound						
2011	Brook	-	-	-	-	2	203	196	209	1
2011	Brown	182	140	244	26	247	311	108	514	90
2011	Cutthroat	15	9	28	29	24	275	213	328	9
2012	Brook	-	-	-	-	1	221	221	221	<1
2012	Brown	224	180	285	29	351	266	109	497	88
2012	Cutthroat	23	18	34	46	48	301	170	373	12
2013	Brook	-	-	-	-	1	320	320	320	<1
2013	Brown	532	453	632	26	636	317	129	507	93
2013	Cutthroat	33	22	56	32	47	295	193	383	7

Table 5-6. **Electrofishing data collected on the Upper Clark Fork River at the Phosphate Section from 2011-2013. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7") in total length. Cutt x Rbow represents a phenotypic hybrid between a cutthroat and rainbow trout.**

Year	Species	Population Estimate (Fish/Mile)	95% Confidence Interval		Capture Efficiency (%)	Number Captured	Mean Length (mm)	Minimum Length (mm)	Maximum Length (mm)	Species Composition (%)
			Lower Bound	Upper Bound						
2011	Brown	171	140	215	41	239	300	104	474	97
2011	Cutt x Rbow	-	-	-	-	1	367	367	367	<1
2011	Cutthroat	-	-	-	-	7	294	207	378	3
2012	Brook	-	-	-	-	1	305	305	305	<1
2012	Brown	308	231	419	21	282	270	111	464	92
2012	Cutthroat	-	-	-	-	23	267	187	364	7
2012	Rainbow	-	-	-	-	2	423	215	630	1
2013	Brown	506	393	664	22	387	301	120	461	96
2013	Cutt x Rbow	-	-	-	-	1	389	389	389	<1
2013	Cutthroat	-	-	-	-	14	305	255	357	3

5.3.2 Caged Fish Mortality, Discharge, and Water Temperature

Table 5-7 contains the results of chi-square comparisons between observed and expected survival and mortality, and Figures 6-17 depict total mortalities between cages one and two combined, maximum daily water temperatures, and mean daily discharges at cage sites in 2013. The solid red horizontal line in each figure represents the upper critical temperature threshold for brown trout of 19.0 °C (Elliot 1994). At temperatures above this critical threshold, significant disturbances to normal brown trout behavior may occur, including cessation of feeding and growth and ultimately death (Elliot 1994). The dashed red horizontal line in each figure represents the upper incipient lethal temperature for brown trout of 24.7 °C, above which thermal stress is lethal with mortality a function of exposure time (Elliot 1994).

In 2013, over half of the cage sites displayed bimodal mortality with some mortality occurring early in the study season on the ascending limb of the hydrograph, and some mortality on the descending limb as water temperatures approached and/or exceeded 19 °C (Figures 6-17). Sites deviating from this trend include Silver Bow, Galen Left, Galen Right, Deer Lodge, and Turah, all of which exhibited either consistent mortality throughout the field season (Silver Bow, Galen Left, Galen Right, and Deer Lodge) or mortality after the peak of the hydrograph as water temperatures approached or exceeded 19.0 °C (Turah). Mean daily discharge, maximum daily water temperatures, and timing of mortalities at each site are outlined below in order from upstream to downstream.

5.3.2.1 Mill Willow

There is no discharge data available for Mill Willow in 2013 because there is not a USGS station present at this site. Peak maximum daily water temperature at Mill Willow in 2013 was 26.0 °C on July 26 (Figure 5-6). Maximum daily water temperature in 2013 exceeded 19.0 °C for 63 days and exceeded the upper incipient lethal temperature for brown trout of 24.7 °C for 6 days (Figure 5-6). Mill Willow experienced significantly lower mortality than expected (Table 5-7), with bimodal mortality occurring early in the study season and later in the study season (Figure 5-6).

5.3.2.2 Pond 2

There is no discharge data available for Pond 2 in 2013 because there is not a USGS station present at this site. Peak maximum daily water temperature at Pond 2 in 2013 was 24.9 °C on July 17 (Figure 5-7). Maximum daily water temperature in 2013 exceeded 19.0 °C for 69 days and exceeded the upper incipient lethal temperature for brown trout of 24.7 °C for two days (Figure 5-7). Pond 2 experienced significantly higher mortality than expected (Table 5-7), with bimodal mortality occurring early in the study season and later in the study season (Figure 5-7).

5.3.2.3 Silver Bow

Peak mean daily discharge at Silver Bow in 2013 was 192 ft^3/s on May 30. In 2013 peak maximum daily water temperature at Silver Bow was 25.6 °C on July 17 (Figure 5-8). Maximum daily water temperature in 2013 exceeded 19.0 °C for 66 days and exceeded the upper incipient lethal temperature for brown trout of 24.7 °C for four days (Figure 5-8). Silver Bow experienced significantly lower mortality than expected (Table 5-7), with consistent mortality throughout the field season (Figure 5-8).

5.3.2.4 Warm Springs

Peak mean daily discharge at Warm Springs in 2013 was 110 ft^3/s on June 14 and 15. In 2013 peak maximum daily water temperature at Warm Springs was 22.1 °C on July 26 (Figure 5-9).

Maximum daily water temperature in 2013 exceeded 19.0 °C for 34 days and the upper incipient lethal temperature for brown trout of 24.7 °C was never exceeded (Figure 5-9). Warm Springs experienced significantly lower mortality than expected (Table 5-7), with bimodal mortality occurring early in the study season on the ascending limb of the hydrograph, as well as on the descending limb as water temperatures exceeded 19.0 °C (Figure 5-9).

5.3.2.5 Galen Left

Peak mean daily discharge at Galen Left in 2013 was 293 ft^3/s on May 30. In 2013 peak maximum daily water temperature at Galen Left was 23.8 °C on July 1 (Figure 5-10). Maximum daily water temperature in 2013 exceeded 19.0 °C for 62 days and the upper incipient lethal temperature for brown trout of 24.7 °C was never exceeded (Figure 5-10). Galen Left experienced significantly lower mortality than expected (Table 5-7), with consistent mortality throughout the field season (Figure 5-10).

5.3.2.6 Galen Right

Peak mean daily discharge at Galen Right in 2013 was 293 ft^3/s on May 30. In 2013 peak maximum daily water temperature at Galen Right was 23.7 °C on July 26 (Figure 5-11). Maximum daily water temperature in 2013 exceeded 19.0 °C for 61 days and the upper incipient lethal temperature for brown trout of 24.7 °C was never exceeded (Figure 5-11). Galen Right displayed consistent mortality throughout the field season (Figure 5-11).

5.3.2.7 Deer Lodge

Peak mean daily discharge at Deer Lodge in 2013 was 349 ft^3/s on May 30. In 2013 peak maximum daily water temperature at Deer Lodge was 25.8 °C on July 1 (Figure 5-12). Maximum daily water temperature in 2013 exceeded 19.0 °C for 70 days and exceeded the upper incipient lethal temperature for brown trout of 24.7 °C for four days (Figure 5-12). Deer Lodge experienced significantly lower mortality than expected (Table 5-7), with consistent mortality throughout the field season (Figure 5-12).

5.3.2.8 Upstream of the Little Blackfoot River

Peak mean daily discharge at the site upstream of the Little Blackfoot River in 2013 was 398 ft^3/s on May 30 and 31. In 2013 peak maximum daily water temperature at the site upstream of the Little Blackfoot River was 27.0 °C on July 1 (Figure 5-13). Maximum daily water temperature in 2013 exceeded 19.0 °C for 79 days and exceeded the upper incipient lethal temperature for brown trout of 24.7 °C for eight days (Figure 5-13). The site upstream of the Little Blackfoot River experienced significantly lower mortality than expected (Table 5-7), with bimodal mortality occurring early in the study season on the ascending limb of the hydrograph, as well as on the descending limb as water temperatures exceeded 19.0 °C (Figure 5-13).

5.3.2.9 Lower Little Blackfoot River (Control)

Peak mean daily discharge at Lower Little Blackfoot River in 2013 was 497 ft^3/s on June 4. In 2013 peak maximum daily water temperature at Lower Little Blackfoot River was 25.0 °C on July 26 (Figure 5-14). Maximum daily water temperature in 2013 exceeded 19.0 °C for 61 days and exceeded the upper incipient lethal temperature for brown trout of 24.7 °C for one day (Figure 5-14). Lower Little Blackfoot River displayed bimodal mortality with some mortality occurring early in the study season on the ascending limb of the hydrograph, and some mortality on the descending limb as water temperatures exceeded 19 °C (Figure 5-14).

5.3.2.10 Flint Creek (Control)

Peak mean daily discharge at Flint Creek in 2013 was 169 ft^3/s on June 3. In 2013 peak maximum daily water temperature at Flint Creek was 25.0 °C on July 1 (Figure 5-15). Maximum daily water temperature in 2013 exceeded 19.0 °C for 72 days and exceeded the upper incipient lethal temperature for brown trout of 24.7 °C for two days (Figure 5-15). Flint Creek displayed bimodal mortality with some mortality occurring early in the study season on the ascending limb of the hydrograph, and some mortality on the descending limb as water temperatures approached or exceeded 19 °C (Figure 5-15). Extremely low flow conditions were also experienced at the Flint Creek site in 2013 with flows as low as 8 cfs experienced in May and 15 cfs in late July/early August.

5.3.2.11 Clinton Spring (Handling Control)

There is no discharge data available for Clinton Spring in 2013 because there is not a USGS station present at this site. In 2013 peak maximum daily water temperature at Clinton Spring was 16.5 °C on August 24 (Figure 5-16). Maximum daily water temperature never exceeded 19.0 °C and the upper incipient lethal temperature for brown trout of 24.7 °C was never exceeded in 2013 (Figure 5-16). Clinton Spring displayed bimodal mortality with some mortality occurring early in the study season and some mortality later in the study season (Figure 5-16).

5.3.2.12 Turah

Peak mean daily discharge at Turah in 2013 was 2,764 ft^3/s on May 14. In 2013 peak maximum daily water temperature at Turah was 24.0 °C on July 2 (Figure 5-17). Maximum daily water temperature in 2013 exceeded 19.0 °C for 62 days and the upper incipient lethal temperature for brown trout of 24.7 °C was never exceeded (Figure 5-17). Turah experienced significantly lower mortality than expected (Table 5-7), with mortality occurring after the peak of the hydrograph as water temperatures approached and exceeded 19.0 °C (Figure 5-17).

Table 5-7. Results of chi-squared tests between expected and observed survival and mortality for 2013, with Yates's correction for continuity applied; df = 1 and α = 0.05 for all tests.

Site	*p*-value
Mill Willow	0.004*
Pond 2	0.0127*
Silver Bow	0.0483*
Warm Springs	0.0483*
Galen Left	0.0483*
Galen Right	0.1221
Deer Lodge	0.004*
Upstream of Little Blackfoot	0.0008*
Turah	0.0003*

*	Mortality is significantly lower than expected.
*	Mortality is significantly higher than expected.

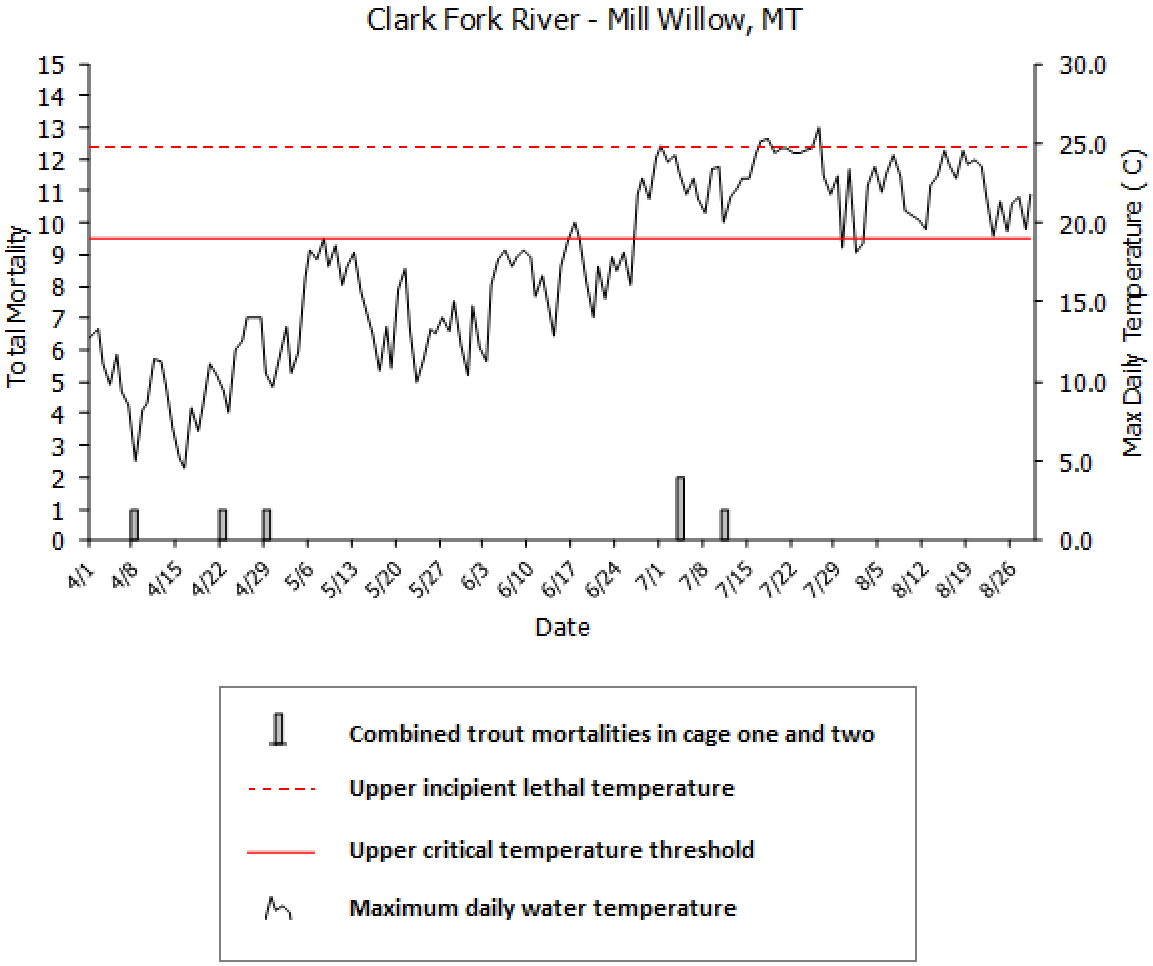

Figure 5-6. Total mortalities and maximum daily water temperature for 2013 in the Clark Fork River at the Mill Willow site.

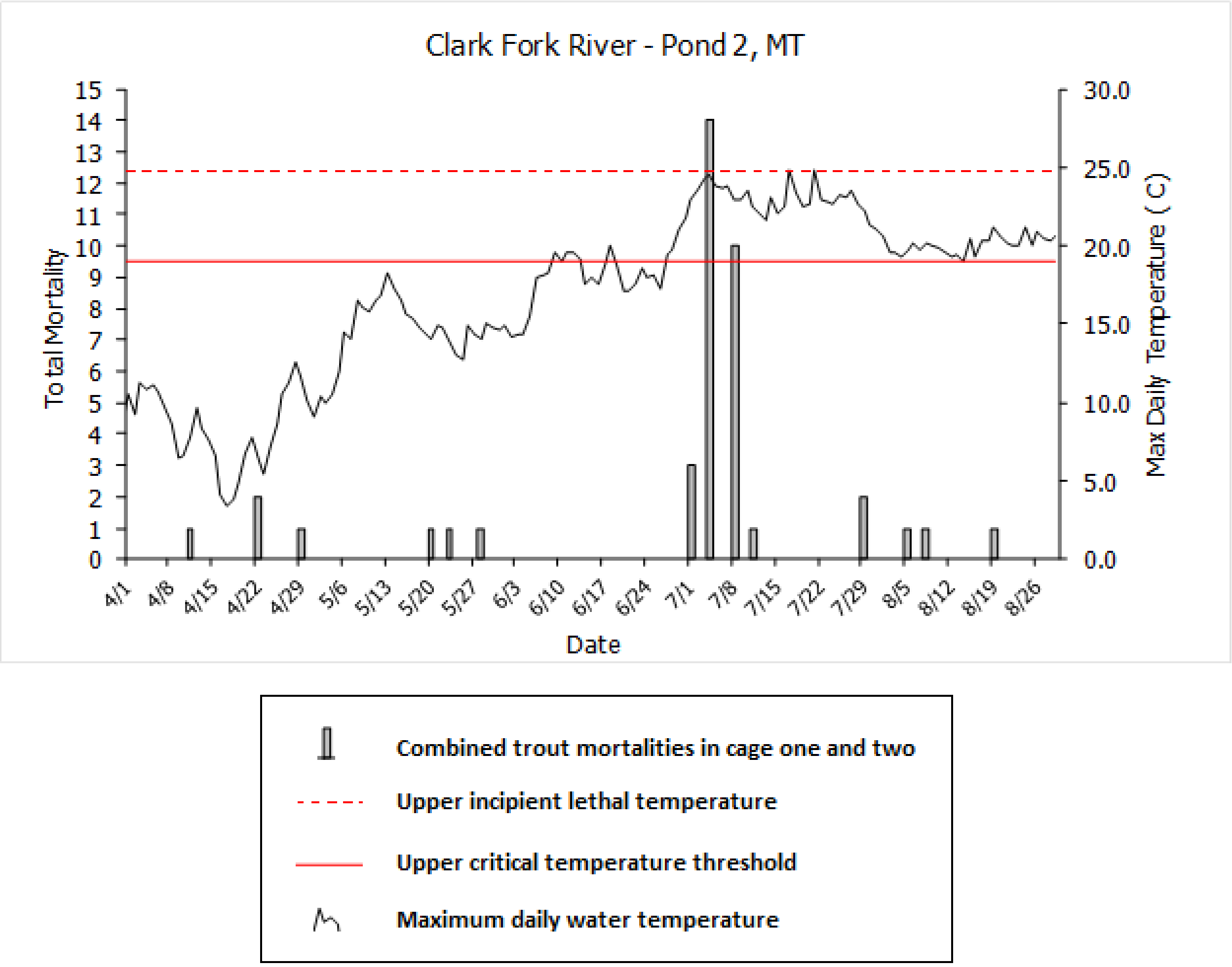

Figure 5-7. Total mortalities and maximum daily water temperature for 2013 in the Clark Fork River at the Pond 2 site.

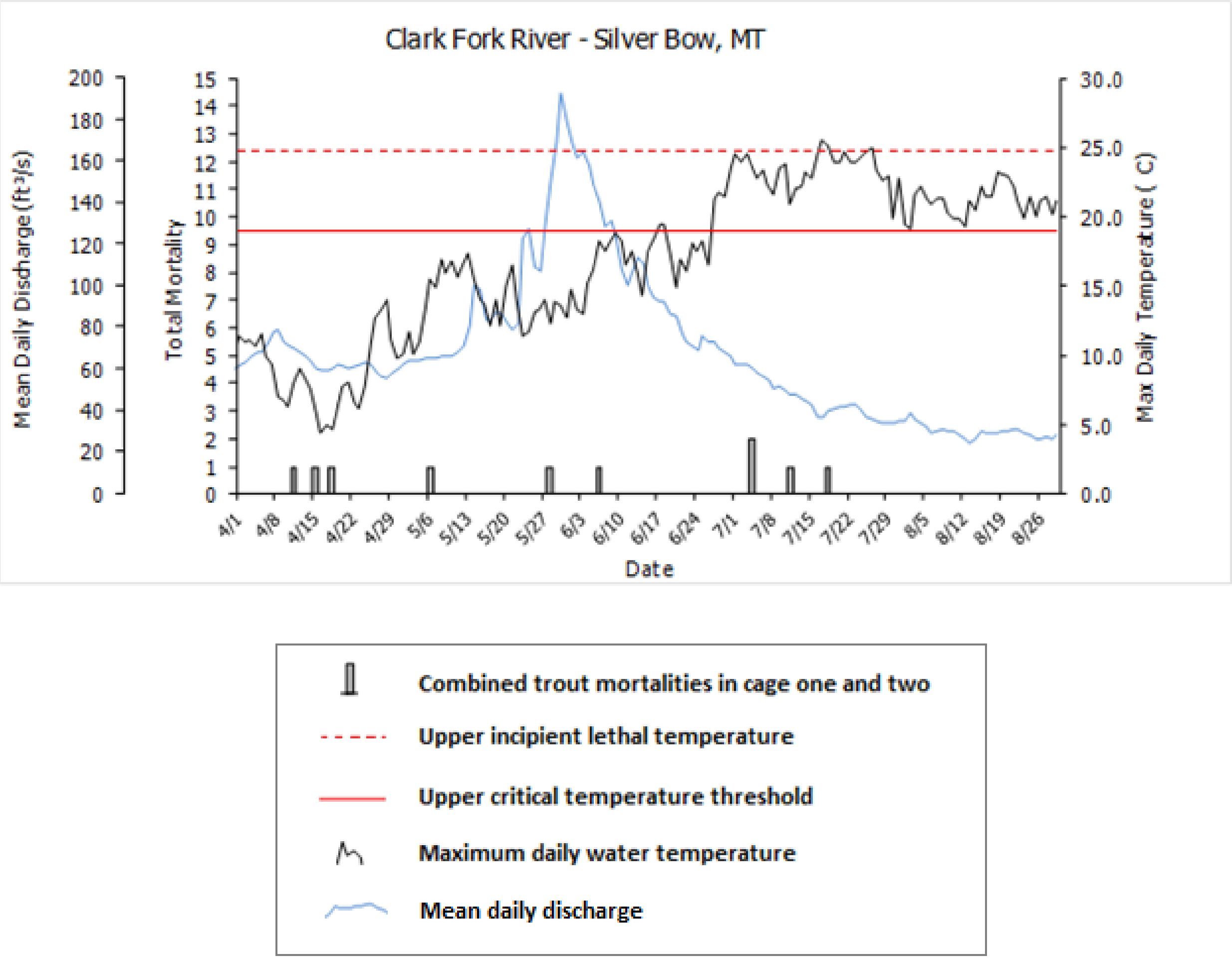

Figure 5-8. **Total mortalities, maximum daily water temperature, and mean daily discharge for 2013 in the Clark Fork River at the Silver Bow site.**

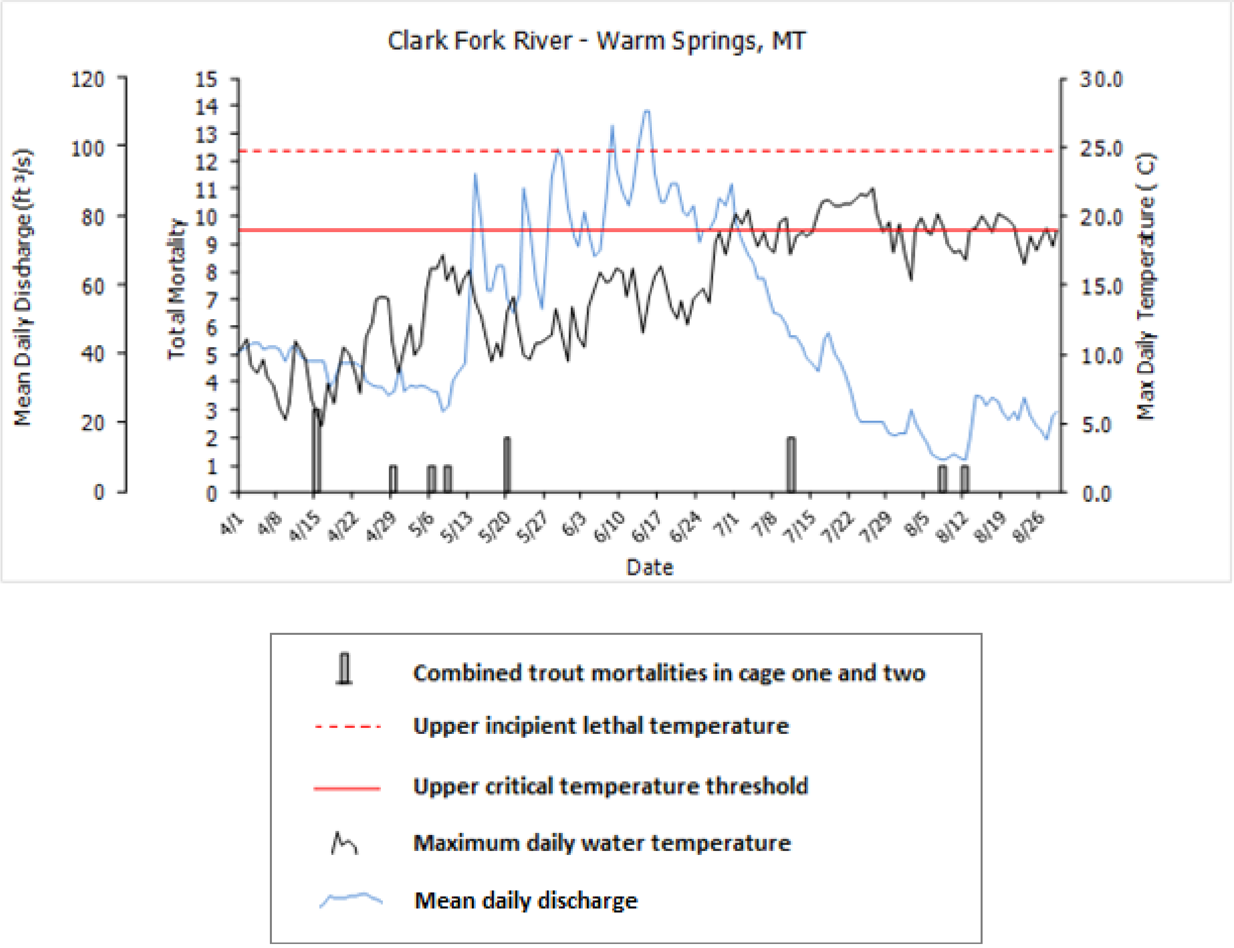

Figure 5-9. **Total mortalities, maximum daily water temperature, and mean daily discharge for 2013 in the Clark Fork River at the Warm Springs site.**

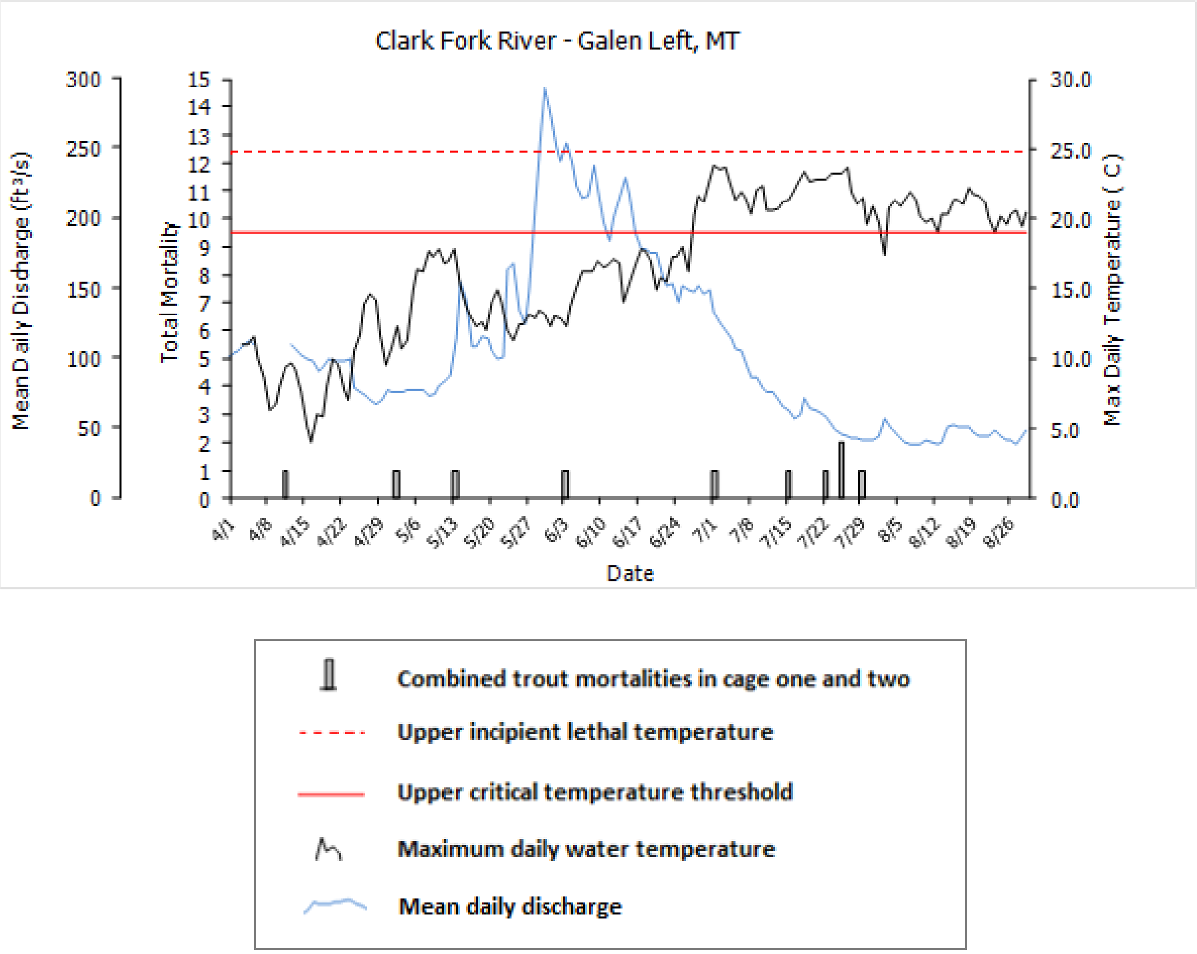

Figure 5-10. Total mortalities, maximum daily water temperature, and mean daily discharge for 2013 in the Clark Fork River at the Galen Left site.

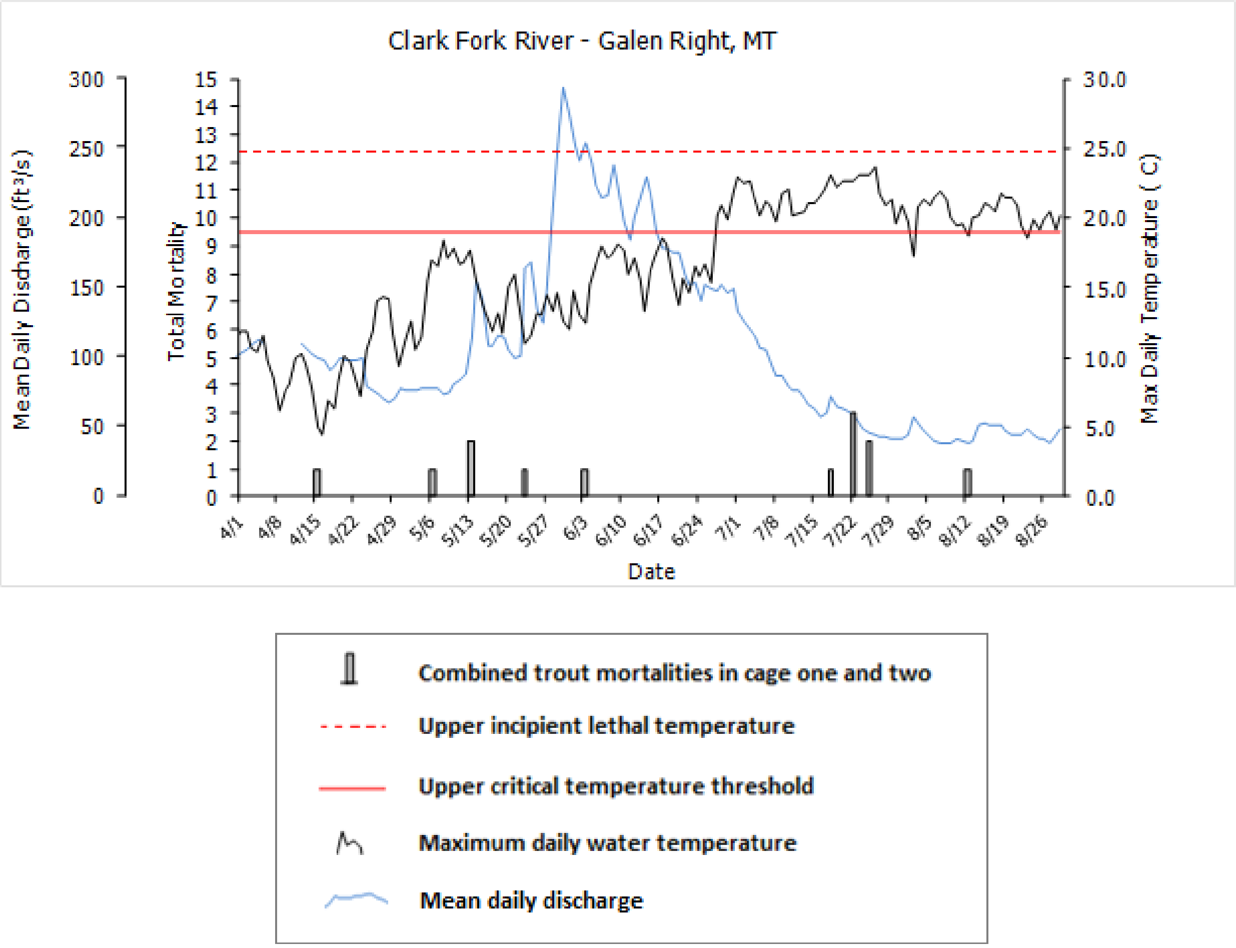

Figure 5-11. **Total mortalities, maximum daily water temperature, and mean daily discharge for 2013 in the Clark Fork River at the Galen Right site.**

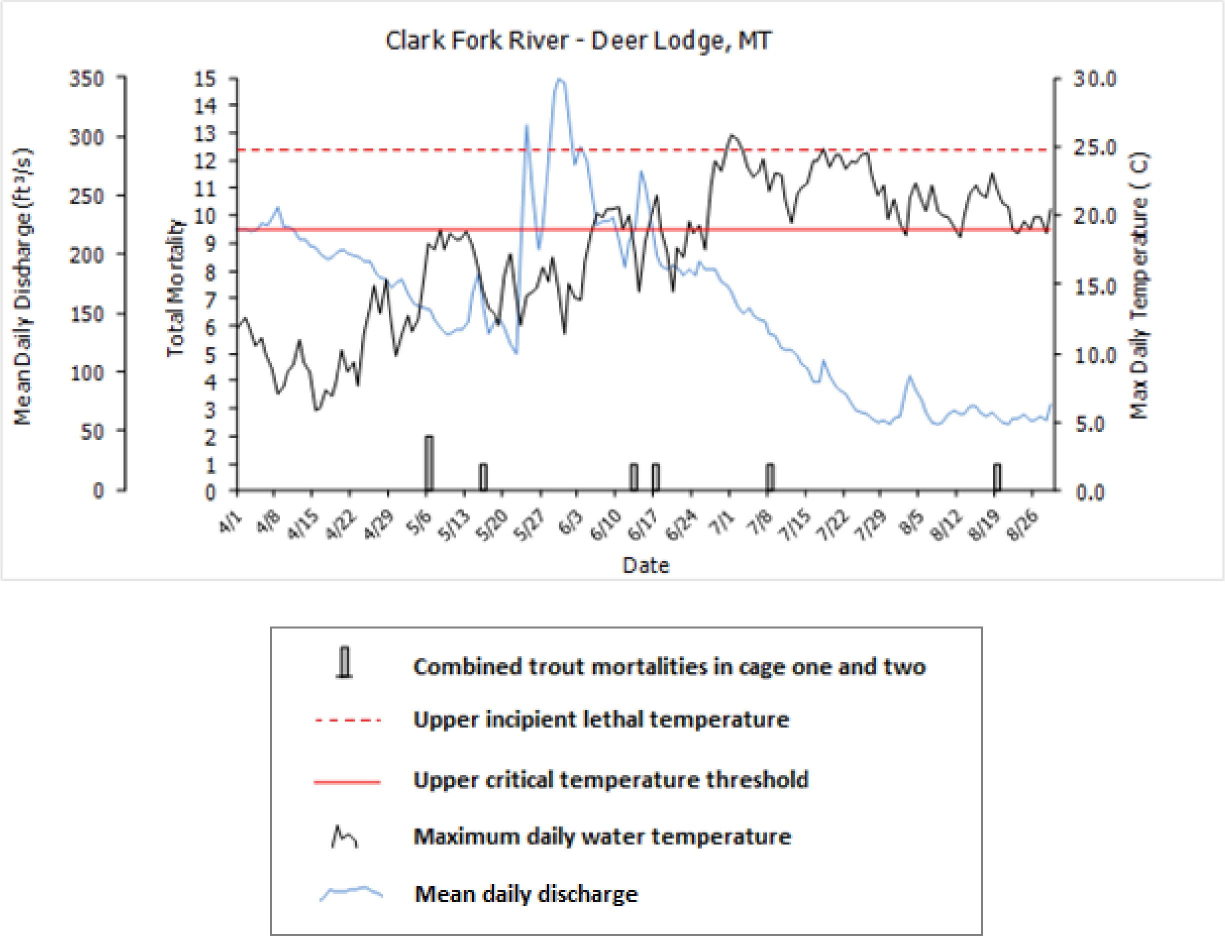

Figure 5-12. **Total mortalities, maximum daily water temperature, and mean daily discharge for 2013 in the Clark Fork River at the Deer Lodge site.**

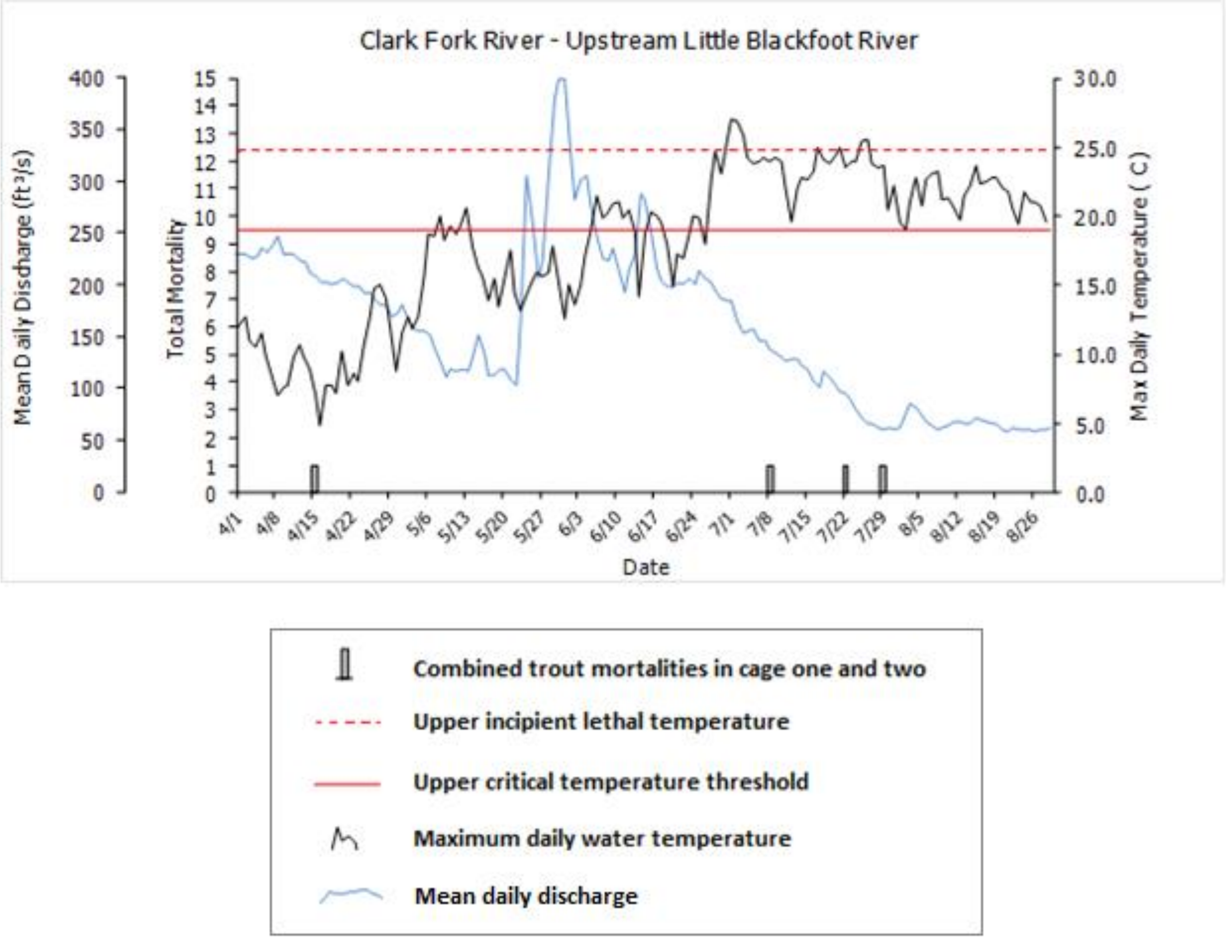

Figure 5-13. **Total mortalities , maximum daily water temperature, and mean daily discharge for 2013 in the Clark Fork River at the site upstream of the Little Blackfoot River.**

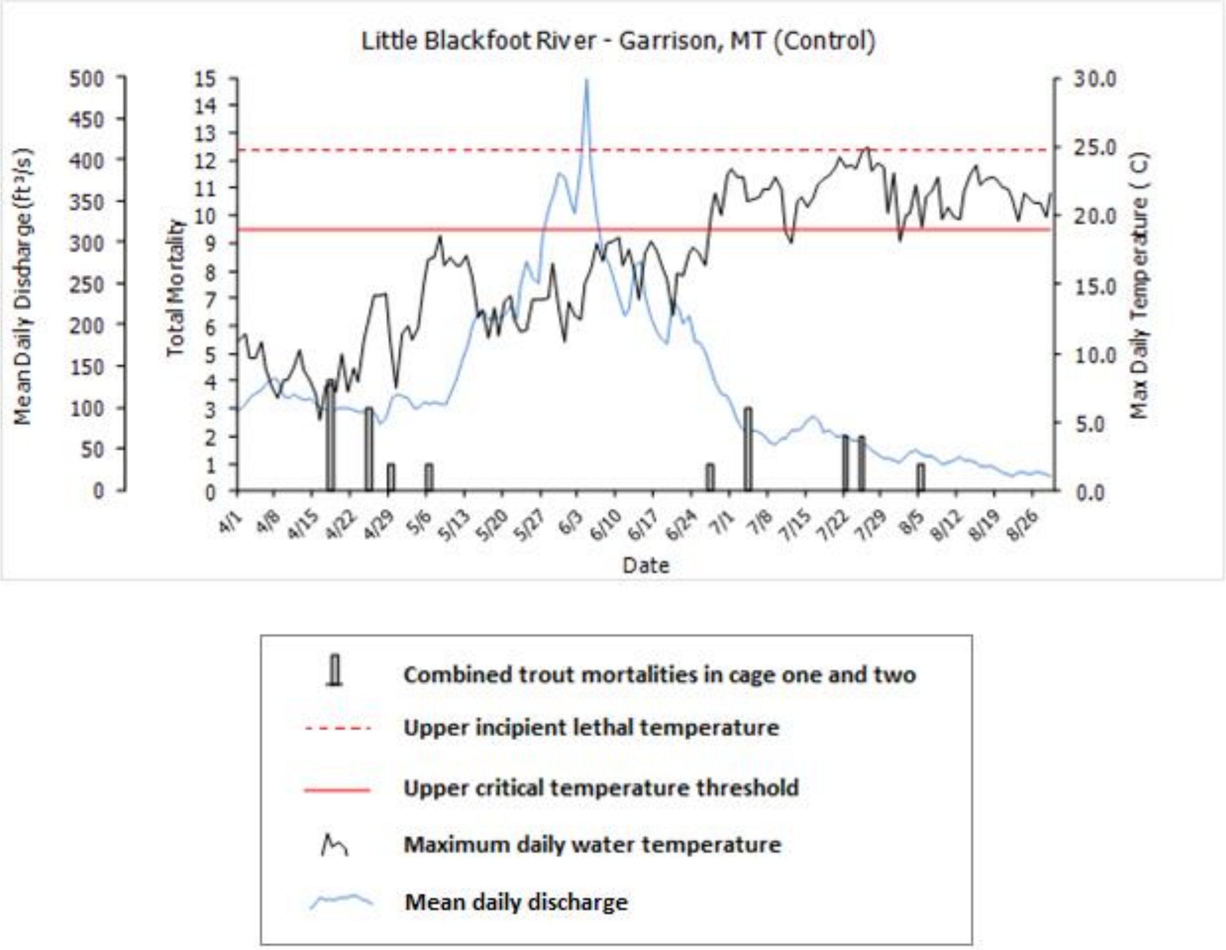

Figure 5-14. **Total mortalities, maximum daily water temperature, and mean daily discharge for 2013 at the control site in Little Blackfoot River.**

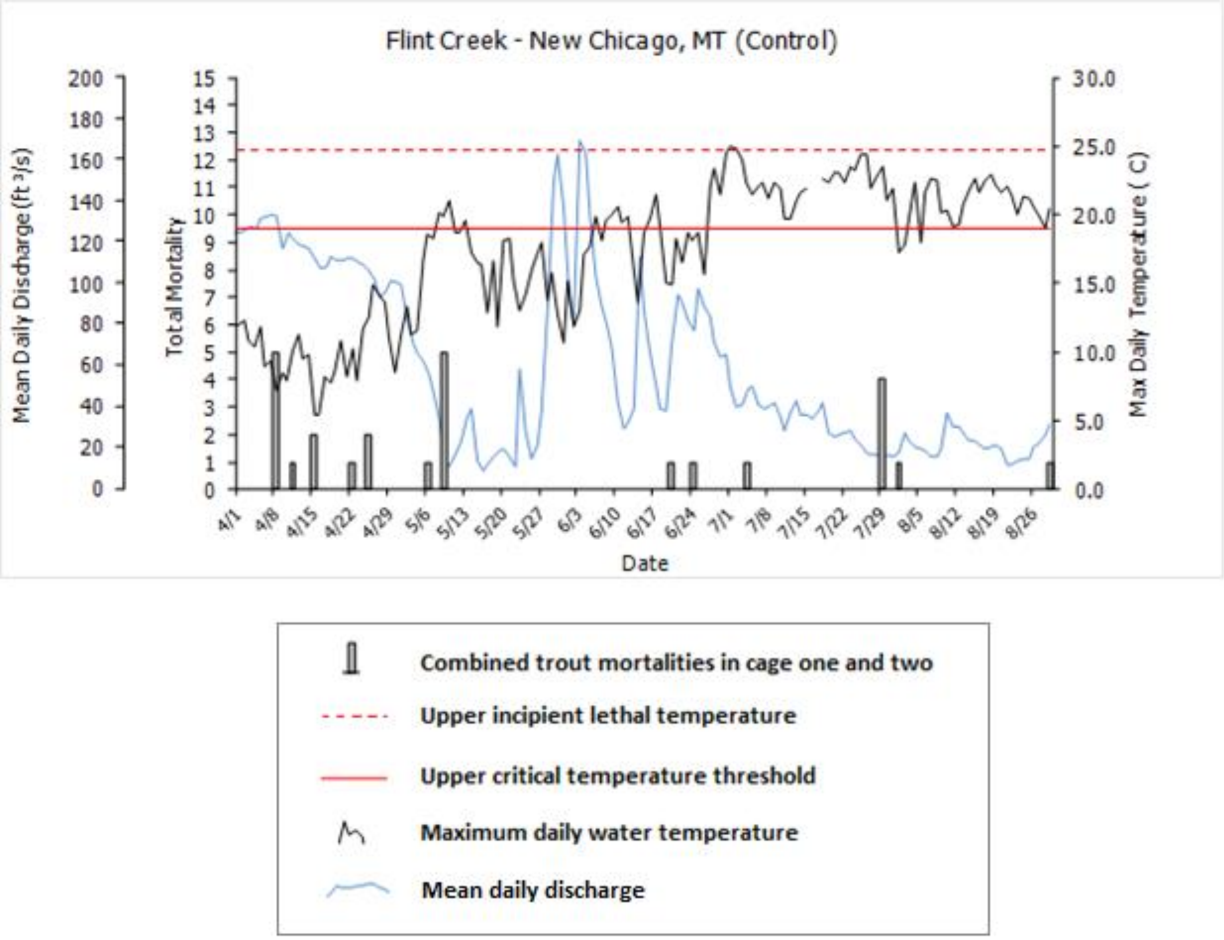

Figure 5-15. **Total mortalities, maximum daily water temperature, and mean daily discharge for 2013 at the control site in Flint Creek near New Chicago.**

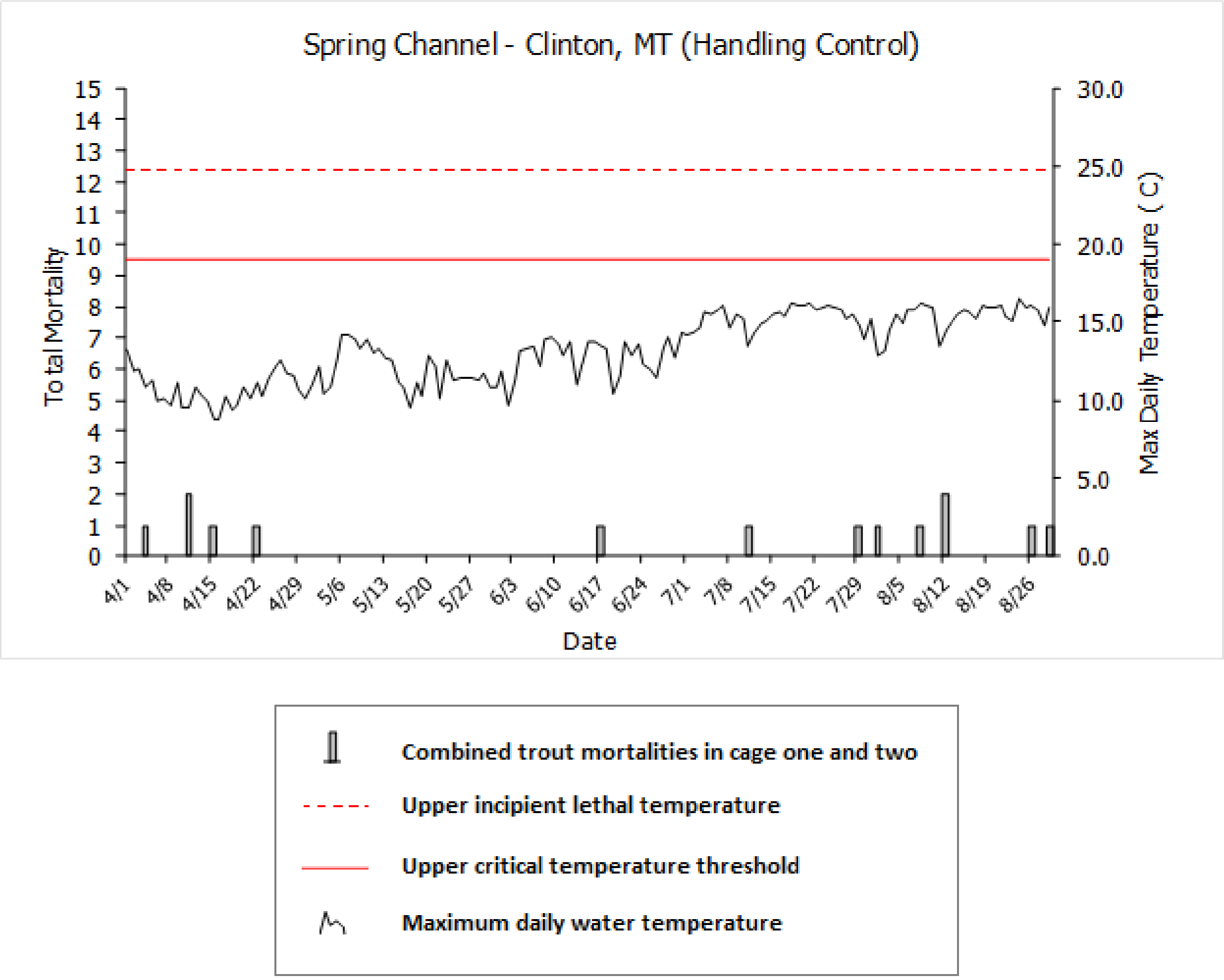

Figure 5-16. **Total mortalities and maximum daily water temperature for 2013 at the control site in the spring channel near Clinton, Montana.**

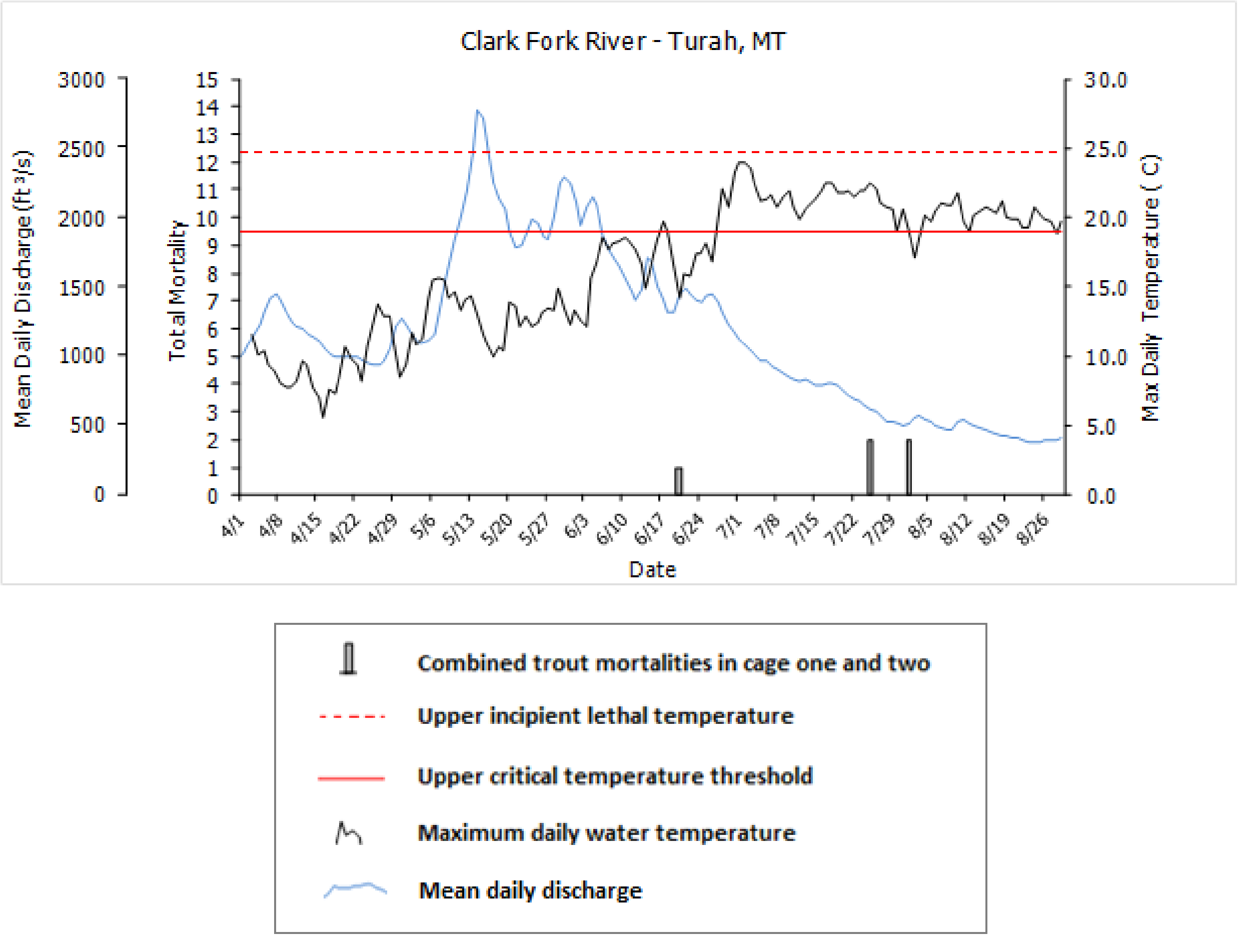

Figure 5-17. **Total mortalities, maximum daily water temperature, and mean daily discharge for 2013 in the Clark Fork River near Turah, Montana.**

5.3.3 Spatial Distribution of Brown Trout Survival

Cumulative survival (%) at each site was calculated by dividing the number of live fish at the end of the analysis period in cages one and two combined by the total number of fish placed in both cages over the entire season. Cumulative survival in 2013 (April 8 to July 31) from the Mill Willow site downstream was as follows; Warm Springs 89%, Pond 2 58%, Silver Bow 83%, Warm Springs 83%, Galen Left 83%, Galen Right 81%, Deer Lodge 89%, upstream of the Little Blackfoot River 93%, Lower Little Blackfoot River 75%, Flint Creek 68%, Clinton Spring 88%, and Turah 94% (Figure 5-18).

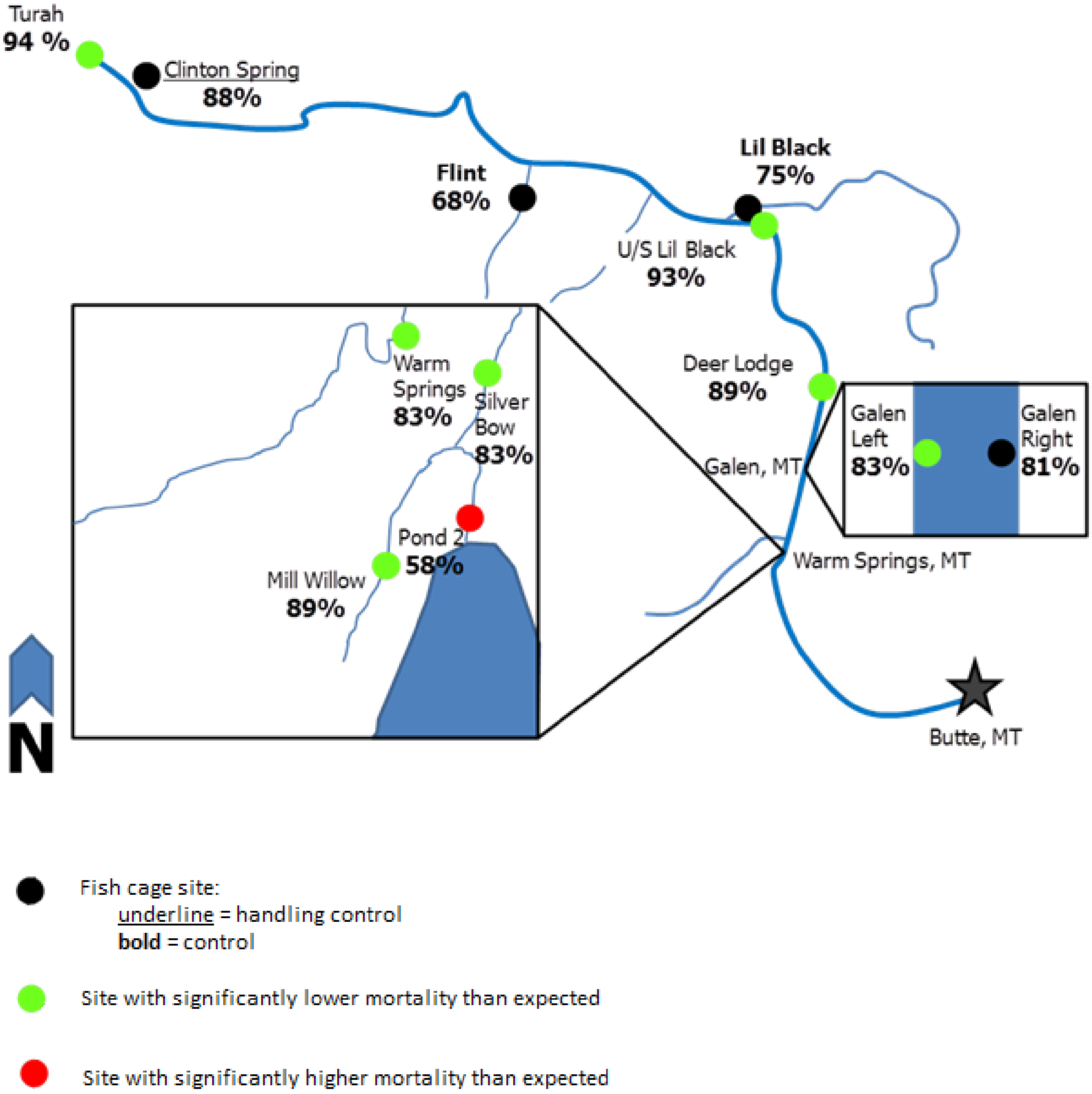

Figure 5-18. Cumulative brown trout survival calculated from April 8th to July 31st across sites for 2013 respectively.

Survival in the control tributaries was low, with 75% survival in Lower Little Blackfoot River and 68% in Flint. Clinton Spring (the handling control), showed 88% survival in 2013 indicating that mortalities observed at the experimental mainstem sites were not likely due to conditions inside the cages. Mill Willow, Silver Bow, Warm Springs, Galen Left, Deer Lodge, upstream of the Little Blackfoot River, and Turah exhibited significantly higher survival than expected. Pond 2 was the only cage site that exhibited significantly lower survival than expected. It is important to note that mortality was higher at control sites in 2013 (72% average survival) than in previous years of this study documented by Richards et al. (2013) (89% average survival in 2011 and 2012).

5.3.4 Growth

Growth was higher at Clinton Spring (handling control) and at Lower Little Blackfoot River (control) than at adjacent mainstem sites; however, growth at Flint Creek (the other control site), was lower than at the adjacent mainstem sites (Figure 5-19). In 2013 growth was higher at the sites with the lowest water temperatures and/or least days that exceeded 19 °C (Warm Springs, Lower Little Blackfoot River, and Clinton Spring) indicating that high temperature in 2013 had an effect on growth at the remaining sites. The high growth rates at Warm Springs, Galen Left, and Galen Right are expected as there is a “tail water” effect of the upstream ponds resulting in increased nutrients and additional food sources including freshwater shrimp and isopods.

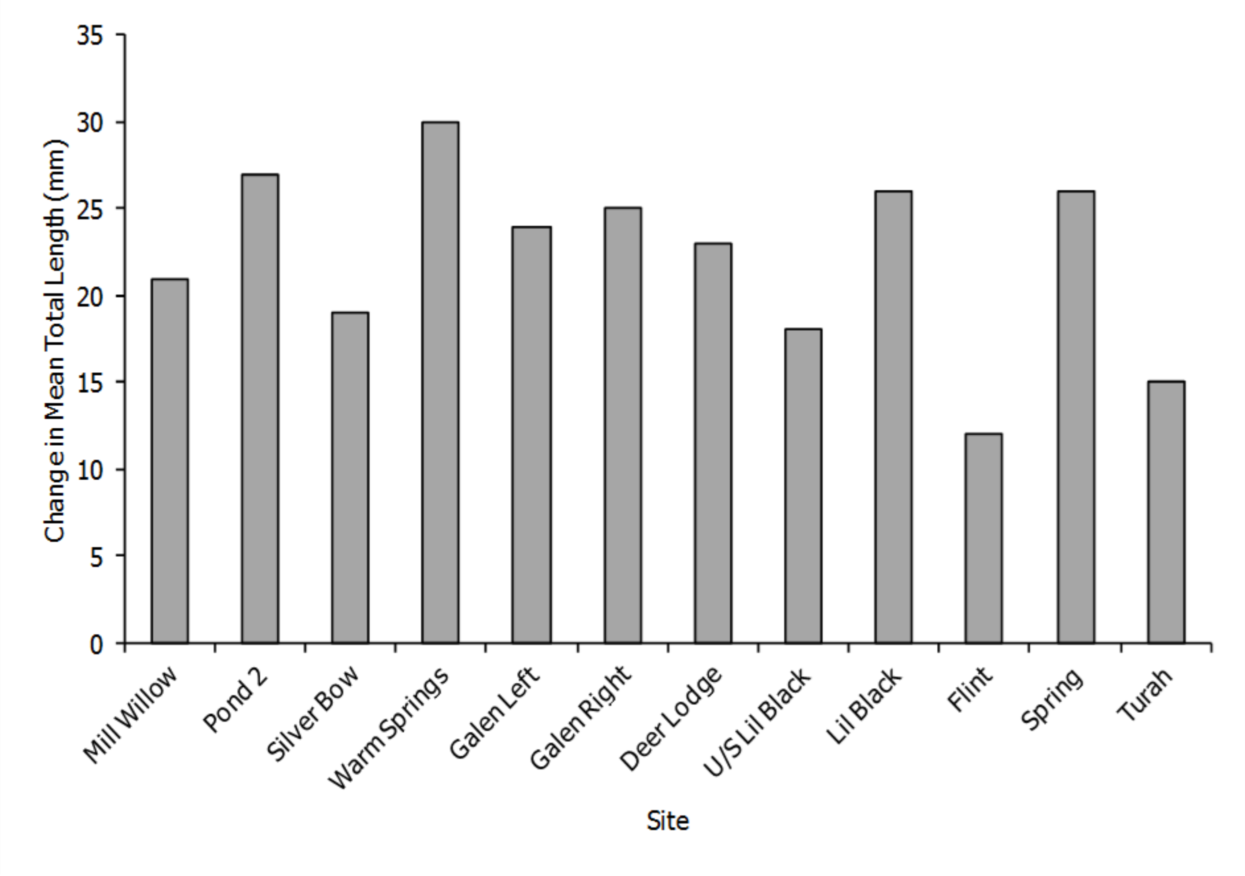

Figure 5-19. **Change in mean total length by site for juvenile brown trout held in cages by site in 2013, arranged from upstream to downstream.**

5.3.5 Tissue Metals Burdens

Tissue metals burdens from fish held at cage sites were compared to reported values from previous studies assessing growth or mortality effects using whole body burdens in salmonids.

Studies reporting effects on rainbow trout from whole body burdens of copper and zinc were found. Table 5-8 displays reported minimum effect thresholds for trout and their associated studies.

Table 5-8. Summary of studies relating whole body metals burdens to growth or mortality effects in salmonids. All values reported were the minimum concentrations causing an effect.

Species	Metal	Metal concentration (µg/g dry weight)	Reference
Rainbow trout	Copper	8.57	Marr et al. 1996
Rainbow trout	Zinc	105.09[15]	Gundogdu and Erdem 2008

Copper and zinc consistently exceeded the aforementioned minimum effect thresholds by month. It is important to note that fish were fed a feed diet before (at hatchery) and during the course of this study that is likely high in zinc and copper (T. Selch, Montana, Fish, Wildlife, and Parks, personal communication, 2014). Hatchery samples showed copper tissue burden levels below minimum effect thresholds and zinc tissue burden levels above minimum effect thresholds (Figure 5-5 through Figure 5-20). All tissues metals burdens for copper and zinc were depicted for individual samples graphically by site (Figure 5-21 through Figure 5-31). Generally, tissues metals burdens were higher at mainstem sites than at control sites. Galen Left had the highest sample value of copper with a sample value of 63.2 µg/g (Figure 5-21 through Figure 5-31). Pond 2 had the highest sample value of zinc with a sample value of 574.00 µg/g (Figure 5-21 through Figure 5-31). Copper and zinc burdens typically peaked at the beginning of the season from Mill Willow to Galen Left, with the exceptions of Pond 2 (Zinc peaked end of season) and Silver Bow (peaked mid-season). Conversely, copper and zinc burdens peaked from Lower Little Blackfoot River to Turah (Figure 5-21 through Figure 5-31).

Sample values of copper and zinc were higher in dead fish than in live fish. All tissues metals burdens for copper and zinc were depicted for live versus dead fish graphically by site cages (Figure 5-32 through Figure 5-42). Generally, tissues metals burdens were higher at mainstem sites than at control sites. Most sites experienced tissue metals burdens that did not exceed minimum effect thresholds for copper in live fish and that did exceed minimum effect thresholds for copper in dead fish (Figure 5-32 through Figure 5-42). Exceptions to this were Mill Willow, Deer Lodge, upstream of the Little Blackfoot River, and Lower Little Blackfoot River, which had tissue metals burdens that exceeded minimum effect thresholds for copper in both live and dead fish. Every site had all sample values of tissues metals burdens that exceeded minimum effect thresholds for zinc (Figure 5-32 through Figure 5-42).

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[15] Zinc value presented represents a level that may cause impaired fish health and was used as a threshold minimum effect threshold for this report.

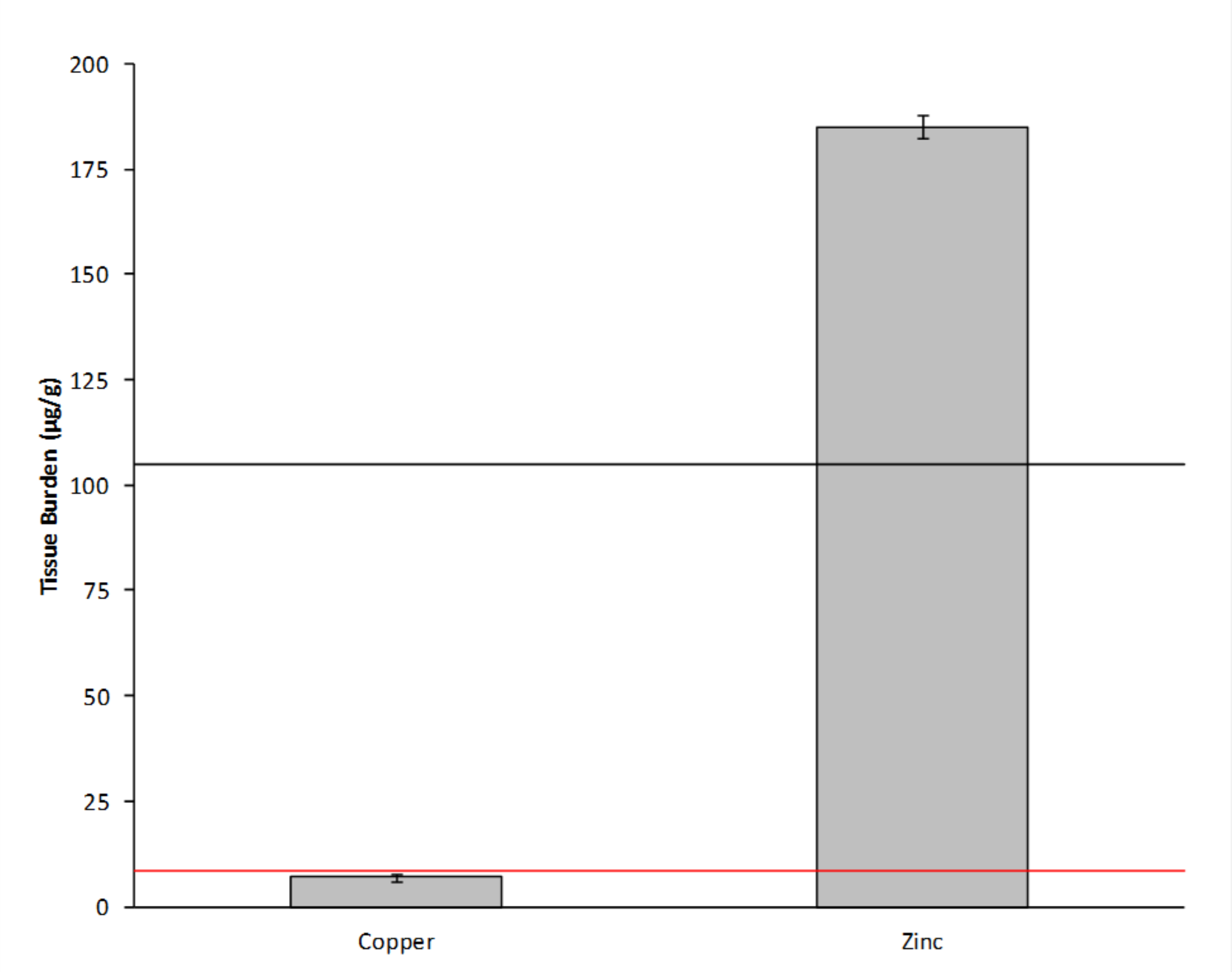

Figure 5-20. Copper and zinc tissue burdens for hatchery fish not placed in cages. Individual samples are shown with 95% confidence intervals. The red line in each panel indicates the copper minimum effect threshold identified for salmonids. The black line represents the zinc minimum effect threshold identified for salmonids. Sample sizes represent the number of fish never placed in cages submitted for analysis.

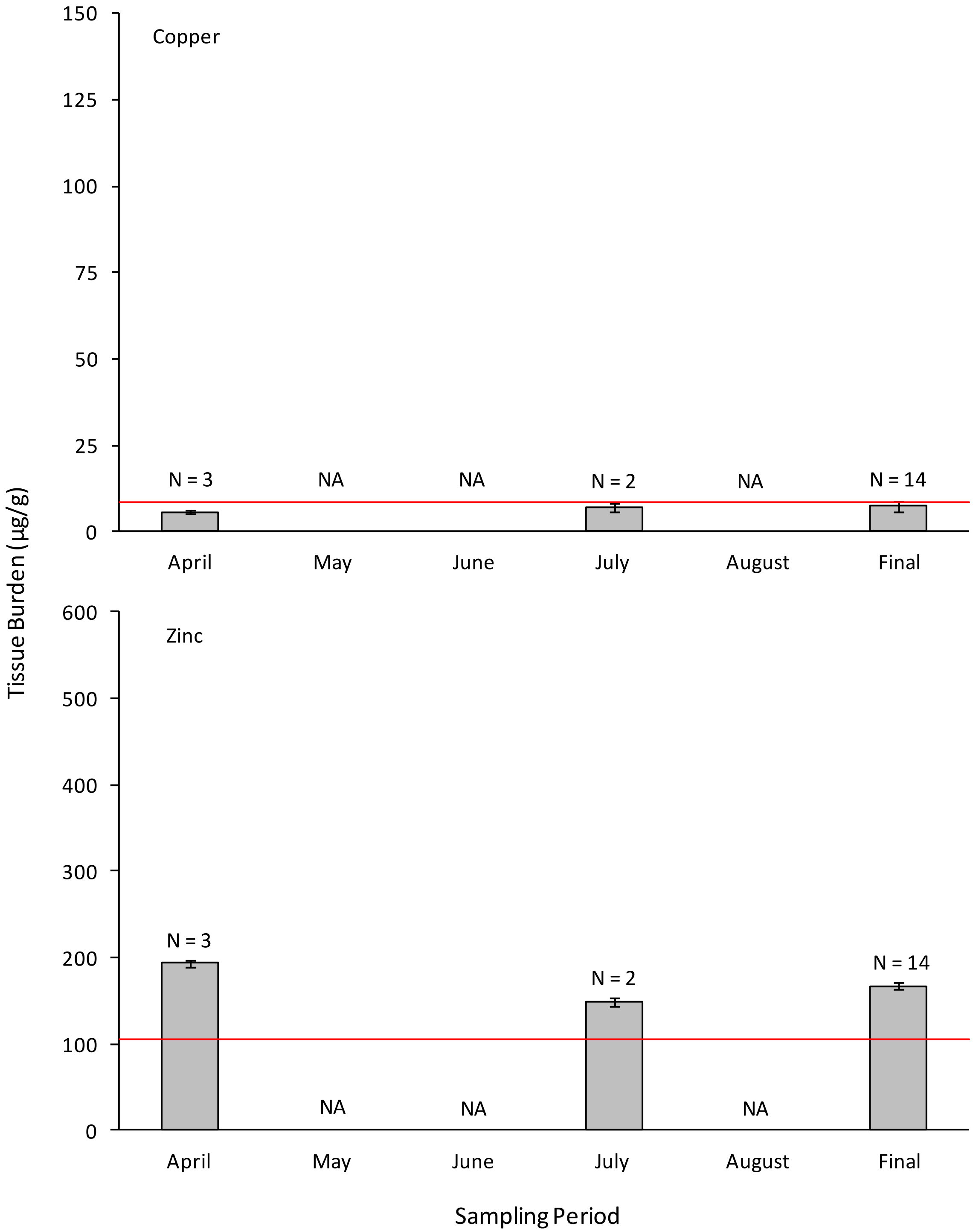

Figure 5-21. **Copper and zinc tissue burdens by month at Mill Willow in Warm Springs, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

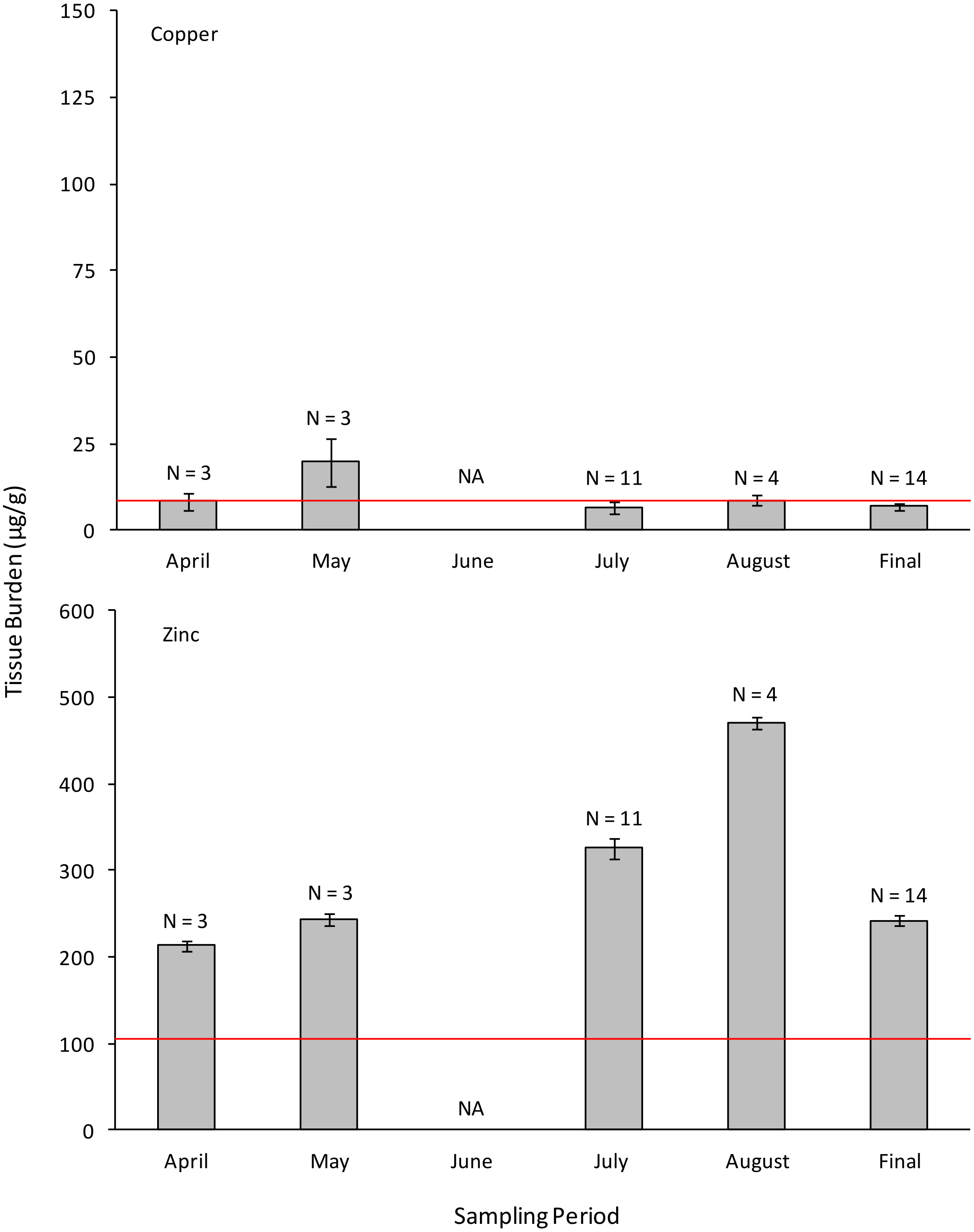

Figure 5-22. Copper and zinc tissue burdens by month at Pond 2 in Warm Springs, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.

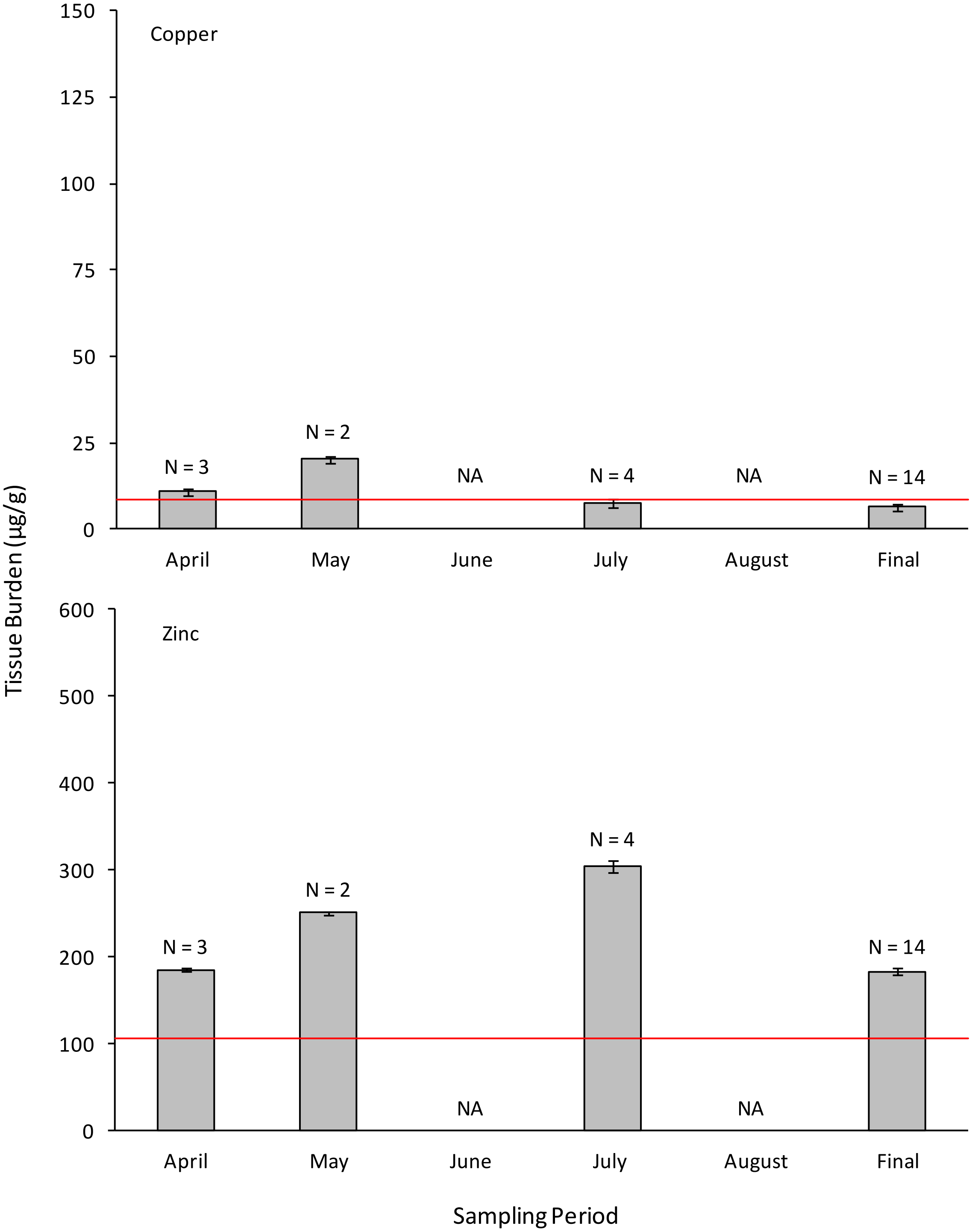

Figure 5-23. **Copper and zinc tissue burdens by month at Silver Bow in Warm Springs, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

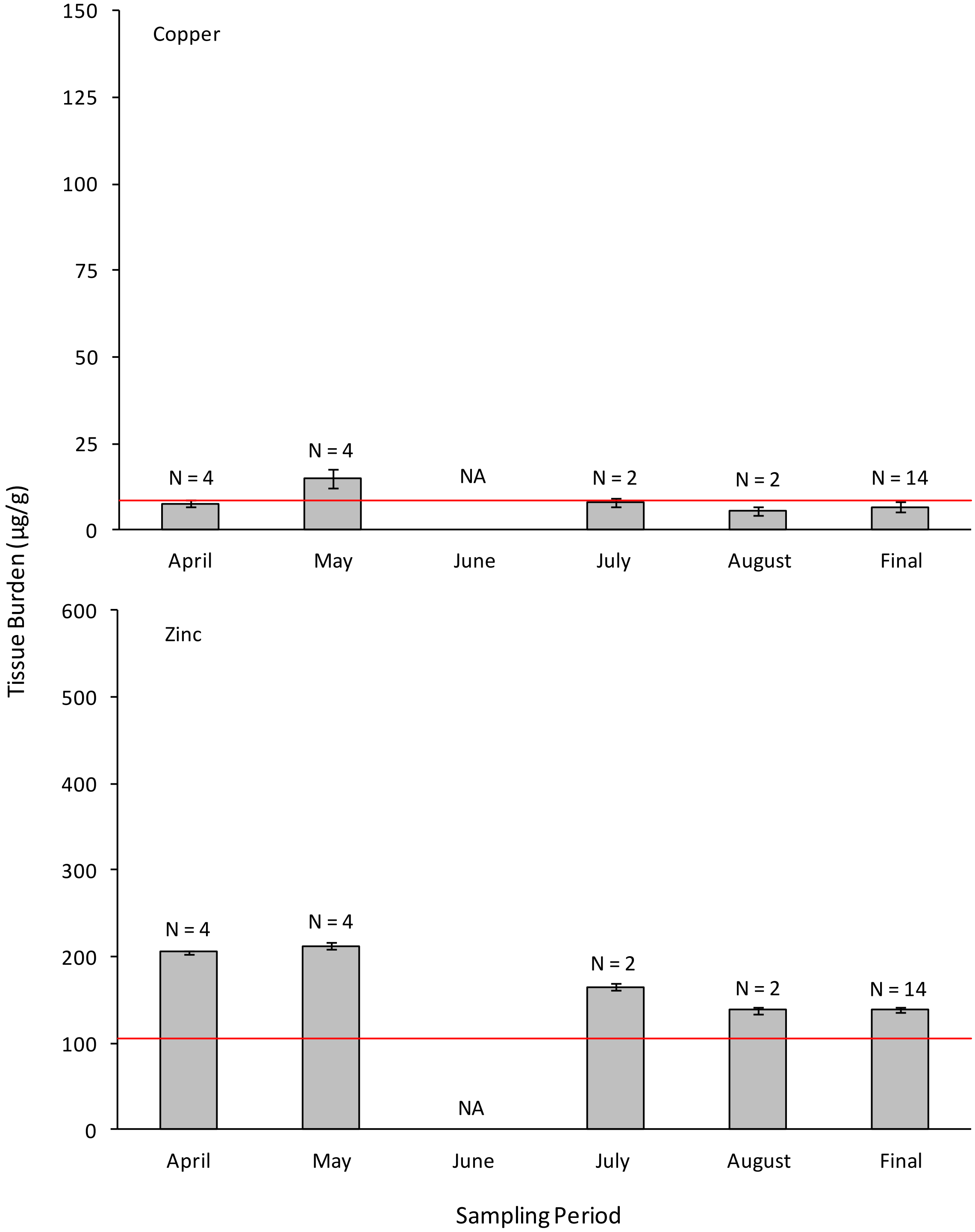

Figure 5-24. **Copper and zinc tissue burdens by month at Warm Springs in Warm Springs, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

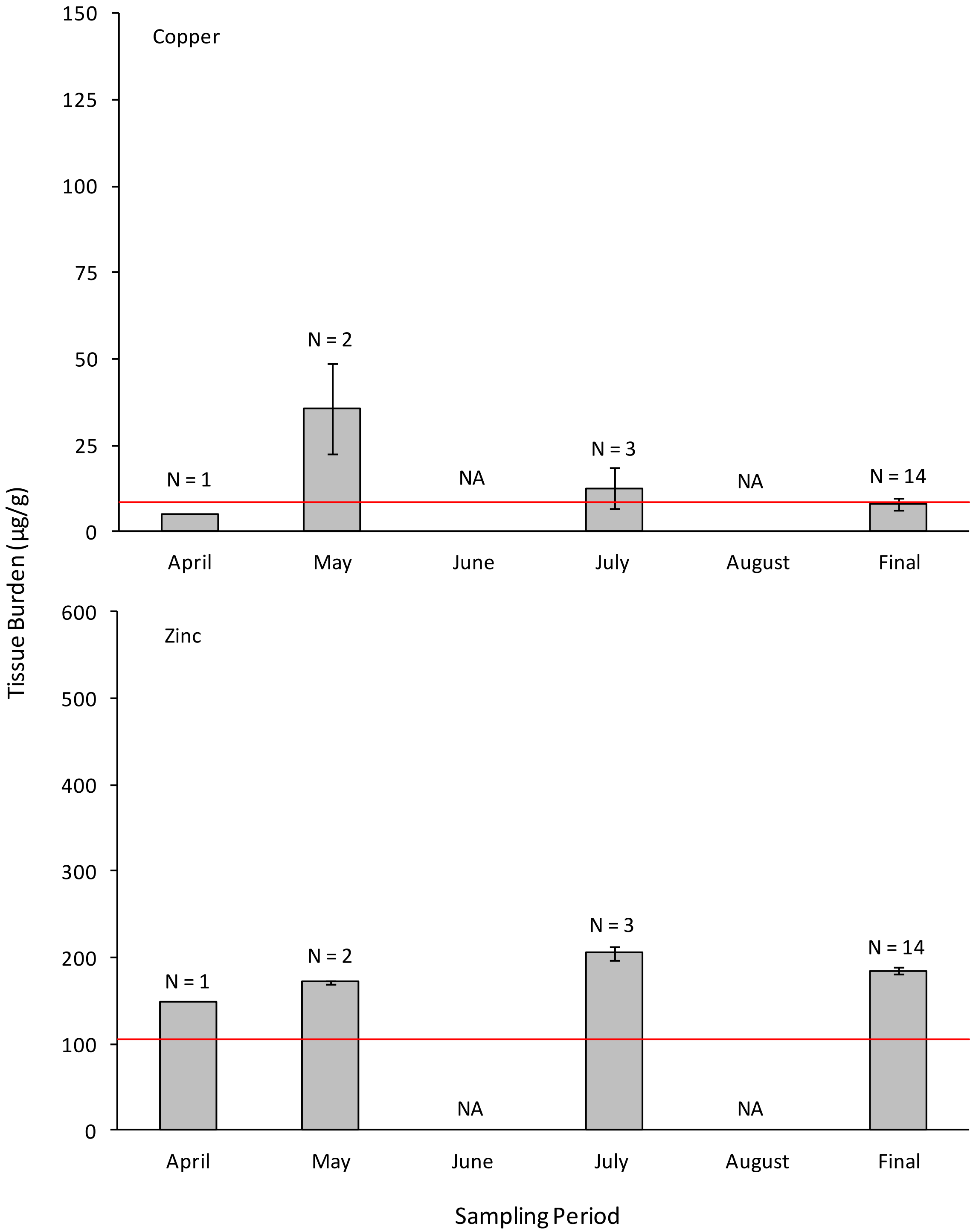

Figure 5-25. **Copper and zinc tissue burdens by month at Galen Left in Galen, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

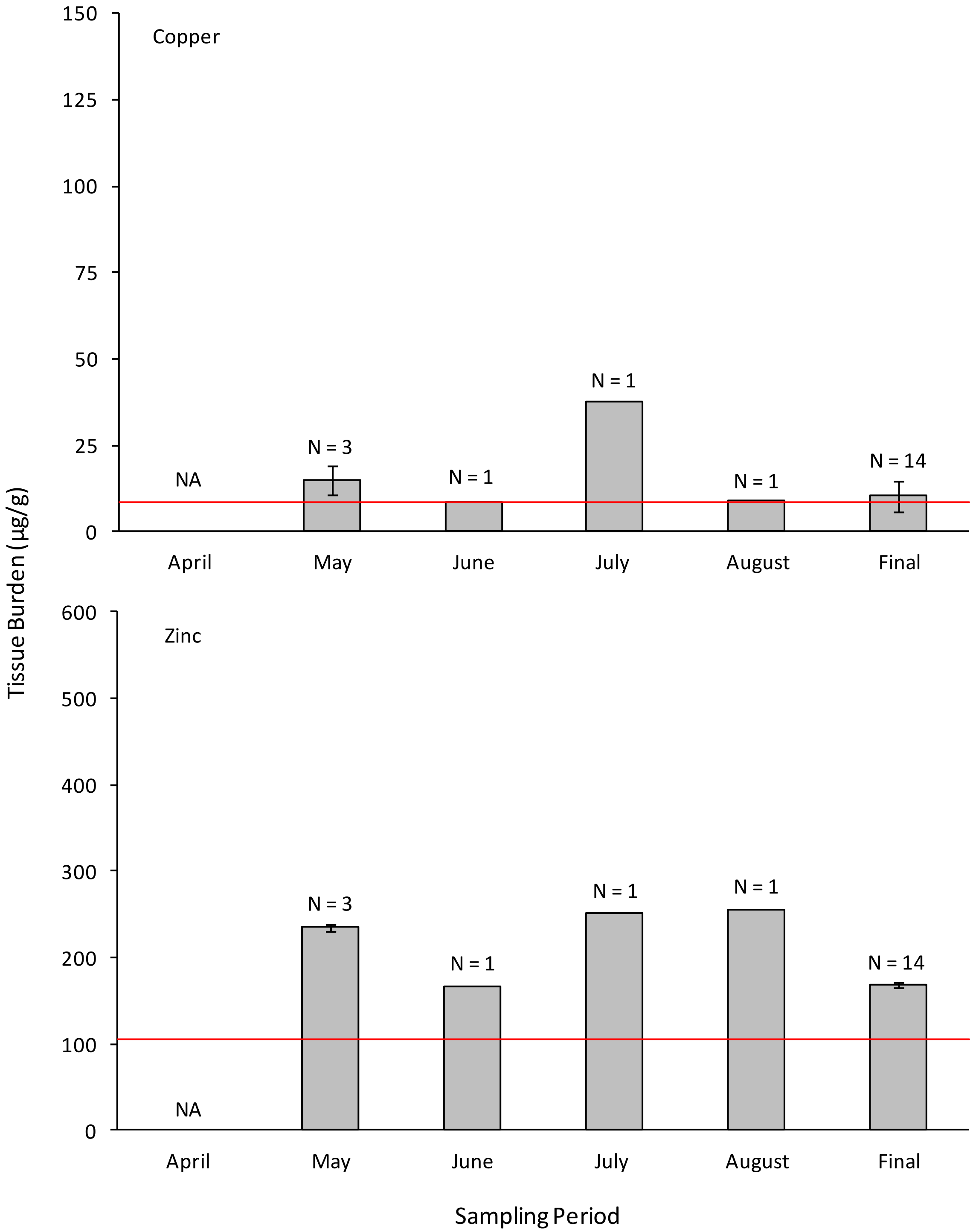

Figure 5-26. **Copper and zinc tissue burdens by month at Deer Lodge in Deer Lodge, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

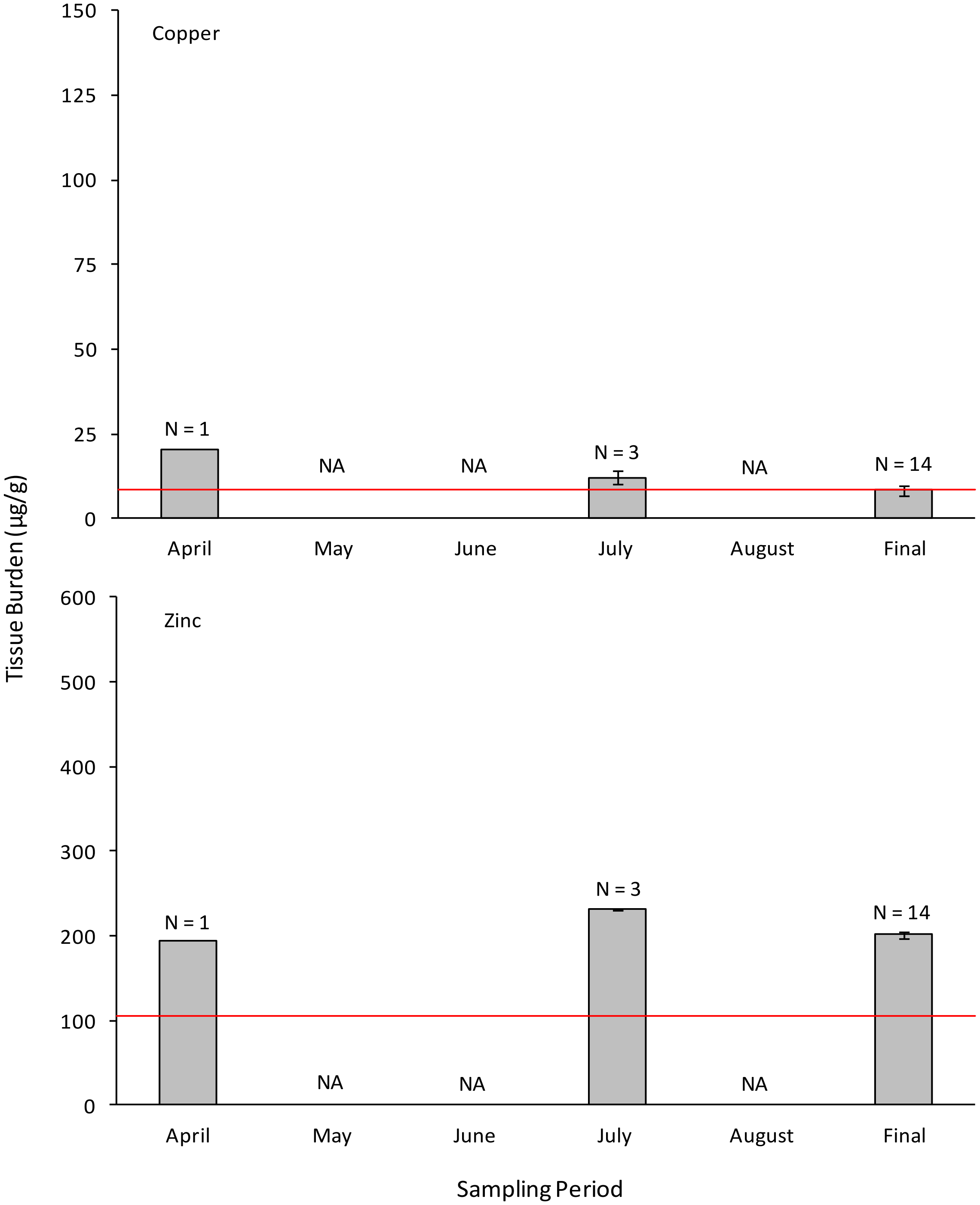

Figure 5-27. **Copper and zinc tissue burdens by month at the site upstream of the Little Blackfoot River in Garrison, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

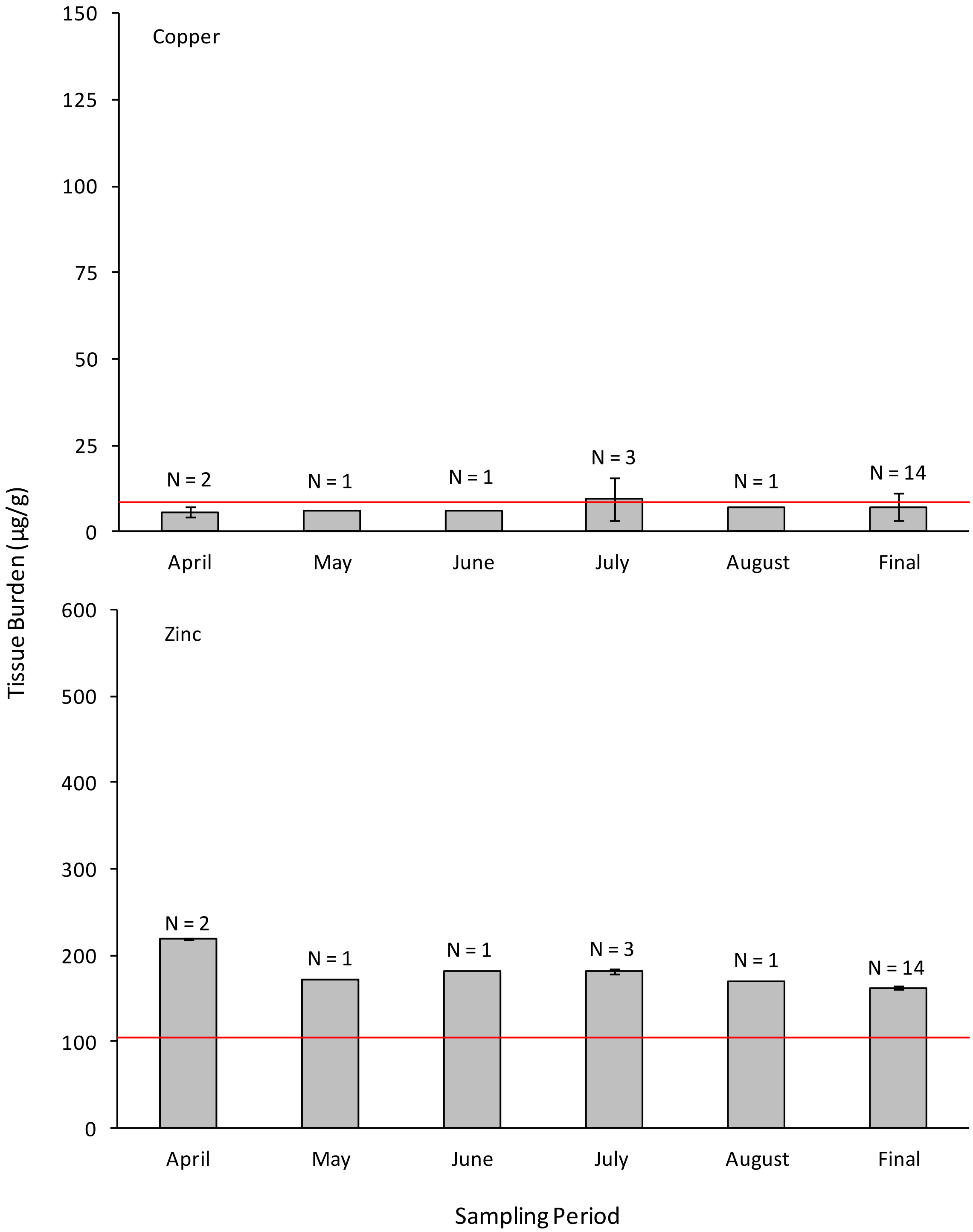

Figure 5-28. **Copper and zinc tissue burdens by month at Lower Little Blackfoot River in Garrison, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

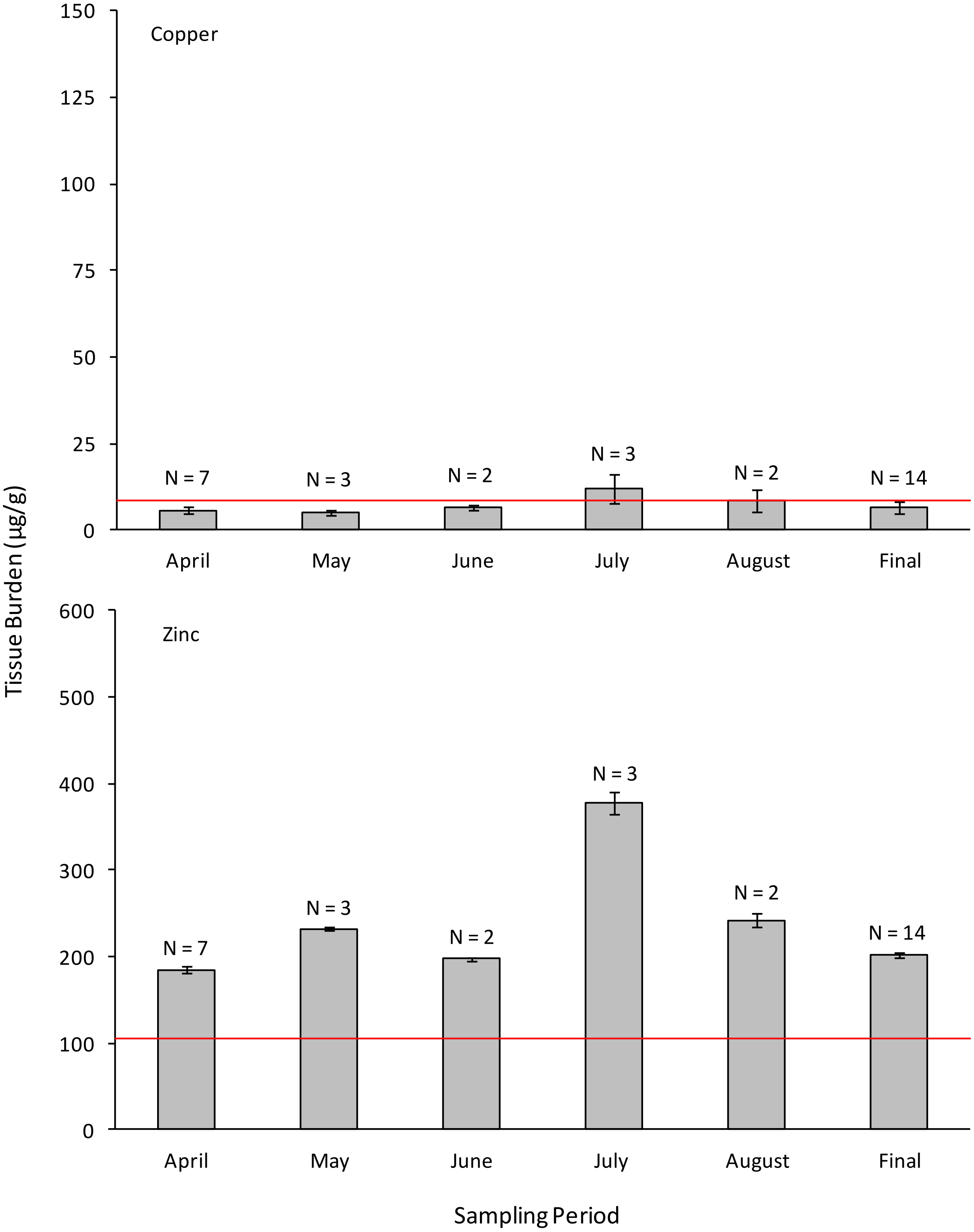

Figure 5-29. **Copper and zinc tissue burdens by month at Flint Creek in Drummond, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

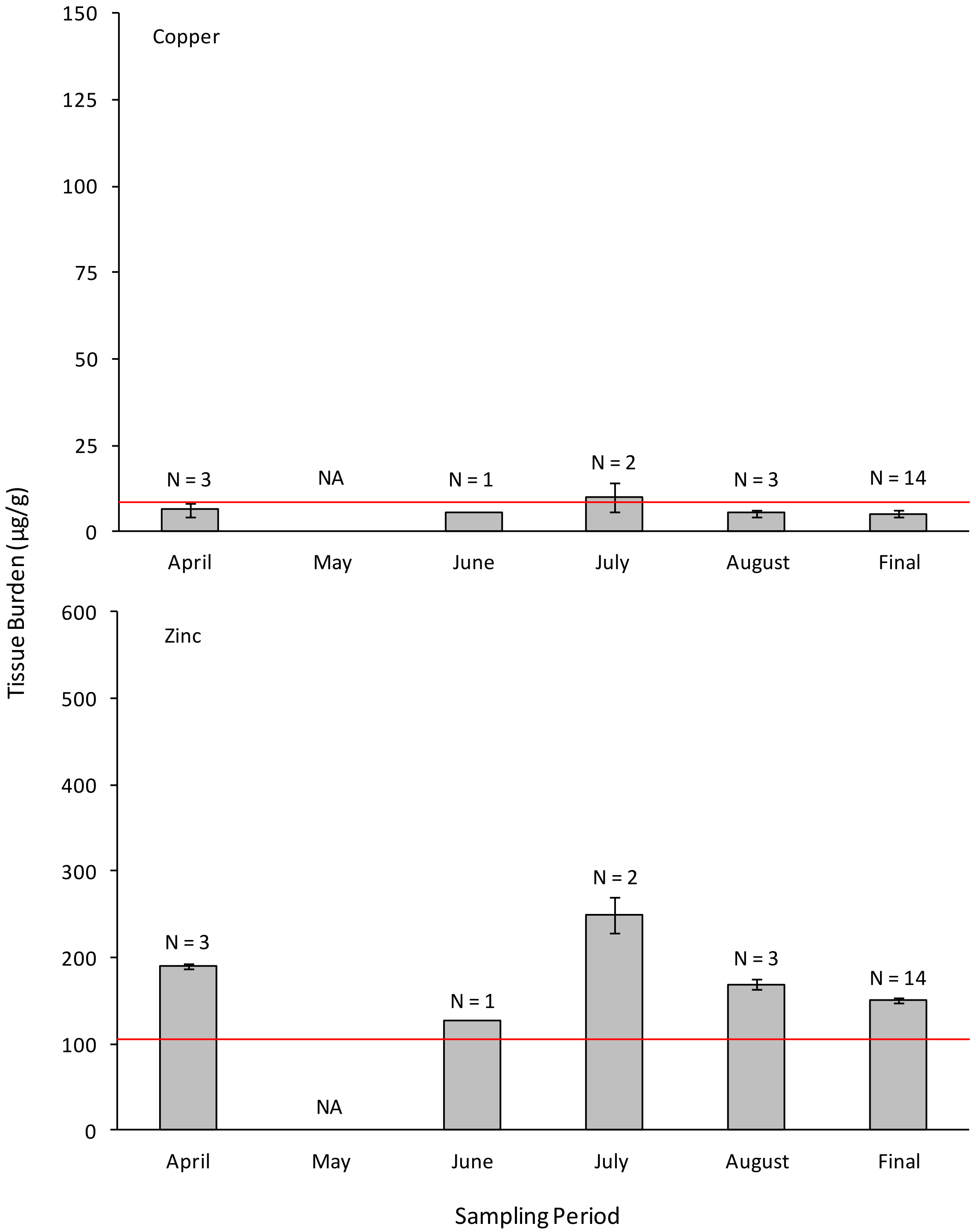

Figure 5-30. **Copper and zinc tissue burdens by month at Clinton Spring in Clinton, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

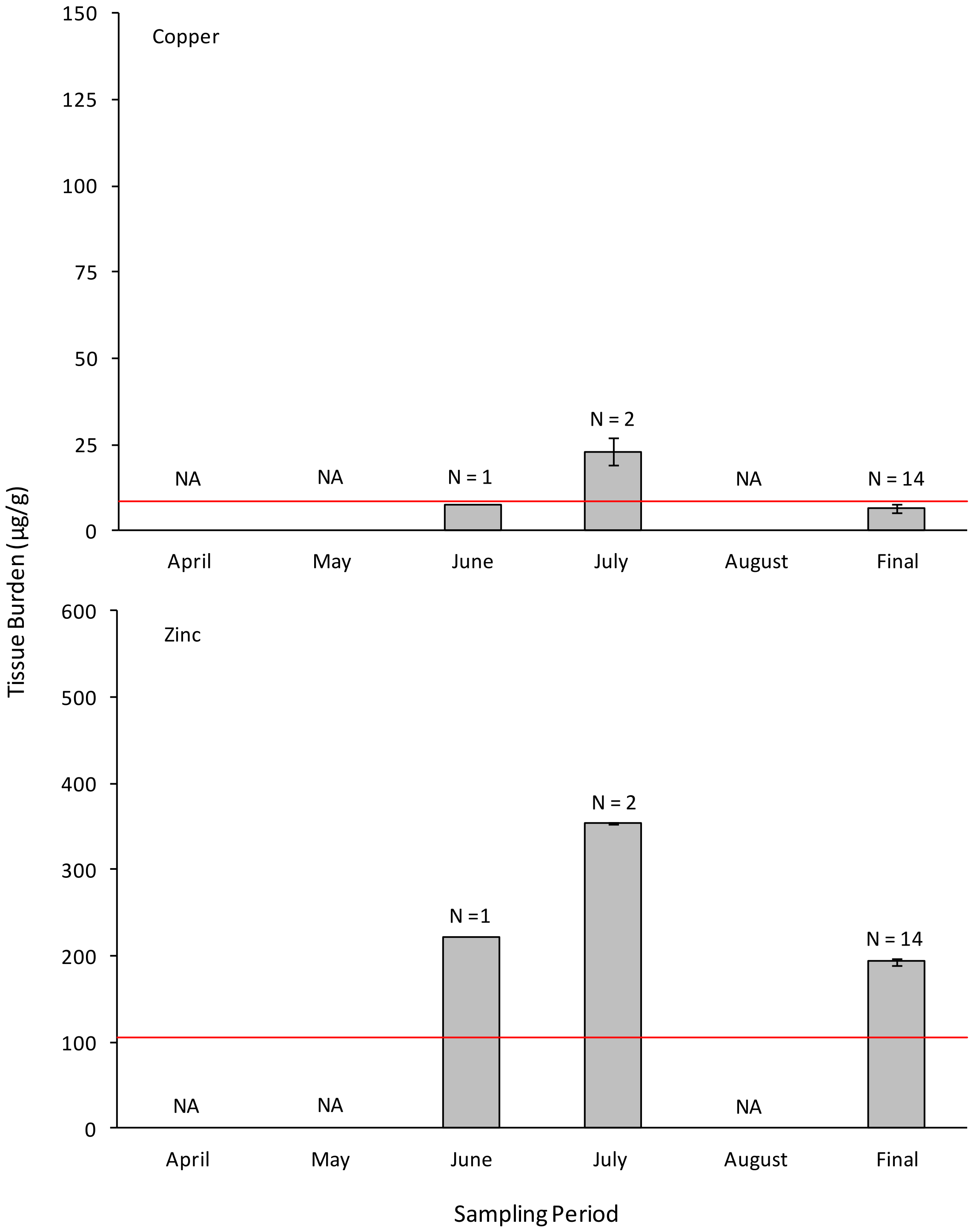

Figure 5-31. **Copper and zinc tissue burdens by month at Turah in Turah, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

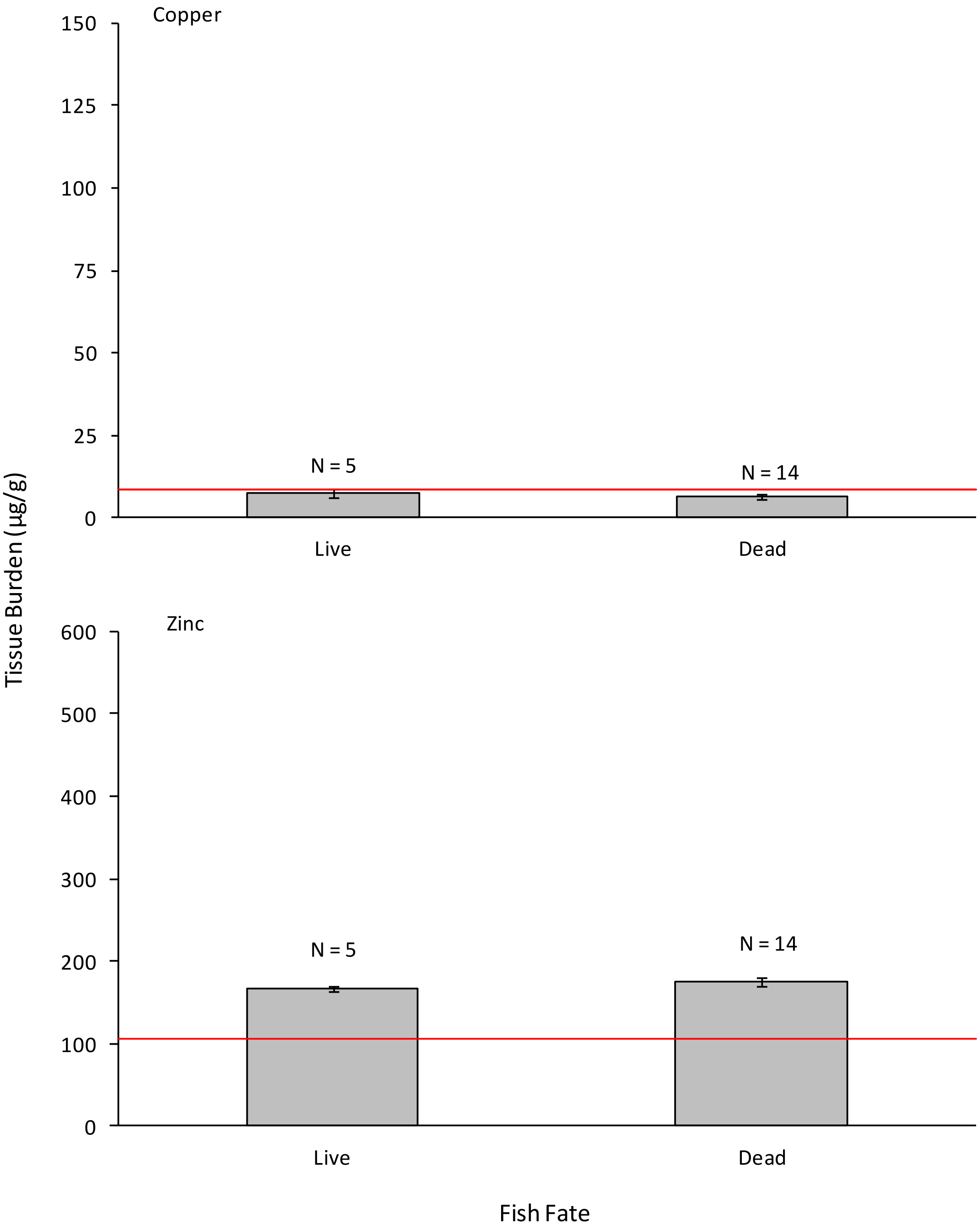

Figure 5-32. **Copper and zinc tissue burdens for live fish versus dead fish at Mill Willow in Warm Springs, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

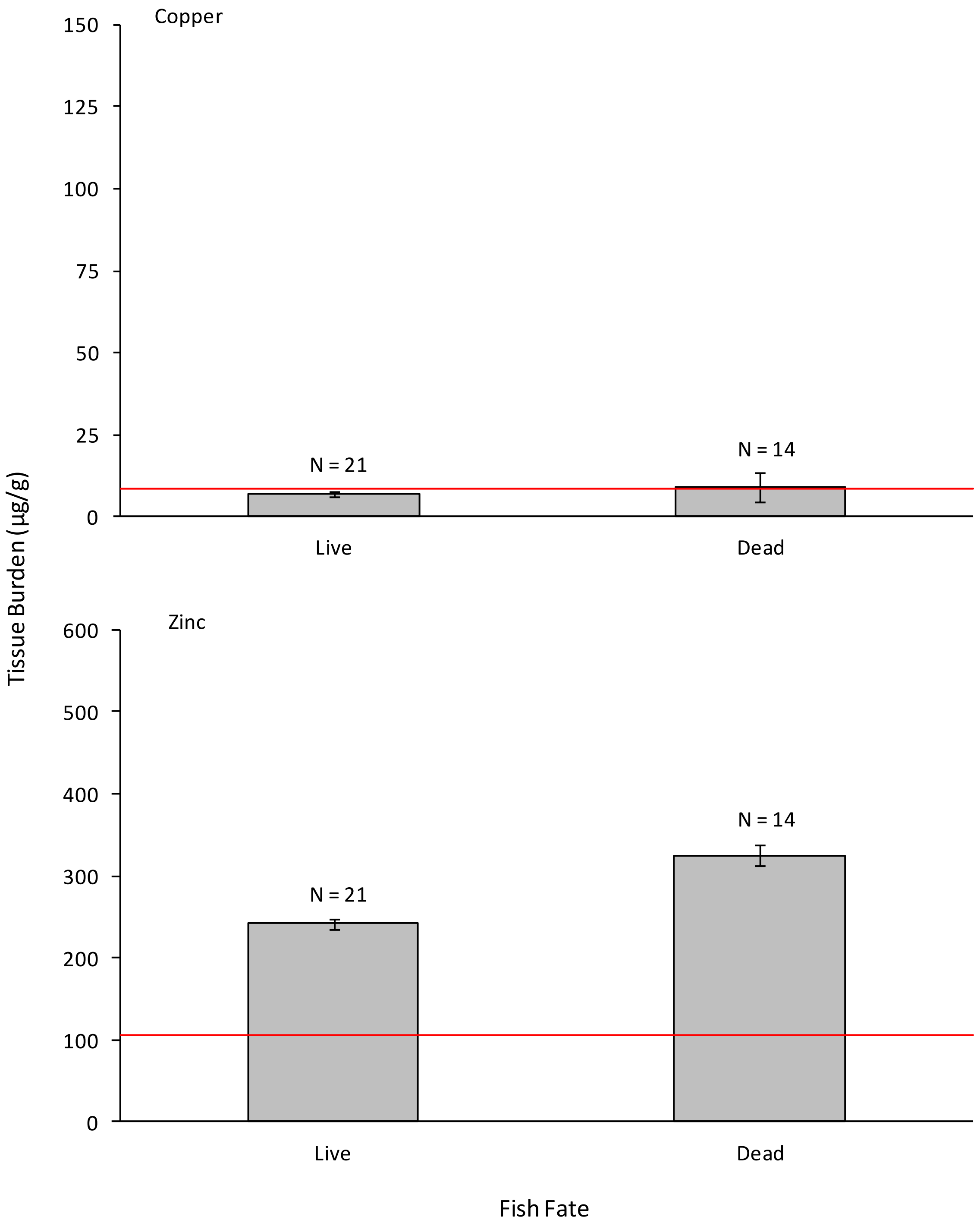

Figure 5-33. **Copper and zinc tissue burdens for live fish versus dead fish at Pond 2 in Warm Springs, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

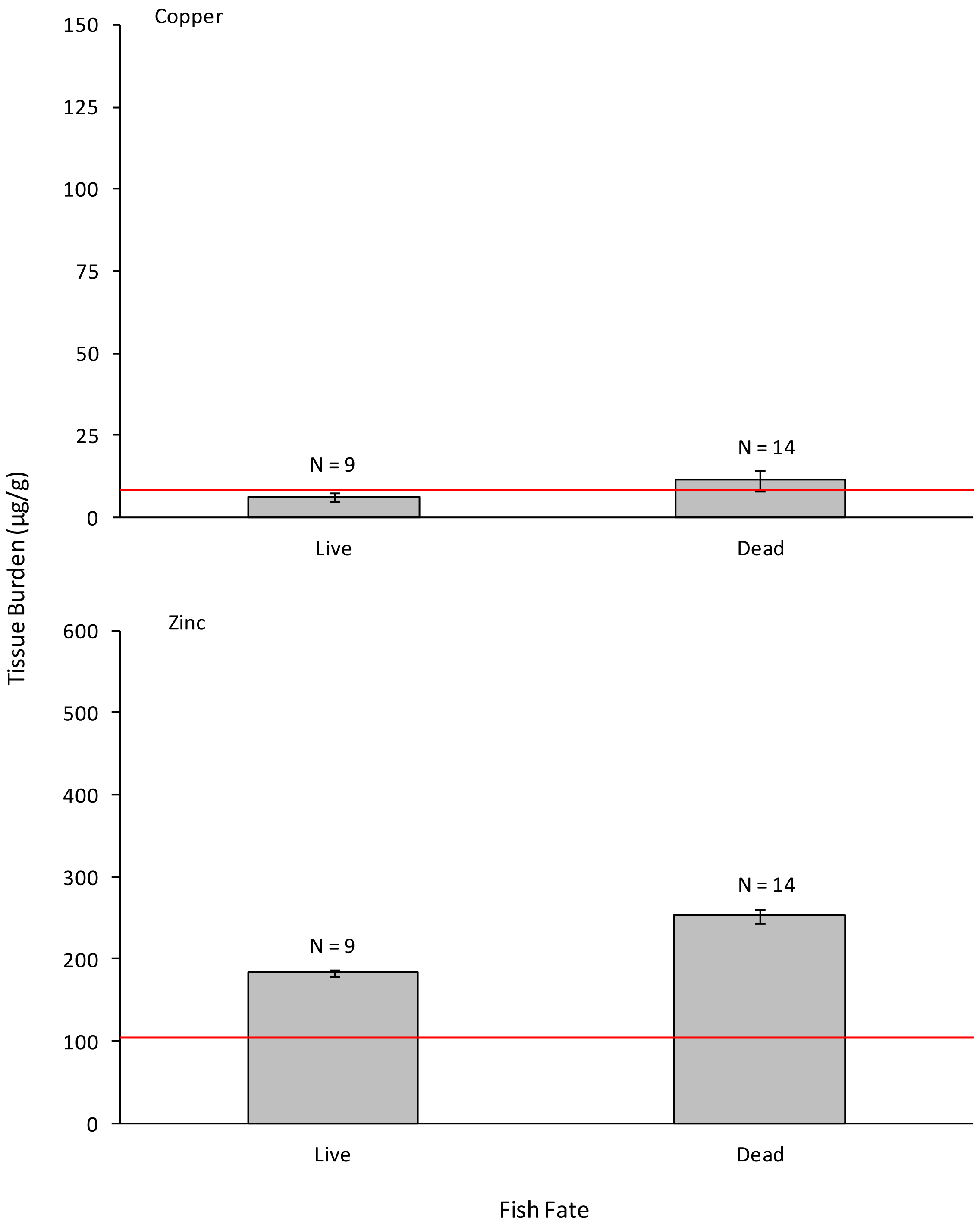

Figure 5-34. **Copper and zinc tissue burdens for live fish versus dead fish at Silver Bow in Warm Springs, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

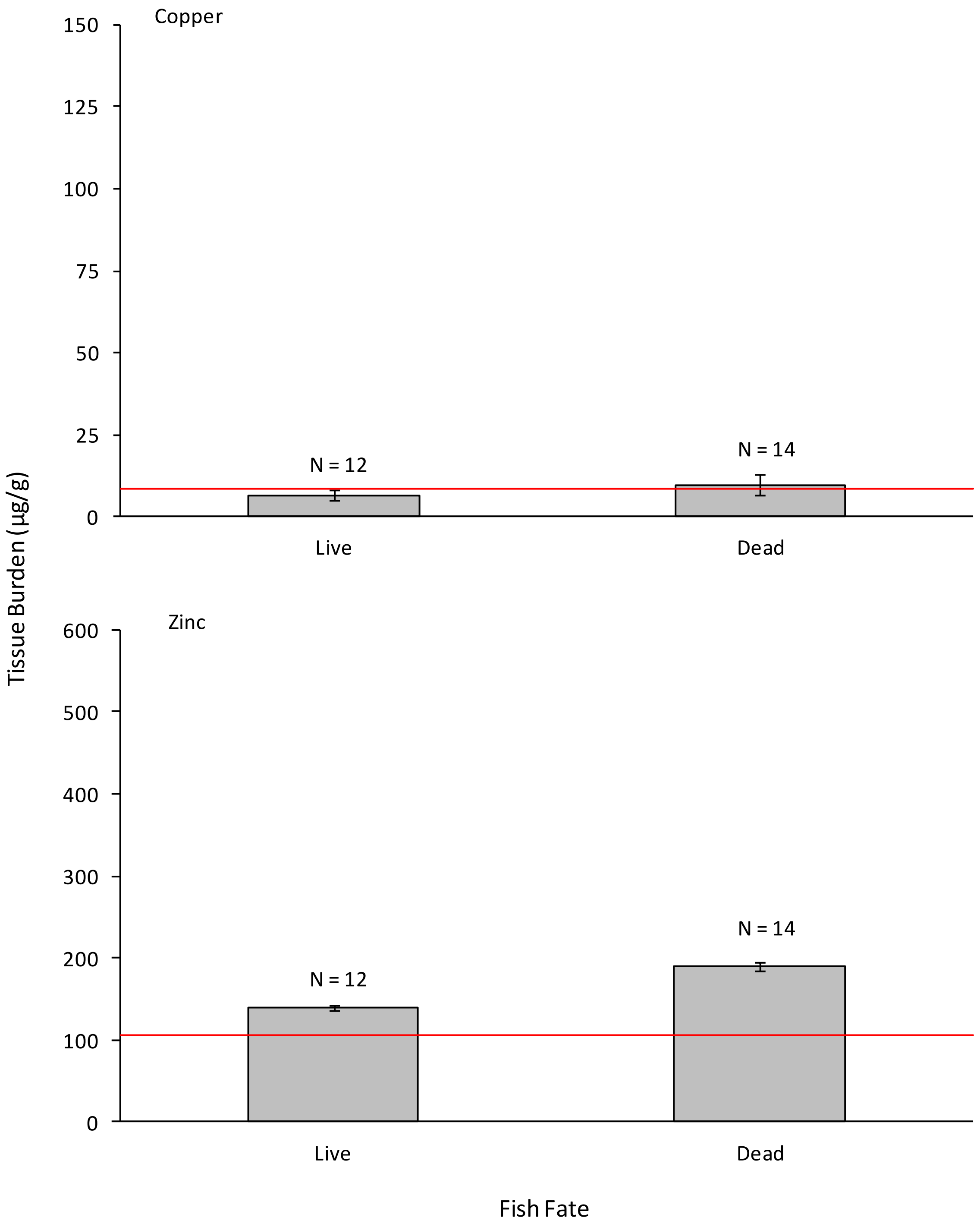

Figure 5-35. **Copper and zinc tissue burdens for live fish versus dead fish at Warm Springs in Warm Springs, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

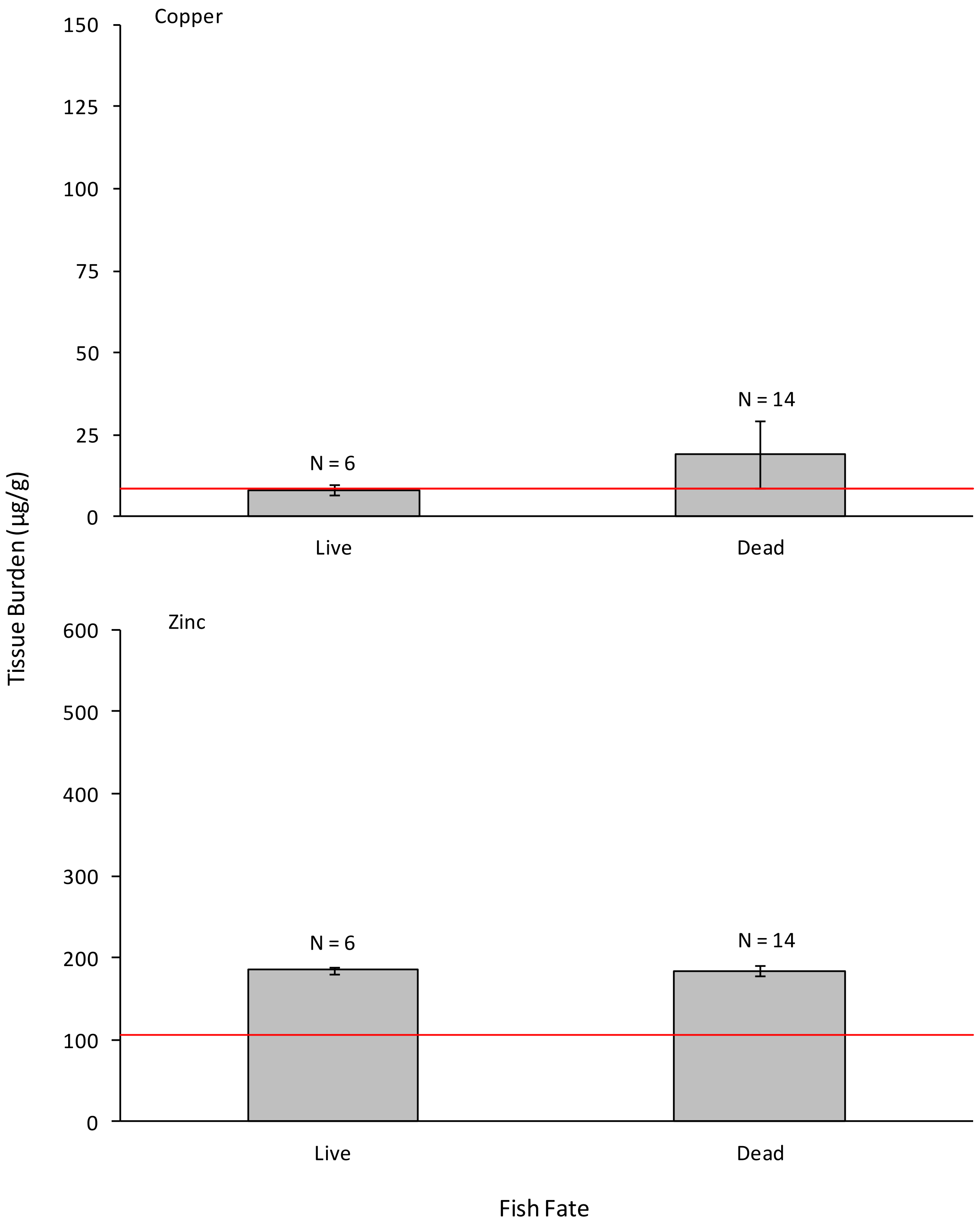

Figure 5-36. **Copper and zinc tissue burdens for live fish versus dead fish at Galen Left in Galen, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

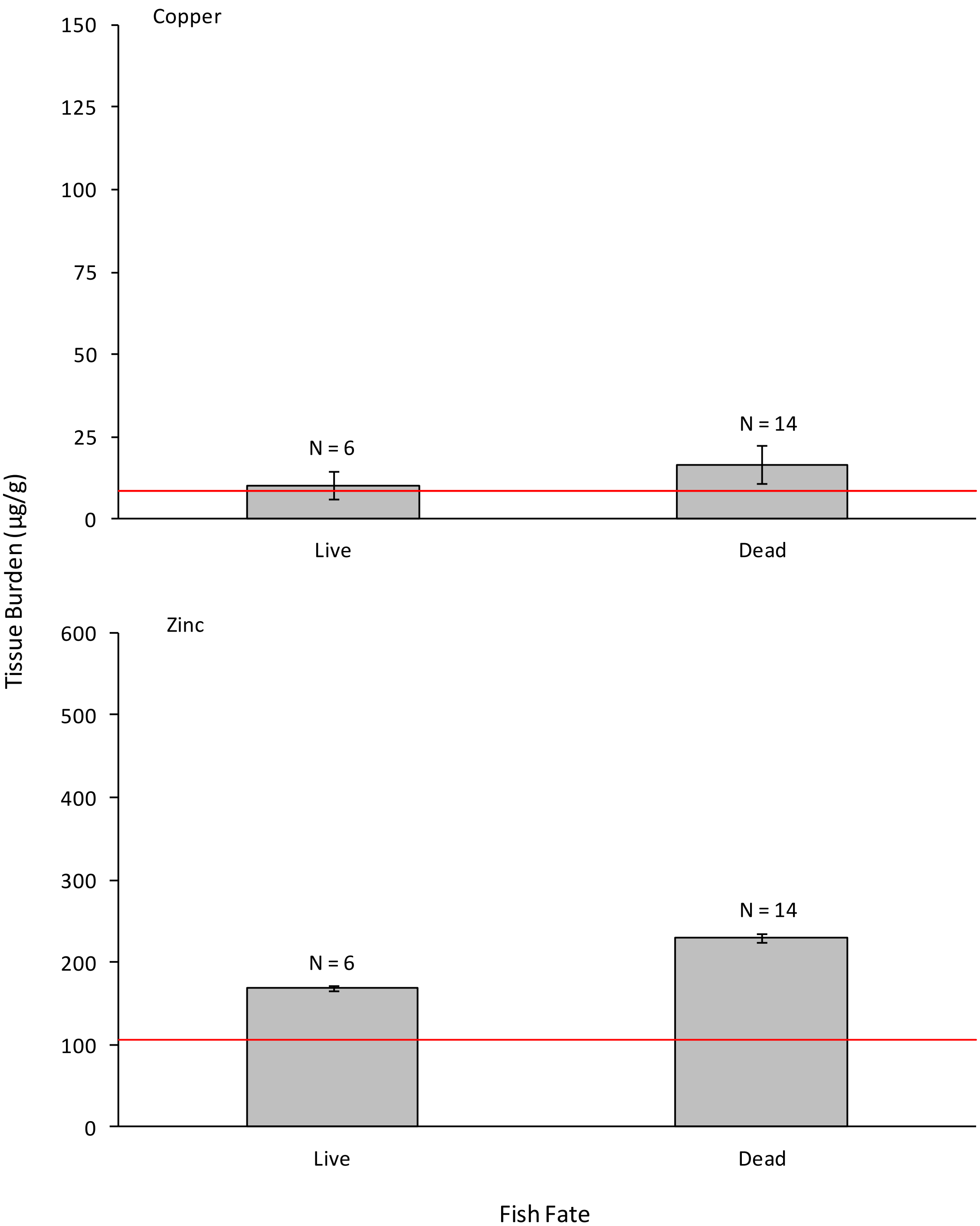

Figure 5-37. **Copper and zinc tissue burdens for live fish versus dead fish at Deer Lodge in Deer Lodge, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

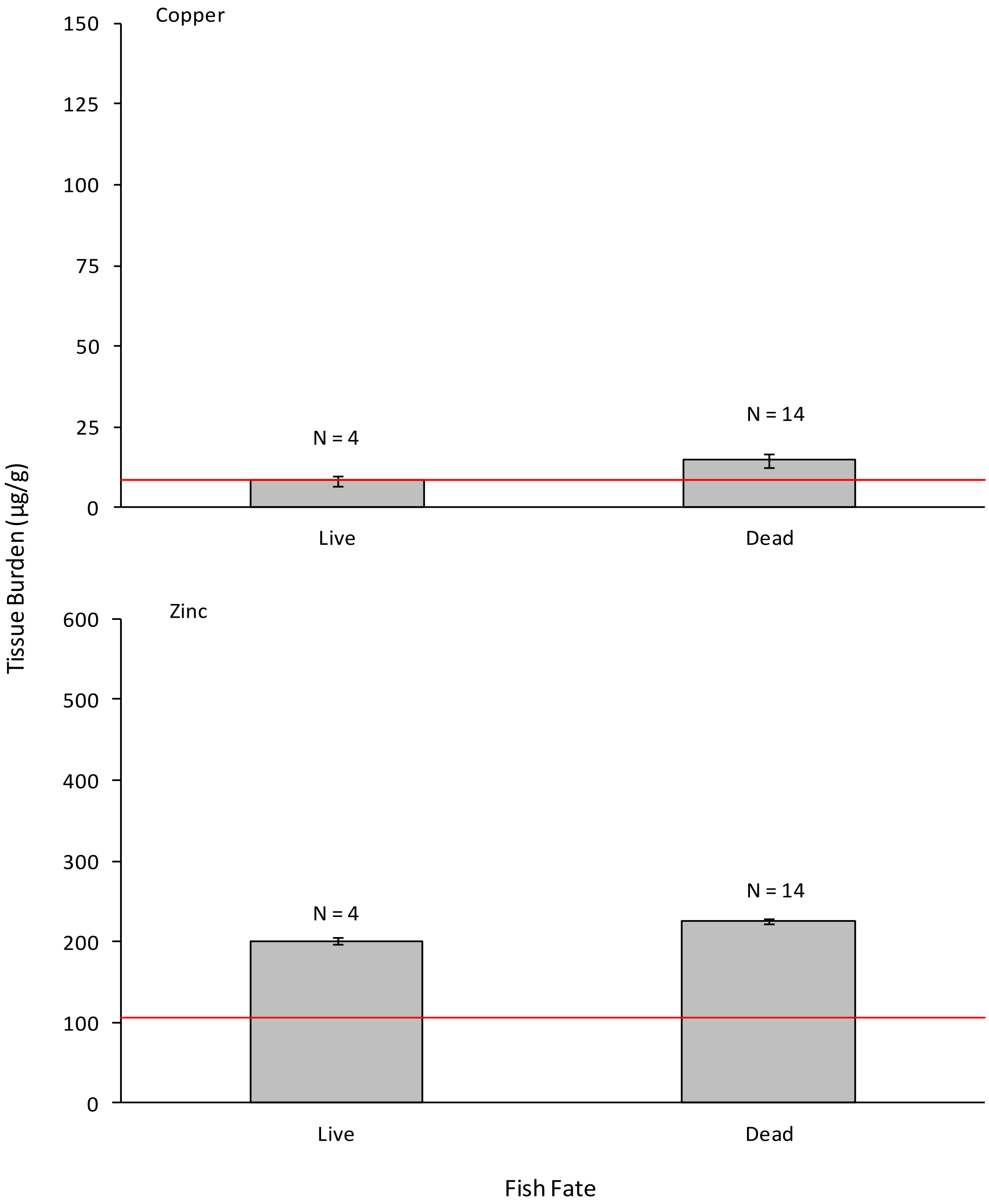

Figure 5-38. **Copper and zinc tissue burdens for live fish versus dead fish at the site upstream of the Little Blackfoot River in Garrison, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

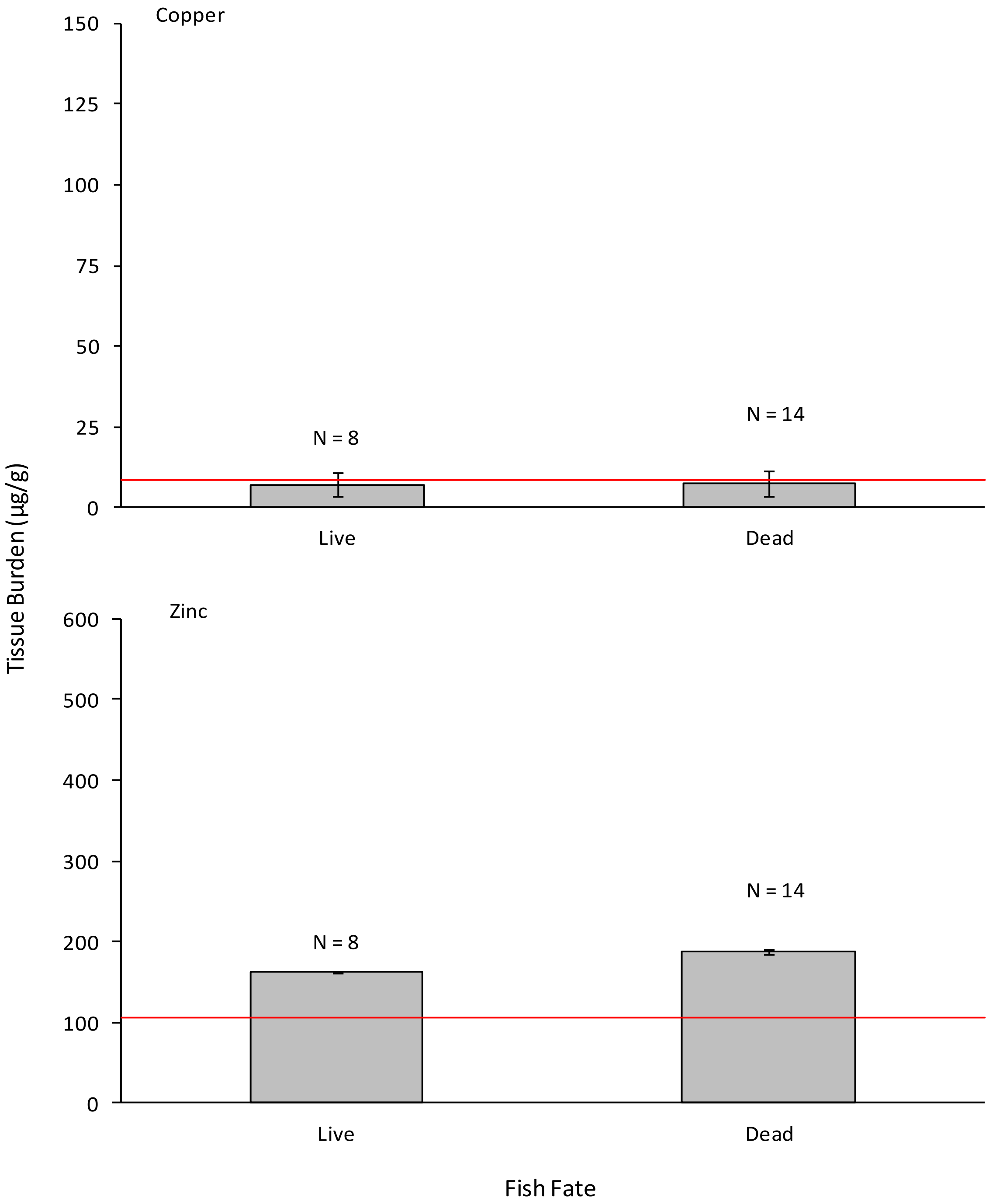

Figure 5-39. **Copper and zinc tissue burdens for live fish versus dead fish at Lower Little Blackfoot River in Garrison, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

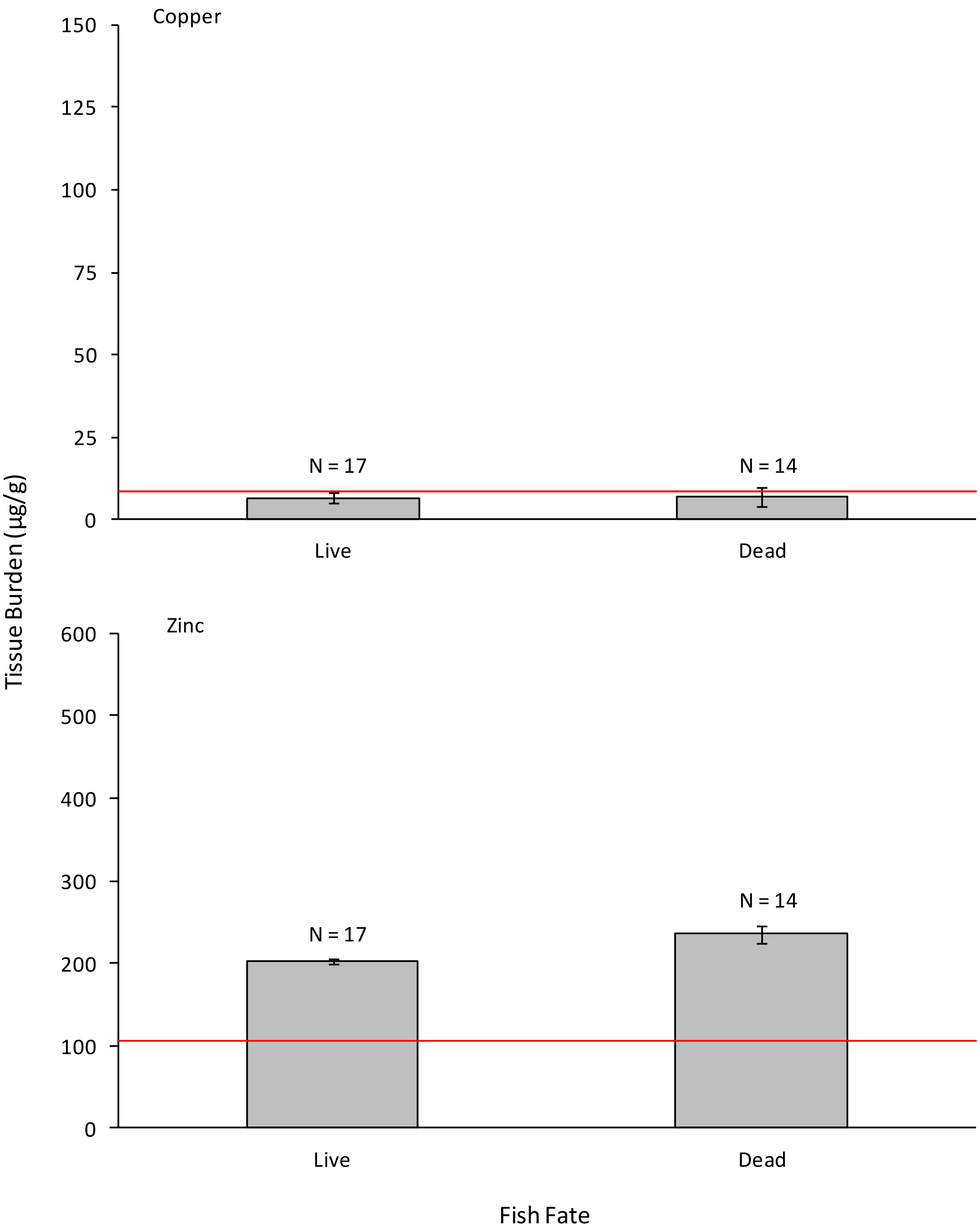

Figure 5-40. **Copper and zinc tissue burdens for live fish versus dead fish at Flint Creek in Drummond, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

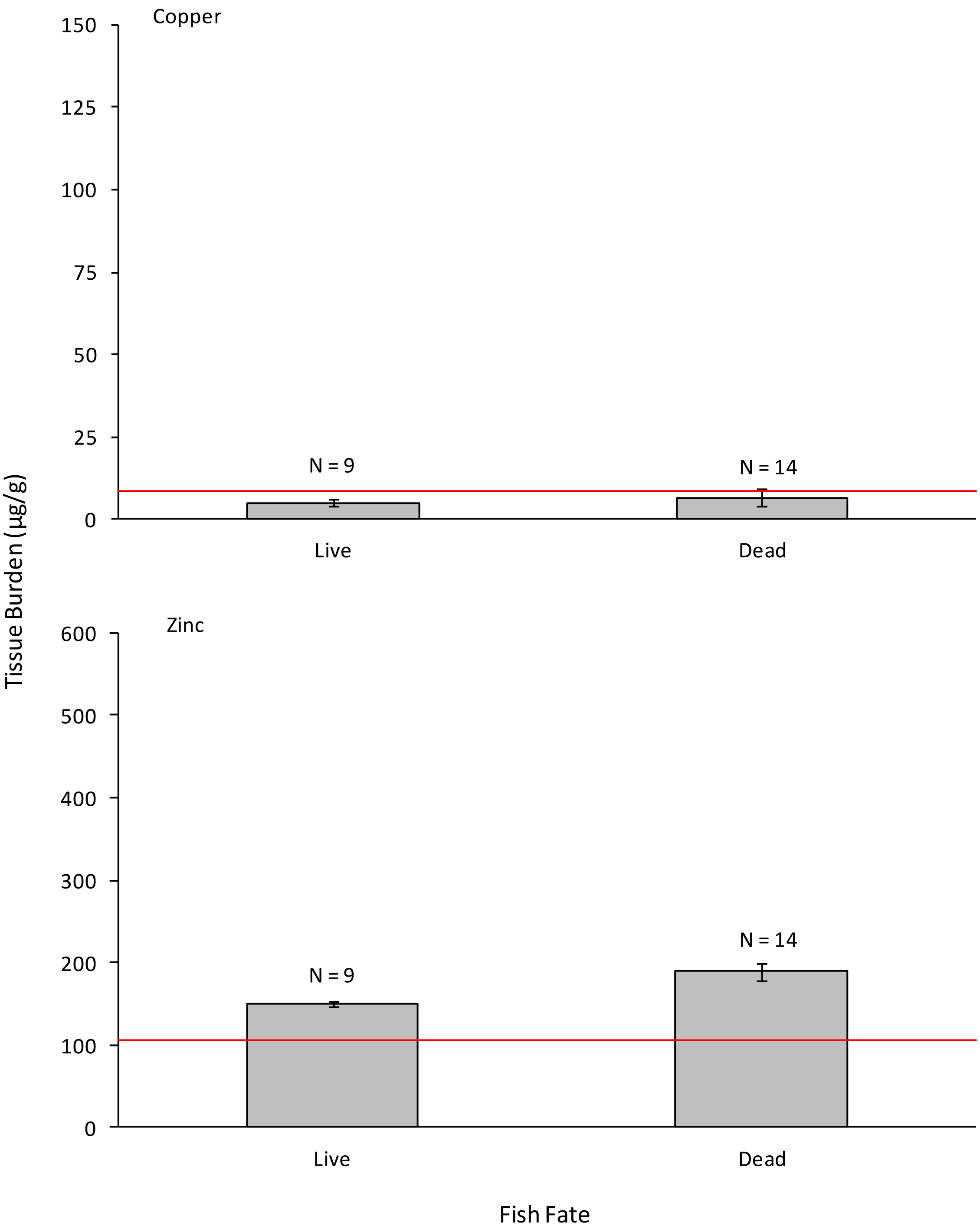

Figure 5-41. **Copper and zinc tissue burdens for live fish versus dead fish at Clinton Spring in Clinton, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

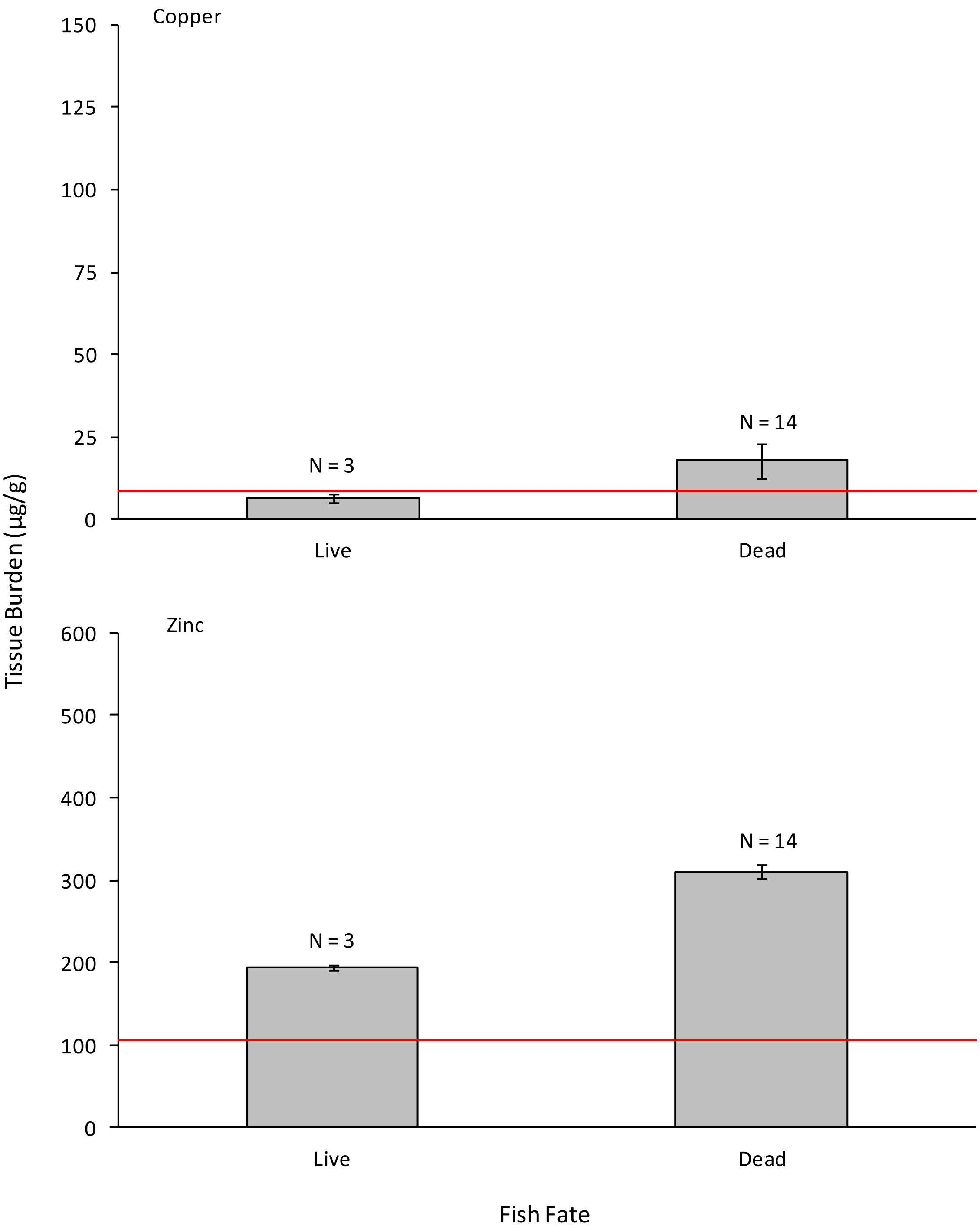

Figure 5-42. **Copper and zinc tissue burdens for live fish versus dead fish at Turah in Turah, Montana. Both panels display individual samples (copper in the top panel and zinc in the bottom panel) with 95% confidence intervals. The red line in each panel indicates the minimum effect threshold identified for salmonids. The sample sizes in each panel represent the number of mortalities that were individually sampled (NA = 0) for April through August. The final sample sizes represent 14 individual samples of fish alive at the end of the field season.**

5.3.6 Comparisons

Comparisons were conducted graphically between control sites and treatment sites, between above construction sites and below construction sites, and between upper river sites and lower river sites regarding tissues metals burdens and number of mortalities for 2013 data. Previous years' data (2011 and 2012) are included as an appendix for this report (Appendix J) so that possible trends may be discussed. It is important to note that tissue metals burdens data collected in 2013 consisted of individual samples that allowed for variance calculations whereas in the past (2011 and 2012) tissue metals burdens data collected consisted of composite samples that did not allow for variance calculations.

5.3.6.1 Control vs Treatment

For the purposes of the analysis between control and treatment sites, Clinton Spring was not included as a control site and Mill Willow and Warm Springs were not considered treatment sites. Generally control sites were found to have lower tissue burdens than treatment sites (Figure 5-43). There were greater differences in copper tissue burdens between control sites and treatment sites than zinc tissue burdens between control sites and treatment sites (Figure 5-43). The largest differences in tissue metals burdens values between control and treatment sites appeared to occur during the months of May and July. These differences in tissue metals burdens in May and July appeared to correspond with increased mortality observed during these months (Figure 5-43).

5.3.6.2 Upstream Construction vs Downstream Construction

For the purposes of the analysis, sites located above and below the Phase 1 construction area near Warm Springs, Montana were compared. The Silver Bow site and all sites upstream were considered above the construction area and all remaining sites were considered downstream of the construction area. The control sites were analyzed separately. Mill Willow and Warm Springs were analyzed individually. Generally upstream sites were found to have lower copper tissue burdens than downstream sites and the opposite was true for zinc burdens (Figure 5-44). There were greater differences in copper tissue burdens between upstream sites and downstream sites than zinc tissue burdens between upstream sites and downstream sites (Figure 5-44). The greatest differences in tissue metals burdens values between upstream construction and downstream construction sites occurred during the months of May and July. The months of May and July also experienced higher mortality than other months (Figure 5-44). It is important to note that upstream sites have undergone remediation whereas downstream sites have yet to undergo remediation.

5.3.6.3 Upper River vs Lower River

For the purposes of the analysis between upper river and lower river sites Turah was considered a lower river site and the remaining sites were considered upper river sites. Controls were analyzed by themselves. Mill Willow and Warm Springs were not included in this analysis. Generally upper sites were found to have lower copper tissue burdens than below sites and the same was true for zinc burdens (Figure 5-45). There were greater differences in copper tissue burdens between upper sites and lower sites than zinc tissue burdens (Figure 5-45). The largest differences in tissue metals burdens values between upper and lower sites appeared to occur during the months of May (copper) and July (zinc). These differences in tissue metals burdens appeared to correspond with increased mortality (Figure 5-45).

5.3.6.4 Live Fish vs Dead Fish

Overall, there appeared to be differences between live fish and dead fish in terms of metals tissue burdens (Figures 32-42). It is important to note that Lower Little Blackfoot River was likely the best control site in terms of tissue metals burdens. Tissue metals burdens values stayed similar throughout the entire study at Lower Little Blackfoot River as we would expect because fish were fed the same food in the hatchery as they were during the study. The results of the logistic regression performed from tissue metals burdens of sampled fish showed a statistically significant difference between the amount of copper tissue burdens live fish contained and the amount of copper tissue burdens dead fish contained ($p = < 0.001$). Figure 5-46 displays the results of the logistic regression graphically.

5.3.6.5 Temperature and Metals Burdens Influence

We also compared the influence of both temperature and metals tissue burdens to assess the effects of both of these variables (Figure 5-47). Graphically, there were different sample sizes in each quadrant, with Q1 (temperature-related mortality) having the most samples (N = 18) and Q4 (unexplained mortality) having the least samples (N=5) (Figure 5-47). Q2 (combined temperature and tissue burden-related mortality had a sample size of 10 and Q3 (tissue burden-related mortality) had a sample size of 13 (Figure 5-47). Pond 2 had 12 mortalities in Q1, 3 mortalities in Q2, 4 mortalities in Q3, and 2 mortalities in Q4. Silver Bow had 3 mortalities in Q1, 1 mortality in Q2, 5 mortalities in Q3, and 0 mortalities in Q4. Galen Left had 2 mortalities in Q1, 1 mortality in Q2, 1 mortality in Q3, and 2 mortalities in Q4. Deer Lodge had 1 mortality in Q1, 2 mortalities in Q2, 2 mortalities in Q3, and 1 mortality in Q4. The site upstream of the Little Blackfoot River had 0 mortalities in Q1, 3 mortalities in Q2, 1 mortality in Q3, and 0 mortalities in Q4. This graph appears to indicate that both temperature and metals burdens likely affect the caged fish mortality observed in 2013.

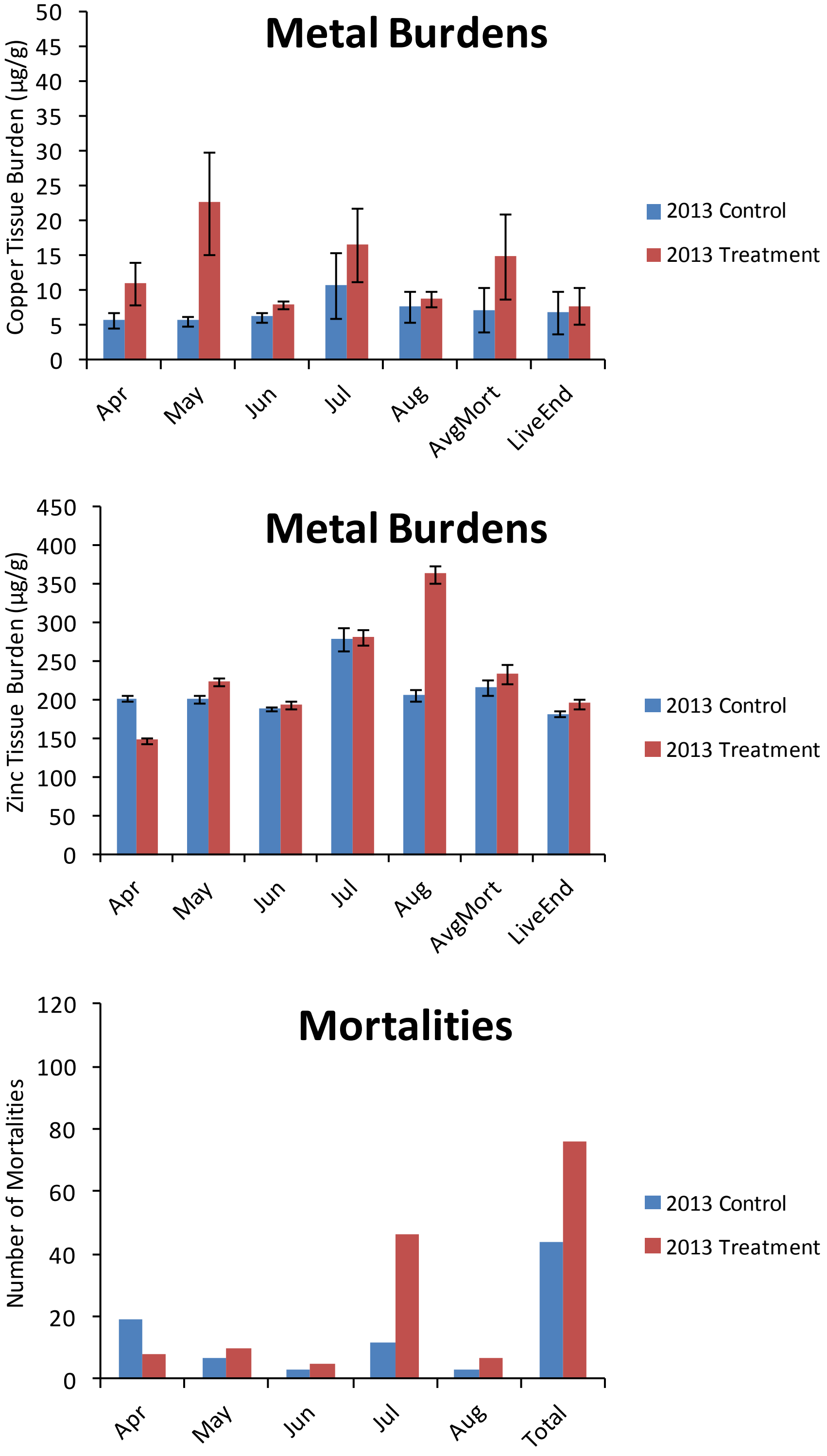

Figure 5-43. **Comparisons between control and treatment sites' tissue metals burdens and number of mortalities by month. The last column of each metals burdens figure represents the values of the fish sampled that lived to the end of the 2013 field season and the last column of the mortalities figure represents the total number of mortalities during the 2013 field season. Metals burdens figures display 95% confidence intervals.**

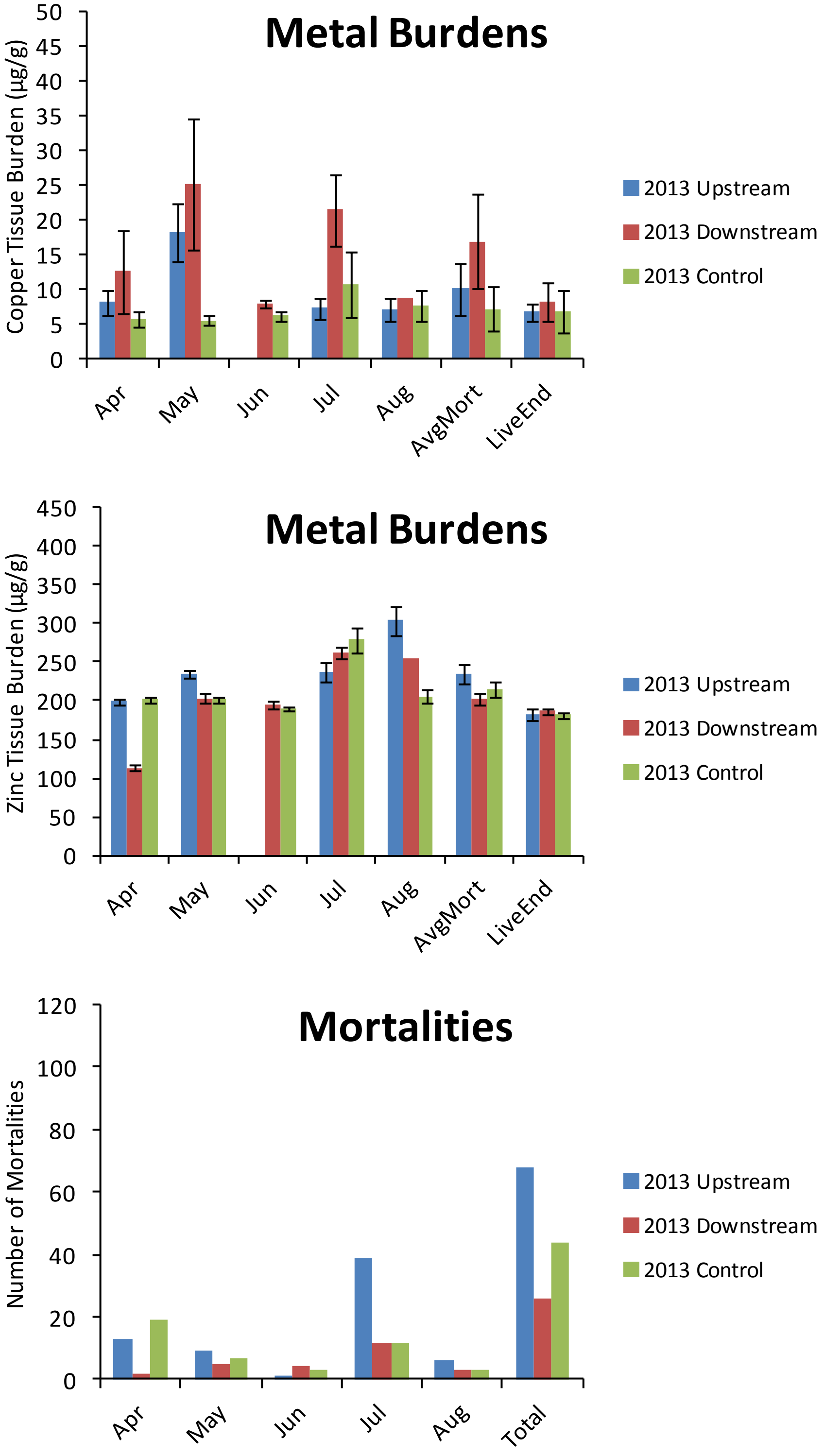

Figure 5-44. **Comparisons between upstream construction and downstream construction sites' tissue metals burdens and number of mortalities by month. The last column of each metals burdens figure represents the values of the fish sampled that lived to the end of the 2013 field season and the last column of the mortalities figure represents the total number of mortalities during the 2013 field season. Metals burdens figures display 95% confidence intervals.**

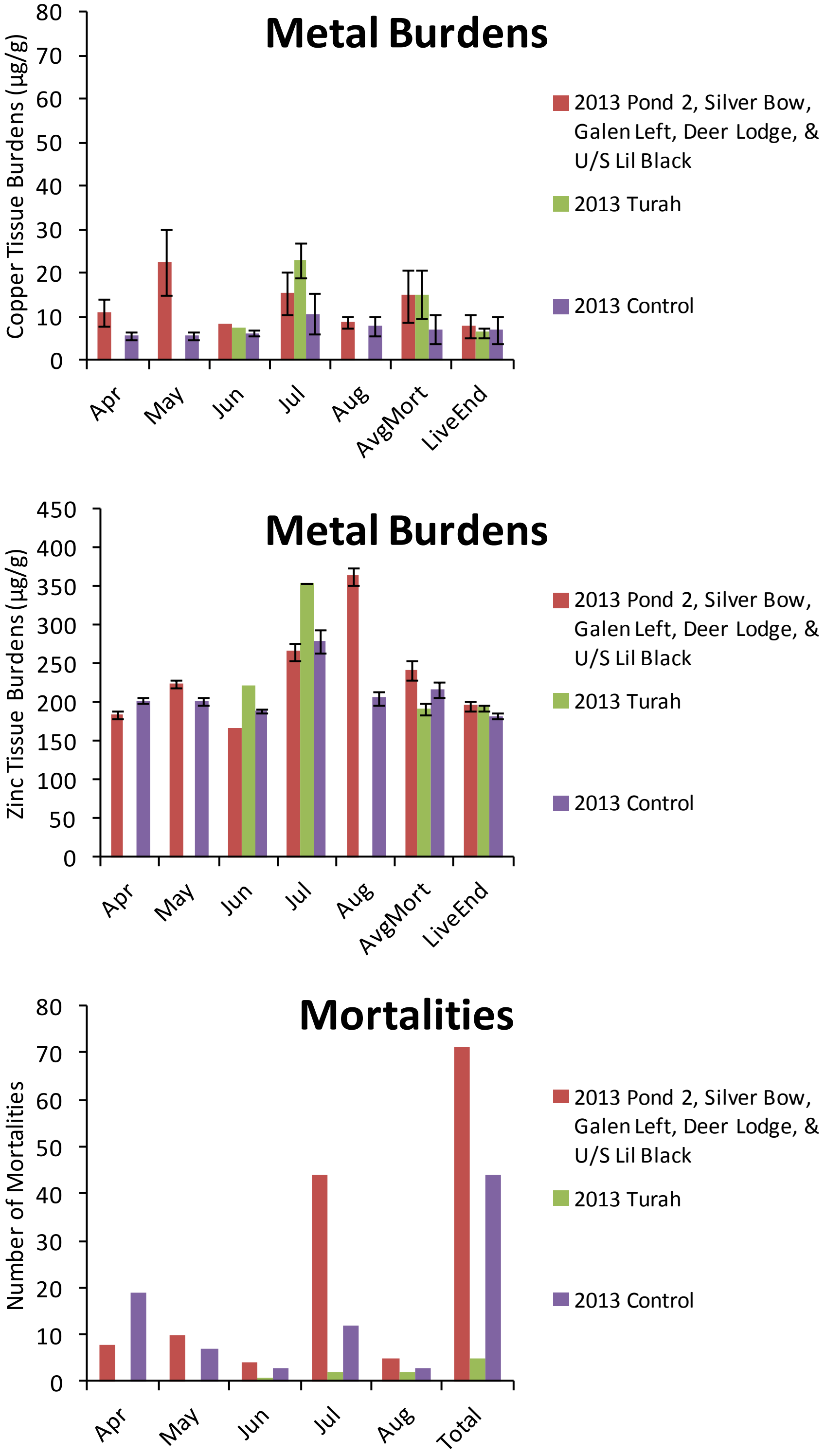

Figure 5-45. **Comparisons between upper and lower sites' tissue metals burdens and number of mortalities by month. The last column of each metals burdens figure represents the values of the fish sampled that lived to the end of the 2013 field season and the last column of the mortalities figure represents the total number of mortalities during the 2013 field season. Metals burdens figures display 95% confidence intervals.**

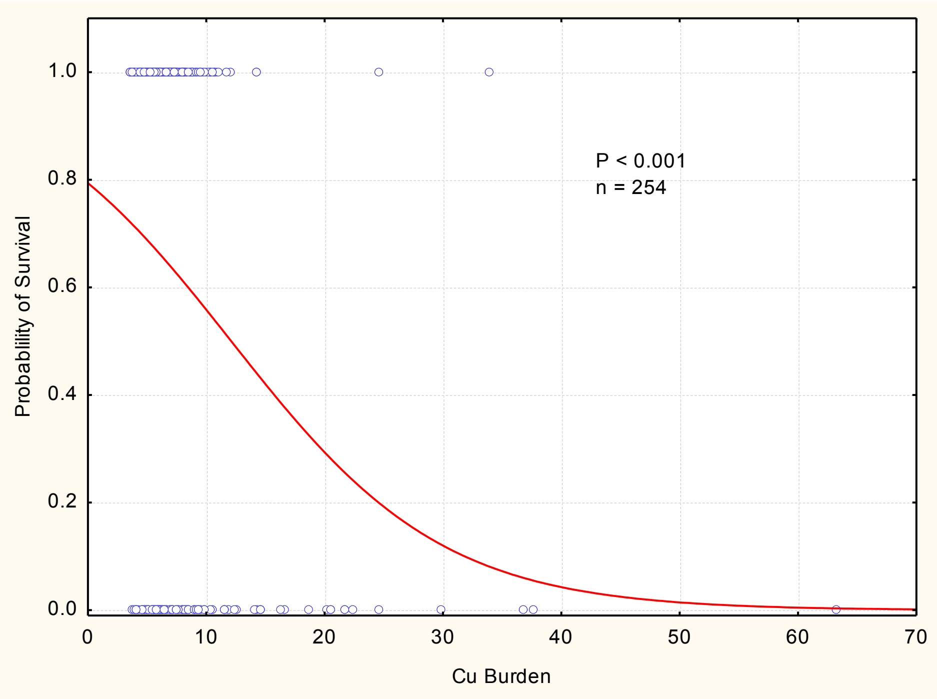

Figure 5-46. **Results of logistic regression performed on probability of survival given copper tissue burden on fish sampled from the 2013 field season. Live fish are represented by 1 and dead fish are represented by 0.**

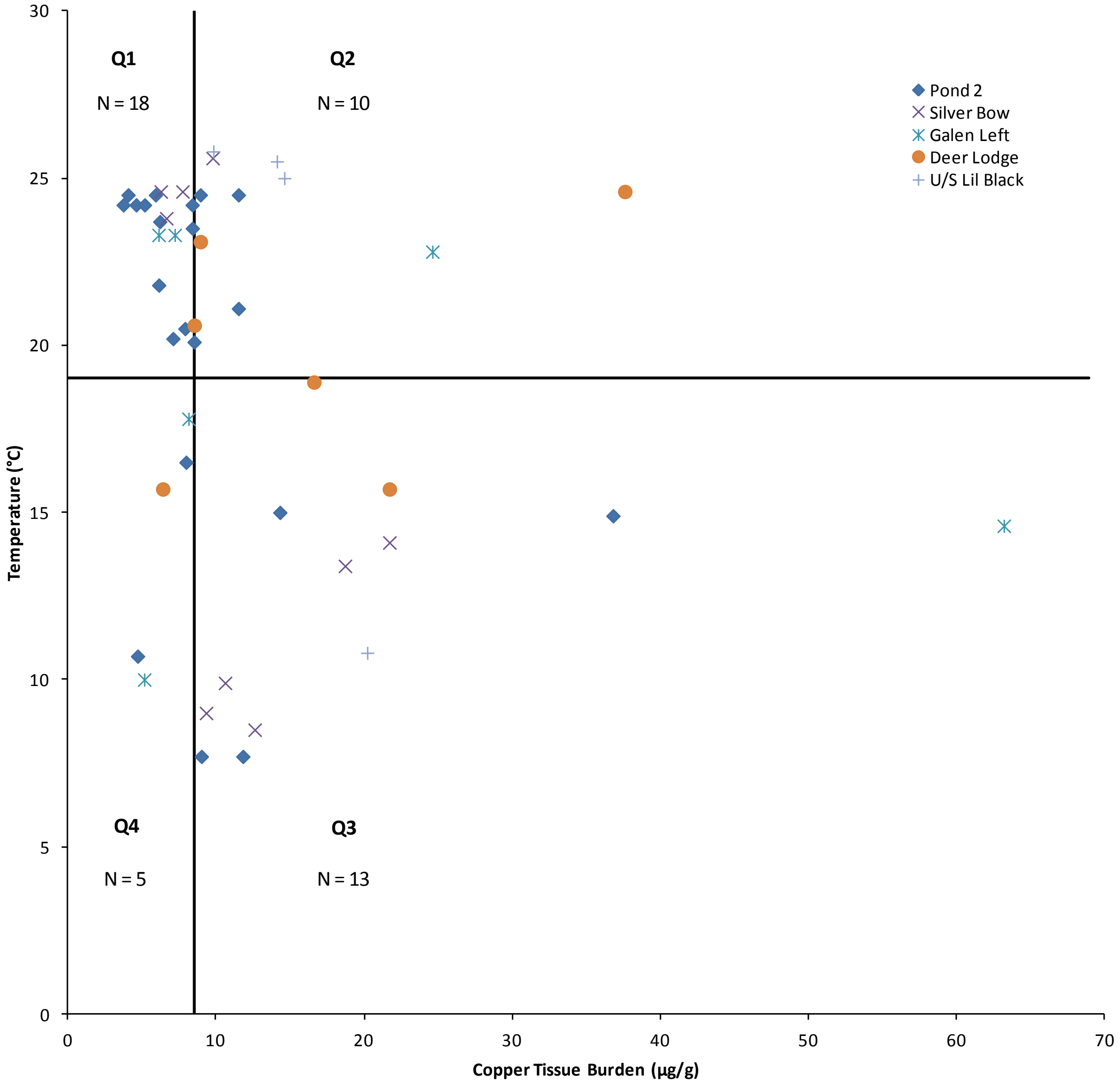

Figure 5-47. **Quadrant analysis of fish mortalities from treatment sites in main area of concern (treatment sites from Pond 2 downstream to upstream of the Little Blackfoot River). The vertical line represents copper minimum effect threshold. The horizontal line represents the upper critical temperature threshold for brown trout. Quadrant one (Q1) contains fish mortalities related to water temperature, quadrant two (Q2) contains fish mortalities related to a combination of water temperature and copper tissue metals burdens, quadrant three (Q3) contains fish mortalities related to copper tissue metals burdens, and quadrant 4 (Q4) contains fish mortalities related to unknown causes. Sample sizes are indicated in each quadrant by N =.**

5.3.7 Water Contaminants

Chronic freshwater ALS values for metals in surface water are evaluated based upon the analysis of samples following a total recoverable method (MDEQ 2012b); therefore discussion of water sampling results will focus on total recoverable levels. Dissolved metals concentrations generally followed the same trends as total recoverable concentrations. Ammonia nitrogen (NH_3-N) was never detected at any of the cage sites in 2013 with these sampling methods.

5.3.7.1 Main Events

In 2013 total recoverable arsenic concentration was lower at control sites (mean = 0.011 mg/L; SD = 0.005) than at mainstem treatment sites (mean = 0.022 mg/L; SD = 0.009). Total recoverable arsenic did not exceed the chronic ALS values (Figure 5-48). Overall, total recoverable arsenic concentrations at the mainstem sites were similar at all sites, with the exception of Warm Springs and Turah. Warm Springs and Turah showed lower arsenic concentrations than other mainstem treatment sites.

In 2013 total recoverable cadmium concentration was higher at control sites (mean = 0.00038 mg/L; SD = 0.00044) than at mainstem treatment sites (mean = 0.00023 mg/L; SD = 0.00011). Total recoverable cadmium concentrations in 2013 exceeded chronic ALS values at least once at one control site (Clinton Spring), and at least once at one mainstem treatment site (upstream of the Little Blackfoot River) (Figure 5-48). Total recoverable cadmium concentration at the mainstem treatment sites in 2013 was highest at upstream of the Little Blackfoot River and decreased at sites upstream and downstream from this site, with the exception of the samples collected on July 18 where the only detectable cadmium concentration at the treatment sites was observed at Deer Lodge.

In 2013 total recoverable copper concentration was lower at control sites (mean = 0.00275 mg/L; SD = 0.00128) than at mainstem treatment sites (mean = 0.02633 mg/L; SD = 0.02465). Total recoverable copper exceeded the chronic ALS at least once at eight of nine mainstem treatment sites (Pond 2 was exception) and total recoverable copper never exceeded the chronic ALS at a control site (Figure 5-50). In 2013, overall total recoverable copper at the mainstem sites was highest at Deer Lodge and decreased at sites upstream and downstream of this site. However, on May 28, 2013 the highest total recoverable copper was seen at upstream of the Little Blackfoot River and decreased at sites upstream and downstream of that site.

In 2013 total recoverable lead concentration was higher at control sites (mean = 0.0047 mg/L; SD = 0.0043) than at mainstem treatment sites (mean = 0.0037 mg/L; SD = 0.0036). It is important to note that control sites were high in lead due to Flint Creek having some of the highest lead readings of any site. Total recoverable lead concentrations in 2013 exceeded the chronic ALS value at four mainstem treatment sites (Warm Springs, Galen Left, Deer Lodge, and upstream of the Little Blackfoot River) and one tributary control site (Flint) (Figure 5-51). On May 28, 2013 total recoverable lead at the mainstem sites was highest at the site upstream of the Little Blackfoot River and decreased at sites upstream and downstream of this site. On June 14, 2013 total recoverable lead at the mainstem sites was highest at Galen Left and decreased at sites upstream and downstream of this site, and on July 18, 2013 total recoverable lead at the mainstem sites was highest at Deer Lodge and decreased at sites upstream and downstream of this site.

In 2013 total recoverable zinc concentration was lower at control sites (mean = 0.024 mg/L; SD = 0.01342) than at mainstem treatment sites (mean = 0.03688 mg/L; SD = 0.02301). Total recoverable zinc concentration in 2013 did not exceed the chronic ALS value at any of the treatment or control sites (Figure 5-52). On May 28, 2013 total recoverable zinc at the mainstem sites was highest at the site upstream of the Little Blackfoot River and decreased at sites upstream and downstream of this site, on June 14, 2013 total recoverable zinc at the mainstem sites was highest at Galen Left, Deer Lodge, and upstream of the Little Blackfoot River and decreased at sites upstream and downstream of these sites, and on July 18, 2013 total recoverable lead at the mainstem sites was highest at Deer Lodge and decreased at sites upstream and downstream of this site.

5.3.7.2 Rain Events

In 2013 rain event samples did not have total recoverable concentrations of arsenic, cadmium, and zinc that exceeded chronic ALS values. Copper and lead total recoverable concentrations did exceed chronic ALS values at some sites. Total recoverable concentrations of copper exceeded chronic ALS values at three sites: Turah (June 20), upstream of the Little Blackfoot River (June 20), and Deer Lodge (June 24, August 1, and August 29) in 2013. The highest total recoverable concentrations of copper were 0.057 mg/L at Deer Lodge on August 1 and 0.038 mg/L at Turah on June 20. Total recoverable concentrations of lead exceeded chronic ALS values at Turah on June 20, 2013. The highest total recoverable concentration of lead was 0.0074 mg/L at Turah on June 20. Figures displaying metals compliance ratios for rain events were completed and are included as an appendix for this report (Appendix L).

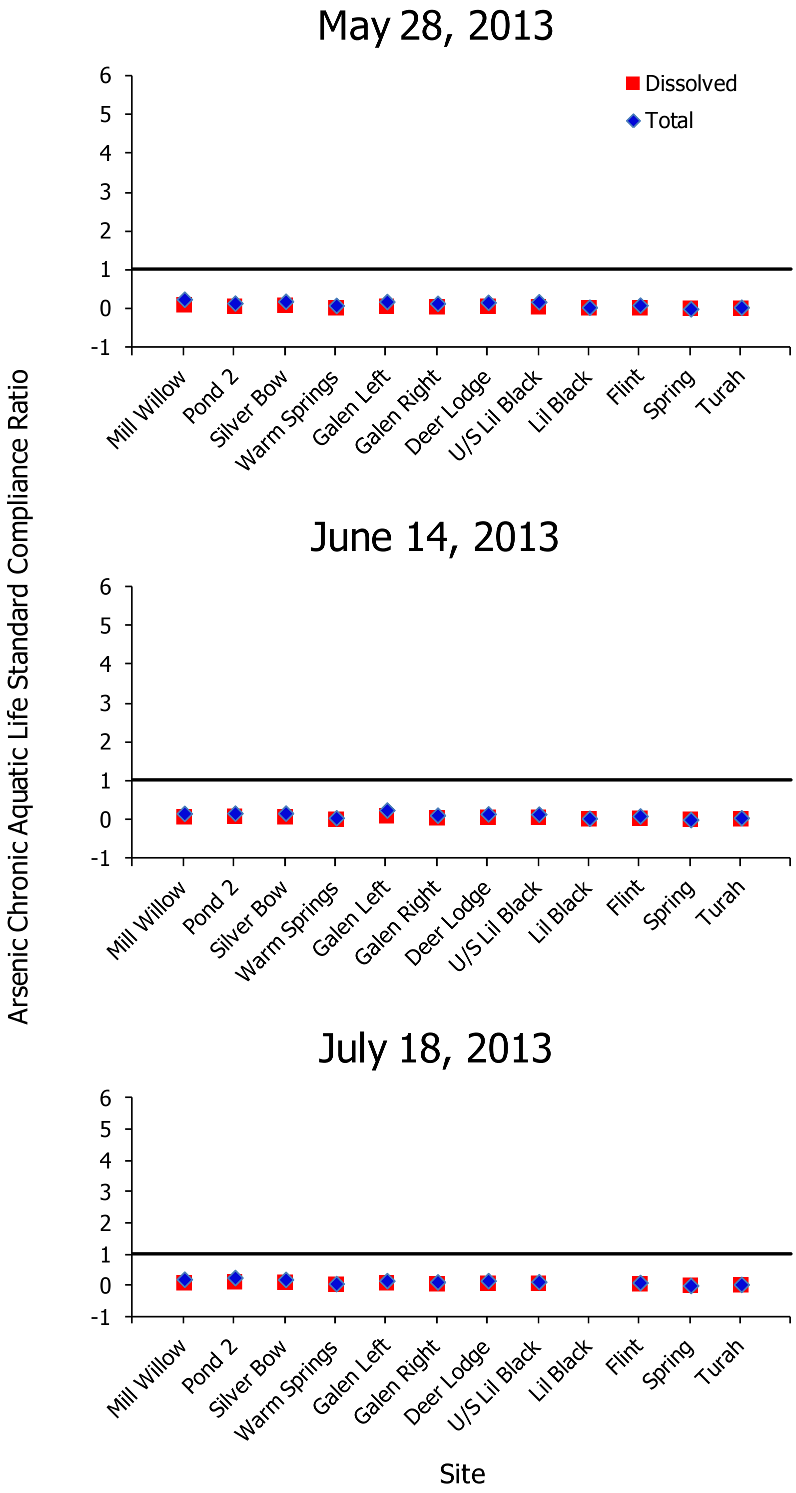

Figure 5-48. **Arsenic compliance ratios at the cage sites in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing arsenic concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate arsenic levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

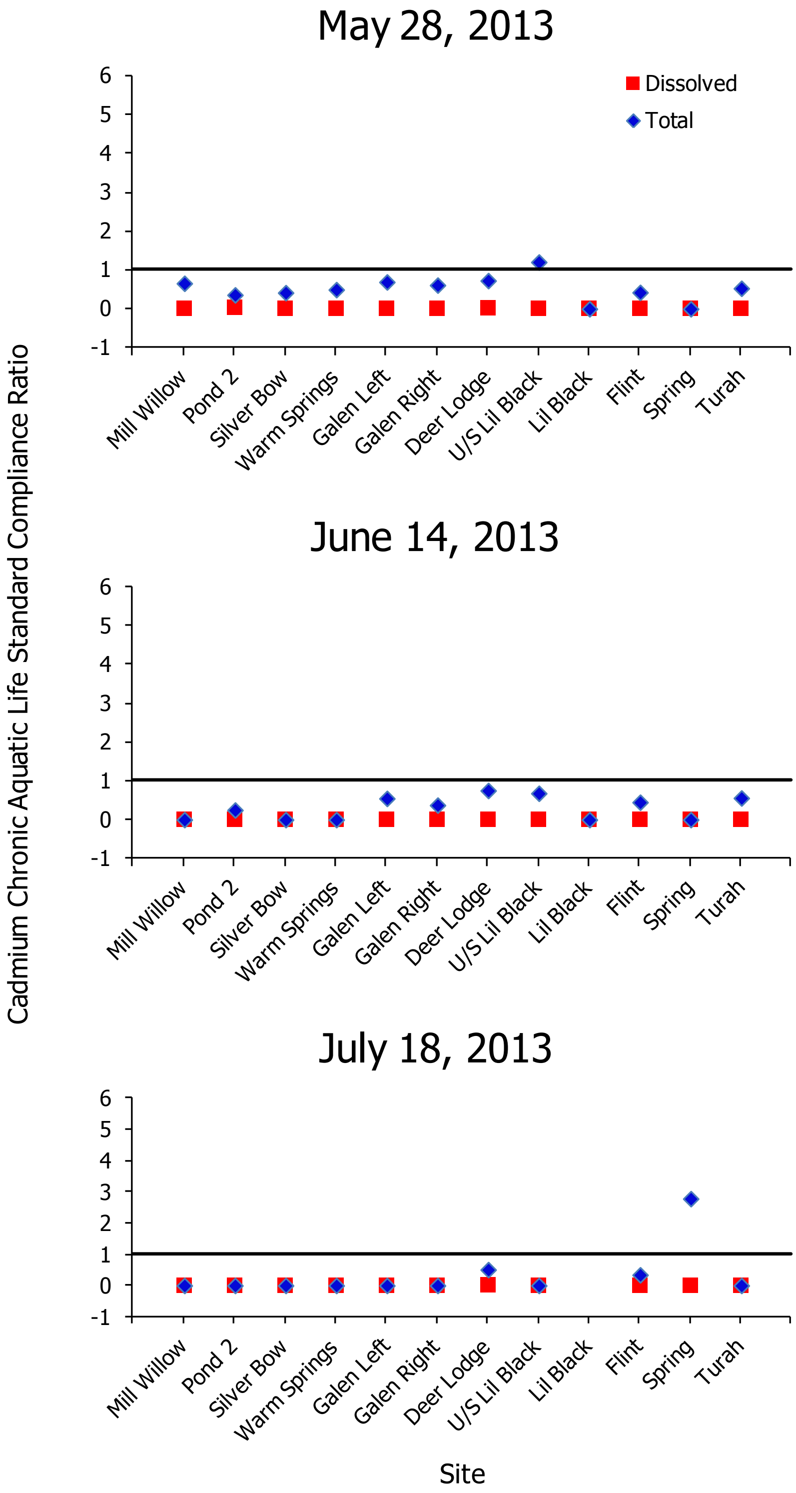

Figure 5-49. **Cadmium compliance ratios at the cage sites in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing arsenic concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate arsenic levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

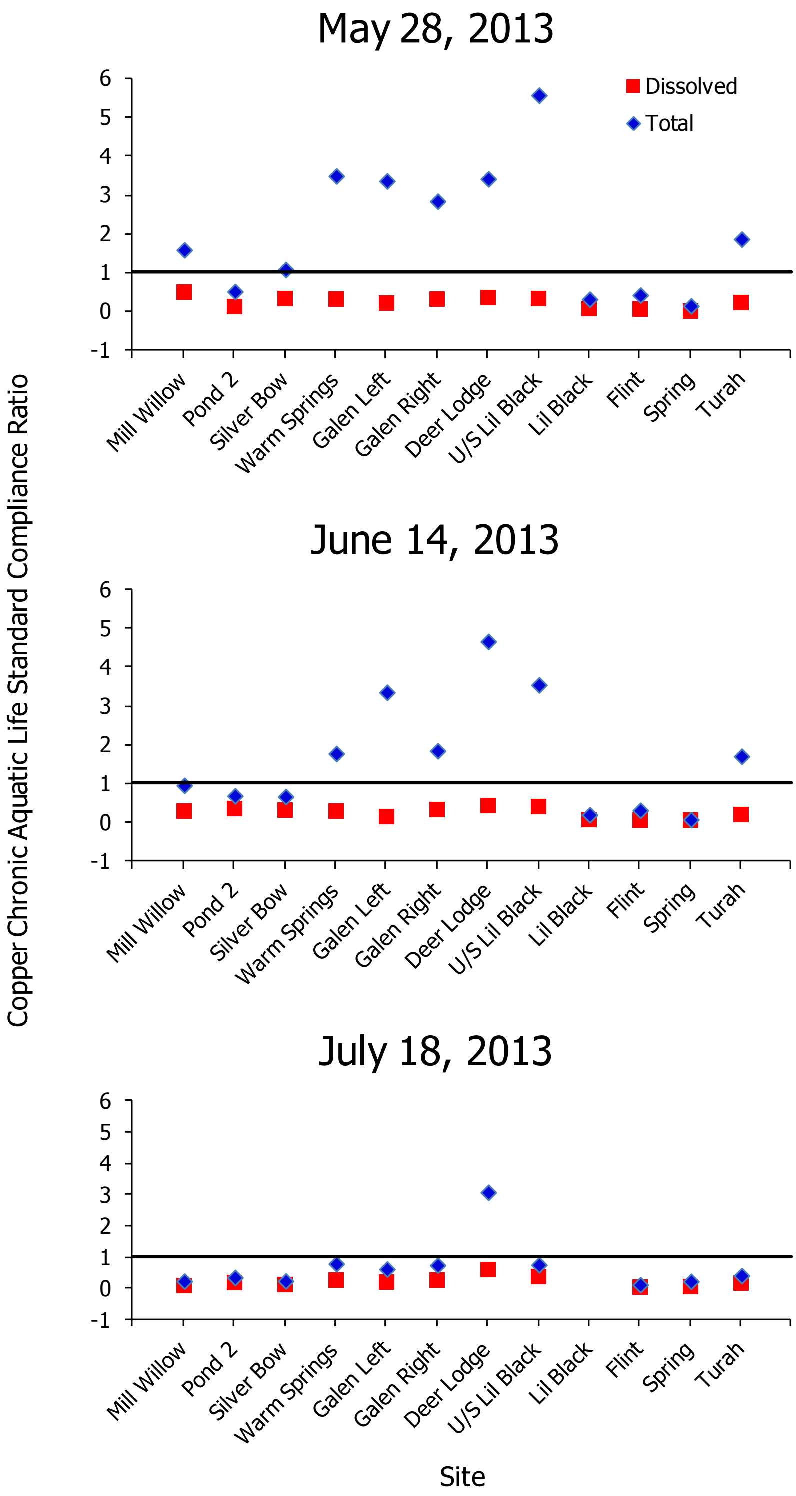

Figure 5-50. Copper compliance ratios at the cage sites in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing arsenic concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate arsenic levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

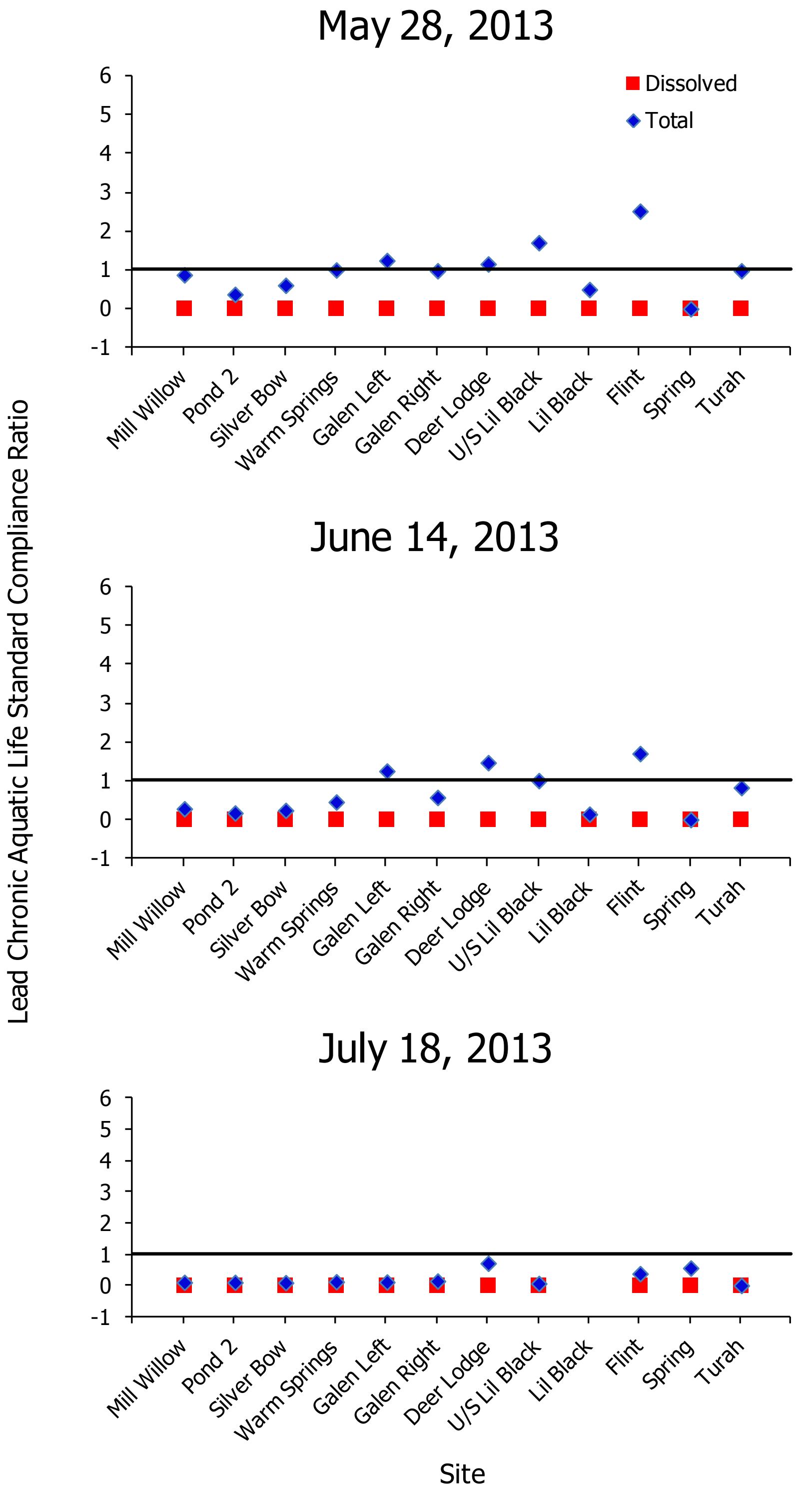

Figure 5-51. Lead compliance ratios at the cage sites in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing arsenic concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate arsenic levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

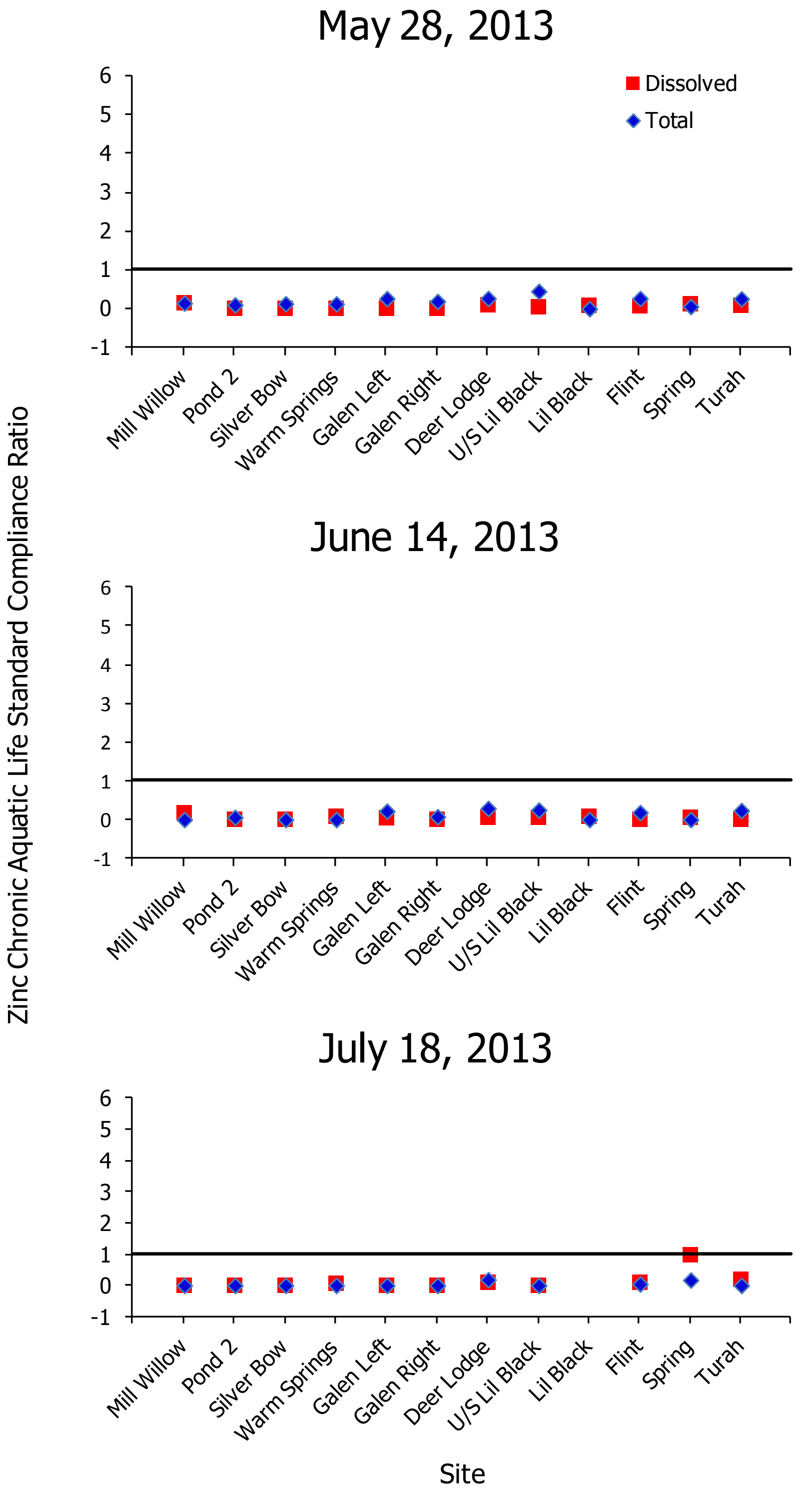

Figure 5-52. **Zinc compliance ratios at the cage sites in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing arsenic concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate arsenic levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

5.3.8 Water Quality

Water quality parameters recorded on continuously recording Hydrolab ® MS5 water quality probes at Mill Willow, at Pond 2, at Silver Bow, at Galen, and at the site upstream of the Little Blackfoot River are outlined in the following sections.

5.3.8.1 pH

Elevated pH was observed at Pond 2 and at Silver Bow (Figure 5-53). Extended exposure to pH > 9 may be harmful to trout (Colt et al. 1979). Mean daily values for pH exceeded 9 in early April, late May, June, July, and August at Pond 2, and at Silver Bow in early and late June, middle and late July, and early August 2013. In contrast, mean daily pH at the remaining mainstem sites with probes deployed did not exceed 9 and generally varied from 7.5 to 8.5 for approximately half of the time (Figure 5-53), which is considered within the ranges suitable for trout (Colt et al. 1979). In comparison, pH measured with a handheld probe at the control sites with the mean ranging from 7.5 to 8.5 (Figure 5-53). In addition, Pond 2 mean daily values for pH were approximately 7 for the first week of April and these were the lowest recorded mean daily pH values.

5.3.8.2 Oxidation Reduction Potential

Oxidation reduction potential (ORP) is a general indicator of water quality with positive measurements indicating aerobic or oxidative conditions and negative measurements indicating anaerobic or reductive conditions (Pearson and Black 2001; Apps 2012). Typically surface waters have an ORP from 100 to 200 mV, with more pristine, oxygenated water having an ORP of up to 400 mV; ORP < 200 mV indicates reduced levels of dissolved oxygen and/or oxidative potential (Apps 2012). Mean daily oxidation reduction potential was low throughout the study area in 2013, with most sites having ORP values centered below zero with many negative values (Figure 5-54). Two sites showed deviations from this trend including upstream of the Little Blackfoot River which had a negative trend in late June, all of July, and early August and achieved values < -600 mV, and Mill Willow which had a positive trend from late June to the end of the field season and achieved values > 350 mV (Figure 5-54). For comparison, ORP as measured with a handheld probe was always negative and varied from -275 to > -100 mV for the same sites (Figure 5-54).

5.3.8.3 Specific Conductivity

Specific conductivity is a measure of the ability of water to conduct electricity and can be used as a relative measure of water quality. Specific conductivity typically varies from 10 to 1000 µS/cm, but may exceed 1000 µS/cm in polluted waters or waters receiving large quantities of land runoff (Chapman 1996). Mean daily specific conductivity at all sites was within normal ranges in 2013 (Figure 5-55). All sites experienced specific conductivities ranging from 150 to 600 µS/cm, with the exception of the site upstream of the Little Blackfoot River which experienced a specific conductivity range from 300 to 650 µS/cm. All sites appeared to follow the same trends with regards to specific conductivity and these results were also seen with the handheld probe, with the exception of the site upstream of the Little Blackfoot River (Figure 5-55).

5.3.8.4 Luminescent Dissolved Oxygen

The freshwater ALS one day minimum for dissolved oxygen for fish > 30 days post- hatch in the Clark Fork River is 4.0 mg/L (MDEQ 2012b). Mean daily dissolved oxygen levels were below this threshold for two days in late June/early July 2013 at the site upstream of the Little Blackfoot River. Reduced dissolved oxygen levels in late June/early July at the site upstream of the Little Blackfoot River in 2013 likely represent actual oxygen depression rather than probe failure as the oxygen level rebounds after dropping whereas probe failure generally results in dropping oxygen levels that do not rebound. None of the depressed oxygen levels coincided with increased mortality. The overall trend in mean daily dissolved oxygen levels was values > 10.0 mg/L at all sites at the beginning of each field season that gradually decreased to values of approximately 6 to 8 mg/L by the end of the year (Figure 5-56). Handheld probe data displayed the same overall trend in mean daily dissolved oxygen levels with dissolved oxygen levels gradually decreasing throughout the field season, but values began at > 11.0 mg/L at all sites and gradually decreased to values of approximately 8.5 to 12 mg/L (Figure 5-56). It is important to note that the dissolved oxygen sensor on the handheld probe used relies on moving water in order to properly calculate dissolved oxygen levels and improper deployment can cause inaccurate readings.

5.3.8.5 Total Ammonia

Total ammonia (NH_4 + NH_3) was measured at Pond 2, Silver Bow, and Galen in 2013. However, total ammonia levels recorded were not consistent with data collected in previous years. The precision with which the Hydrolab ® MS5 records total ammonia levels has been questionable in the past (T. Selch, Montana, Fish, Wildlife, and Parks, personal communication, 2014). Water samples collected during the 2013 field season by both the Montana Department of Environmental Quality and the Montana Fish, Wildlife, and Parks closely resembled one another and the previous years' recorded levels. For these reasons total ammonia levels recorded in 2013 from the Hydrolab ® MS5 were not presented or included in this report.

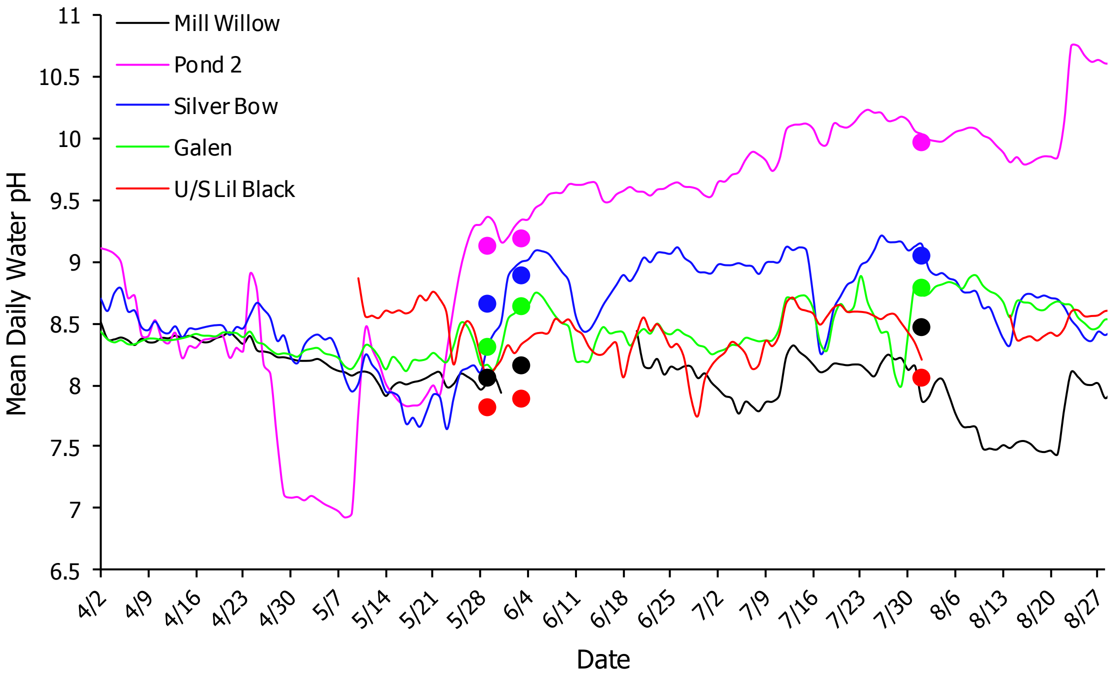

Figure 5-53. Mean daily water pH at sites with probes deployed in 2013. Lines represent Hydrolab data and circles represent handheld multiprobe data.

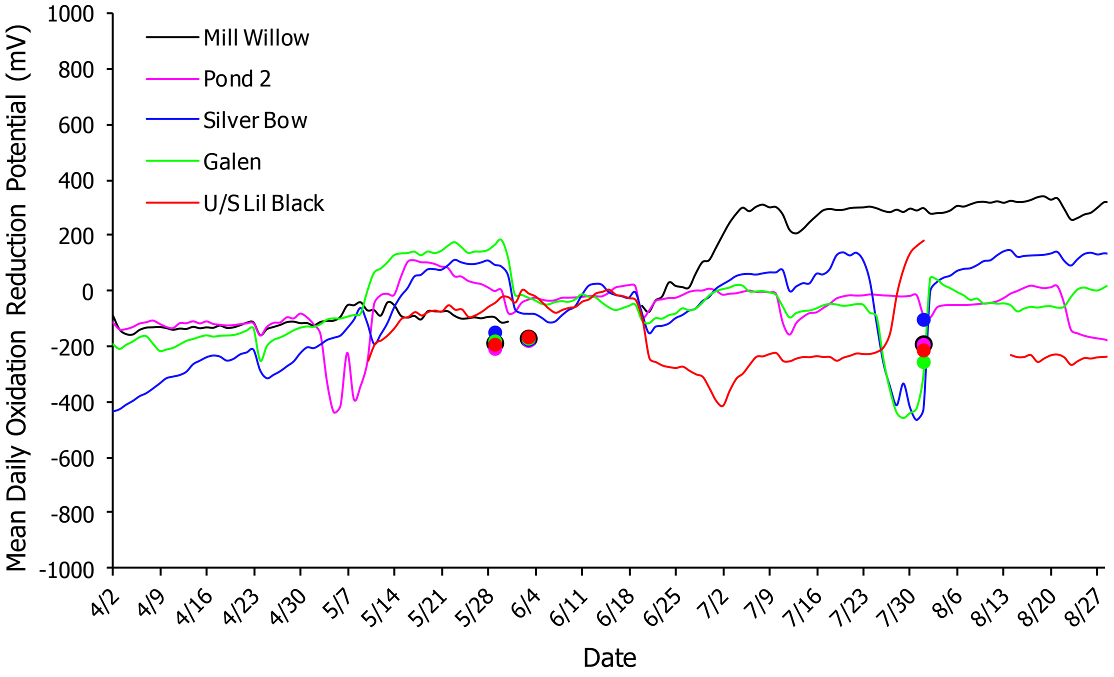

Figure 5-54. Mean daily oxidation reduction potential at sites with probes deployed in 2013. Lines represent Hydrolab data and circles represent handheld multiprobe data.

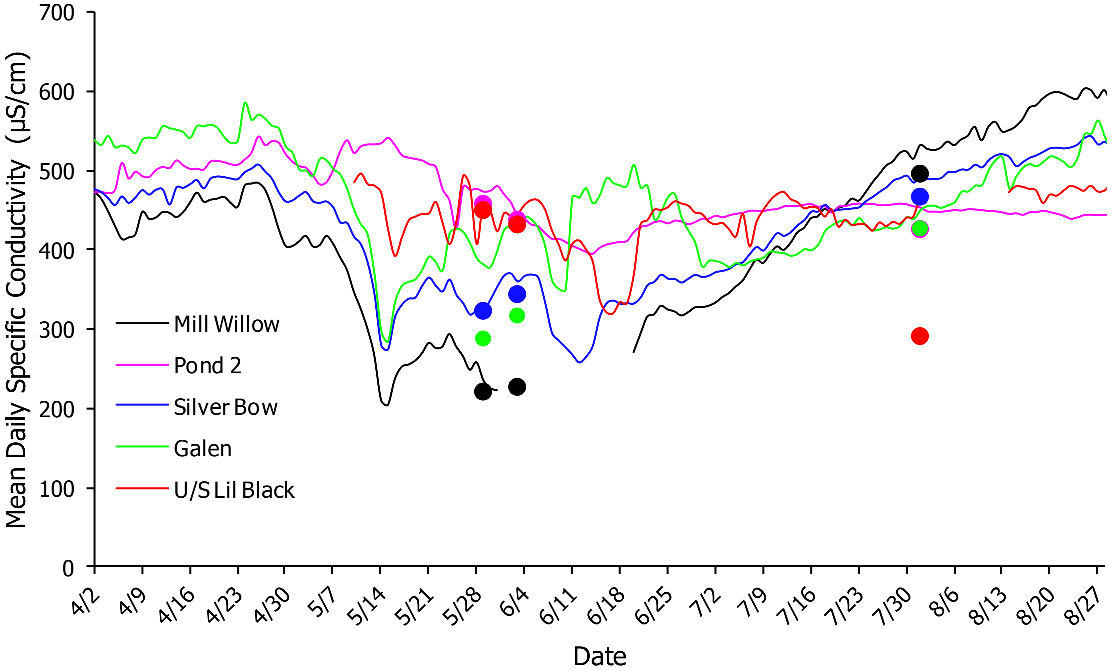

Figure 5-55. Mean daily specific conductivity at sites with probes deployed in 2013. Lines represent Hydrolab data and circles represent handheld multiprobe data.

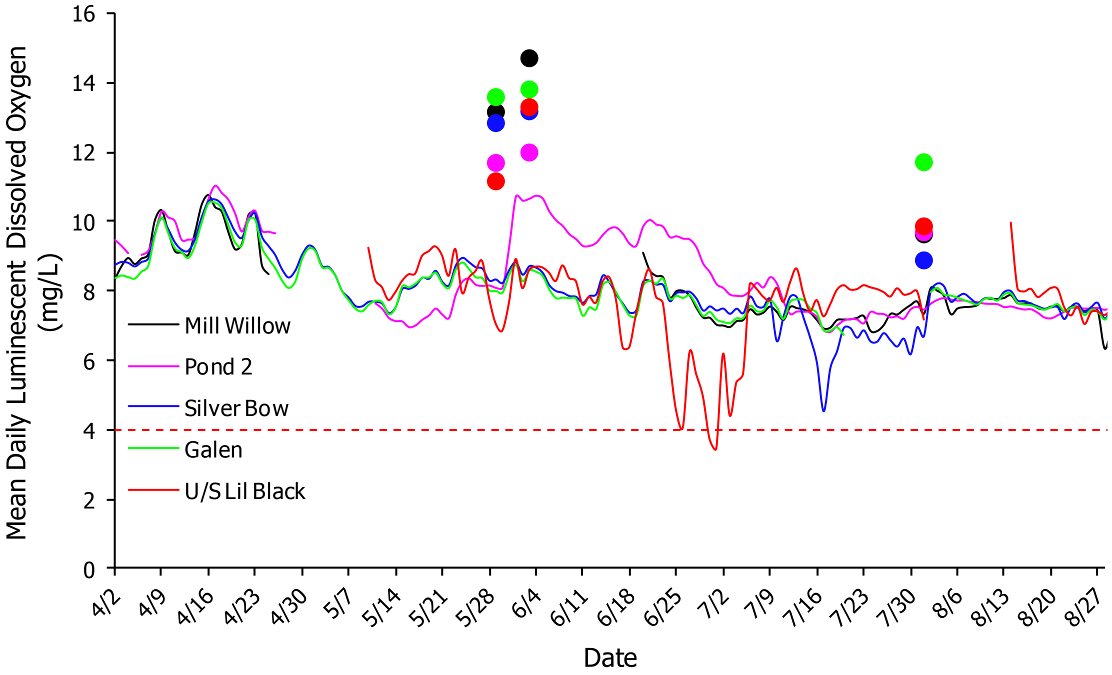

Figure 5-56. Mean daily luminescent dissolved oxygen at sites with probes deployed in 2013. Lines represent Hydrolab data and circles represent handheld multiprobe data. The red dashed horizontal line denotes the freshwater ALS one day minimum.

5.4 DISCUSSION

5.4.1 Trout Population Monitoring

Trout population estimates have generally increased in recent years compared to estimates published in Lindstrom (2011) and previous years' estimates included in this report. In particular, brown trout densities appeared to increase throughout the Upper Clark Fork River in 2013. This trend was observed for all sections except for the Bearmouth section. Interestingly, westslope cutthroat trout densities also improved in the Bearmouth section from 2009 through 2013. Sampling has been conducted during the same times of year and in the sections of river, so these variables would not be confounding. Therefore, it is likely that previous better than average water years, and potentially successful remediation efforts may explain increases in population size. In addition to providing current trend data, these population estimates will also serve as a baseline to compare fish populations pre- and post- remediation of the Upper Clark Fork River.

5.4.2 Caged Fish Study

The majority of mortality observed during the 2013 field season occurred during April, May, and July. The largest portion occurred in July as water temperatures approached or exceeded the upper critical temperature threshold for brown trout of 19.0 °C (Elliot 1994). Water temperatures exceeded the upper incipient lethal temperature for brown trout of 24.7 °C (Elliot 1994) at seven sites: Mill Willow, Pond 2, Silver Bow, Deer Lodge, upstream of the Little Blackfoot River, Lower Little Blackfoot River, and Flint Creek in 2013. This is in contrast to previous years reported by Richards et al. (2013) where only two sites exceeded the upper incipient lethal temperature for brown trout. Elevated water temperatures also stress fish to the point of influencing feeding and growth (Elliot 1994; Elliot and Hurley 2001) and also make fish more susceptible to other environmental stressors and diseases (Wahli et al. 2002; Hari et al. 2006; Jonsson and Jonsson 2009). High water temperatures also increase susceptibility to metals exposure through increased respiration (Sorensen 1991).

Tissue metals burdens have been shown to compromise trout health (Woodward et al. 1995a; Farag et al. 1999, 2003). Results of tissue metals burden analyses indicate effects from copper in the Clark Fork River. Whole body copper burdens were found to have an effect on rainbow trout at 8.57 µg/g after exposure for 60 days (Marr et al. 1996). In 2013, whole body copper burdens of dead fish exceeded this value at all mainstem sites but no control sites. This value was also exceeded by all mainstem sites and at least one control site in 2011 and 2012. However, whole body copper burdens of live fish did not exceed the minimum effect threshold for copper, with the exception of Deer Lodge. Contrary to copper results, zinc tissue burdens analyses indicate no effects from the Clark Fork River. This is because fish supplied for this study were above concentrations shown to reduce growth in young salmonids prior to cage placement. In addition, difficulty in respiration, decreased feeding, and decreased growth were observed in rainbow trout with average whole body zinc burdens varying from 105.09 to 178.66 µg/g after experimental exposure and fish supplied for this study exceeded these values prior to cage placement (Gundogdu and Erdem 2008). The lower value in the range for whole body zinc burden from that study was always surpassed at all sites whether the fish were alive or dead in 2013. In previous years the minimum effect threshold for zinc was surpassed at all sites with the exception of Rock Creek in 2011 (Richards et al. 2013). Studies have suggested that dietary exposure to high zinc levels increases zinc tolerance (e.g., Wekell et al. 1983). This may explain why there were never large mortality events across sites even though fish from this study were fed hatchery food high in zinc throughout the study.

pH was the only variable measured that exceeded values tolerable to trout at Pond 2 and Silver Bow (Colt et al. 1979) in 2013. Of these two sites, only Pond 2 experienced these values for an extended period of time. However Pond 2 also experienced the highest number of mortalities during the 2013 season. Similar trends were observed in 2011 and 2012 with both the Silver Bow and Galen sites experiencing pH levels that exceeded tolerable levels to trout. In addition to direct adverse effects of high pH, these conditions may also influence toxicity of metals (Couture and Pyle 2012). Studies have shown that copper and zinc are more toxic to steelhead trout (*Salmo gairdneri*) at high pH values (Cusimano et al. 1986). In addition to influencing the toxicity of metals, high pH results in a higher concentration of toxic NH_3 in the total ammonia makeup (Emerson et al. 1975). Average daily pH was above the tolerable level from May 26 to the end of the study in 2013 at Pond 2. Mill Willow is located upstream of Pond 2 and displayed lower pH than Pond 2. pH generally decreased at sites downstream of Pond 2 and the decrease was more apparent the further downstream a site was from Pond 2. This is likely due to the addition of lime to the settling ponds upstream of these sites in attempt to decrease water acidity and reduce metals contamination leaving Warm Springs Ponds, as well as the large amount of photosynthesis occurring in the ponds. An unintended consequence to the addition of lime to the settling ponds is likely an increase in metals toxicity, that when combined with other stressors such as high water temperature, results in increased mortality at the upstream sites. Comparisons between upper river and lower river sites in this 2013 report have shown higher tissue metals burdens in fish that were at upper river sites than lower river sites. Interestingly, tissue metals burdens did appear lower at sites directly below the ponds (Pond 2, Silver Bow, and Galen) than was observed at sites located further downstream (Deer Lodge and U/S Little Black). It is suspected that the reduction in tissue metals burdens is likely due to the ponds reducing the amount of metals in the system. Low dissolved oxygen levels were not observed in 2013, with the exception of the site upstream of the Little Blackfoot River, which was not the case in 2011 and 2012. In previous years, low dissolved oxygen levels were detected and possible synergistic effects of pH, metals, high water temperature and periods of low dissolved oxygen were suggested as reasons for the observed mortality (Richards et al. 2013).

Comparisons between this study and results observed in Richards et al. (2013) yielded similar results. Generally control sites yielded lower amounts of tissue metals burdens than treatment sites for fish that died and control sites also yielded roughly the same amounts of tissue metals burdens for fish that died and fish that lived through the sample period (fish that lived are those that were sampled at the end of the study period). Control sites also had less mortalities than treatment sites in each year. The actual amounts of tissue metals burdens and number of mortalities for both control sites and treatment sites do not appear to have changed significantly over time.

In comparing sites upstream of construction and sites downstream of construction in Warm Springs, Montana, upstream construction sites generally yielded higher amounts of tissue metals burdens than downstream construction sites for fish that died. Tissue metals burdens were similar between upstream construction sites and downstream construction sites for fish that lived. Sites upstream of construction had less mortality than sites downstream of construction in 2011 and 2012, but in 2013 upstream construction sites had more mortality than downstream construction sites. The actual amounts of tissue metals burdens and number of mortalities for both upstream construction sites and downstream construction sites do not appear to have changed significantly over time. Comparisons between upper river sites and lower river sites yielded higher amounts of tissue metals burdens in upper river sites than lower river sites for dead fish in 2011 and 2012, but no differences were observed in 2013. Live fish showed similar levels of tissue metals burdens between upper river and lower river sites. Upper river sites had more mortalities than lower river sites in each year, which may be due to higher pH and temperature stressors not present at lower river sites. The actual amounts of tissue metals burdens and number of mortalities for both upper river sites and lower river sites do not appear to have changed significantly over time. It is not surprising that metals levels have not decreased yet, because 2013 was the first year of significant remediation in the Upper Clark Fork River drainage. The non-significant drop in tissue metals burdens by both site and year may explain the consistent number of mortalities observed each year given that tissue metals burdens likely do directly impact mortality.

The highest mortality rates did not necessarily occur at sites with the highest water temperatures, waterborne metals concentrations, or tissue metals burdens, but rather at sites exhibiting a combination of these factors. This is likely due to a cumulative effect of environmental stressors (Kiser et al. 2010) as seen in previous years of this study (e.g., Richards et al. 2013). For example, in 2013, the chronic freshwater ALS values for copper and zinc were exceeded in water samples collected during the study, suggesting that waterborne metals may have influenced mortality in fish cages. However, metals concentrations were highest on the ascending limb and peak of the hydrograph while the majority of mortalities were on the descending limb as discharges approached or achieved base flow. Also, quadrant analysis performed in 2013 showed less unexplained fish mortality and more fish mortality corresponding to either high water temperatures, high copper tissue metals burdens, or both, with the high water temperature having more fish mortalities than any other quadrant. For example, Pond 2 experienced the most mortalities of any site, experienced the third greatest number of days above the upper critical temperature threshold for brown trout, and over half occurred in Q1 indicating temperature-related mortality. Conversely, Silver Bow experienced the second greatest number of days above the upper critical temperature threshold for brown trout and over half the mortalities occurred in Q3 indicating tissue burden-related mortality. Water temperatures experienced in western Montana during the summer of 2013 were higher than average and in combination with low water levels led to Clark Fork River fishing closures (Chaney 2013). Studies have shown fish are affected more as temperatures rise above minimum effect thresholds (e.g., Lobón-Cerviá and Rincón 1998) suggesting that temperature that may lead to mortality when combined with other stressors, such as tissue metals burdens. In the Clark Fork River, we feel that chronic effects of waterborne metals were exacerbated by environmental conditions such as elevated water temperature and pH, ultimately causing mortality in all years.

Results indicate that mortality was statistically, significantly lower than expected at all treatment sites other than Pond 2 which had significantly higher mortality and Galen Right which showed no difference in mortality. It is important to note that 2013 showed higher mortality at control sites than in previous years which affected the expected mortality values in the chi square analysis. We believe that mortality was excessively high at the control sites in 2013 and this data likely does not provide an accurate representation of a good control mortality rate. A possible explanation for the very high mortality rates observed at Flint Creek and the Little Blackfoot River are the extremely low flow conditions observed at these sites in 2013 in both May and late July/early August at Flint Creek when flows reached as low as 8 cfs and in 2013 in late April/early May, July and August at the Little Blackfoot River when flows reached as low as 16 cfs. The precise mechanisms that led to the high mortality at these sites are not completely understood, but may be due to very high water temperatures and potentially low dissolved oxygen conditions.

Overall, we offer the same explanation to these results as Richards et al. (2013). At all of the treatment sites and during all years, mortality was likely the result of the cumulative effect of many environmental stressors including increased metals concentrations and high water temperatures, although further work is needed to better understand this relationship. The cumulative effect of environmental stressors such as unsuitable pH, dissolved oxygen, and water temperature in addition to metals exposure likely explain the high mortality seen at Galen in 2011, Warm Springs in 2012, and Pond 2 in 2013, and could potentially indicate a point source of poor water quality. Water quality appears to improve downstream of these sites, potentially due to inflow of clean water from tributaries, with lower than expected mortality observed downstream of Gold Creek and at Bearmouth in 2011 and 2012 and at Turah 2013.

Overall, multiple factors appear to be affecting survival of brown trout at some sites throughout all years of this study conducted thus far. Upstream and downstream differences in water quality may explain the spatial distribution of brown trout mortality. Thus studies such as this are vital in determining the effect of mining contamination on trout populations in the upper Clark Fork River. This study further documented impairment of trout habitat in the upper Clark Fork River and should be continued into the future to both bolster the dataset and allow for further analysis. Moving forward this study will be collecting live fish every month from every site in order to test the assumption that surviving fish have lower tissue metals burdens than those that die. Testing this assumption may allow for further evidence of impacts of tissue metals burdens in fish in the upper Clark Fork River. Also, we will be moving the locations of our control sites to locations further upstream that should be of higher water quality. Lastly, future years of this study will collect weights on fish when they are received from the hatchery, when they are dead, when they are collected alive, and when they are pulled at the end of the field season so that condition factor can be analyzed more effectively and possibly provide more information into the impacts of tissue metals burdens in fish in the upper Clark Fork River. In summary, many of the detrimental environmental conditions observed are more likely to result in sub-lethal effects alone (Blazer et al. 1987; Molony 2001). However, conditions often interact synergistically or cumulatively to influence fish growth, survival, and ultimately populations (Driedzic and Hochachka 1978; Hellawell 1986; Boyd and Tucker 1998; Molony 2001; Kiser et al. 2010; Richards et al. 2013)[16].

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APPENDIX A

QA/QC REVIEWS AND SUMMARY
SURFACE WATER AND INSTREAM SEDIMENT

QA/QC Review

Specific quality assurance and quality control (QA/QC) requirements for field measurements, sample collection, laboratory analysis, and the reporting of resulting data generally are defined by protocols contained in the quality assurance project plan (QAPP), a component of the approved sampling and analysis plan (SAP). The following quality control checklist is a component of the Montana Department of Environmental Quality QA/QC protocols, and is an initial step in the review and validation of water chemistry and related data generated under the Clark Fork River Operable unit (CFROU) environmental monitoring program. This checklist provides an outline for reviewing and assessing factors potentially affecting data quality, and assists in identifying questionable data that may be invalid or require additional documentation.

Quality Control Checklist

+ Condition of samples upon receipt

+ Sample temperature

+ Proper collection containers

\- All containers intact

- The fourth quarter (Q4) field duplicate sample for dissolved organic carbon (DOC) from site SS-25 was destroyed. This sample froze and the bottle ruptured during shipping to the Energy Laboratories facility in Casper, Wyoming.

\- Sample pH of acidified samples < 2

- The four Q1 DOC samples were submitted unpreserved. These samples were preserved (to pH<2) with phosphoric acid upon receipt to the laboratory.
- The Q2-Rising total recoverable metals sample from the Pond 2 Outfall was submitted unpreserved. This sample was preserved (to pH<2) with nitric acid upon receipt at the laboratory.

+ All field documentation complete; if incomplete areas cannot be completed, document the issue.

- Minor discrepancies in site IDs and sample times were noted between sample bottle labels and field forms. These discrepancies were noted and corrected at the time samples were deposited to the analytical laboratory. Each discrepancy was documented in the work order receipt checklist for each quarterly data report from the laboratory.

+ Holding times met

+ Field duplicates collected at the proper frequency (specified in SAP)

+ Field blanks collected at the proper frequency (specified in SAP)

+ All sample IDs matched those provided in the SAP. Field duplicates were clearly marked on samples and noted in laboratory results.

_+_ Analyses carried out as described within the SAP (e.g., analytical methods, photo documentation, field protocols).

_+_ Laboratory reporting limits were at least as low as the requested reporting limits of the SAP.

_-_ All field blanks had analyte concentrations below the project required reporting limit, with the following exceptions:

- In Q1, DOC was measured at a concentration of 0.2 mg/L (reporting limit [RL] = 0.1 mg/L) in the second field blank and dissolved zinc at 0.02 mg/L (RL = 0.01 mg/L) in the third field blank.
- In Q2-Rising, dissolved zinc was measured at a concentration of 0.02 mg/L (RL=0.01 mg/L) in the first field blank and DOC at a concentration of 0.2 mg/L (RL=0.1 mg/L) in the second field blank.
- In Q2-Peak, dissolved zinc was measured at a concentration of 0.01 mg/L (RL=0.01 mg/L) in the first field blank. In Q2-Peak, DOC was measured at a concentration of 0.1 mg/L (RL=0.1 mg/L) and total suspended solids (TSS) at 5 mg/L (RL=1 mg/L) in the second field blank.
- In Q2-Falling, DOC was measured at a concentration of 0.1 mg/L (RL=0.1 mg/L) and dissolved zinc at 0.01 mg/L (RL=0.01 mg/L) in the second field blank.
- In Q3, DOC was measured at a concentration of 0.7 mg/L (RL=0.1 mg/L) and dissolved zinc at 0.01 mg/L (RL=0.01 mg/L) in the second field blank.

_+_ If any field blanks exceeded the project required reporting limit, associated data will be "B-flagged" in the database. The MDEQ project manager will determine what data is to be associated for B-flagging. Based on project precedent, we recommend the following data for B-flagging:

- For Q1 2013 monitoring data, all DOC concentrations <2 mg/L and dissolved zinc concentrations <0.2 mg/L.
- For Q2-Rising 2013 monitoring data, all DOC concentrations <2 mg/L and all dissolved zinc concentrations <0.2 mg/L.
- For Q2-Peak 2013 monitoring data, all DOC concentrations <1 mg/L, all dissolved zinc concentrations <0.1 mg/L, and all TSS concentrations <50 mg/L.
- For Q2-Falling 2013 monitoring data, all DOC concentrations <1 mg/L and all dissolved zinc concentrations <0.1 mg/L.
- For Q3 2013 monitoring data, all DOC concentrations <7 mg/L and all dissolved zinc concentrations <0.1 mg/L.

_+_ Laboratory blanks, duplicates, matrix spikes, and lab control samples were analyzed at a 10% frequency.

_+_ Laboratory blanks, duplicates, matrix spikes, and laboratory control samples were all within the required control limits defined within the SAP.

_+_ Project data quality objectives (DQOs) and data quality indicators (DQIs) were met (as described in SAP).

_+_ Completed summary of quality control analysis results, issues encountered, and how issues were addressed.

Summary of Quality Control Analysis Results

Summarized in this appendix are quality control measures performed on field and laboratory data generated from surface water, instream sediment, and biological monitoring samples collected in 2013 from the CFROU. Assessed under MDEQ's standard quality assurance and quality control protocols are data quality objectives (DQOs) which include "representativeness", "comparability", and "completeness". In addition, data quality indicators (DQI) were assessed including DQIs for "sensitivity", "lab precision", "overall precision", and "bias and accuracy".

Overall, DQOs and DQIs were met at all surface water monitoring sites in the CFROU in 2013. Water samples were collected and analyzed for TSS, nutrient, dissolved and total recoverable metals, total mercury and methylmercury, DOC, and common ion concentrations. Samples were collected during six sample periods. Instream sediment samples were collected and analyzed for total metals on two occasions in 2013 and DQOs and DQIs were achieved. Biological sampling for macroinvertebrates and periphyton was conducted during the summer and DQOs were achieved. Macroinvertebrate samples included four replicate Hess samples at each site. Periphyton samples consisted of a composite at each site.

Representativeness

All surface water sites sampled in the CFROU during 2013 met stated objectives for spatial representativeness. Samples were collected at established bridge crossings and road access points specified in the CFROU SAP. Instream sediments and biological samples were collected as close as possible to the surface water sampling locations, with suitable sites generally found within 100 yards of the water sampling locations. For site CFR-116A, instream sediment, macroinvertebrate and periphyton samples were collected at the Turah fishing access, approximately 0.25 miles upstream of the surface water site at the Turah highway bridge.

To meet temporal objectives specified in the CFROU SAP, surface water monitoring was conducted once during Q1, Q3 and Q4, and three times during Q2 of 2013. Within the quarterly framework, water samples and field data were collected during specific hydrologic conditions: prior to the spring snowmelt runoff during approximately base streamflow conditions (Q1), during the rising limb (Q2-Rising), peak (Q2-Peak), and falling limb (Q2-Falling) of the spring snowmelt hydrograph, during late summer base streamflow conditions (Q3), and during late fall base streamflow conditions (Q4). Instream sediment samples were collected under base streamflow conditions in Q1 and Q3 of 2013. Macroinvertebrate samples were collected in mid-August, in coordination with U.S. Environmental Protection Agency annual macroinvertebrate sampling.

Comparability

Comparability is the applicability of the project's data to the project's decision rule. The project decision rules are identified in the project SAP. Data collected in this 2013 monitoring program are highly applicable to the project's decision rule. All methods conformed to the requirements of applicable criteria identified as decision rules in the project SAP.

Completeness

Completeness is the amount of useable data actually collected compared to the amount prescribed in the SAP, as a percent. Data completeness for the 2013 CFROU monitoring during each of the quarterly monitoring events was very near 100% for all parameters sampled. This level of completeness exceeds the project goal for completeness (85%) and precludes the need to prepare a completeness evaluation table per MDEQ guidelines.

Sensitivity

The method detection limit (MDL) established by Energy Laboratories through laboratory blank analyses is an expression of sensitivity. The MDL documented in the QA/QC summary reports that accompany each set of laboratory analytical reports was less than the project-required reporting limit (RL), and was often below detection, for all analytical methods pertaining to Clark Fork River Operable Unit monitoring (Appendix B).

Sensitivity of field methods was determined through field blank analyses, at a frequency of at least 10% of field samples collected, as specified in the SAP. During Q1, one deionized water field blank sample was prepared and analyzed for the full suite of metals, nutrients, TSS, and common ion parameters (except total mercury, methylmercury, and DOC), for a frequency of 10% of the sites monitored for these parameters. Additional field blanks were prepared during Q1 for total mercury, methylmercury and DOC, for a frequency of 50% of the sites monitored for those parameters. During Q2, two deionized water field blank samples were prepared during each of the three monitoring events and analyzed for the complete list of parameters, for an actual frequency of 12.5%. During Q3 and Q4, two deionized water field blank samples were prepared and analyzed for the complete list of parameters, for an actual frequency of 16.7% of site monitored. Results of field blank analyses for all metals, nutrients, common ions and TSS parameters in field blanks in 2013 are presented in Tables A1-A6.

Lab Precision

Laboratory precision was assessed by calculating the relative percent difference (RPD) between laboratory samples and laboratory duplicate samples for each parameter measured in the CFROU. Established MDEQ criteria allow a maximum RPD of 20% for water sample results (>5 times the RL) and 35% for sediment samples (>5 times the RL). No laboratory sample and duplicate pairs had RPDs exceeding these criteria. Therefore, no data was qualified (i.e., “flagged”) in the project database, and no corrective actions were required. Laboratory analysis results are presented in Appendix B.

Overall Precision

Overall precision was assessed by calculating the RPD of field sample and field duplicate sample pairs. Established MDEQ criteria allow a maximum RPD of 25% for water samples (>5 times the RL) and 40% for sediment samples (>5 times the RL). Co-located surface water field duplicate samples were collected during each of the four quarterly monitoring events in 2013; results are presented for Tables A7-A19.

If any field sample and field duplicate pairs have RPD >25%, associated data will be “J-flagged” in the project database. The MDEQ project manager will determine what data is to be associated for J-flagging. Duplicate surface water sample results with RPD values >25% and sample concentrations >5 times the RL included:

- In Q1, one field sample and field duplicate pair had an RPD for dissolved copper of 40%.
- In Q2-Peak, one field sample and field duplicate pair had an RPD for TSS >25%.
- In Q2-Falling, one field sample and field duplicate pair had an RPD for TSS >25%.
- In Q3, one field sample and field duplicate pair had an RPD for TSS of 28.6%.
- In Q4, one field sample and field duplicate pair had RPDs for TSS and total nitrogen >25 %.

Based on project precedent, we recommend the following data for J-flagging: dissolved copper (Q1), TSS (Q2-Peak, Q2-Falling, Q3, Q4), and total nitrogen (Q4).

All field sample and field duplicate sample pairs for instream sediment in 2013 had RPD >40%. Therefore, we do not recommend any sediment data be J-flagged in the project database.

Bias and Accuracy

Bias is defined as directional error from the true value of a measurement. For field measurements (water temperature, pH, specific conductance, dissolved oxygen [DO] concentration, DO percent saturation, and turbidity), bias was minimized by frequent calibration of field instruments. Each instrument calibration was documented in calibration logs. For water chemistry and sediment results, bias was minimized through adherence to approved field procedures for sample collection and handling, and cleaning and use of sampling equipment.

Accuracy is the combination of high precision and low bias. Accuracy of laboratory results was assessed by reviewing the analytical method controls (i.e., lab control sample, continuing calibration verification, lab fortified blank, standard reference material) and analytical batch controls (i.e., matrix spike and matrix spike duplicate). Limits established by the laboratory through control charting of each method's performance served as assessment criteria. None of the analytical method controls or analytical batch controls had values outside of the acceptable recovery range, as detailed in the summary reports (Appendix B).

Table A1. **Analyte concentrations in the first quarter (March 19-20, 2013) surface water field blanks from the Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		
		Blank 1 (H13030312-018)	Blank 2 (H13030312-005)	Blank 3 (H13030312-014)
Total Suspended Sediment	1		ND	
Alkalinity, Total	4		ND	
Alkalinity, Bicarbonate	4		ND	
Sulfate	1		ND	
Hardness	1		ND	
Carbon, Dissolved Organic	0.1			0.2
Nitrogen, Ammonia	0.05		ND	
Nitrogen, Nitrate plus Nitrite	0.05		ND	
Nitrogen, Total	0.05		ND	
Phosphorus, Total	0.005		ND	
Arsenic, Dissolved	0.005		ND	
Cadmium, Dissolved	0.00008		ND	
Copper, Dissolved	0.001		ND	
Lead, Dissolved	0.0005		ND	
Zinc, Dissolved	0.01		0.02	
Mercury, Total	0.00001	ND		
Methylmercury	0.00000005	0.00000002		
Arsenic, Total Recoverable	0.005		ND	
Cadmium, Total Recoverable	0.00008		ND	
Calcium, Total Recoverable	1		ND	
Copper, Total Recoverable	0.001		ND	
Lead, Total Recoverable	0.0005		ND	
Magnesium, Total Recoverable	1		ND	
Zinc, Total Recoverable	0.01		ND	

ND	Not detected at analytical reporting limit.
🟧	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are less than 10 times the reporting limit) from this sample period in the project database.

Table A2. **Analyte concentrations in the second quarter "rising limb" (May 15-16, 2013) surface water field blanks from the Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)	
		Blank 1 (H13050302-006)	Blank 2 (H13050302-016)
Total Suspended Sediment	1	ND	ND
Alkalinity, Total	4	ND	ND
Alkalinity, Bicarbonate	4	ND	ND
Sulfate	1	ND	ND
Hardness	1	ND	ND
Carbon, Dissolved Organic	0.1		0.2
Nitrogen, Ammonia	0.05	ND	ND
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND
Nitrogen, Total	0.05	ND	ND
Phosphorus, Total	0.005	ND	ND
Arsenic, Dissolved	0.005	ND	ND
Cadmium, Dissolved	0.00008	ND	ND
Copper, Dissolved	0.001	ND	ND
Lead, Dissolved	0.0005	ND	ND
Zinc, Dissolved	0.01	0.02	ND
Mercury, Total	0.00001		
Methylmercury	0.00000005	0.00000002	
Arsenic, Total Recoverable	0.005	ND	ND
Cadmium, Total Recoverable	0.00008	ND	ND
Calcium, Total Recoverable	1	ND	ND
Copper, Total Recoverable	0.001	ND	ND
Lead, Total Recoverable	0.0005	ND	ND
Magnesium, Total Recoverable	1	ND	ND
Zinc, Total Recoverable	0.01	ND	ND

ND	Not detected at analytical reporting limit.
🟧	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are less than 10 times the reporting limit) from this sample period in the project database.

Table A3. **Analyte concentrations in the second quarter "peak" (June 11-13, 2013) surface water field blanks from the Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)	
		Blank 1 (H13060239-004)	Blank 2 (H13060239-016)
Total Suspended Sediment	1	ND	5
Alkalinity, Total	4	ND	ND
Alkalinity, Bicarbonate	4	ND	ND
Sulfate	1	ND	ND
Hardness	1	ND	ND
Carbon, Dissolved Organic	0.1		0.1
Nitrogen, Ammonia	0.05	ND	ND
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND
Nitrogen, Total	0.05	ND	ND
Phosphorus, Total	0.005	ND	ND
Arsenic, Dissolved	0.005	ND	ND
Cadmium, Dissolved	0.00008	ND	ND
Copper, Dissolved	0.001	ND	ND
Lead, Dissolved	0.0005	ND	ND
Zinc, Dissolved	0.01	0.01	ND
Mercury, Total	0.00001	ND	
Methylmercury	0.00000005	0.00000002	
Arsenic, Total Recoverable	0.005	ND	ND
Cadmium, Total Recoverable	0.00008	ND	ND
Calcium, Total Recoverable	1	ND	ND
Copper, Total Recoverable	0.001	ND	ND
Lead, Total Recoverable	0.0005	ND	ND
Magnesium, Total Recoverable	1	ND	ND
Zinc, Total Recoverable	0.01	ND	ND

ND	Not detected at analytical reporting limit.
🟧	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are less than 10 times the reporting limit) from this sample period in the project database.

Table A4. Analyte concentrations in the second quarter "falling limb" (June 25-27, 2013) surface water field blanks from the Clark Fork River Operable Unit.

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)	
		Blank 1 (H13060510-004)	Blank 2 (H13060510-016)
Total Suspended Sediment	1	ND	ND
Alkalinity, Total	4	ND	ND
Alkalinity, Bicarbonate	4	ND	ND
Sulfate	1	ND	ND
Hardness	1	ND	ND
Carbon, Dissolved Organic	0.1		0.1
Nitrogen, Ammonia	0.05	ND	ND
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND
Nitrogen, Total	0.05	ND	ND
Phosphorus, Total	0.005	ND	ND
Arsenic, Dissolved	0.005	ND	ND
Cadmium, Dissolved	0.00008	ND	ND
Copper, Dissolved	0.001	ND	ND
Lead, Dissolved	0.0005	ND	ND
Zinc, Dissolved	0.01	ND	0.01
Mercury, Total	0.00001	ND	
Methylmercury	0.00000005	0.00000002	
Arsenic, Total Recoverable	0.005	ND	ND
Cadmium, Total Recoverable	0.00008	ND	ND
Calcium, Total Recoverable	1	ND	ND
Copper, Total Recoverable	0.001	ND	ND
Lead, Total Recoverable	0.0005	ND	ND
Magnesium, Total Recoverable	1	ND	ND
Zinc, Total Recoverable	0.01	ND	ND

ND	Not detected at analytical reporting limit.
🟧	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are less than 10 times the reporting limit) from this sample period in the project database.

Table A5. **Analyte concentrations in the third quarter (September 17-18, 2013) surface water field blanks from the Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)	
		Blank 1 (H13090377-005)	Blank 2 (H13090377-014)
Total Suspended Sediment	1		ND
Alkalinity, Total	4		ND
Alkalinity, Bicarbonate	4		ND
Sulfate	1		ND
Hardness	1		ND
Carbon, Dissolved Organic	0.1		0.7
Nitrogen, Ammonia	0.05		ND
Nitrogen, Nitrate plus Nitrite	0.05		ND
Nitrogen, Total	0.05		ND
Phosphorus, Total	0.005		ND
Arsenic, Dissolved	0.005		ND
Cadmium, Dissolved	0.00008		ND
Copper, Dissolved	0.001		ND
Lead, Dissolved	0.0005		ND
Zinc, Dissolved	0.01		0.01
Mercury, Total	0.00001	ND	
Methylmercury	0.00000005	0.00000002	
Arsenic, Total Recoverable	0.005		ND
Cadmium, Total Recoverable	0.00008		ND
Calcium, Total Recoverable	1		ND
Copper, Total Recoverable	0.001		ND
Lead, Total Recoverable	0.0005		ND
Magnesium, Total Recoverable	1		ND
Zinc, Total Recoverable	0.01		ND

ND	Not detected at analytical reporting limit.
🟧	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are less than 10 times the reporting limit) from this sample period in the project database.

Table A6. **Analyte concentrations in the fourth quarter (November 25-26, 2013) surface water field blanks from the Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)	
		Blank 1 (H13090377-005)	Blank 2 (H13090377-014)
Total Suspended Sediment	1		ND
Alkalinity, Total	4		ND
Alkalinity, Bicarbonate	4		ND
Sulfate	1		ND
Hardness	1		ND
Carbon, Dissolved Organic	0.1		ND
Nitrogen, Ammonia	0.05		ND
Nitrogen, Nitrate plus Nitrite	0.05		ND
Nitrogen, Total	0.05		ND
Phosphorus, Total	0.005		ND
Arsenic, Dissolved	0.005		ND
Cadmium, Dissolved	0.00008		ND
Copper, Dissolved	0.001		ND
Lead, Dissolved	0.0005		ND
Zinc, Dissolved	0.01		ND
Mercury, Total	0.00001	ND	
Methylmercury	0.00000005	0.00000002	
Arsenic, Total Recoverable	0.005		ND
Cadmium, Total Recoverable	0.00008		ND
Calcium, Total Recoverable	1		ND
Copper, Total Recoverable	0.001		ND
Lead, Total Recoverable	0.0005		ND
Magnesium, Total Recoverable	1		ND
Zinc, Total Recoverable	0.01		ND

ND	Not detected at analytical reporting limit.
🟧	Field blank concentration exceeds reporting limit. We recommend "B-flagging" all analyte concentrations (which are less than 10 times the reporting limit) from this sample period in the project database.

Table A7. **Relative percent difference of first surface water field sample and field duplicate sample pair from the Flint Creek sample site (FC-CFR) during the first quarter (March 19, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13030312-016)	Field Duplicate (H13030312-017)	
Total Suspended Sediment	1			
Alkalinity, Total	4			
Alkalinity, Bicarbonate	4			
Sulfate	1			
Hardness	1			
Carbon, Dissolved Organic	0.1			
Nitrogen, Ammonia	0.05			
Nitrogen, Nitrate plus Nitrite	0.05			
Nitrogen, Total	0.05			
Phosphorus, Total	0.005			
Arsenic, Dissolved	0.005			
Cadmium, Dissolved	0.00008			
Copper, Dissolved	0.001			
Lead, Dissolved	0.0005			
Zinc, Dissolved	0.01			
Mercury, Total	0.00001	0.00018	0.00020	10.5
Methylmercury	0.00000005	0.00000884	0.00000831	6.2
Arsenic, Total Recoverable	0.005			
Cadmium, Total Recoverable	0.00008			
Calcium, Total Recoverable	1			
Copper, Total Recoverable	0.001			
Lead, Total Recoverable	0.0005			
Magnesium, Total Recoverable	1			
Zinc, Total Recoverable	0.01			

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A8. **Relative percent difference of second surface water field sample and field duplicate sample pair from the Clark Fork River at Deer Lodge sample site (CFR-27H) during the first quarter (March 19, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13030312-003)	Field Duplicate (H13030312-004)	
Total Suspended Sediment	1	19	18	5.4
Alkalinity, Total	4	150	150	0
Alkalinity, Bicarbonate	4	170	170	0
Sulfate	1	88	88	0
Hardness	1	211	211	0
Carbon, Dissolved Organic	0.1			
Nitrogen, Ammonia	0.05	ND	ND	0
Nitrogen, Nitrate plus Nitrite	0.05	0.22	0.22	0
Nitrogen, Total	0.05	0.38	0.37	2.7
Phosphorus, Total	0.005	0.029	0.024	18.9
Arsenic, Dissolved	0.005	0.009	0.009	0
Cadmium, Dissolved	0.00008	ND	ND	0
Copper, Dissolved	0.001	0.009	0.006	40.0
Lead, Dissolved	0.0005	0.0006	ND	0
Zinc, Dissolved	0.01	0.02	0.02	0
Mercury, Total	0.00001			
Methylmercury	0.00000005			
Arsenic, Total Recoverable	0.005	0.012	0.012	0
Cadmium, Total Recoverable	0.00008	0.00016	0.00017	6.1
Calcium, Total Recoverable	1	61	61	0
Copper, Total Recoverable	0.001	0.03	0.031	3.3
Lead, Total Recoverable	0.0005	0.0037	0.004	7.8
Magnesium, Total Recoverable	1	14	14	0
Zinc, Total Recoverable	0.01	0.03	0.03	0

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A9. **Relative percent difference of third surface water field sample and field duplicate sample pair from the Silver Bow Creek at Warm Springs sample site (SS-25) during the first quarter (March 20, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13030312-010)	Field Duplicate (H13030312-013)	
Total Suspended Sediment	1			
Alkalinity, Total	4			
Alkalinity, Bicarbonate	4			
Sulfate	1			
Hardness	1			
Carbon, Dissolved Organic	0.1	2.7	2.7	0
Nitrogen, Ammonia	0.05			
Nitrogen, Nitrate plus Nitrite	0.05			
Nitrogen, Total	0.05			
Phosphorus, Total	0.005			
Arsenic, Dissolved	0.005			
Cadmium, Dissolved	0.00008			
Copper, Dissolved	0.001			
Lead, Dissolved	0.0005			
Zinc, Dissolved	0.01			
Mercury, Total	0.00001			
Methylmercury	0.00000005			
Arsenic, Total Recoverable	0.005			
Cadmium, Total Recoverable	0.00008			
Calcium, Total Recoverable	1			
Copper, Total Recoverable	0.001			
Lead, Total Recoverable	0.0005			
Magnesium, Total Recoverable	1			
Zinc, Total Recoverable	0.01			

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A10. **Relative percent difference of first surface water field sample and field duplicate sample pair from the Little Blackfoot River near Garrison sample site (LBR-CFR) during the second quarter, rising limb (May 15, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13050302-008)	Field Duplicate (H13030312-004)	
Total Suspended Sediment	1	34	36	5.7
Alkalinity, Total	4	88	88	0
Alkalinity, Bicarbonate	4	110	110	0
Sulfate	1	14	14	0
Hardness	1	93	91	2.2
Carbon, Dissolved Organic	0.1	ND	ND	0
Nitrogen, Ammonia	0.05	ND	ND	0
Nitrogen, Nitrate plus Nitrite	0.05	0.2	0.2	0
Nitrogen, Total	0.05	0.06	0.061	1.7
Phosphorus, Total	0.005	ND	ND	0
Arsenic, Dissolved	0.005	ND	ND	0
Cadmium, Dissolved	0.00008	0.001	0.001	0
Copper, Dissolved	0.001	ND	ND	0
Lead, Dissolved	0.0005	0.02	0.02	0
Zinc, Dissolved	0.01	34	36	5.7
Mercury, Total	0.00001			
Methylmercury	0.00000005			
Arsenic, Total Recoverable	0.005	0.006	0.006	0
Cadmium, Total Recoverable	0.00008	ND	ND	0
Calcium, Total Recoverable	1	27	26	3.8
Copper, Total Recoverable	0.001	0.003	0.003	0
Lead, Total Recoverable	0.0005	0.002	0.002	0
Magnesium, Total Recoverable	1	6	6	0
Zinc, Total Recoverable	0.01	0.01	ND	0

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A11. **Relative percent difference of second surface water field sample and field duplicate sample pair from the Silver Bow Creek at Warm Springs sample site (SS-25) during the second quarter, rising limb (May 16, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13050302-017)	Field Duplicate (H13050302-018)	
Total Suspended Sediment	1	6	8	28.6
Alkalinity, Total	4	74	76	2.7
Alkalinity, Bicarbonate	4	91	93	2.2
Sulfate	1	75	75	0
Hardness	1	133	135	1.5
Carbon, Dissolved Organic	0.1	3.6	3.6	0
Nitrogen, Ammonia	0.05	ND	ND	0
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND	0
Nitrogen, Total	0.05	0.3	0.3	0
Phosphorus, Total	0.005	0.039	0.041	5
Arsenic, Dissolved	0.005	0.017	0.016	6.1
Cadmium, Dissolved	0.00008	ND	ND	0
Copper, Dissolved	0.001	0.003	0.003	0
Lead, Dissolved	0.0005	ND	ND	0
Zinc, Dissolved	0.01	0.01	0.01	0
Mercury, Total	0.00001			
Methylmercury	0.00000005			
Arsenic, Total Recoverable	0.005	0.019	0.019	0
Cadmium, Total Recoverable	0.00008	0.00009	0.00008	11.8
Calcium, Total Recoverable	1	38	38	0
Copper, Total Recoverable	0.001	0.007	0.007	0
Lead, Total Recoverable	0.0005	0.0016	0.0016	0
Magnesium, Total Recoverable	1	9	10	10.5
Zinc, Total Recoverable	0.01	ND	0.01	0

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A12. **Relative percent difference of first surface water field sample and field duplicate sample pair from the Flint Creek sample site (FC-CFR) during the second quarter, peak (June 11, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13060239-005)	Field Duplicate (H13060239-006)	
Total Suspended Sediment	1	4	4	0
Alkalinity, Total	4	190	190	0
Alkalinity, Bicarbonate	4	210	200	4.9
Sulfate	1	21	21	0
Hardness	1	177	180	1.7
Carbon, Dissolved Organic	0.1			
Nitrogen, Ammonia	0.05	ND	ND	0
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND	0
Nitrogen, Total	0.05	0.3	0.3	0
Phosphorus, Total	0.005	0.059	0.06	1.7
Arsenic, Dissolved	0.005	0.01	0.01	0
Cadmium, Dissolved	0.00008	ND	ND	0
Copper, Dissolved	0.001	0.001	0.001	0
Lead, Dissolved	0.0005	ND	ND	0
Zinc, Dissolved	0.01	ND	ND	0
Mercury, Total	0.00001	0.000018	0.00002	10.5
Methylmercury	0.00000005	0.00000102	0.00000116	12.8
Arsenic, Total Recoverable	0.005	0.011	0.011	0
Cadmium, Total Recoverable	0.00008	ND	ND	0
Calcium, Total Recoverable	1	47	52	10.1
Copper, Total Recoverable	0.001	0.002	0.002	0
Lead, Total Recoverable	0.0005	0.0014	0.0015	6.9
Magnesium, Total Recoverable	1	13	13	0
Zinc, Total Recoverable	0.01	ND	ND	0

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A13. **Relative percent difference of second surface water field sample and field duplicate sample pair from the Silver Bow Creek at Warm Springs sample site (SS-25) during the second quarter, peak (June 13, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13060239-017)	Field Duplicate (H13060239-018)	
Total Suspended Sediment	1	4	4	0
Alkalinity, Total	4	190	190	0
Alkalinity, Bicarbonate	4	210	200	4.9
Sulfate	1	21	21	0
Hardness	1	177	180	1.7
Carbon, Dissolved Organic	0.1			
Nitrogen, Ammonia	0.05	ND	ND	0
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND	0
Nitrogen, Total	0.05	0.3	0.3	0
Phosphorus, Total	0.005	0.059	0.06	1.7
Arsenic, Dissolved	0.005	0.01	0.01	0
Cadmium, Dissolved	0.00008	ND	ND	0
Copper, Dissolved	0.001	0.001	0.001	0
Lead, Dissolved	0.0005	ND	ND	0
Zinc, Dissolved	0.01	ND	ND	0
Mercury, Total	0.00001	0.000018	0.00002	10.5
Methylmercury	0.00000005	0.00000102	0.00000116	12.8
Arsenic, Total Recoverable	0.005	0.011	0.011	0
Cadmium, Total Recoverable	0.00008	ND	ND	0
Calcium, Total Recoverable	1	47	52	10.1
Copper, Total Recoverable	0.001	0.002	0.002	0
Lead, Total Recoverable	0.0005	0.0014	0.0015	6.9
Magnesium, Total Recoverable	1	13	13	0
Zinc, Total Recoverable	0.01	ND	ND	0

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A14. **Relative percent difference of first surface water field sample and field duplicate sample pair from the Flint Creek sample site (FC-CFR) during the second quarter, falling limb (June 25, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13060510-005)	Field Duplicate (H13060510-006)	
Total Suspended Sediment	1	12	6	66.7
Alkalinity, Total	4	210	210	0
Alkalinity, Bicarbonate	4	240	230	4.3
Sulfate	1	17	17	0
Hardness	1	199	201	1.0
Carbon, Dissolved Organic	0.1			
Nitrogen, Ammonia	0.05	ND	ND	0
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND	0
Nitrogen, Total	0.05	0.35	0.32	9.0
Phosphorus, Total	0.005	0.058	0.058	0
Arsenic, Dissolved	0.005	0.011	0.01	9.5
Cadmium, Dissolved	0.00008	ND	ND	0
Copper, Dissolved	0.001	0.001	0.001	0.0
Lead, Dissolved	0.0005	ND	ND	0
Zinc, Dissolved	0.01	ND	ND	0
Mercury, Total	0.00001	0.000056	0.00006	3.5
Methylmercury	0.00000005	0.00000126	0.00000133	5.4
Arsenic, Total Recoverable	0.005	0.012	0.012	0
Cadmium, Total Recoverable	0.00008	ND	ND	0
Calcium, Total Recoverable	1	54	55	1.8
Copper, Total Recoverable	0.001	0.002	0.003	40.0
Lead, Total Recoverable	0.0005	0.0015	0.0016	6.5
Magnesium, Total Recoverable	1	15	15	0
Zinc, Total Recoverable	0.01	ND	ND	0

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A15. **Relative percent difference of second surface water field sample and field duplicate sample pair from the Silver Bow Creek at Warm Springs sample site (SS-25) during the second quarter, falling limb (June 27, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13060510-017)	Field Duplicate (H13060510-018)	
Total Suspended Sediment	1	5	6	18.2
Alkalinity, Total	4	97	97	0
Alkalinity, Bicarbonate	4	100	100	0
Sulfate	1	74	74	0
Hardness	1	151	154	2.0
Carbon, Dissolved Organic	0.1	4.7	4.7	0
Nitrogen, Ammonia	0.05	ND	ND	0
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND	0
Nitrogen, Total	0.05	0.28	0.31	10.2
Phosphorus, Total	0.005	0.086	0.083	3.6
Arsenic, Dissolved	0.005	0.035	0.035	0
Cadmium, Dissolved	0.00008	ND	ND	0
Copper, Dissolved	0.001	0.005	0.005	0
Lead, Dissolved	0.0005	ND	ND	0
Zinc, Dissolved	0.01	ND	ND	0
Mercury, Total	0.00001			
Methylmercury	0.00000005			
Arsenic, Total Recoverable	0.005	0.037	0.037	0
Cadmium, Total Recoverable	0.00008	ND	ND	0
Calcium, Total Recoverable	1	43	44	2.3
Copper, Total Recoverable	0.001	0.006	0.006	0
Lead, Total Recoverable	0.0005	0.0007	0.0007	0
Magnesium, Total Recoverable	1	11	11	0
Zinc, Total Recoverable	0.01	ND	ND	0

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A16. **Relative percent difference of first surface water field sample and field duplicate sample pair from the Flint Creek sample site (FC-CFR) during the third quarter (September 17, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13090377-003)	Field Duplicate (H13090377-004)	
Total Suspended Sediment	1			
Alkalinity, Total	4			
Alkalinity, Bicarbonate	4			
Sulfate	1			
Hardness	1			
Carbon, Dissolved Organic	0.1			
Nitrogen, Ammonia	0.05			
Nitrogen, Nitrate plus Nitrite	0.05			
Nitrogen, Total	0.05			
Phosphorus, Total	0.005			
Arsenic, Dissolved	0.005			
Cadmium, Dissolved	0.00008			
Copper, Dissolved	0.001			
Lead, Dissolved	0.0005			
Zinc, Dissolved	0.01			
Mercury, Total	0.00001	0.00003	0.00003	0
Methylmercury	0.00000005	0.00000079	0.00000081	2.4
Arsenic, Total Recoverable	0.005			
Cadmium, Total Recoverable	0.00008			
Calcium, Total Recoverable	1			
Copper, Total Recoverable	0.001			
Lead, Total Recoverable	0.0005			
Magnesium, Total Recoverable	1			
Zinc, Total Recoverable	0.01			

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A17. **Relative percent difference of second surface water field sample and field duplicate sample pair from the Silver Bow Creek at Warm Springs sample site (ss-25) during the third quarter (September 18, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13090377-012)	Field Duplicate (H13090377-013)	
Total Suspended Sediment	1	8	6	28.6
Alkalinity, Total	4	110	110	0
Alkalinity, Bicarbonate	4	100	100	0
Sulfate	1	140	140	0
Hardness	1	235	233	0.9
Carbon, Dissolved Organic	0.1	4.7	4.5	4.3
Nitrogen, Ammonia	0.05	ND	ND	0
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND	0
Nitrogen, Total	0.05	0.57	0.58	1.7
Phosphorus, Total	0.005	0.096	0.095	1
Arsenic, Dissolved	0.005	0.033	0.033	0
Cadmium, Dissolved	0.00008	ND	ND	0
Copper, Dissolved	0.001	0.002	0.002	0
Lead, Dissolved	0.0005	ND	ND	0
Zinc, Dissolved	0.01	ND	ND	0
Mercury, Total	0.00001			
Methylmercury	0.00000005			
Arsenic, Total Recoverable	0.005	0.034	0.034	0
Cadmium, Total Recoverable	0.00008	ND	ND	0
Calcium, Total Recoverable	1	66	66	0
Copper, Total Recoverable	0.001	0.003	0.003	0
Lead, Total Recoverable	0.0005	0.0006	0.0005	18.2
Magnesium, Total Recoverable	1	17	17	0
Zinc, Total Recoverable	0.01	ND	ND	0

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A18. **Relative percent difference of first surface water field sample and field duplicate sample pair from the Flint Creek sample site (FC-CFR) during the fourth quarter (November 25, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13110520-003)	Field Duplicate (H13110520-004)	
Total Suspended Sediment	1			
Alkalinity, Total	4			
Alkalinity, Bicarbonate	4			
Sulfate	1			
Hardness	1			
Carbon, Dissolved Organic	0.1			
Nitrogen, Ammonia	0.05			
Nitrogen, Nitrate plus Nitrite	0.05			
Nitrogen, Total	0.05			
Phosphorus, Total	0.005			
Arsenic, Dissolved	0.005			
Cadmium, Dissolved	0.00008			
Copper, Dissolved	0.001			
Lead, Dissolved	0.0005			
Zinc, Dissolved	0.01			
Mercury, Total	0.00001	0.00011	0.00012	8.7
Methylmercury	0.00000005	0.00000105	0.00000107	1.9
Arsenic, Total Recoverable	0.005			
Cadmium, Total Recoverable	0.00008			
Calcium, Total Recoverable	1			
Copper, Total Recoverable	0.001			
Lead, Total Recoverable	0.0005			
Magnesium, Total Recoverable	1			
Zinc, Total Recoverable	0.01			

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A19. Relative percent difference of second surface water field sample and field duplicate sample pair from the Silver Bow Creek at Warm Springs sample site (SS-25) during the fourth quarter (November 26, 2013) monitoring period, Clark Fork River Operable Unit.

Analyte	Reporting Limit (mg/L)	Concentration, mg/L (Sample ID)		Relative Percent Difference
		Field Sample (H13110520-012)	Field Duplicate (H13110520-013)	
Total Suspended Sediment	1	6	8	28.6
Alkalinity, Total	4	110	120	8.7
Alkalinity, Bicarbonate	4	130	130	0
Sulfate	1	140	140	0
Hardness	1	224	220	1.8
Carbon, Dissolved Organic	0.1	3.9		
Nitrogen, Ammonia	0.05	ND	ND	0
Nitrogen, Nitrate plus Nitrite	0.05	ND	ND	0
Nitrogen, Total	0.05	0.61	0.41	39.2
Phosphorus, Total	0.005	0.019	0.019	0
Arsenic, Dissolved	0.005	0.01	0.01	0
Cadmium, Dissolved	0.00008	ND	ND	0
Copper, Dissolved	0.001	0.003	0.003	0
Lead, Dissolved	0.0005	ND	ND	0
Zinc, Dissolved	0.01	0.02	ND	0
Mercury, Total	0.00001			
Methylmercury	0.00000005			
Arsenic, Total Recoverable	0.005	0.012	0.012	0
Cadmium, Total Recoverable	0.00008	ND	ND	0
Calcium, Total Recoverable	1	62	60	3.3
Copper, Total Recoverable	0.001	0.005	0.005	0
Lead, Total Recoverable	0.0005	0.0009	0.0009	0
Magnesium, Total Recoverable	1	17	17	0
Zinc, Total Recoverable	0.01	0.01	0.01	0

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 25%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A20. Relative percent difference of instream sediment field sample and field duplicate sample pair from the Clark Fork River at Deer Lodge sample site (CFR-27H) during the first quarter (March 19, 2013) monitoring period, Clark Fork River Operable Unit.

Analyte	Reporting Limit (mg/kg)	Concentration, mg/kg (Sample ID)		Relative Percent Difference
		Field Sample (H13030312-021)	Field Duplicate (H13030312-022)	
Arsenic, Total	0.005	43	43	0
Cadmium, Total	0.00008	1.9	1.8	5.4
Copper, Total	0.001	473	451	4.8
Lead, Total	0.0005	82	71	14.4
Zinc, Total	0.01	395	376	4.9

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 40%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A21. **Relative percent difference of first instream sediment field sample and field duplicate sample pair from the Clark Fork River at Galen Road sample site (CFR-07D) during the third quarter (September 18, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/kg)	Concentration, mg/kg (Sample ID)		Relative Percent Difference
		Field Sample (H13090377-023)	Field Duplicate (H13090377-024)	
Arsenic, Total	0.005	61	62	1.6
Cadmium, Total	0.00008	2.1	2.2	4.7
Copper, Total	0.001	547	576	5.2
Lead, Total	0.0005	101	115	13
Zinc, Total	0.01	455	530	15.2

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 40%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

Table A22. **Relative percent difference of second instream sediment field sample and field duplicate sample pair from the Silver Bow Creek at Warm Springs sample site (SS-25) during the third quarter (September 18, 2013) monitoring period, Clark Fork River Operable Unit.**

Analyte	Reporting Limit (mg/kg)	Concentration, mg/kg (Sample ID)		Relative Percent Difference
		Field Sample (H13090377-027)	Field Duplicate (H13090377-028)	
Arsenic, Total	0.005	26	21	21.3
Cadmium, Total	0.00008	1.3	1.1	16.7
Copper, Total	0.001	99	75	27.6
Lead, Total	0.0005	40	33	19.2
Zinc, Total	0.01	244	198	20.8

ND	Not detected at analytical reporting limit.
🟧	Relative percent difference is greater than 40%. We recommend "J-flagging" all analyte concentrations (which are at least 5 times the reporting limit) from this sample period in the project database.

APPENDIX B

ANALYTICAL LABORATORY RESULTS

APPENDIX B1

FIRST QUARTER
ANALYSIS RESULTS FOR
SURFACE WATER AND INSTREAM SEDIMENT SAMPLES

ANALYTICAL SUMMARY REPORT

April 25, 2013

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13030312 Quote ID: H624 - CFR Monitoring-474374

Project Name: CFR OU Monitoring

Energy Laboratories Inc Helena MT received the following 31 samples for MT DEQ-Federal Superfund on 3/21/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13030312-001	CFR-116A	03/19/13 10:00	03/21/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13030312-002	LBR-CFR	03/19/13 14:30	03/21/13	Aqueous	Same As Above
H13030312-003	CFR-27H	03/19/13 15:30	03/21/13	Aqueous	Same As Above
H13030312-004	CFR-27H duplicate	03/19/13 15:30	03/21/13	Aqueous	Same As Above
H13030312-005	Field Blank #2	03/19/13 16:00	03/21/13	Aqueous	Same As Above
H13030312-006	CFR-11F	03/20/13 10:00	03/21/13	Aqueous	Same As Above
H13030312-007	CFR-07D	03/20/13 11:00	03/21/13	Aqueous	Same As Above
H13030312-008	CFR-03A	03/20/13 12:00	03/21/13	Aqueous	Same As Above
H13030312-009	WSC-SBC	03/20/13 12:45	03/21/13	Aqueous	Same As Above
H13030312-010	SS-25	03/20/13 13:45	03/21/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13030312-011	MWB-SBC	03/20/13 14:30	03/21/13	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H13030312-012	MCWC-MWB	03/20/13 16:00	03/21/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13030312-013	SS-25 duplicate	03/20/13 13:45	03/21/13	Aqueous	Carbon, Dissolved Organic
H13030312-014	Field Blank #3	03/20/13 14:15	03/21/13	Aqueous	Same As Above
H13030312-015	CFR-84F	03/19/13 12:00	03/21/13	Aqueous	Mercury, Total Digestion, Mercury by CVAA Subcontracted, Analytics
H13030312-016	FC-CFR	03/19/13 13:00	03/21/13	Aqueous	Same As Above
H13030312-017	FC-CFR duplicate	03/19/13 13:00	03/21/13	Aqueous	Same As Above
H13030312-018	Field Blank #1	03/19/13 13:00	03/21/13	Aqueous	Same As Above
H13030312-019	CFR-116A Sediment Sieve <0.065mm	03/19/13 10:00	03/21/13	Sediment	Metals by ICP/ICPMS, Total Digestion, Total Metals Sieves Soil Preparation
H13030312-020	LBR-CFR Sediment Sieve <0.065mm	03/19/13 14:30	03/21/13	Sediment	Same As Above
H13030312-021	CFR-27H Sediment Sieve <0.065mm	03/19/13 15:30	03/21/13	Sediment	Same As Above
H13030312-022	CFR-27H duplicate Sediment Sieve <0.065mm	03/19/13 15:30	03/21/13	Sediment	Same As Above
H13030312-023	CFR-11F Sediment Sieve <0.065mm	03/20/13 10:00	03/21/13	Sediment	Same As Above
H13030312-024	CFR-07D Sediment Sieve <0.065mm	03/20/13 11:00	03/21/13	Sediment	Same As Above
H13030312-025	CFR-03A Sediment Sieve <0.065mm	03/20/13 12:00	03/21/13	Sediment	Same As Above
H13030312-026	WSC-SBC Sediment Sieve <0.065mm	03/20/13 12:45	03/21/13	Sediment	Same As Above
H13030312-027	SS-25 Sediment Sieve <0.065mm	03/20/13 13:45	03/21/13	Sediment	Same As Above
H13030312-028	MWB-SBC Sediment Sieve <0.065mm	03/20/13 14:30	03/21/13	Sediment	Same As Above
H13030312-029	MCWC-MWB Sediment Sieve <0.065mm	03/20/13 16:00	03/21/13	Sediment	Same As Above
H13030312-030	LC - 7.5 Sediment Sieve <0.065mm	03/20/13 17:30	03/21/13	Sediment	Same As Above
H13030312-031	RTC - 1.5 Sediment Sieve <0.065mm	03/20/13 17:45	03/21/13	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

ANALYTICAL SUMMARY REPORT

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: CFR OU Monitoring
Sample Delivery Group: H13030312

Report Date: 04/25/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Samples for Methyl Mercury were submitted to Brooks Rand Laboratory for anlaysis. The report is attached. Wj 4/25/13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 10:00
Lab ID:	H13030312-001	**DateReceived:**	03/21/13
Client Sample ID	CFR-116A	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	15	mg/L		1		A2540 D	03/22/13 11:48 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	03/22/13 12:46 / cmm
Bicarbonate as HCO3	160	mg/L		4		A2320 B	03/22/13 12:46 / cmm
Sulfate	51	mg/L		1		E300.0	03/22/13 14:03 / cmm
Hardness as CaCO3	154	mg/L		1		A2340 B	03/26/13 16:56 / abb
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:18 / reh
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	03/26/13 12:28 / reh
Nitrogen, Total	0.17	mg/L		0.05		A4500 N-C	03/26/13 08:42 / reh
Phosphorus, Total as P	0.023	mg/L		0.005		E365.1	03/22/13 15:24 / reh
METALS, DISSOLVED							
Arsenic	0.005	mg/L		0.005		E200.8	03/26/13 10:47 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 10:47 / dck
Copper	0.003	mg/L		0.001		E200.8	03/26/13 10:47 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 10:47 / dck
Zinc	0.01	mg/L		0.01		E200.8	03/26/13 10:47 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	0.006	mg/L		0.005		E200.8	03/26/13 11:28 / dck
Cadmium	0.00008	mg/L		0.00008		E200.8	03/26/13 11:28 / dck
Calcium	44	mg/L		1		E200.7	03/26/13 16:56 / sld
Copper	0.012	mg/L		0.001		E200.8	03/26/13 11:28 / dck
Lead	0.0018	mg/L		0.0005		E200.8	03/26/13 11:28 / dck
Magnesium	11	mg/L		1		E200.7	03/26/13 16:56 / sld
Zinc	0.02	mg/L		0.01		E200.8	03/26/13 11:28 / dck

Report Definitions:		
	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 14:30
Lab ID:	H13030312-002	**DateReceived:**	03/21/13
Client Sample ID	LBR-CFR	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	4	mg/L		1		A2540 D	03/22/13 11:48 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	03/22/13 12:53 / cmm
Bicarbonate as HCO3	150	mg/L		4		A2320 B	03/22/13 12:53 / cmm
Sulfate	17	mg/L		1		E300.0	04/02/13 12:26 / cmm
Hardness as CaCO3	122	mg/L		1		A2340 B	03/27/13 11:43 / sld
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:20 / reh
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	03/26/13 12:31 / reh
Nitrogen, Total	0.09	mg/L		0.05		A4500 N-C	03/26/13 08:44 / reh
Phosphorus, Total as P	0.021	mg/L		0.005		E365.1	03/22/13 15:25 / reh
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.005		E200.8	03/26/13 11:50 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 11:50 / dck
Copper	ND	mg/L		0.001		E200.8	03/26/13 11:50 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 11:50 / dck
Zinc	0.02	mg/L		0.01		E200.8	03/26/13 11:50 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	ND	mg/L		0.005		E200.8	03/26/13 11:55 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 11:55 / dck
Calcium	35	mg/L		1		E200.7	03/26/13 17:18 / sld
Copper	ND	mg/L		0.001		E200.8	03/26/13 11:55 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 11:55 / dck
Magnesium	8	mg/L		1		E200.7	03/26/13 17:18 / sld
Zinc	ND	mg/L		0.01		E200.8	03/26/13 11:55 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 15:30
Lab ID:	H13030312-003	**DateReceived:**	03/21/13
Client Sample ID	CFR-27H	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	19	mg/L		1		A2540 D	03/22/13 11:49 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	03/22/13 13:01 / cmm
Bicarbonate as HCO3	170	mg/L		4		A2320 B	03/22/13 13:01 / cmm
Sulfate	88	mg/L		1		E300.0	03/22/13 14:28 / cmm
Hardness as CaCO3	211	mg/L		1		A2340 B	03/26/13 17:22 / abb
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:21 / reh
Nitrogen, Nitrate+Nitrite as N	0.22	mg/L		0.05		E353.2	03/26/13 12:33 / reh
Nitrogen, Total	0.38	mg/L		0.05		A4500 N-C	03/26/13 08:47 / reh
Phosphorus, Total as P	0.029	mg/L		0.005		E365.1	03/22/13 15:26 / reh
METALS, DISSOLVED							
Arsenic	0.009	mg/L		0.005		E200.8	03/26/13 12:00 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 12:00 / dck
Copper	0.009	mg/L		0.001		E200.8	03/26/13 12:00 / dck
Lead	0.0006	mg/L		0.0005		E200.8	03/26/13 12:00 / dck
Zinc	0.02	mg/L		0.01		E200.8	03/26/13 12:00 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	0.012	mg/L		0.005		E200.8	03/26/13 12:04 / dck
Cadmium	0.00016	mg/L		0.00008		E200.8	03/26/13 12:04 / dck
Calcium	61	mg/L		1		E200.7	03/26/13 17:22 / sld
Copper	0.030	mg/L		0.001		E200.8	03/26/13 12:04 / dck
Lead	0.0037	mg/L		0.0005		E200.8	03/26/13 12:04 / dck
Magnesium	14	mg/L		1		E200.7	03/26/13 17:22 / sld
Zinc	0.03	mg/L		0.01		E200.8	03/26/13 12:04 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 15:30
Lab ID:	H13030312-004	**DateReceived:**	03/21/13
Client Sample ID	CFR-27H duplicate	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	18	mg/L		1		A2540 D	03/22/13 11:49 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	03/22/13 13:08 / cmm
Bicarbonate as HCO3	170	mg/L		4		A2320 B	03/22/13 13:08 / cmm
Sulfate	88	mg/L		1		E300.0	03/22/13 15:31 / cmm
Hardness as CaCO3	211	mg/L		1		A2340 B	03/26/13 17:25 / abb
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:22 / reh
Nitrogen, Nitrate+Nitrite as N	0.22	mg/L		0.05		E353.2	03/26/13 12:34 / reh
Nitrogen, Total	0.37	mg/L		0.05		A4500 N-C	03/26/13 08:48 / reh
Phosphorus, Total as P	0.024	mg/L		0.005		E365.1	03/22/13 15:27 / reh
METALS, DISSOLVED							
Arsenic	0.009	mg/L		0.005		E200.8	03/26/13 12:23 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 12:23 / dck
Copper	0.006	mg/L		0.001		E200.8	03/26/13 12:23 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 12:23 / dck
Zinc	0.02	mg/L		0.01		E200.8	03/26/13 12:23 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	0.012	mg/L		0.005		E200.8	03/26/13 12:27 / dck
Cadmium	0.00017	mg/L		0.00008		E200.8	03/26/13 12:27 / dck
Calcium	61	mg/L		1		E200.7	03/26/13 17:25 / sld
Copper	0.031	mg/L		0.001		E200.8	03/26/13 12:27 / dck
Lead	0.0040	mg/L		0.0005		E200.8	03/26/13 12:27 / dck
Magnesium	14	mg/L		1		E200.7	03/26/13 17:25 / sld
Zinc	0.03	mg/L		0.01		E200.8	03/26/13 12:27 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 16:00
Lab ID:	H13030312-005	**DateReceived:**	03/21/13
Client Sample ID	Field Blank #2	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	03/22/13 11:49 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	03/22/13 13:12 / cmm
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	03/22/13 13:12 / cmm
Sulfate	ND	mg/L		1		E300.0	03/22/13 15:44 / cmm
Hardness as CaCO3	ND	mg/L		1		A2340 B	03/27/13 11:43 / sld
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:23 / reh
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	03/26/13 12:35 / reh
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	03/26/13 08:50 / reh
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	03/22/13 15:48 / reh
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.005		E200.8	03/26/13 12:32 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 12:32 / dck
Copper	ND	mg/L		0.001		E200.8	03/26/13 12:32 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 12:32 / dck
Zinc	0.02	mg/L		0.01		E200.8	03/26/13 12:32 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	ND	mg/L		0.005		E200.8	03/26/13 12:36 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 12:36 / dck
Calcium	ND	mg/L		1		E200.7	03/26/13 17:29 / sld
Copper	ND	mg/L		0.001		E200.8	03/26/13 12:36 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 12:36 / dck
Magnesium	ND	mg/L		1		E200.7	03/26/13 17:29 / sld
Zinc	ND	mg/L		0.01		E200.8	03/26/13 12:36 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 10:00
Lab ID:	H13030312-006	**DateReceived:**	03/21/13
Client Sample ID	CFR-11F	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	12	mg/L		1		A2540 D	03/22/13 11:49 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	03/22/13 13:19 / cmm
Bicarbonate as HCO3	170	mg/L		4		A2320 B	03/22/13 13:19 / cmm
Sulfate	110	mg/L		1		E300.0	03/22/13 15:56 / cmm
Hardness as CaCO3	223	mg/L		1		A2340 B	03/26/13 17:33 / abb
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:27 / reh
Nitrogen, Nitrate+Nitrite as N	0.18	mg/L		0.05		E353.2	03/26/13 12:36 / reh
Nitrogen, Total	0.36	mg/L		0.05		A4500 N-C	03/26/13 08:51 / reh
Phosphorus, Total as P	0.023	mg/L		0.005		E365.1	03/22/13 15:35 / reh
METALS, DISSOLVED							
Arsenic	0.009	mg/L		0.005		E200.8	03/26/13 12:41 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 12:41 / dck
Copper	0.004	mg/L		0.001		E200.8	03/26/13 12:41 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 12:41 / dck
Zinc	0.01	mg/L		0.01		E200.8	03/26/13 12:41 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	0.011	mg/L		0.005		E200.8	03/26/13 12:45 / dck
Cadmium	0.00014	mg/L		0.00008		E200.8	03/26/13 12:45 / dck
Calcium	64	mg/L		1		E200.7	03/26/13 17:33 / sld
Copper	0.017	mg/L		0.001		E200.8	03/26/13 12:45 / dck
Lead	0.0024	mg/L		0.0005		E200.8	03/26/13 12:45 / dck
Magnesium	15	mg/L		1		E200.7	03/26/13 17:33 / sld
Zinc	0.02	mg/L		0.01		E200.8	03/26/13 12:45 / dck

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 11:00
Lab ID:	H13030312-007	**DateReceived:**	03/21/13
Client Sample ID	CFR-07D	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	03/22/13 11:50 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	03/22/13 13:26 / cmm
Bicarbonate as HCO3	170	mg/L		4		A2320 B	03/22/13 13:26 / cmm
Sulfate	110	mg/L		1		E300.0	03/22/13 16:09 / cmm
Hardness as CaCO3	218	mg/L		1		A2340 B	03/26/13 17:37 / abb
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:28 / reh
Nitrogen, Nitrate+Nitrite as N	0.17	mg/L		0.05		E353.2	03/26/13 12:37 / reh
Nitrogen, Total	0.35	mg/L		0.05		A4500 N-C	03/26/13 08:52 / reh
Phosphorus, Total as P	0.020	mg/L		0.005		E365.1	03/22/13 15:36 / reh
METALS, DISSOLVED							
Arsenic	0.009	mg/L		0.005		E200.8	03/26/13 12:50 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 12:50 / dck
Copper	0.003	mg/L		0.001		E200.8	03/26/13 12:50 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 12:50 / dck
Zinc	0.01	mg/L		0.01		E200.8	03/26/13 12:50 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	0.010	mg/L		0.005		E200.8	03/26/13 12:55 / dck
Cadmium	0.00012	mg/L		0.00008		E200.8	03/26/13 12:55 / dck
Calcium	63	mg/L		1		E200.7	03/26/13 17:37 / sld
Copper	0.013	mg/L		0.001		E200.8	03/26/13 12:55 / dck
Lead	0.0018	mg/L		0.0005		E200.8	03/26/13 12:55 / dck
Magnesium	15	mg/L		1		E200.7	03/26/13 17:37 / sld
Zinc	0.01	mg/L		0.01		E200.8	03/26/13 12:55 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 12:00
Lab ID:	H13030312-008	**DateReceived:**	03/21/13
Client Sample ID	CFR-03A	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	03/22/13 11:50 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	03/22/13 13:41 / cmm
Bicarbonate as HCO3	140	mg/L		4		A2320 B	03/22/13 13:41 / cmm
Sulfate	98	mg/L		1		E300.0	03/22/13 16:22 / cmm
Hardness as CaCO3	190	mg/L		1		A2340 B	03/26/13 17:41 / abb
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:29 / reh
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	03/26/13 12:41 / reh
Nitrogen, Total	0.24	mg/L		0.05		A4500 N-C	03/26/13 08:53 / reh
Phosphorus, Total as P	0.022	mg/L		0.005		E365.1	03/22/13 15:40 / reh
METALS, DISSOLVED							
Arsenic	0.008	mg/L		0.005		E200.8	03/26/13 12:59 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 12:59 / dck
Copper	0.003	mg/L		0.001		E200.8	03/26/13 12:59 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 12:59 / dck
Zinc	0.01	mg/L		0.01		E200.8	03/26/13 12:59 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	0.010	mg/L		0.005		E200.8	03/26/13 16:17 / dck
Cadmium	0.00011	mg/L		0.00008		E200.8	03/26/13 16:17 / dck
Calcium	54	mg/L		1		E200.7	03/26/13 17:41 / sld
Copper	0.010	mg/L		0.001		E200.8	03/26/13 16:17 / dck
Lead	0.0016	mg/L		0.0005		E200.8	03/26/13 16:17 / dck
Magnesium	13	mg/L		1		E200.7	03/26/13 17:41 / sld
Zinc	0.01	mg/L		0.01		E200.8	03/26/13 16:17 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 12:45
Lab ID:	H13030312-009	**DateReceived:**	03/21/13
Client Sample ID	WSC-SBC	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	2	mg/L		1		A2540 D	03/22/13 11:50 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	03/22/13 13:56 / cmm
Bicarbonate as HCO3	170	mg/L		4		A2320 B	03/22/13 13:56 / cmm
Sulfate	51	mg/L		1		E300.0	03/22/13 16:34 / cmm
Hardness as CaCO3	175	mg/L		1		A2340 B	03/26/13 17:44 / abb
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:30 / reh
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.05		E353.2	03/26/13 12:42 / reh
Nitrogen, Total	0.11	mg/L		0.05		A4500 N-C	03/26/13 08:54 / reh
Phosphorus, Total as P	0.006	mg/L		0.005		E365.1	03/22/13 15:41 / reh
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.005		E200.8	03/26/13 16:22 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 16:22 / dck
Copper	0.002	mg/L		0.001		E200.8	03/26/13 16:22 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 16:22 / dck
Zinc	ND	mg/L		0.01		E200.8	03/26/13 16:22 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	ND	mg/L		0.005		E200.8	03/26/13 16:27 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 16:27 / dck
Calcium	52	mg/L		1		E200.7	03/26/13 17:44 / sld
Copper	0.004	mg/L		0.001		E200.8	03/26/13 16:27 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 16:27 / dck
Magnesium	11	mg/L		1		E200.7	03/26/13 17:44 / sld
Zinc	ND	mg/L		0.01		E200.8	03/26/13 16:27 / dck

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 13:45
Lab ID:	H13030312-010	**DateReceived:**	03/21/13
Client Sample ID	SS-25	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	03/22/13 11:50 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	94	mg/L		4		A2320 B	03/22/13 14:03 / cmm
Bicarbonate as HCO3	110	mg/L		4		A2320 B	03/22/13 14:03 / cmm
Sulfate	120	mg/L		1		E300.0	03/22/13 16:47 / cmm
Hardness as CaCO3	185	mg/L		1		A2340 B	03/26/13 17:48 / abb
AGGREGATE ORGANICS							
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.1		A5310 C	03/26/13 14:54 / eli-ca1
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:32 / reh
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	03/26/13 12:43 / reh
Nitrogen, Total	0.31	mg/L		0.05		A4500 N-C	03/26/13 08:56 / reh
Phosphorus, Total as P	0.034	mg/L		0.005		E365.1	03/22/13 15:42 / reh
METALS, DISSOLVED							
Arsenic	0.010	mg/L		0.005		E200.8	03/26/13 16:31 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 16:31 / dck
Copper	0.003	mg/L		0.001		E200.8	03/26/13 16:31 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 16:31 / dck
Zinc	0.01	mg/L		0.01		E200.8	03/26/13 16:31 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	0.011	mg/L		0.005		E200.8	03/26/13 16:36 / dck
Cadmium	0.00013	mg/L		0.00008		E200.8	03/26/13 16:36 / dck
Calcium	51	mg/L		1		E200.7	03/26/13 17:48 / sld
Copper	0.008	mg/L		0.001		E200.8	03/26/13 16:36 / dck
Lead	0.0022	mg/L		0.0005		E200.8	03/26/13 16:36 / dck
Magnesium	14	mg/L		1		E200.7	03/26/13 17:48 / sld
Zinc	0.01	mg/L		0.01		E200.8	03/26/13 16:36 / dck

Report Definitions:

RL - Analyte reporting limit.

QCL - Quality control limit.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 14:30
Lab ID:	H13030312-011	**DateReceived:**	03/21/13
Client Sample ID	MWB-SBC	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	2	mg/L		1		A2540 D	03/22/13 11:50 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	03/22/13 14:11 / cmm
Bicarbonate as HCO3	140	mg/L		4		A2320 B	03/22/13 14:11 / cmm
Sulfate	150	mg/L		1		E300.0	03/22/13 16:59 / cmm
Hardness as CaCO3	230	mg/L		1		A2340 B	03/26/13 17:52 / abb
AGGREGATE ORGANICS							
Organic Carbon, Dissolved (DOC)	1.5	mg/L		0.1		A5310 C	03/26/13 15:04 / eli-ca1
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:35 / reh
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	03/26/13 12:47 / reh
Nitrogen, Total	0.13	mg/L		0.05		A4500 N-C	03/26/13 08:59 / reh
Phosphorus, Total as P	0.011	mg/L		0.005		E365.1	03/22/13 15:43 / reh
METALS, DISSOLVED							
Arsenic	0.011	mg/L		0.005		E200.8	03/26/13 16:40 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 16:40 / dck
Copper	0.002	mg/L		0.001		E200.8	03/26/13 16:40 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 16:40 / dck
Zinc	ND	mg/L		0.01		E200.8	03/26/13 16:40 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	0.011	mg/L		0.005		E200.8	03/26/13 16:59 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 16:59 / dck
Calcium	66	mg/L		1		E200.7	03/26/13 17:52 / sld
Copper	0.002	mg/L		0.001		E200.8	03/26/13 16:59 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 16:59 / dck
Magnesium	15	mg/L		1		E200.7	03/26/13 17:52 / sld
Zinc	ND	mg/L		0.01		E200.8	03/26/13 16:59 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 16:00
Lab ID:	H13030312-012	**DateReceived:**	03/21/13
Client Sample ID	MCWC-MWB	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	03/22/13 11:51 / cmm
INORGANICS							
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	03/22/13 14:18 / cmm
Bicarbonate as HCO3	120	mg/L		4		A2320 B	03/22/13 14:18 / cmm
Sulfate	34	mg/L		1		E300.0	03/22/13 17:12 / cmm
Hardness as CaCO3	112	mg/L		1		A2340 B	03/26/13 18:41 / abb
NUTRIENTS							
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	04/02/13 10:39 / reh
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	03/26/13 12:48 / reh
Nitrogen, Total	0.19	mg/L		0.05		A4500 N-C	03/26/13 09:03 / reh
Phosphorus, Total as P	0.020	mg/L		0.005		E365.1	03/22/13 15:44 / reh
METALS, DISSOLVED							
Arsenic	0.011	mg/L		0.005		E200.8	03/26/13 17:31 / dck
Cadmium	ND	mg/L		0.00008		E200.8	03/26/13 17:31 / dck
Copper	0.002	mg/L		0.001		E200.8	03/26/13 17:31 / dck
Lead	ND	mg/L		0.0005		E200.8	03/26/13 17:31 / dck
Zinc	0.01	mg/L		0.01		E200.8	03/26/13 17:31 / dck
METALS, TOTAL RECOVERABLE							
Arsenic	0.012	mg/L		0.005		E200.8	03/26/13 17:35 / dck
Cadmium	0.00009	mg/L		0.00008		E200.8	03/26/13 17:35 / dck
Calcium	32	mg/L		1		E200.7	03/26/13 18:41 / sld
Copper	0.006	mg/L		0.001		E200.8	03/26/13 17:35 / dck
Lead	0.0018	mg/L		0.0005		E200.8	03/26/13 17:35 / dck
Magnesium	8	mg/L		1		E200.7	03/26/13 18:41 / sld
Zinc	ND	mg/L		0.01		E200.8	03/26/13 17:35 / dck

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 13:45
Lab ID:	H13030312-013	**DateReceived:**	03/21/13
Client Sample ID	SS-25 duplicate	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
AGGREGATE ORGANICS							
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.1		A5310 C	03/26/13 15:14 / eli-ca1

Report Definitions:	RL - Analyte reporting limit. QCL - Quality control limit.	MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 14:15
Lab ID:	H13030312-014	**DateReceived:**	03/21/13
Client Sample ID	Field Blank #3	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
AGGREGATE ORGANICS							
Organic Carbon, Dissolved (DOC)	0.2	mg/L		0.1		A5310 C	03/26/13 15:23 / eli-ca1

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 12:00
Lab ID:	H13030312-015	**DateReceived:**	03/21/13
Client Sample ID	CFR-84F	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Mercury	0.000043	mg/L		0.000010		E245.1	03/27/13 14:34 / eli-b40

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 13:00
Lab ID:	H13030312-016	**DateReceived:**	03/21/13
Client Sample ID	FC-CFR	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Mercury	0.00018	mg/L		0.000010		E245.1	03/27/13 14:43 / eli-b40

Report Definitions:

RL - Analyte reporting limit.

QCL - Quality control limit.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 13:00
Lab ID:	H13030312-017	**DateReceived:**	03/21/13
Client Sample ID	FC-CFR duplicate	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Mercury	0.00020	mg/L		0.000010		E245.1	03/26/13 15:39 / eli-b40

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 13:00
Lab ID:	H13030312-018	**DateReceived:**	03/21/13
Client Sample ID	Field Blank #1	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Mercury	ND	mg/L		0.000010		E245.1	03/27/13 14:51 / eli-b40

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 10:00
Lab ID:	H13030312-019	**DateReceived:**	03/21/13
Client Sample ID	CFR-116A Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	41.0	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	11	mg/kg		1		SW6020	04/01/13 16:52 / dck
Cadmium	0.8	mg/kg		0.2		SW6020	04/01/13 16:52 / dck
Copper	113	mg/kg		5		SW6020	04/01/13 16:52 / dck
Lead	36	mg/kg		5		SW6020	04/01/13 16:52 / dck
Zinc	200	mg/kg		5		SW6020	04/01/13 16:52 / dck

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 14:30
Lab ID:	H13030312-020	**DateReceived:**	03/21/13
Client Sample ID	LBR-CFR Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	29.4	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	8	mg/kg		1		SW6020	04/01/13 16:57 / dck
Cadmium	0.3	mg/kg		0.2		SW6020	04/01/13 16:57 / dck
Copper	11	mg/kg		5		SW6020	04/01/13 16:57 / dck
Lead	22	mg/kg		5		SW6020	04/01/13 16:57 / dck
Zinc	39	mg/kg		5		SW6020	04/01/13 16:57 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 15:30
Lab ID:	H13030312-021	**DateReceived:**	03/21/13
Client Sample ID	CFR-27H Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	28.6	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	43	mg/kg		1		SW6020	04/01/13 17:02 / dck
Cadmium	1.9	mg/kg		0.2		SW6020	04/01/13 17:02 / dck
Copper	473	mg/kg		5		SW6020	04/01/13 17:02 / dck
Lead	82	mg/kg		5		SW6020	04/01/13 17:02 / dck
Zinc	395	mg/kg		5		SW6020	04/01/13 17:02 / dck

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/19/13 15:30
Lab ID:	H13030312-022	**DateReceived:**	03/21/13
Client Sample ID	CFR-27H duplicate Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	24.7	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	43	mg/kg		1		SW6020	04/01/13 17:06 / dck
Cadmium	1.8	mg/kg		0.2		SW6020	04/01/13 17:06 / dck
Copper	451	mg/kg		5		SW6020	04/01/13 17:06 / dck
Lead	71	mg/kg		5		SW6020	04/01/13 17:06 / dck
Zinc	376	mg/kg		5		SW6020	04/01/13 17:06 / dck

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 10:00
Lab ID:	H13030312-023	**DateReceived:**	03/21/13
Client Sample ID	CFR-11F Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	7.9	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	54	mg/kg		1		SW6020	04/01/13 17:11 / dck
Cadmium	2.2	mg/kg		0.2		SW6020	04/01/13 17:11 / dck
Copper	477	mg/kg		5		SW6020	04/01/13 17:11 / dck
Lead	87	mg/kg		5		SW6020	04/01/13 17:11 / dck
Zinc	434	mg/kg		5		SW6020	04/01/13 17:11 / dck

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 11:00
Lab ID:	H13030312-024	**DateReceived:**	03/21/13
Client Sample ID	CFR-07D Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	7.9	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	67	mg/kg		1		SW6020	04/01/13 17:15 / dck
Cadmium	2.3	mg/kg		0.2		SW6020	04/01/13 17:15 / dck
Copper	596	mg/kg		5		SW6020	04/01/13 17:15 / dck
Lead	87	mg/kg		5		SW6020	04/01/13 17:15 / dck
Zinc	448	mg/kg		5		SW6020	04/01/13 17:15 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 12:00
Lab ID:	H13030312-025	**DateReceived:**	03/21/13
Client Sample ID	CFR-03A Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	6.1	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	64	mg/kg		1		SW6020	04/01/13 17:20 / dck
Cadmium	2.3	mg/kg		0.2		SW6020	04/01/13 17:20 / dck
Copper	460	mg/kg		5		SW6020	04/01/13 17:20 / dck
Lead	76	mg/kg		5		SW6020	04/01/13 17:20 / dck
Zinc	433	mg/kg		5		SW6020	04/01/13 17:20 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 12:45
Lab ID:	H13030312-026	**DateReceived:**	03/21/13
Client Sample ID	WSC-SBC Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	14.7	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	35	mg/kg		1		SW6020	04/01/13 17:43 / dck
Cadmium	1.6	mg/kg		0.2		SW6020	04/01/13 17:43 / dck
Copper	374	mg/kg		5		SW6020	04/01/13 17:43 / dck
Lead	46	mg/kg		5		SW6020	04/01/13 17:43 / dck
Zinc	149	mg/kg		5		SW6020	04/01/13 17:43 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 13:45
Lab ID:	H13030312-027	**DateReceived:**	03/21/13
Client Sample ID	SS-25 Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	2.9	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	55	mg/kg		1		SW6020	04/01/13 17:48 / dck
Cadmium	2.2	mg/kg		0.2		SW6020	04/01/13 17:48 / dck
Copper	105	mg/kg		5		SW6020	04/01/13 17:48 / dck
Lead	62	mg/kg		5		SW6020	04/01/13 17:48 / dck
Zinc	337	mg/kg		5		SW6020	04/01/13 17:48 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 14:30
Lab ID:	H13030312-028	**DateReceived:**	03/21/13
Client Sample ID	MWB-SBC Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	3.5	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	87	mg/kg		1		SW6020	04/01/13 17:52 / dck
Cadmium	1.3	mg/kg		0.2		SW6020	04/01/13 17:52 / dck
Copper	62	mg/kg		5		SW6020	04/01/13 17:52 / dck
Lead	43	mg/kg		5		SW6020	04/01/13 17:52 / dck
Zinc	176	mg/kg		5		SW6020	04/01/13 17:52 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 16:00
Lab ID:	H13030312-029	**DateReceived:**	03/21/13
Client Sample ID	MCWC-MWB Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	5.7	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	62	mg/kg		1		SW6020	04/01/13 17:57 / dck
Cadmium	1.9	mg/kg		0.2		SW6020	04/01/13 17:57 / dck
Copper	172	mg/kg		5		SW6020	04/01/13 17:57 / dck
Lead	73	mg/kg		5		SW6020	04/01/13 17:57 / dck
Zinc	253	mg/kg		5		SW6020	04/01/13 17:57 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 17:30
Lab ID:	H13030312-030	**DateReceived:**	03/21/13
Client Sample ID	LC - 7.5 Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	14.5	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	26	mg/kg		1		SW6020	04/01/13 18:02 / dck
Cadmium	1.0	mg/kg		0.2		SW6020	04/01/13 18:02 / dck
Copper	176	mg/kg		5		SW6020	04/01/13 18:02 / dck
Lead	44	mg/kg		5		SW6020	04/01/13 18:02 / dck
Zinc	132	mg/kg		5		SW6020	04/01/13 18:02 / dck

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.
	QCL - Quality control limit.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Report Date:**	04/25/13
Project:	CFR OU Monitoring	**Collection Date:**	03/20/13 17:45
Lab ID:	H13030312-031	**DateReceived:**	03/21/13
Client Sample ID	RTC - 1.5 Sediment Sieve <0.065mm	**Matrix:**	Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 230 Sieve	1.2	wt% Passe		0.1		ASA15-2	03/25/13 10:30 / rgk
3050 EXTRACTABLE METALS							
Arsenic	18	mg/kg		1		SW6020	04/01/13 18:24 / dck
Cadmium	0.7	mg/kg		0.2		SW6020	04/01/13 18:24 / dck
Copper	42	mg/kg		5		SW6020	04/01/13 18:24 / dck
Lead	57	mg/kg		5		SW6020	04/01/13 18:24 / dck
Zinc	75	mg/kg		5		SW6020	04/01/13 18:24 / dck

Report Definitions:

RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring

Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R87100
Sample ID: MBLK		Method Blank				Run: MAN-TECH_130322A				03/22/13 12:17
Alkalinity, Total as CaCO3		ND	mg/L	2						
Sample ID: LCS-02152013		Laboratory Control Sample				Run: MAN-TECH_130322A				03/22/13 12:25
Alkalinity, Total as CaCO3		650	mg/L	4.0	108	90	110			
Sample ID: H13030312-007ADUP	2	Sample Duplicate				Run: MAN-TECH_130322A				03/22/13 13:33
Alkalinity, Total as CaCO3		140	mg/L	4.0				0.1	10	
Bicarbonate as HCO3		170	mg/L	4.0				0.1	10	
Sample ID: H13030312-008AMS		Sample Matrix Spike				Run: MAN-TECH_130322A				03/22/13 13:49
Alkalinity, Total as CaCO3		680	mg/L	4.0	94	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund

Project: CFR OU Monitoring

Report Date: 04/25/13

Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 D										Batch: 19825
Sample ID: MB-19825		Method Blank				Run: ACCU-124 (14410200)_13032			03/22/13 11:47	
Solids, Total Suspended TSS @ 105 C		ND	mg/L	1						
Sample ID: LCS-19825		Laboratory Control Sample				Run: ACCU-124 (14410200)_13032			03/22/13 11:48	
Solids, Total Suspended TSS @ 105 C		1990	mg/L	10	100	70	130			
Sample ID: H13030311-001ADUP		Sample Duplicate				Run: ACCU-124 (14410200)_13032			03/22/13 11:48	
Solids, Total Suspended TSS @ 105 C		ND	mg/L	10					5	
Sample ID: H13030312-011ADUP		Sample Duplicate				Run: ACCU-124 (14410200)_13032			03/22/13 11:50	
Solids, Total Suspended TSS @ 105 C		4.00	mg/L	10					5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 04/25/13
Project: CFR OU Monitoring **Work Order:** H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500 N-C						Analytical Run: FIA203-HE_130326A				
Sample ID: ICV		Initial Calibration Verification Standard								03/26/13 08:35
Nitrogen, Total		1.00	mg/L	0.10	100	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard								03/26/13 08:38
Nitrogen, Total		0.498	mg/L	0.10	100	90	110			
Sample ID: ICB		Initial Calibration Blank, Instrument Blank								03/26/13 08:39
Nitrogen, Total		0.00494	mg/L	0.10		0	0			
Sample ID: CCV		Continuing Calibration Verification Standard								03/26/13 08:58
Nitrogen, Total		0.491	mg/L	0.10	98	90	110			
Method: A4500 N-C										Batch: 19844
Sample ID: MB-19844		Method Blank				Run: FIA203-HE_130326A				03/26/13 08:40
Nitrogen, Total		ND	mg/L	0.02						
Sample ID: LCS-19844		Laboratory Control Sample				Run: FIA203-HE_130326A				03/26/13 08:41
Nitrogen, Total		22.1	mg/L	0.20	98	90	110			
Sample ID: H13030312-002EMS		Sample Matrix Spike				Run: FIA203-HE_130326A				03/26/13 08:45
Nitrogen, Total		1.11	mg/L	0.10	103	90	110			
Sample ID: H13030312-002EMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_130326A				03/26/13 08:46
Nitrogen, Total		1.10	mg/L	0.10	102	90	110	0.8	20	
Sample ID: H13030312-011EMS		Sample Matrix Spike				Run: FIA203-HE_130326A				03/26/13 09:00
Nitrogen, Total		1.06	mg/L	0.10	93	90	110			
Sample ID: H13030312-011EMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_130326A				03/26/13 09:02
Nitrogen, Total		1.06	mg/L	0.10	93	90	110	0.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring

Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A5310 C								Analytical Run: SUB-C171769		
Sample ID: ICV-7265		Initial Calibration Verification Standard						03/26/13 14:44		
Organic Carbon, Dissolved (DOC)		10.0	mg/L	0.10	100	90	110			
Method: A5310 C								Batch: C_R171769		
Sample ID: MBLK		Method Blank				Run: SUB-C171769		03/26/13 14:27		
Organic Carbon, Dissolved (DOC)		ND	mg/L	0.04						
Sample ID: H13030312-010F		Sample Matrix Spike				Run: SUB-C171769		03/26/13 15:33		
Organic Carbon, Dissolved (DOC)		7.65	mg/L	0.50	100	85	115			
Sample ID: H13030312-010F		Sample Matrix Spike Duplicate				Run: SUB-C171769		03/26/13 15:44		
Organic Carbon, Dissolved (DOC)		7.75	mg/L	0.50	102	85	115	1.3	10	
Sample ID: LCS-7265		Laboratory Control Sample				Run: SUB-C171769		03/26/13 15:55		
Organic Carbon, Dissolved (DOC)		9.99	mg/L	0.10	100	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring

Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Analytical Run: ICP2-HE_130326A
Sample ID: ICV	2	Initial Calibration Verification Standard								03/26/13 09:35
Calcium		40.6	mg/L	1.0	102	95	105			
Magnesium		40.0	mg/L	1.0	100	95	105			
Sample ID: CCV-1	2	Continuing Calibration Verification Standard								03/26/13 09:39
Calcium		24.8	mg/L	1.0	99	95	105			
Magnesium		24.3	mg/L	1.0	97	95	105			
Sample ID: ICSA	2	Interference Check Sample A								03/26/13 09:50
Calcium		474	mg/L	1.0	95	80	120			
Magnesium		506	mg/L	1.0	101	80	120			
Sample ID: ICSAB	2	Interference Check Sample AB								03/26/13 09:54
Calcium		487	mg/L	1.0	97	80	120			
Magnesium		520	mg/L	1.0	104	80	120			
Sample ID: CCV	2	Continuing Calibration Verification Standard								03/26/13 16:25
Calcium		24.6	mg/L	1.0	98	90	110			
Magnesium		24.1	mg/L	1.0	97	90	110			
Sample ID: CCV	2	Continuing Calibration Verification Standard								03/26/13 17:10
Calcium		23.6	mg/L	1.0	94	90	110			
Magnesium		22.6	mg/L	1.0	91	90	110			
Sample ID: CCV	2	Continuing Calibration Verification Standard								03/26/13 18:22
Calcium		24.8	mg/L	1.0	99	90	110			
Magnesium		24.7	mg/L	1.0	99	90	110			
Method: E200.7										Batch: 19834
Sample ID: MB-19834	2	Method Blank				Run: ICP2-HE_130326A				03/26/13 16:48
Calcium		0.05	mg/L	0.01						
Magnesium		0.01	mg/L	0.005						
Sample ID: LCS-19834	2	Laboratory Control Sample				Run: ICP2-HE_130326A				03/26/13 16:52
Calcium		24.9	mg/L	1.0	99	85	115			
Magnesium		24.0	mg/L	1.0	96	85	115			
Sample ID: H13030312-001CMS3	2	Sample Matrix Spike				Run: ICP2-HE_130326A				03/26/13 17:03
Calcium		68.9	mg/L	1.0	100	70	130			
Magnesium		34.9	mg/L	1.0	96	70	130			
Sample ID: H13030312-001CMSD	2	Sample Matrix Spike Duplicate				Run: ICP2-HE_130326A				03/26/13 17:07
Calcium		68.9	mg/L	1.0	100	70	130	0.0	20	
Magnesium		34.7	mg/L	1.0	96	70	130	0.5	20	
Sample ID: H13030312-011CMS3	2	Sample Matrix Spike				Run: ICP2-HE_130326A				03/26/13 18:34
Calcium		95.9	mg/L	1.0	118	70	130			
Magnesium		41.2	mg/L	1.0	103	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring

Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: 19834	
Sample ID: H13030312-011CMSD	2	Sample Matrix Spike Duplicate				Run: ICP2-HE_130326A			03/26/13 18:37	
Calcium		95.1	mg/L	1.0	115	70	130	0.9	20	
Magnesium		40.8	mg/L	1.0	101	70	130	1.0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Report Date: 04/25/13
Project: CFR OU Monitoring
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Analytical Run: ICPMS204-B_130326A
Sample ID: ICV STD	5	Initial Calibration Verification Standard								03/26/13 09:56
Arsenic		0.0501	mg/L	0.0050	100	90	110			
Cadmium		0.0258	mg/L	0.0010	103	90	110			
Copper		0.0522	mg/L	0.010	104	90	110			
Lead		0.0494	mg/L	0.010	99	90	110			
Zinc		0.0532	mg/L	0.010	106	90	110			
Sample ID: ICSA	5	Interference Check Sample A								03/26/13 10:00
Arsenic		0.000478	mg/L	0.0050						
Cadmium		0.00105	mg/L	0.0010						
Copper		0.000621	mg/L	0.010						
Lead		0.000220	mg/L	0.010						
Zinc		0.00113	mg/L	0.010						
Sample ID: ICSAB	5	Interference Check Sample AB								03/26/13 10:05
Arsenic		0.0105	mg/L	0.0050	105	70	130			
Cadmium		0.0108	mg/L	0.0010	108	70	130			
Copper		0.0203	mg/L	0.010	102	70	130			
Lead		0.000217	mg/L	0.010		0	0			
Zinc		0.0111	mg/L	0.010	111	70	130			
Sample ID: ICSA	5	Interference Check Sample A								03/26/13 23:28
Arsenic		0.000517	mg/L	0.0050						
Cadmium		0.00103	mg/L	0.0010						
Copper		0.000629	mg/L	0.010						
Lead		0.000203	mg/L	0.010						
Zinc		0.00213	mg/L	0.010						
Sample ID: ICSAB	5	Interference Check Sample AB								03/26/13 23:33
Arsenic		0.0104	mg/L	0.0050	104	70	130			
Cadmium		0.0110	mg/L	0.0010	110	70	130			
Copper		0.0198	mg/L	0.010	99	70	130			
Lead		0.000204	mg/L	0.010		0	0			
Zinc		0.0117	mg/L	0.010	117	70	130			
Method: E200.8										Batch: 19834
Sample ID: MB-19834	5	Method Blank				Run: ICPMS204-B_130326A				03/26/13 11:10
Arsenic		ND	mg/L	0.0002						
Cadmium		ND	mg/L	2E-05						
Copper		ND	mg/L	0.0002						
Lead		ND	mg/L	3E-05						
Zinc		ND	mg/L	0.001						
Sample ID: LCS-19834	5	Laboratory Control Sample				Run: ICPMS204-B_130326A				03/26/13 11:14
Arsenic		0.495	mg/L	0.0010	99	85	115			
Cadmium		0.267	mg/L	0.0010	107	85	115			
Copper		0.485	mg/L	0.0050	97	85	115			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring

Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 19834
Sample ID: LCS-19834	5	Laboratory Control Sample				Run: ICPMS204-B_130326A				03/26/13 11:14
Lead		0.505	mg/L	0.0010	101	85	115			
Zinc		0.509	mg/L	0.010	102	85	115			
Sample ID: H13030312-001CMS3	5	Sample Matrix Spike				Run: ICPMS204-B_130326A				03/26/13 11:32
Arsenic		0.507	mg/L	0.0010	100	70	130			
Cadmium		0.268	mg/L	0.0010	107	70	130			
Copper		0.493	mg/L	0.0050	96	70	130			
Lead		0.514	mg/L	0.0010	103	70	130			
Zinc		0.521	mg/L	0.010	101	70	130			
Sample ID: H13030312-001CMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130326A				03/26/13 11:37
Arsenic		0.509	mg/L	0.0010	101	70	130	0.3	20	
Cadmium		0.265	mg/L	0.0010	106	70	130	1.3	20	
Copper		0.498	mg/L	0.0050	97	70	130	1.0	20	
Lead		0.517	mg/L	0.0010	103	70	130	0.5	20	
Zinc		0.521	mg/L	0.010	101	70	130	0.1	20	
Method: E200.8										Batch: R87182
Sample ID: ICB	5	Method Blank				Run: ICPMS204-B_130326A				03/26/13 10:33
Arsenic		ND	mg/L	7E-05						
Cadmium		ND	mg/L	7E-06						
Copper		ND	mg/L	3E-05						
Lead		ND	mg/L	6E-06						
Zinc		ND	mg/L	0.0003						
Sample ID: LFB	5	Laboratory Fortified Blank				Run: ICPMS204-B_130326A				03/26/13 10:37
Arsenic		0.0481	mg/L	0.0050	96	85	115			
Cadmium		0.0505	mg/L	0.0010	101	85	115			
Copper		0.0497	mg/L	0.010	99	85	115			
Lead		0.0495	mg/L	0.010	99	85	115			
Zinc		0.0518	mg/L	0.010	104	85	115			
Sample ID: H13030312-001BMS	5	Sample Matrix Spike				Run: ICPMS204-B_130326A				03/26/13 10:51
Arsenic		0.0547	mg/L	0.0010	99	70	130			
Cadmium		0.0512	mg/L	0.0010	102	70	130			
Copper		0.0520	mg/L	0.0050	97	70	130			
Lead		0.0508	mg/L	0.0010	102	70	130			
Zinc		0.0635	mg/L	0.010	100	70	130			
Sample ID: H13030312-001BMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130326A				03/26/13 10:56
Arsenic		0.0550	mg/L	0.0010	100	70	130	0.5	20	
Cadmium		0.0516	mg/L	0.0010	103	70	130	1.0	20	
Copper		0.0519	mg/L	0.0050	97	70	130	0.2	20	
Lead		0.0515	mg/L	0.0010	103	70	130	1.3	20	
Zinc		0.0628	mg/L	0.010	99	70	130	1.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Report Date: 04/25/13
Project: CFR OU Monitoring
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R87182
Sample ID: H13030312-011BMS	5	Sample Matrix Spike				Run: ICPMS204-B_130326A				03/26/13 16:45
Arsenic		0.0611	mg/L	0.0010	101	70	130			
Cadmium		0.0518	mg/L	0.0010	104	70	130			
Copper		0.0497	mg/L	0.0050	96	70	130			
Lead		0.0517	mg/L	0.0010	103	70	130			
Zinc		0.0522	mg/L	0.010	102	70	130			
Sample ID: H13030312-011BMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130326A				03/26/13 16:49
Arsenic		0.0604	mg/L	0.0010	99	70	130	1.1	20	
Cadmium		0.0507	mg/L	0.0010	101	70	130	2.1	20	
Copper		0.0494	mg/L	0.0050	95	70	130	0.7	20	
Lead		0.0507	mg/L	0.0010	101	70	130	1.9	20	
Zinc		0.0512	mg/L	0.010	100	70	130	2.0	20	
Method: E200.8										Batch: 19834
Sample ID: H13030312-011CMS3	5	Sample Matrix Spike				Run: ICPMS204-B_130327A				03/27/13 13:34
Arsenic		0.514	mg/L	0.0010	100	70	130			
Cadmium		0.260	mg/L	0.0010	104	70	130			
Copper		0.489	mg/L	0.0050	97	70	130			
Lead		0.490	mg/L	0.0010	98	70	130			
Zinc		0.501	mg/L	0.010	99	70	130			
Sample ID: H13030312-011CMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130327A				03/27/13 13:40
Arsenic		0.505	mg/L	0.0010	99	70	130	1.8	20	
Cadmium		0.252	mg/L	0.0010	101	70	130	3.4	20	
Copper		0.475	mg/L	0.0050	95	70	130	2.9	20	
Lead		0.483	mg/L	0.0010	96	70	130	1.6	20	
Zinc		0.491	mg/L	0.010	97	70	130	2.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring
Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E245.1										Analytical Run: SUB-B201940
Sample ID: QCS		Initial Calibration Verification Standard								03/26/13 13:20
Mercury		0.00020	mg/L	1.0E-05	100	90	110			
Method: E245.1										Batch: B_70013
Sample ID: MB-70013		Method Blank				Run: SUB-B201940				03/26/13 15:25
Mercury		ND	mg/L	3E-06						
Sample ID: LCS-70013		Laboratory Control Sample				Run: SUB-B201940				03/26/13 15:27
Mercury		0.00021	mg/L	1.0E-05	105	85	115			
Sample ID: B13031847-015AMS		Sample Matrix Spike				Run: SUB-B201940				03/26/13 15:32
Mercury		0.00025	mg/L	1.0E-05	91	70	130			
Sample ID: B13031847-015AMSD		Sample Matrix Spike Duplicate				Run: SUB-B201940				03/26/13 15:34
Mercury		0.00023	mg/L	1.0E-05	81	70	130	8.8	30	
Sample ID: H13030331-011C		Sample Matrix Spike				Run: SUB-B201940				03/26/13 16:16
Mercury		0.00020	mg/L	1.0E-05	87	70	130			
Sample ID: H13030331-011C		Sample Matrix Spike Duplicate				Run: SUB-B201940				03/26/13 16:18
Mercury		0.00021	mg/L	1.0E-05	92	70	130	4.4	30	
Method: E245.1										Analytical Run: SUB-B202022
Sample ID: QCS		Initial Calibration Verification Standard								03/27/13 14:14
Mercury		0.00018	mg/L	1.0E-05	91	90	110			
Method: E245.1										Batch: B_70021
Sample ID: MB-70021		Method Blank				Run: SUB-B202022				03/27/13 14:27
Mercury		ND	mg/L	3E-06						
Sample ID: LCS-70021		Laboratory Control Sample				Run: SUB-B202022				03/27/13 14:29
Mercury		0.00023	mg/L	1.0E-05	114	85	115			
Sample ID: B13031847-015AMS		Sample Matrix Spike				Run: SUB-B202022				03/27/13 14:36
Mercury		0.00022	mg/L	1.0E-05	90	70	130			
Sample ID: B13031847-015AMSD		Sample Matrix Spike Duplicate				Run: SUB-B202022				03/27/13 14:38
Mercury		0.00023	mg/L	1.0E-05	99	70	130	7.5	30	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring

Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0										Analytical Run: IC102-H_130322A
Sample ID: ICV032213-12		Initial Calibration Verification Standard								03/22/13 09:50
Sulfate		390	mg/L	1.0	98	90	110			
Sample ID: CCV032213-15		Continuing Calibration Verification Standard								03/22/13 11:57
Sulfate		400	mg/L	1.0	99	90	110			
Sample ID: CCV032213-30		Continuing Calibration Verification Standard								03/22/13 15:06
Sulfate		400	mg/L	1.0	99	90	110			
Method: E300.0										Batch: R87101
Sample ID: ICB032213-13		Method Blank				Run: IC102-H_130322A				03/22/13 10:03
Sulfate		ND	mg/L	0.08						
Sample ID: LFB032213-14		Laboratory Fortified Blank				Run: IC102-H_130322A				03/22/13 10:16
Sulfate		200	mg/L	1.0	98	90	110			
Sample ID: H13030312-003AMS		Sample Matrix Spike				Run: IC102-H_130322A				03/22/13 14:41
Sulfate		290	mg/L	1.0	99	90	110			
Sample ID: H13030312-003AMSD		Sample Matrix Spike Duplicate				Run: IC102-H_130322A				03/22/13 14:53
Sulfate		290	mg/L	1.0	100	90	110	0.3	20	
Sample ID: H13030312-012AMS		Sample Matrix Spike				Run: IC102-H_130322A				03/22/13 17:25
Sulfate		230	mg/L	1.0	96	90	110			
Sample ID: H13030312-012AMSD		Sample Matrix Spike Duplicate				Run: IC102-H_130322A				03/22/13 17:37
Sulfate		230	mg/L	1.0	96	90	110	0.0	20	
Method: E300.0										Analytical Run: IC102-H_130402A
Sample ID: ICV040213-12		Initial Calibration Verification Standard								04/02/13 15:14
Sulfate		410	mg/L	1.0	102	90	110			
Method: E300.0										Batch: R87336
Sample ID: ICB040213-13		Method Blank				Run: IC102-H_130402A				04/02/13 11:36
Sulfate		ND	mg/L	0.08						
Sample ID: LFB040213-14		Laboratory Fortified Blank				Run: IC102-H_130402A				04/02/13 15:26
Sulfate		200	mg/L	1.0	101	90	110			
Sample ID: H13030424-005AMS		Sample Matrix Spike				Run: IC102-H_130402A				04/02/13 17:45
Sulfate		670	mg/L	1.0	112	90	110			S
Sample ID: H13030424-005AMSD		Sample Matrix Spike Duplicate				Run: IC102-H_130402A				04/02/13 17:57
Sulfate		660	mg/L	1.0	110	90	110	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring

Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1										Analytical Run: FIA203-HE_130402A
Sample ID: ICV		Initial Calibration Verification Standard							04/02/13 10:11	
Nitrogen, Ammonia as N		6.18	mg/L	0.25	109	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard							04/02/13 10:14	
Nitrogen, Ammonia as N		0.494	mg/L	0.050	99	90	110			
Sample ID: ICB		Initial Calibration Blank, Instrument Blank							04/02/13 10:15	
Nitrogen, Ammonia as N		-0.0497	mg/L	0.050		0	0			
Sample ID: CCV		Continuing Calibration Verification Standard							04/02/13 10:34	
Nitrogen, Ammonia as N		0.498	mg/L	0.050	100	90	110			
Method: E350.1										Batch: R87318
Sample ID: LFB		Laboratory Fortified Blank				Run: FIA203-HE_130402A			04/02/13 10:12	
Nitrogen, Ammonia as N		0.991	mg/L	0.050	99	90	110			
Sample ID: MBLK		Method Blank				Run: FIA203-HE_130402A			04/02/13 10:16	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Sample ID: H13030312-005DMS		Sample Matrix Spike				Run: FIA203-HE_130402A			04/02/13 10:24	
Nitrogen, Ammonia as N		0.985	mg/L	0.050	98	80	120			
Sample ID: H13030312-005DMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_130402A			04/02/13 10:26	
Nitrogen, Ammonia as N		0.991	mg/L	0.050	99	80	120	0.6	10	
Sample ID: H13030312-011DMS		Sample Matrix Spike				Run: FIA203-HE_130402A			04/02/13 10:36	
Nitrogen, Ammonia as N		0.970	mg/L	0.050	97	80	120			
Sample ID: H13030312-011DMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_130402A			04/02/13 10:37	
Nitrogen, Ammonia as N		0.971	mg/L	0.050	97	80	120	0.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring

Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Analytical Run: FIA203-HE_130326B
Sample ID: ICV		Initial Calibration Verification Standard								03/26/13 11:58
Nitrogen, Nitrate+Nitrite as N		1.05	mg/L	0.010	105	90	110			
Sample ID: ICB		Initial Calibration Blank, Instrument Blank								03/26/13 12:03
Nitrogen, Nitrate+Nitrite as N		-0.00831	mg/L	0.010		0	0			
Sample ID: CCV		Continuing Calibration Verification Standard								03/26/13 12:23
Nitrogen, Nitrate+Nitrite as N		0.485	mg/L	0.010	97	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard								03/26/13 12:40
Nitrogen, Nitrate+Nitrite as N		0.474	mg/L	0.010	95	90	110			
Method: E353.2										Batch: R87159
Sample ID: LFB		Laboratory Fortified Blank				Run: FIA203-HE_130326B				03/26/13 11:59
Nitrogen, Nitrate+Nitrite as N		0.983	mg/L	0.010	98	90	110			
Sample ID: MBLK		Method Blank				Run: FIA203-HE_130326B				03/26/13 12:04
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.001						
Sample ID: H13030312-001DMS		Sample Matrix Spike				Run: FIA203-HE_130326B				03/26/13 12:29
Nitrogen, Nitrate+Nitrite as N		0.978	mg/L	0.010	96	90	110			
Sample ID: H13030312-001DMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_130326B				03/26/13 12:30
Nitrogen, Nitrate+Nitrite as N		0.951	mg/L	0.010	93	90	110	2.8	20	
Sample ID: H13030312-010DMS		Sample Matrix Spike				Run: FIA203-HE_130326B				03/26/13 12:45
Nitrogen, Nitrate+Nitrite as N		0.940	mg/L	0.010	94	90	110			
Sample ID: H13030312-010DMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_130326B				03/26/13 12:46
Nitrogen, Nitrate+Nitrite as N		0.934	mg/L	0.010	93	90	110	0.7	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund **Report Date:** 04/25/13

Project: CFR OU Monitoring **Work Order:** H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E365.1										Analytical Run: FIA202-HE_130322A
Sample ID: ICV		Initial Calibration Verification Standard								03/22/13 14:56
Phosphorus, Total as P		0.245	mg/L	0.010	98	90	110			
Sample ID: ICB		Initial Calibration Blank, Instrument Blank								03/22/13 14:57
Phosphorus, Total as P		0.00134	mg/L	0.010		0	0			
Sample ID: CCV		Continuing Calibration Verification Standard								03/22/13 15:18
Phosphorus, Total as P		0.0999	mg/L	0.010	100	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard								03/22/13 15:32
Phosphorus, Total as P		0.0996	mg/L	0.010	100	90	110			
Method: E365.1										Batch: 19823
Sample ID: LCS-19823		Laboratory Control Sample				Run: FIA202-HE_130322A				03/22/13 15:01
Phosphorus, Total as P		0.383	mg/L	0.010	95	90	110			
Sample ID: MB-19823		Method Blank				Run: FIA202-HE_130322A				03/22/13 15:14
Phosphorus, Total as P		ND	mg/L	0.001						
Sample ID: H13030312-005DMS		Sample Matrix Spike				Run: FIA202-HE_130322A				03/22/13 15:29
Phosphorus, Total as P		0.197	mg/L	0.010	96	90	110			
Sample ID: H13030312-005DMSD		Sample Matrix Spike Duplicate				Run: FIA202-HE_130322A				03/22/13 15:30
Phosphorus, Total as P		0.202	mg/L	0.010	98	90	110	2.4	20	
Method: E365.1										Batch: 19824
Sample ID: MB-19824		Method Blank				Run: FIA202-HE_130322A				03/22/13 15:33
Phosphorus, Total as P		ND	mg/L	0.001						
Sample ID: LCS-19824		Laboratory Control Sample				Run: FIA202-HE_130322A				03/22/13 15:34
Phosphorus, Total as P		0.391	mg/L	0.010	98	90	110			
Sample ID: H13030312-007DMS		Sample Matrix Spike				Run: FIA202-HE_130322A				03/22/13 15:38
Phosphorus, Total as P		0.221	mg/L	0.010	100	90	110			
Sample ID: H13030312-007DMSD		Sample Matrix Spike Duplicate				Run: FIA202-HE_130322A				03/22/13 15:39
Phosphorus, Total as P		0.223	mg/L	0.010	101	90	110	1.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Project: CFR OU Monitoring

Report Date: 04/25/13
Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020							Analytical Run: ICPMS204-B_130401B			
Sample ID: ICV STD	5	Initial Calibration Verification Standard								04/01/13 11:08
Arsenic		0.0492	mg/L	0.0010	98	90	110			
Cadmium		0.0255	mg/L	0.0010	102	90	110			
Copper		0.0512	mg/L	0.0010	102	90	110			
Lead		0.0496	mg/L	0.0010	99	90	110			
Zinc		0.0518	mg/L	0.0010	104	90	110			
Sample ID: ICV STD	5	Initial Calibration Verification Standard								04/01/13 16:15
Arsenic		0.0496	mg/L	0.0010	99	90	110			
Cadmium		0.0256	mg/L	0.0010	102	90	110			
Copper		0.0520	mg/L	0.0010	104	90	110			
Lead		0.0493	mg/L	0.0010	99	90	110			
Zinc		0.0524	mg/L	0.0010	105	90	110			
Method: SW6020										Batch: 19861
Sample ID: MB-19861	5	Method Blank				Run: ICPMS204-B_130401B				04/01/13 14:42
Arsenic		ND	mg/kg	0.1						
Cadmium		ND	mg/kg	0.07						
Copper		ND	mg/kg	0.3						
Lead		0.05	mg/kg	0.03						
Zinc		0.9	mg/kg	0.4						
Sample ID: LCS-19861	5	Laboratory Control Sample				Run: ICPMS204-B_130401B				04/01/13 14:47
Arsenic		301	mg/kg	1.0	91	72.3	106.4			
Cadmium		119	mg/kg	1.0	90	73	105.1			
Copper		271	mg/kg	1.0	101	77.5	109.6			
Lead		191	mg/kg	1.0	106	75.9	108.6			
Zinc		210	mg/kg	1.0	102	74.2	109.9			
Sample ID: LFB-19861	5	Laboratory Fortified Blank				Run: ICPMS204-B_130401B				04/01/13 14:52
Arsenic		50.5	mg/kg	1.0	101	80	120			
Cadmium		25.6	mg/kg	1.0	102	80	120			
Copper		53.0	mg/kg	1.0	106	80	120			
Lead		53.4	mg/kg	1.0	107	80	120			
Zinc		51.6	mg/kg	1.0	101	80	120			
Sample ID: H13030312-030AMS	5	Sample Matrix Spike				Run: ICPMS204-B_130401B				04/01/13 18:15
Arsenic		52.9	mg/kg	1.0	109	75	125			
Cadmium		13.9	mg/kg	1.0	103	75	125			
Copper		210	mg/kg	1.0		75	125			A
Lead		72.6	mg/kg	1.0	116	75	125			
Zinc		164	mg/kg	1.0		75	125			A
Sample ID: H13030312-030AMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130401B				04/01/13 18:19
Arsenic		54.2	mg/kg	1.0	114	75	125	2.5	20	
Cadmium		13.8	mg/kg	1.0	102	75	125	0.5	20	
Copper		218	mg/kg	1.0		75	125	3.8	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund

Project: CFR OU Monitoring

Report Date: 04/25/13

Work Order: H13030312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 19861
Sample ID: H13030312-030AMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130401B				04/01/13 18:19
Lead		73.2	mg/kg	1.0	117	75	125	0.7	20	
Zinc		169	mg/kg	1.0		75	125	3.5	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

BROOKS
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April 19, 2013

Energy Laboratories, Inc.
ATTN: Jonathan Dee Hager
PO Box 5688
Helena MT 59604
jhager@energylab.com

RE: Project ENL-HL1201 Client Project: Silver Bow / Clark Fork

Dear Jonathan Dee Hager,

This report contains results for the 4 samples received by Brooks Rand Labs (BRL) on March 27, 2013. The samples were logged-in for the contracted analyses according to the chain-of-custody form(s). The samples were received, prepared, analyzed, and stored according to BRL SOPs and EPA methodology.

The results were method blank corrected as described in the calculations section of the relevant BRL SOP(s) and may have been evaluated using reporting limits that have been adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details. All data is reported without qualification (with the exception of concentration qualifiers), and all associated quality control sample results meet the acceptance criteria.

BRL, an accredited laboratory, certifies that the reported results of all analyses for which BRL is NELAP accredited meet all NELAP requirements. For more details, please see the *Report Information* page in your report. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Lydia Greaves

Lydia Greaves
Project Manager
Lydia@brooksrand.com

Report Information

Laboratory Accreditation

BRL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BRL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksrand.com/default.asp?contentID=586>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BLK	method blank	**MS**	matrix spike
BRL	Brooks Rand Labs	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
CRM	certified reference material	**RPD**	relative percent difference
D	dissolved fraction	**RSD**	relative standard deviation
DUP	duplicate	**SCV**	secondary calibration verification
ICV	initial calibration verification	**SOP**	standard operating procedure
MDL	method detection limit	**SRM**	standard reference material
MRL	method reporting limit	**T**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

B	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Rand Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BRL.

Project ID: ENL-HL1201
PM: Lydia Greaves

Client PM: Jonathan Dee Hager
Client PO: H12634

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
H13030312-015B	1313009-01	Water	Sample	03/19/2013	03/27/2013
H13030312-016B	1313009-02	Water	Sample	03/19/2013	03/27/2013
H13030312-017B	1313009-03	Water	Sample	03/19/2013	03/27/2013
H13030312-018B	1313009-04	Water	Sample	03/19/2013	03/27/2013

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
MeHg	Water	EPA 1630	04/09/2013	04/11/2013	B130499	1300239

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
H13030312-015B										
1313009-01	MeHg	Water	T	0.291		0.020	0.049	ng/L	B130499	1300239
H13030312-016B										
1313009-02	MeHg	Water	T	0.884		0.020	0.049	ng/L	B130499	1300239
H13030312-017B										
1313009-03	MeHg	Water	T	0.831		0.020	0.050	ng/L	B130499	1300239
H13030312-018B										
1313009-04	MeHg	Water	T	0.020	U	0.020	0.050	ng/L	B130499	1300239

Accuracy & Precision Summary

Batch: B130499
Lab Matrix: Water
Method: EPA 1630

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B130499-BS1	**Laboratory Fortified Blank (1314030)**						
	MeHg		0.9996	0.752	ng/L	75% 67-133	
B130499-BS2	**Laboratory Fortified Blank (1314030)**						
	MeHg		0.9895	0.947	ng/L	96% 67-133	
B130499-MS4	**Matrix Spike (1313009-04)**						
	MeHg	ND	0.9857	0.967	ng/L	98% 65-135	
B130499-MSD4	**Matrix Spike Duplicate (1313009-04)**						
	MeHg	ND	0.9960	0.989	ng/L	99% 65-135	2% 35

Method Blanks & Reporting Limits

Batch: B130499
Matrix: Water
Method: EPA 1630
Analyte: MeHg

Sample	Result	Units
B130499-BLK1	0.002	ng/L
B130499-BLK2	0.002	ng/L
B130499-BLK3	0.005	ng/L
B130499-BLK4	0.002	ng/L

Average: 0.003 **Standard Deviation:** 0.002 **MDL:** 0.020
Limit: 0.045 **Limit:** 0.015 **MRL:** 0.051

Sample Containers

Lab ID: 1313009-01
Sample: H13030312-015B
Report Matrix: Water
Sample Type: Sample
Collected: 03/19/2013
Received: 03/27/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP			1mL 6N HCl (PP)	1310019	<2	Cooler

Lab ID: 1313009-02
Sample: H13030312-016B
Report Matrix: Water
Sample Type: Sample
Collected: 03/19/2013
Received: 03/27/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP			1mL 6N HCl (PP)	1310019	<2	Cooler

Lab ID: 1313009-03
Sample: H13030312-017B
Report Matrix: Water
Sample Type: Sample
Collected: 03/19/2013
Received: 03/27/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP			1mL 6N HCl (PP)	1310019	<2	Cooler

Lab ID: 1313009-04
Sample: H13030312-018B
Report Matrix: Water
Sample Type: Sample
Collected: 03/19/2013
Received: 03/27/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP			1mL 6N HCl (PP)	1310019	<2	Cooler

Shipping Containers

Cooler

Received: March 27, 2013 10:20
Tracking No: 1Z37EW970352347852 via UPS
Coolant Type: Ice
Temperature: 0.6 °C

Description: Cooler
Damaged in transit? No
Returned to client? No

Custody seals present? Yes
Custody seals intact? Yes
COC present? Yes

Energy Laboratories Inc
3161 East Lyndale Avenue
Helena, MT 59601
(406) 442-0711

H13030312

1313009

CHAIN-OF-CUSTODY RECORD

Custody Seal: [✓ Y] N
Intacted: [✓ Y] N
Signature Match: Y N

Shipped By: FedEx
Receipt Temp: 0.6°C

Subcontractor:

Brooks Rand Labs
3958 6th Ave NW
Seattle, WA 98106
TEL: (206) 632-6206 FAX: (206) 632-6017
Acct #:

Subcontractor's Client:

Shipped By:

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests: SUB-BROOKSRAND
H13030312-015B	Aqueous	03/19/13 12:00 P	1-CLIENT-SLD	1
H13030312-016B	Aqueous	03/19/13 01:00 P	1-CLIENT-SLD	1
H13030312-017B	Aqueous	03/19/13 01:00 P	1-CLIENT-SLD	1
H13030312-018B	Aqueous	03/19/13 01:00 P	1-CLIENT-SLD	1

Comments:

QC Level:
STD

	Date/Time		Date/Time
Relinquished by:		**Received by:**	3/27/13 1020
Relinquished by:	3/22/13 8:41	**Received by:**	

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Federal Superfund H13030312

Login completed by: Tracy L. Lorash
Reviewed by: BL2000\sdull
Reviewed Date: 3/28/2013

Date Received: 3/21/2013
Received by: TLL
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	℃ See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

No collection date on MWB-SBC DOC bottle - took from COC.
Collection time on COC for MCWC-MWB is 16:00. Dissolved metals bottle has time of 14:00. Logged in with time from COC.
Cooler 1 was received at 1.0℃, Cooler 2 at 3.8℃. Samples were received on wet ice. Cooler 3 containing Sediment samples was received at 6.0℃. Sediment samples were not received on ice.

Workorder Receipt Checklist - Continued

MT DEQ-Federal Superfund H13030312

DOC samples were preserved with 2 mL Phosphoric acid upon receipt to pH <2 in the laboratory. TI 3/22/13.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 1 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: CFR OU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required):
jgriffin@mt.gov
erich.weber@atkinsglobal.com
☐ No Hard Copy Email: gary.ingman@atkinsglobal.com

Contact Name: Joe Griffin — Phone/Fax: 560-6060 (MDEQ)
Erich Weber — 437-9245 — Cell: 439-0563

Sampler: (Please Print) E. Weber, G. Ingman

Invoice Contact & Phone: Joe Griffin (above) ~~Gary Ingman 437-9244~~

Purchase Order:

Quote/Bottle Order: 624/11780

Invoice Address (Required):
MT DEQ
P.O. Box 200901
Helena, MT 59620-0901
☐ No Hard Copy Email: jgriffin@mt.gov

Special Report/Formats:
☐ DW
☐ POTW/WWTP
☐ State: ______
☐ Other: ______
☐ EDD/EDT (Electronic Data)
Format: ______
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: all dissolved samples field filtered; sediment lab-sieved for 60 µm fraction only

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO3+2, TP	TSS	Tot. Alk, SO4	Hardness (TR Ca & Mg)	Total As, Cd, Cu, Pb, Zn	DOC	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments	LABORATORY USE ONLY
1 CFR-116A	3-19-2013	10:00	SW, IS	X	X	X	X	X	X	X	X					C-1 1.0°TB	H13030312
2 LBR-CFR	3-19-2013	14:30	SW, IS	X	X	X	X	X	X	X	X					C-2 3.8°TB	
3 CFR-27H	3-19-2013	15:30	SW, IS	X	X	X	X	X	X	X	X					C-3 Sediments	
4 CFR-27H duplicate	3-19-2013	15:30	SW, IS	X	X	X	X	X	X	X	X					6.0°TB No ice	
5 Field Blank #2	3-19-2013	16:00	SW	X	X	X	X	X	X	X							
6 CFR-11F	3-20-2013	10:00	SW, IS	X	X	X	X	X	X	X	X						
7 CFR-07D	3-20-2013	11:00	SW, IS	X	X	X	X	X	X	X	X						
8 CFR-03A	3-20-2013	12:00	SW, IS	X	X	X	X	X	X	X	X						
9 WSC-SBC	3-20-2013	12:45	SW, IS	X	X	X	X	X	X	X	X						
10 SS-25	3-20-2013	13:45	SW, IS	X	X	X	X	X	X	X	X	X				DOC unpreserved	

LABORATORY USE ONLY
Shipped by: Hand
Cooler ID(s): Y
Receipt Temp ______ °C
On Ice: [✓ Y] N
Custody Seal On Bottle: Y [✓ N]
Custody Seal On Cooler: Y [✓ N]
Intact: Y N
Signature Match: Y N

Custody Record MUST be Signed

Relinquished by (print): EEW	Date/Time: 3-21-2013 12:15	Signature: Erich Weber	
Relinquished by (print):	Date/Time:	Signature:	
Received by (print):	Date/Time:	Signature:	
Received by (print):	Date/Time:	Signature:	
Received by Laboratory: Tracy Wrasl	Date/Time: 3/21/13 12:15	Signature:	

Sample Disposal: Return to Client: ______ Lab Disposal: ______

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 2 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: CFR OU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required): See pg. 1

Contact Name: Joe Griffin Phone/Fax: 560-6060 (MDEQ)
Erich Weber 437-9245 Cell: 439-0563

Sampler: (Please Print) E. Weber
G. Ingman

❏ No Hard Copy Email:

Invoice Contact & Phone: Joe Griffin (above) ~~Gary Ingman 437-9344~~

Purchase Order:

Quote/Bottle Order: 624/11780

Invoice Address (Required):
MT DEQ
P.O. Box 200901
Helena, MT 59620-0901

❏ No Hard Copy Email: jgriffin@mt.gov

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: ____
☐ Other: ____
☐ EDD/EDT (Electronic Data)
Format: ____
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH_3, NO_{3+2}, TP	TSS	Tot. Alk., SO_4^-	Hardness (TR Ca + Mg)	Total As, Cd, Cu, Pb, Zn	DOC	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments
1	MWB-SBC	3-20-2013	14:30	SW, 1S	X	X	X	X	X	X	X	X	X				DOC unpreserved
2	MCWC-MWB	3-20-2013	16:00	SW, 1S	X	X	X	X	X	X	X	X					
3	SS-25 duplicate	3-20-2013	13:45	1W									X				DOC unpreserved
4	Field Blank #3	3-20-2013	14:15	1W									X				Doc unpreserved
5	LC-7.5	3-20-2013	17:30	1S								X					C-1 1.0° TB
6	RTC-1.5	3-20-2013	17:45	1S								X					C-2 3.8° TB
7																	C-3 Sediment
8																	6.0° TB No ice
9																	
10																	

RUSH: Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: all dissolved samples field filtered; sediment lab sieved for 60 µm fraction only

LABORATORY USE ONLY

Shipped by: Hand

Cooler ID(s): Y

Receipt Temp ____ °C

On Ice: [✓ Y] N

Custody Seal
On Bottle Y [✓ N]
On Cooler Y [✓ N]

Intact Y N

Signature Match Y N

H13030312

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 3-21-2013 12:15 Signature: E Weber

Received by (print): Date/Time: Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Sample Disposal: Return to Client: ____ Lab Disposal: ____

Received by Laboratory: Tracy Lavad Date/Time: 3/21/13 12:15 Signature: Tracy Lavad

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY

Chain of Custody and Analytical Request Record

Page 3 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MTDEQ

Project Name, PWS, Permit, Etc.: CFR OU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address: See pg. 1

Contact Name: Joe Griffin Phone/Fax: 560-6060 (MDEQ)
Erich Weber 437-9245

Email: 437-0563

Sampler: (Please Print) E. Weber
G. Ingman

Invoice Address: MT DEQ
P.O. Box 200901
Helena MT 59620-0901

Invoice Contact & Phone: Joe Griffin (above) ~~Guy Ingman 437-9244~~

Purchase Order:

Quote/Bottle Order: 624/11780

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: ______
☐ Other: ______

☐ EDD/EDT (Electronic Data)
Format: ______
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

R U S H

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Collected as TR metals (HNO$_3$)

Shipped by: Hand

Cooler ID(s): Y

Receipt Temp ______ °C

On Ice: [✓ Y] N

Custody Seal
On Bottle Y [✓ N]
On Cooler Y [✓ N]

Intact Y N

Signature Match Y N

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Total Hg (low level)	Methyl Hg		LABORATORY USE ONLY
1 CFR-84F	3-19-2013	12:00	2W	X	X	C-1 1.0° TB	H13030312
2 FC-CFR	3-19-2013	13:00	2W	X	X	C-2 3.8° TB	
3 FC-CFR duplicate	3-19-2013	13:00	2W	X	X	C-3 Sediment	
4 Field Blank #1	3-19-2013	13:00	2W	X	X	C.0° TB No ice	
5							
6							
7							
8							
9							
10							

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 3-21-2013 12:15 Signature:

Received by (print): Date/Time: Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Sample Disposal: Return to Client: ______ Lab Disposal: ______

Received by Laboratory: Tracy Carol Date/Time: 3/21/13 12:15 Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

APPENDIX B2

SECOND QUARTER
ANALYSIS RESULTS FOR
SURFACE WATER SAMPLES

APPENDIX B2.1

SECOND QUARTER (RISING LIMB) ANALYSIS RESULTS FOR SURFACE WATER SAMPLES

ANALYTICAL SUMMARY REPORT

June 21, 2013

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13050302 Quote ID: H624

Project Name: CFR Monitoring-474374

Energy Laboratories Inc Helena MT received the following 21 samples for MT DEQ-Federal Superfund on 5/17/2013 for analysis.

Sample ID	**Client Sample ID**	**Collect Date**	**Receive Date**	**Matrix**	**Test**
H13050302-001	CFR-116A	05/14/13 9:45	05/17/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13050302-002	CSC	05/14/13 10:45	05/17/13	Aqueous	Same As Above
H13050302-003	FC-CFR	05/14/13 13:15	05/17/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Mercury, Total Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended Subcontracted, Analytics
H13050302-004	CFR-84F	05/14/13 14:45	05/17/13	Aqueous	Mercury, Total Digestion, Mercury by CVAA Subcontracted, Analytics

ANALYTICAL SUMMARY REPORT

H13050302-005	CFR-42G	05/14/13 16:00	05/17/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13050302-006	Field Blank #1	05/15/13 9:00	05/17/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended Subcontracted, Analytics
H13050302-007	LBR-CFR	05/15/13 9:45	05/17/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13050302-008	LBR-CFR Duplicate #1	05/15/13 9:45	05/17/13	Aqueous	Same As Above
H13050302-009	CFR-27H	05/15/13 10:45	05/17/13	Aqueous	Same As Above
H13050302-010	CFR-11F	05/15/13 11:45	05/17/13	Aqueous	Same As Above
H13050302-011	CFR-07D	05/15/13 13:00	05/17/13	Aqueous	Same As Above
H13050302-012	CFR-03A	05/15/13 14:15	05/17/13	Aqueous	Same As Above
H13050302-013	CFR-03A LBG	05/15/13 14:30	05/17/13	Aqueous	Same As Above
H13050302-014	CFR-03A RBG	05/15/13 14:40	05/17/13	Aqueous	Same As Above
H13050302-015	WSC-SBC	05/15/13 15:15	05/17/13	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H13050302-016	Field Blank #2	05/16/13 10:30	05/17/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13050302-017	SS-25	05/16/13 11:00	05/17/13	Aqueous	Same As Above
H13050302-018	SS-25 Duplicate #2	05/16/13 11:00	05/17/13	Aqueous	Same As Above
H13050302-019	MWB-SBC	05/16/13 12:00	05/17/13	Aqueous	Same As Above
H13050302-020	SBC-P2	05/16/13 12:45	05/17/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13050302-021	MCWC-MWB	05/16/13 14:00	05/17/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: CFR Monitoring-474374
Sample Delivery Group: H13050302

Report Date: 06/21/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR Monitoring-474374
Client Sample ID	CFR-116A	**Collection Date:**	05/14/13 09:45
		DateReceived:	05/17/13
Lab ID:	H13050302-001	**Report Date:**	06/21/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	44	mg/L		1		A2540 D	05/20/13 09:57 / cmm	05/20/13 09:49	J-124 (14410200)_130520B :	3	20378
INORGANICS											
Alkalinity, Total as CaCO3	47	mg/L		4		A2320 B	05/21/13 19:28 / cmm		MAN-TECH_130521A :	94	R88463
Bicarbonate as HCO3	57	mg/L		4		A2320 B	05/21/13 19:28 / cmm		MAN-TECH_130521A :	94	R88463
Sulfate	16	mg/L		1		E300.0	05/21/13 17:59 / cmm		IC102-H_130521A :	24	R88469
Hardness as CaCO3	65	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A :	9	R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/20/13 16:27 / reh		FIA203-HE_130520B :	29	R88442
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 12:55 / reh		FIA203-HE_130520A :	73	R88429
Nitrogen, Total	0.2	mg/L		0.1		A4500 N-C	05/21/13 15:00 / reh		FIA203-HE_130521A :	62	20394
Phosphorus, Total as P	0.046	mg/L		0.005		E365.1	05/20/13 16:09 / reh	05/20/13 10:26	FIA202-HE_130520A :	53	20381
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 18:38 / dck		ICPMS204-B_130523A :	111	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 18:38 / dck		ICPMS204-B_130523A :	111	R88552
Copper	0.002	mg/L		0.001		E200.8	05/23/13 18:38 / dck		ICPMS204-B_130523A :	111	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 18:38 / dck		ICPMS204-B_130523A :	111	R88552
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 18:38 / dck		ICPMS204-B_130523A :	111	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 18:43 / dck	05/20/13 07:58	ICPMS204-B_130523A :	112	20367
Cadmium	0.00009	mg/L		0.00008		E200.8	05/23/13 18:43 / dck	05/20/13 07:58	ICPMS204-B_130523A :	112	20367
Calcium	18	mg/L		1		E200.8	05/23/13 18:43 / dck	05/20/13 07:58	ICPMS204-B_130523A :	112	20367
Copper	0.012	mg/L		0.001		E200.8	05/23/13 18:43 / dck	05/20/13 07:58	ICPMS204-B_130523A :	112	20367
Lead	0.0023	mg/L		0.0005		E200.8	05/23/13 18:43 / dck	05/20/13 07:58	ICPMS204-B_130523A :	112	20367
Magnesium	5	mg/L		1		E200.8	05/23/13 18:43 / dck	05/20/13 07:58	ICPMS204-B_130523A :	112	20367
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 18:43 / dck	05/20/13 07:58	ICPMS204-B_130523A :	112	20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CSC
Lab ID: H13050302-002
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/14/13 10:45 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	05/20/13 09:58 / cmm	05/20/13 09:49	J-124 (14410200)_130520B	: 5	20378
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	05/21/13 19:35 / cmm		MAN-TECH_130521A	: 95	R88463
Bicarbonate as HCO3	140	mg/L		4		A2320 B	05/21/13 19:35 / cmm		MAN-TECH_130521A	: 95	R88463
Sulfate	40	mg/L		1		E300.0	05/21/13 18:11 / cmm		IC102-H_130521A	: 25	R88469
Hardness as CaCO3	162	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A	: 10	R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/20/13 16:28 / reh		FIA203-HE_130520B	: 30	R88442
Nitrogen, Nitrate+Nitrite as N	0.28	mg/L		0.05		E353.2	05/20/13 12:56 / reh		FIA203-HE_130520A	: 74	R88429
Nitrogen, Total	0.4	mg/L		0.1		A4500 N-C	05/21/13 15:02 / reh		FIA203-HE_130521A	: 63	20394
Phosphorus, Total as P	0.091	mg/L		0.005		E365.1	05/20/13 16:10 / reh	05/20/13 10:26	FIA202-HE_130520A	: 54	20381
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 18:47 / dck		ICPMS204-B_130523A	: 113	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 18:47 / dck		ICPMS204-B_130523A	: 113	R88552
Copper	ND	mg/L		0.001		E200.8	05/23/13 18:47 / dck		ICPMS204-B_130523A	: 113	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 18:47 / dck		ICPMS204-B_130523A	: 113	R88552
Zinc	0.03	mg/L		0.01		E200.8	05/23/13 18:47 / dck		ICPMS204-B_130523A	: 113	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 18:52 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 114	20367
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 18:52 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 114	20367
Calcium	47	mg/L		1		E200.8	05/23/13 18:52 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 114	20367
Copper	0.001	mg/L		0.001		E200.8	05/23/13 18:52 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 114	20367
Lead	ND	mg/L		0.0005		E200.8	05/23/13 18:52 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 114	20367
Magnesium	11	mg/L		1		E200.8	05/23/13 18:52 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 114	20367
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 18:52 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 114	20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR
Lab ID: H13050302-003
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/14/13 13:15 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	47	mg/L		1		A2540 D	05/20/13 09:58 / cmm	05/20/13 09:49	J-124 (14410200)_130520B :	6	20378
INORGANICS											
Alkalinity, Total as CaCO3	76	mg/L		4		A2320 B	05/21/13 19:42 / cmm		MAN-TECH_130521A :	96	R88463
Bicarbonate as HCO3	89	mg/L		4		A2320 B	05/21/13 19:42 / cmm		MAN-TECH_130521A :	96	R88463
Sulfate	11	mg/L		1		E300.0	05/21/13 18:24 / cmm		IC102-H_130521A :	26	R88469
Hardness as CaCO3	92	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A :	11	R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/20/13 16:29 / reh		FIA203-HE_130520B :	31	R88442
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 12:57 / reh		FIA203-HE_130520A :	75	R88429
Nitrogen, Total	0.2	mg/L		0.1		A4500 N-C	05/21/13 15:03 / reh		FIA203-HE_130521A :	64	20394
Phosphorus, Total as P	0.057	mg/L		0.005		E365.1	05/20/13 16:11 / reh	05/20/13 10:26	FIA202-HE_130520A :	55	20381
METALS, DISSOLVED											
Arsenic	0.007	mg/L		0.005		E200.8	05/23/13 18:57 / dck		ICPMS204-B_130523A :	115	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 18:57 / dck		ICPMS204-B_130523A :	115	R88552
Copper	0.001	mg/L		0.001		E200.8	05/23/13 18:57 / dck		ICPMS204-B_130523A :	115	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 18:57 / dck		ICPMS204-B_130523A :	115	R88552
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 18:57 / dck		ICPMS204-B_130523A :	115	R88552
METALS, TOTAL											
Mercury	0.00041	mg/L		0.000010		E245.1	05/24/13 13:25 / eli-b	05/24/13 08:04	SUB-B205235 :	4	B_71549
METALS, TOTAL RECOVERABLE											
Arsenic	0.013	mg/L		0.005		E200.8	05/23/13 19:01 / dck	05/20/13 07:58	ICPMS204-B_130523A :	116	20367
Cadmium	0.00015	mg/L		0.00008		E200.8	05/23/13 19:01 / dck	05/20/13 07:58	ICPMS204-B_130523A :	116	20367
Calcium	25	mg/L		1		E200.8	05/23/13 19:01 / dck	05/20/13 07:58	ICPMS204-B_130523A :	116	20367
Copper	0.006	mg/L		0.001		E200.8	05/23/13 19:01 / dck	05/20/13 07:58	ICPMS204-B_130523A :	116	20367
Lead	0.0129	mg/L		0.0005		E200.8	05/23/13 19:01 / dck	05/20/13 07:58	ICPMS204-B_130523A :	116	20367
Magnesium	7	mg/L		1		E200.8	05/23/13 19:01 / dck	05/20/13 07:58	ICPMS204-B_130523A :	116	20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR
Lab ID: H13050302-003
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/14/13 13:15 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	0.04	mg/L		0.01		E200.8	05/23/13 19:01 / dck	05/20/13 07:58	ICPMS204-B_130523A :	116	20367

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR Monitoring-474374
Client Sample ID	CFR-84F	**Collection Date:**	05/14/13 14:45
Lab ID:	H13050302-004	**Report Date:**	06/21/13
Matrix:	Aqueous		

DateReceived: 05/17/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	0.000012	mg/L		0.000010		E245.1	05/24/13 13:28 / eli-b	05/24/13 08:04	SUB-B205235 : 5		B_71549

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-42G
Lab ID: H13050302-005
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/14/13 16:00 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	16	mg/L		1		A2540 D	05/20/13 09:58 / cmm	05/20/13 09:49	J-124 (14410200)_130520B	7	20378
INORGANICS											
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	05/21/13 19:50 / cmm		MAN-TECH_130521A	97	R88463
Bicarbonate as HCO3	150	mg/L		4		A2320 B	05/21/13 19:50 / cmm		MAN-TECH_130521A	97	R88463
Sulfate	81	mg/L		1		E300.0	05/21/13 18:36 / cmm		IC102-H_130521A	27	R88469
Hardness as CaCO3	217	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A	12	R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/20/13 16:30 / reh		FIA203-HE_130520B	32	R88442
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 12:58 / reh		FIA203-HE_130520A	76	R88429
Nitrogen, Total	0.3	mg/L		0.1		A4500 N-C	05/21/13 15:04 / reh		FIA203-HE_130521A	65	20394
Phosphorus, Total as P	0.048	mg/L		0.005		E365.1	05/20/13 16:12 / reh	05/20/13 10:26	FIA202-HE_130520A	56	20381
METALS, DISSOLVED											
Arsenic	0.018	mg/L		0.005		E200.8	05/23/13 19:06 / dck		ICPMS204-B_130523A	117	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 19:06 / dck		ICPMS204-B_130523A	117	R88552
Copper	0.011	mg/L		0.001		E200.8	05/23/13 19:06 / dck		ICPMS204-B_130523A	117	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 19:06 / dck		ICPMS204-B_130523A	117	R88552
Zinc	ND	mg/L		0.01		E200.8	05/23/13 19:06 / dck		ICPMS204-B_130523A	117	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.020	mg/L		0.005		E200.8	05/23/13 19:29 / dck	05/20/13 07:58	ICPMS204-B_130523A	122	20367
Cadmium	0.00014	mg/L		0.00008		E200.8	05/23/13 19:29 / dck	05/20/13 07:58	ICPMS204-B_130523A	122	20367
Calcium	63	mg/L		1		E200.8	05/23/13 19:29 / dck	05/20/13 07:58	ICPMS204-B_130523A	122	20367
Copper	0.025	mg/L		0.001		E200.8	05/23/13 19:29 / dck	05/20/13 07:58	ICPMS204-B_130523A	122	20367
Lead	0.0024	mg/L		0.0005		E200.8	05/23/13 19:29 / dck	05/20/13 07:58	ICPMS204-B_130523A	122	20367
Magnesium	14	mg/L		1		E200.8	05/23/13 19:29 / dck	05/20/13 07:58	ICPMS204-B_130523A	122	20367
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 19:29 / dck	05/20/13 07:58	ICPMS204-B_130523A	122	20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #1
Lab ID: H13050302-006
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/15/13 09:00 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	05/20/13 09:58 / cmm	05/20/13 09:49	J-124 (14410200)_130520B : 8		20378
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/21/13 20:01 / cmm		MAN-TECH_130521A : 100		R88463
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/21/13 20:01 / cmm		MAN-TECH_130521A : 100		R88463
Sulfate	ND	mg/L		1		E300.0	05/21/13 18:49 / cmm		IC102-H_130521A : 28		R88469
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A : 13		R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/20/13 16:32 / reh		FIA203-HE_130520B : 33		R88442
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:00 / reh		FIA203-HE_130520A : 77		R88429
Nitrogen, Total	ND	mg/L		0.1		A4500 N-C	05/21/13 15:10 / reh		FIA203-HE_130521A : 70		20395
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	05/20/13 16:15 / reh	05/20/13 10:26	FIA202-HE_130520A : 59		20381
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 19:52 / dck		ICPMS204-B_130523A : 127		R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 19:52 / dck		ICPMS204-B_130523A : 127		R88552
Copper	ND	mg/L		0.001		E200.8	05/23/13 19:52 / dck		ICPMS204-B_130523A : 127		R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 19:52 / dck		ICPMS204-B_130523A : 127		R88552
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 19:52 / dck		ICPMS204-B_130523A : 127		R88552
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 19:57 / dck	05/20/13 07:58	ICPMS204-B_130523A : 128		20367
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 19:57 / dck	05/20/13 07:58	ICPMS204-B_130523A : 128		20367
Calcium	ND	mg/L		1		E200.8	05/23/13 19:57 / dck	05/20/13 07:58	ICPMS204-B_130523A : 128		20367
Copper	ND	mg/L		0.001		E200.8	05/23/13 19:57 / dck	05/20/13 07:58	ICPMS204-B_130523A : 128		20367
Lead	ND	mg/L		0.0005		E200.8	05/23/13 19:57 / dck	05/20/13 07:58	ICPMS204-B_130523A : 128		20367
Magnesium	ND	mg/L		1		E200.8	05/23/13 19:57 / dck	05/20/13 07:58	ICPMS204-B_130523A : 128		20367
Zinc	ND	mg/L		0.01		E200.8	05/23/13 19:57 / dck	05/20/13 07:58	ICPMS204-B_130523A : 128		20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID LBR-CFR
Lab ID: H13050302-007
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/15/13 09:45 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	34	mg/L		1		A2540 D	05/20/13 09:58 / cmm	05/20/13 09:49	J-124 (14410200)_130520B :	9	20378
INORGANICS											
Alkalinity, Total as CaCO3	88	mg/L		4		A2320 B	05/22/13 16:13 / cmm		MAN-TECH_130522A :	20	R88510
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/22/13 16:13 / cmm		MAN-TECH_130522A :	20	R88510
Sulfate	14	mg/L		1		E300.0	05/21/13 19:02 / cmm		IC102-H_130521A :	29	R88469
Hardness as CaCO3	93	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A :	14	R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/20/13 16:35 / reh		FIA203-HE_130520B :	36	R88442
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:01 / reh		FIA203-HE_130520A :	78	R88429
Nitrogen, Total	0.2	mg/L		0.1		A4500 N-C	05/21/13 15:14 / reh		FIA203-HE_130521A :	73	20395
Phosphorus, Total as P	0.060	mg/L		0.005		E365.1	05/20/13 16:18 / reh	05/20/13 10:26	FIA202-HE_130520A :	62	20381
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 20:02 / dck		ICPMS204-B_130523A :	129	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 20:02 / dck		ICPMS204-B_130523A :	129	R88552
Copper	0.001	mg/L		0.001		E200.8	05/23/13 20:02 / dck		ICPMS204-B_130523A :	129	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 20:02 / dck		ICPMS204-B_130523A :	129	R88552
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 20:02 / dck		ICPMS204-B_130523A :	129	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.006	mg/L		0.005		E200.8	05/23/13 20:06 / dck	05/20/13 07:58	ICPMS204-B_130523A :	130	20367
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 20:06 / dck	05/20/13 07:58	ICPMS204-B_130523A :	130	20367
Calcium	27	mg/L		1		E200.8	05/23/13 20:06 / dck	05/20/13 07:58	ICPMS204-B_130523A :	130	20367
Copper	0.003	mg/L		0.001		E200.8	05/23/13 20:06 / dck	05/20/13 07:58	ICPMS204-B_130523A :	130	20367
Lead	0.0020	mg/L		0.0005		E200.8	05/23/13 20:06 / dck	05/20/13 07:58	ICPMS204-B_130523A :	130	20367
Magnesium	6	mg/L		1		E200.8	05/23/13 20:06 / dck	05/20/13 07:58	ICPMS204-B_130523A :	130	20367
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 20:06 / dck	05/20/13 07:58	ICPMS204-B_130523A :	130	20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID LBR-CFR Duplicate #1
Lab ID: H13050302-008
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/15/13 09:45 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	36	mg/L		1		A2540 D	05/20/13 09:59 / cmm	05/20/13 09:49	-124 (14410200)_130520B	: 10	20378
INORGANICS											
Alkalinity, Total as CaCO3	88	mg/L		4		A2320 B	05/22/13 16:20 / cmm		MAN-TECH_130522A	: 21	R88510
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/22/13 16:20 / cmm		MAN-TECH_130522A	: 21	R88510
Sulfate	14	mg/L		1		E300.0	05/21/13 19:14 / cmm		IC102-H_130521A	: 30	R88469
Hardness as CaCO3	91	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A	: 15	R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/20/13 16:36 / reh		FIA203-HE_130520B	: 37	R88442
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:02 / reh		FIA203-HE_130520A	: 79	R88429
Nitrogen, Total	0.2	mg/L		0.1		A4500 N-C	05/21/13 15:15 / reh		FIA203-HE_130521A	: 74	20395
Phosphorus, Total as P	0.061	mg/L		0.005		E365.1	05/20/13 16:19 / reh	05/20/13 10:26	FIA202-HE_130520A	: 63	20381
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 20:11 / dck		ICPMS204-B_130523A	: 131	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 20:11 / dck		ICPMS204-B_130523A	: 131	R88552
Copper	0.001	mg/L		0.001		E200.8	05/23/13 20:11 / dck		ICPMS204-B_130523A	: 131	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 20:11 / dck		ICPMS204-B_130523A	: 131	R88552
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 20:11 / dck		ICPMS204-B_130523A	: 131	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.006	mg/L		0.005		E200.8	05/23/13 20:16 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 132	20367
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 20:16 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 132	20367
Calcium	26	mg/L		1		E200.8	05/23/13 20:16 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 132	20367
Copper	0.003	mg/L		0.001		E200.8	05/23/13 20:16 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 132	20367
Lead	0.0020	mg/L		0.0005		E200.8	05/23/13 20:16 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 132	20367
Magnesium	6	mg/L		1		E200.8	05/23/13 20:16 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 132	20367
Zinc	ND	mg/L		0.01		E200.8	05/23/13 20:16 / dck	05/20/13 07:58	ICPMS204-B_130523A	: 132	20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-27H
Lab ID: H13050302-009
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/15/13 10:45 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	26	mg/L		1		A2540 D	05/20/13 09:59 / cmm	05/20/13 09:49	-124 (14410200)_130520B : 11		20378
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	05/22/13 16:27 / cmm		MAN-TECH_130522A : 22		R88510
Bicarbonate as HCO3	150	mg/L		4		A2320 B	05/22/13 16:27 / cmm		MAN-TECH_130522A : 22		R88510
Sulfate	62	mg/L		1		E300.0	05/21/13 19:27 / cmm		IC102-H_130521A : 31		R88469
Hardness as CaCO3	168	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A : 16		R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:40 / reh		FIA203-HE_130523C : 12		R88542
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.05		E353.2	05/20/13 13:03 / reh		FIA203-HE_130520A : 80		R88429
Nitrogen, Total	0.3	mg/L		0.1		A4500 N-C	05/21/13 15:16 / reh		FIA203-HE_130521A : 75		20395
Phosphorus, Total as P	0.033	mg/L		0.005		E365.1	05/20/13 16:20 / reh	05/20/13 10:26	FIA202-HE_130520A : 64		20381
METALS, DISSOLVED											
Arsenic	0.015	mg/L		0.005		E200.8	05/23/13 20:20 / dck		ICPMS204-B_130523A : 133		R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 20:20 / dck		ICPMS204-B_130523A : 133		R88552
Copper	0.009	mg/L		0.001		E200.8	05/23/13 20:20 / dck		ICPMS204-B_130523A : 133		R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 20:20 / dck		ICPMS204-B_130523A : 133		R88552
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 20:20 / dck		ICPMS204-B_130523A : 133		R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.019	mg/L		0.005		E200.8	05/23/13 20:44 / dck	05/20/13 07:58	ICPMS204-B_130523A : 138		20367
Cadmium	0.00021	mg/L		0.00008		E200.8	05/23/13 20:44 / dck	05/20/13 07:58	ICPMS204-B_130523A : 138		20367
Calcium	50	mg/L		1		E200.8	05/23/13 20:44 / dck	05/20/13 07:58	ICPMS204-B_130523A : 138		20367
Copper	0.043	mg/L		0.001		E200.8	05/23/13 20:44 / dck	05/20/13 07:58	ICPMS204-B_130523A : 138		20367
Lead	0.0056	mg/L		0.0005		E200.8	05/23/13 20:44 / dck	05/20/13 07:58	ICPMS204-B_130523A : 138		20367
Magnesium	11	mg/L		1		E200.8	05/23/13 20:44 / dck	05/20/13 07:58	ICPMS204-B_130523A : 138		20367
Zinc	0.04	mg/L		0.01		E200.8	05/23/13 20:44 / dck	05/20/13 07:58	ICPMS204-B_130523A : 138		20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR Monitoring-474374
Client Sample ID	CFR-11F	**Collection Date:**	05/15/13 11:45 **DateReceived:** 05/17/13
Lab ID:	H13050302-010	**Report Date:**	06/21/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	27	mg/L		1		A2540 D	05/20/13 09:59 / cmm	05/20/13 09:49	-124 (14410200)_130520B : 12		20378
INORGANICS											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	05/22/13 16:34 / cmm		MAN-TECH_130522A : 23		R88510
Bicarbonate as HCO3	120	mg/L		4		A2320 B	05/22/13 16:34 / cmm		MAN-TECH_130522A : 23		R88510
Sulfate	64	mg/L		1		E300.0	05/21/13 20:30 / cmm		IC102-H_130521A : 36		R88469
Hardness as CaCO3	148	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A : 17		R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:41 / reh		FIA203-HE_130523C : 13		R88542
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.05		E353.2	05/20/13 13:04 / reh		FIA203-HE_130520A : 81		R88429
Nitrogen, Total	0.3	mg/L		0.1		A4500 N-C	05/21/13 15:17 / reh		FIA203-HE_130521A : 76		20395
Phosphorus, Total as P	0.042	mg/L		0.005		E365.1	05/20/13 16:21 / reh	05/20/13 10:26	FIA202-HE_130520A : 65		20381
METALS, DISSOLVED											
Arsenic	0.014	mg/L		0.005		E200.8	05/23/13 20:49 / dck		ICPMS204-B_130523A : 139		R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 20:49 / dck		ICPMS204-B_130523A : 139		R88552
Copper	0.007	mg/L		0.001		E200.8	05/23/13 20:49 / dck		ICPMS204-B_130523A : 139		R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 20:49 / dck		ICPMS204-B_130523A : 139		R88552
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 20:49 / dck		ICPMS204-B_130523A : 139		R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.020	mg/L		0.005		E200.8	05/23/13 20:53 / dck	05/20/13 07:58	ICPMS204-B_130523A : 140		20367
Cadmium	0.00024	mg/L		0.00008		E200.8	05/23/13 20:53 / dck	05/20/13 07:58	ICPMS204-B_130523A : 140		20367
Calcium	43	mg/L		1		E200.8	05/23/13 20:53 / dck	05/20/13 07:58	ICPMS204-B_130523A : 140		20367
Copper	0.044	mg/L		0.001		E200.8	05/23/13 20:53 / dck	05/20/13 07:58	ICPMS204-B_130523A : 140		20367
Lead	0.0060	mg/L		0.0005		E200.8	05/23/13 20:53 / dck	05/20/13 07:58	ICPMS204-B_130523A : 140		20367
Magnesium	10	mg/L		1		E200.8	05/23/13 20:53 / dck	05/20/13 07:58	ICPMS204-B_130523A : 140		20367
Zinc	0.04	mg/L		0.01		E200.8	05/23/13 20:53 / dck	05/20/13 07:58	ICPMS204-B_130523A : 140		20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-07D
Lab ID: H13050302-011
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/15/13 13:00 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	28	mg/L		1		A2540 D	05/20/13 09:59 / cmm	05/20/13 09:49	-124 (14410200)_130520B	13	20378
INORGANICS											
Alkalinity, Total as CaCO3	92	mg/L		4		A2320 B	05/22/13 16:42 / cmm		MAN-TECH_130522A	24	R88510
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/22/13 16:42 / cmm		MAN-TECH_130522A	24	R88510
Sulfate	61	mg/L		1		E300.0	05/21/13 20:42 / cmm		IC102-H_130521A	37	R88469
Hardness as CaCO3	146	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A	18	R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:42 / reh		FIA203-HE_130523C	14	R88542
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.05		E353.2	05/20/13 13:08 / reh		FIA203-HE_130520A	84	R88429
Nitrogen, Total	0.3	mg/L		0.1		A4500 N-C	05/21/13 15:18 / reh		FIA203-HE_130521A	77	20395
Phosphorus, Total as P	0.040	mg/L		0.005		E365.1	05/20/13 16:22 / reh	05/20/13 10:26	FIA202-HE_130520A	66	20381
METALS, DISSOLVED											
Arsenic	0.013	mg/L		0.005		E200.8	05/23/13 20:58 / dck		ICPMS204-B_130523A	141	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 20:58 / dck		ICPMS204-B_130523A	141	R88552
Copper	0.006	mg/L		0.001		E200.8	05/23/13 20:58 / dck		ICPMS204-B_130523A	141	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 20:58 / dck		ICPMS204-B_130523A	141	R88552
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 20:58 / dck		ICPMS204-B_130523A	141	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.019	mg/L		0.005		E200.8	05/23/13 21:17 / dck	05/20/13 07:58	ICPMS204-B_130523A	145	20367
Cadmium	0.00025	mg/L		0.00008		E200.8	05/23/13 21:17 / dck	05/20/13 07:58	ICPMS204-B_130523A	145	20367
Calcium	43	mg/L		1		E200.8	05/23/13 21:17 / dck	05/20/13 07:58	ICPMS204-B_130523A	145	20367
Copper	0.040	mg/L		0.001		E200.8	05/23/13 21:17 / dck	05/20/13 07:58	ICPMS204-B_130523A	145	20367
Lead	0.0056	mg/L		0.0005		E200.8	05/23/13 21:17 / dck	05/20/13 07:58	ICPMS204-B_130523A	145	20367
Magnesium	10	mg/L		1		E200.8	05/23/13 21:17 / dck	05/20/13 07:58	ICPMS204-B_130523A	145	20367
Zinc	0.03	mg/L		0.01		E200.8	05/23/13 21:17 / dck	05/20/13 07:58	ICPMS204-B_130523A	145	20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A
Lab ID: H13050302-012
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/15/13 14:15 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	22	mg/L		1		A2540 D	05/20/13 09:59 / cmm	05/20/13 09:49	-124 (14410200)_130520B	14	20378
INORGANICS											
Alkalinity, Total as CaCO3	79	mg/L		4		A2320 B	05/22/13 16:56 / cmm		MAN-TECH_130522A	27	R88510
Bicarbonate as HCO3	96	mg/L		4		A2320 B	05/22/13 16:56 / cmm		MAN-TECH_130522A	27	R88510
Sulfate	48	mg/L		1		E300.0	05/21/13 20:55 / cmm		IC102-H_130521A	38	R88469
Hardness as CaCO3	116	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A	19	R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:44 / reh		FIA203-HE_130523C	15	R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:12 / reh		FIA203-HE_130520A	87	R88429
Nitrogen, Total	0.2	mg/L		0.1		A4500 N-C	05/21/13 15:20 / reh		FIA203-HE_130521A	78	20395
Phosphorus, Total as P	0.038	mg/L		0.005		E365.1	05/20/13 16:23 / reh	05/20/13 10:26	FIA202-HE_130520A	67	20381
METALS, DISSOLVED											
Arsenic	0.012	mg/L		0.005		E200.8	05/23/13 21:21 / dck		ICPMS204-B_130523A	146	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 21:21 / dck		ICPMS204-B_130523A	146	R88552
Copper	0.005	mg/L		0.001		E200.8	05/23/13 21:21 / dck		ICPMS204-B_130523A	146	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 21:21 / dck		ICPMS204-B_130523A	146	R88552
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 21:21 / dck		ICPMS204-B_130523A	146	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.016	mg/L		0.005		E200.8	05/23/13 21:26 / dck	05/20/13 07:58	ICPMS204-B_130523A	147	20367
Cadmium	0.00018	mg/L		0.00008		E200.8	05/23/13 21:26 / dck	05/20/13 07:58	ICPMS204-B_130523A	147	20367
Calcium	34	mg/L		1		E200.8	05/23/13 21:26 / dck	05/20/13 07:58	ICPMS204-B_130523A	147	20367
Copper	0.026	mg/L		0.001		E200.8	05/23/13 21:26 / dck	05/20/13 07:58	ICPMS204-B_130523A	147	20367
Lead	0.0038	mg/L		0.0005		E200.8	05/23/13 21:26 / dck	05/20/13 07:58	ICPMS204-B_130523A	147	20367
Magnesium	8	mg/L		1		E200.8	05/23/13 21:26 / dck	05/20/13 07:58	ICPMS204-B_130523A	147	20367
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 21:26 / dck	05/20/13 07:58	ICPMS204-B_130523A	147	20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR Monitoring-474374
Client Sample ID	CFR-03A LBG	**Collection Date:**	05/15/13 14:30 **DateReceived:** 05/17/13
Lab ID:	H13050302-013	**Report Date:**	06/21/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	18	mg/L		1		A2540 D	05/20/13 10:00 / cmm	05/20/13 09:49	-124 (14410200)_130520B : 16		20378
INORGANICS											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	05/22/13 17:11 / cmm		MAN-TECH_130522A : 30		R88510
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/22/13 17:11 / cmm		MAN-TECH_130522A : 30		R88510
Sulfate	72	mg/L		1		E300.0	05/21/13 21:08 / cmm		IC102-H_130521A : 39		R88469
Hardness as CaCO3	136	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A : 20		R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:45 / reh		FIA203-HE_130523C : 16		R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:13 / reh		FIA203-HE_130520A : 88		R88429
Nitrogen, Total	0.3	mg/L		0.1		A4500 N-C	05/21/13 15:21 / reh		FIA203-HE_130521A : 79		20395
Phosphorus, Total as P	0.035	mg/L		0.005		E365.1	05/20/13 16:24 / reh	05/20/13 10:26	FIA202-HE_130520A : 68		20381
METALS, DISSOLVED											
Arsenic	0.015	mg/L		0.005		E200.8	05/23/13 21:31 / dck		ICPMS204-B_130523A : 148		R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 21:31 / dck		ICPMS204-B_130523A : 148		R88552
Copper	0.005	mg/L		0.001		E200.8	05/23/13 21:31 / dck		ICPMS204-B_130523A : 148		R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 21:31 / dck		ICPMS204-B_130523A : 148		R88552
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 21:31 / dck		ICPMS204-B_130523A : 148		R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.018	mg/L		0.005		E200.8	05/23/13 21:54 / dck	05/20/13 07:58	ICPMS204-B_130523A : 153		20367
Cadmium	0.00014	mg/L		0.00008		E200.8	05/23/13 21:54 / dck	05/20/13 07:58	ICPMS204-B_130523A : 153		20367
Calcium	38	mg/L		1		E200.8	05/23/13 21:54 / dck	05/20/13 07:58	ICPMS204-B_130523A : 153		20367
Copper	0.023	mg/L		0.001		E200.8	05/23/13 21:54 / dck	05/20/13 07:58	ICPMS204-B_130523A : 153		20367
Lead	0.0033	mg/L		0.0005		E200.8	05/23/13 21:54 / dck	05/20/13 07:58	ICPMS204-B_130523A : 153		20367
Magnesium	10	mg/L		1		E200.8	05/23/13 21:54 / dck	05/20/13 07:58	ICPMS204-B_130523A : 153		20367
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 21:54 / dck	05/20/13 07:58	ICPMS204-B_130523A : 153		20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A RBG
Lab ID: H13050302-014
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/15/13 14:40 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	21	mg/L		1		A2540 D	05/20/13 10:00 / cmm	05/20/13 09:49	-124 (14410200)_130520B	17	20378
INORGANICS											
Alkalinity, Total as CaCO3	79	mg/L		4		A2320 B	05/22/13 17:18 / cmm		MAN-TECH_130522A	31	R88510
Bicarbonate as HCO3	96	mg/L		4		A2320 B	05/22/13 17:18 / cmm		MAN-TECH_130522A	31	R88510
Sulfate	47	mg/L		1		E300.0	05/21/13 21:20 / cmm		IC102-H_130521A	40	R88469
Hardness as CaCO3	114	mg/L		1		A2340 B	05/28/13 09:30 / sld		WATERCALC_130528A	21	R88590
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:46 / reh		FIA203-HE_130523C	17	R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:14 / reh		FIA203-HE_130520A	89	R88429
Nitrogen, Total	0.2	mg/L		0.1		A4500 N-C	05/21/13 15:22 / reh		FIA203-HE_130521A	80	20395
Phosphorus, Total as P	0.037	mg/L		0.005		E365.1	05/20/13 16:25 / reh	05/20/13 10:26	FIA202-HE_130520A	69	20381
METALS, DISSOLVED											
Arsenic	0.012	mg/L		0.005		E200.8	05/23/13 21:59 / dck		ICPMS204-B_130523A	154	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 21:59 / dck		ICPMS204-B_130523A	154	R88552
Copper	0.005	mg/L		0.001		E200.8	05/23/13 21:59 / dck		ICPMS204-B_130523A	154	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 21:59 / dck		ICPMS204-B_130523A	154	R88552
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 21:59 / dck		ICPMS204-B_130523A	154	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.016	mg/L		0.005		E200.8	05/23/13 22:04 / dck	05/20/13 07:58	ICPMS204-B_130523A	155	20367
Cadmium	0.00015	mg/L		0.00008		E200.8	05/23/13 22:04 / dck	05/20/13 07:58	ICPMS204-B_130523A	155	20367
Calcium	33	mg/L		1		E200.8	05/23/13 22:04 / dck	05/20/13 07:58	ICPMS204-B_130523A	155	20367
Copper	0.025	mg/L		0.001		E200.8	05/23/13 22:04 / dck	05/20/13 07:58	ICPMS204-B_130523A	155	20367
Lead	0.0035	mg/L		0.0005		E200.8	05/23/13 22:04 / dck	05/20/13 07:58	ICPMS204-B_130523A	155	20367
Magnesium	7	mg/L		1		E200.8	05/23/13 22:04 / dck	05/20/13 07:58	ICPMS204-B_130523A	155	20367
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 22:04 / dck	05/20/13 07:58	ICPMS204-B_130523A	155	20367

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID WSC-SBC
Lab ID: H13050302-015
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/15/13 15:15 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	14	mg/L		1		A2540 D	05/20/13 10:00 / cmm	05/20/13 09:49	-124 (14410200)_130520B : 18		20378
INORGANICS											
Alkalinity, Total as CaCO3	85	mg/L		4		A2320 B	05/22/13 17:26 / cmm		MAN-TECH_130522A : 32		R88510
Bicarbonate as HCO3	100	mg/L		4		A2320 B	05/22/13 17:26 / cmm		MAN-TECH_130522A : 32		R88510
Sulfate	27	mg/L		1		E300.0	05/21/13 21:33 / cmm		IC102-H_130521A : 41		R88469
Hardness as CaCO3	108	mg/L		1		A2340 B	05/23/13 22:36 / abb		CALC_130529A : 366		R88634
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:47 / reh		FIA203-HE_130523C : 18		R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:15 / reh		FIA203-HE_130520A : 90		R88429
Nitrogen, Total	0.1	mg/L		0.1		A4500 N-C	05/21/13 15:26 / reh		FIA203-HE_130521A : 83		20395
Phosphorus, Total as P	0.016	mg/L		0.005		E365.1	05/20/13 16:26 / reh	05/20/13 10:26	FIA202-HE_130520A : 70		20381
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 22:08 / dck		ICPMS204-B_130523A : 156		R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 22:08 / dck		ICPMS204-B_130523A : 156		R88552
Copper	0.004	mg/L		0.001		E200.8	05/23/13 22:08 / dck		ICPMS204-B_130523A : 156		R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 22:08 / dck		ICPMS204-B_130523A : 156		R88552
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 22:08 / dck		ICPMS204-B_130523A : 156		R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.006	mg/L		0.005		E200.8	05/23/13 22:36 / dck	05/20/13 07:59	ICPMS204-B_130523A : 162		20368
Cadmium	0.00009	mg/L		0.00008		E200.8	05/23/13 22:36 / dck	05/20/13 07:59	ICPMS204-B_130523A : 162		20368
Calcium	33	mg/L		1		E200.8	05/23/13 22:36 / dck	05/20/13 07:59	ICPMS204-B_130523A : 162		20368
Copper	0.018	mg/L		0.001		E200.8	05/23/13 22:36 / dck	05/20/13 07:59	ICPMS204-B_130523A : 162		20368
Lead	0.0020	mg/L		0.0005		E200.8	05/23/13 22:36 / dck	05/20/13 07:59	ICPMS204-B_130523A : 162		20368
Magnesium	7	mg/L		1		E200.8	05/23/13 22:36 / dck	05/20/13 07:59	ICPMS204-B_130523A : 162		20368
Zinc	ND	mg/L		0.01		E200.8	05/30/13 13:27 / dck	05/29/13 08:20	ICPMS204-B_130530A : 43		20457

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #2
Lab ID: H13050302-016
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/16/13 10:30 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	05/20/13 10:01 / cmm	05/20/13 09:49	-124 (14410200)_130520B :	19	20378
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/22/13 17:30 / cmm		MAN-TECH_130522A :	33	R88510
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/22/13 17:30 / cmm		MAN-TECH_130522A :	33	R88510
Sulfate	ND	mg/L		1		E300.0	05/21/13 21:45 / cmm		IC102-H_130521A :	42	R88469
Hardness as CaCO3	ND	mg/L		1		A2340 B	06/03/13 08:27 / sld		WATERCALC_130603A :	1	R88725
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	0.2	mg/L		0.1		A5310 C	05/21/13 19:05 / eli-c		SUB-C173857 :	3	C_R173857
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:48 / reh		FIA203-HE_130523C :	19	R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:17 / reh		FIA203-HE_130520A :	91	R88429
Nitrogen, Total	ND	mg/L		0.1		A4500 N-C	05/21/13 15:27 / reh		FIA203-HE_130521A :	84	20395
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	05/22/13 14:08 / reh	05/22/13 11:58	FIA202-HE_130522B :	20	20408
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 22:59 / dck		ICPMS204-B_130523A :	167	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 22:59 / dck		ICPMS204-B_130523A :	167	R88552
Copper	ND	mg/L		0.001		E200.8	05/23/13 22:59 / dck		ICPMS204-B_130523A :	167	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 22:59 / dck		ICPMS204-B_130523A :	167	R88552
Zinc	ND	mg/L		0.01		E200.8	05/23/13 22:59 / dck		ICPMS204-B_130523A :	167	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	05/23/13 23:04 / dck	05/20/13 07:59	ICPMS204-B_130523A :	168	20368
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 23:04 / dck	05/20/13 07:59	ICPMS204-B_130523A :	168	20368
Calcium	ND	mg/L		1		E200.8	05/23/13 23:04 / dck	05/20/13 07:59	ICPMS204-B_130523A :	168	20368
Copper	ND	mg/L		0.001		E200.8	05/23/13 23:04 / dck	05/20/13 07:59	ICPMS204-B_130523A :	168	20368
Lead	ND	mg/L		0.0005		E200.8	05/23/13 23:04 / dck	05/20/13 07:59	ICPMS204-B_130523A :	168	20368
Magnesium	ND	mg/L		1		E200.8	05/23/13 23:04 / dck	05/20/13 07:59	ICPMS204-B_130523A :	168	20368

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #2
Lab ID: H13050302-016
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/16/13 10:30 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	05/30/13 13:32 / dck	05/29/13 08:20	ICPMS204-B_130530A : 44		20457

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25
Lab ID: H13050302-017
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/16/13 11:00 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	05/20/13 10:01 / cmm	05/20/13 09:49	-124 (14410200)_130520B : 20		20378
INORGANICS											
Alkalinity, Total as CaCO3	74	mg/L		4		A2320 B	05/22/13 17:37 / cmm		MAN-TECH_130522A : 34		R88510
Bicarbonate as HCO3	91	mg/L		4		A2320 B	05/22/13 17:37 / cmm		MAN-TECH_130522A : 34		R88510
Sulfate	75	mg/L		1		E300.0	05/21/13 21:58 / cmm		IC102-H_130521A : 43		R88469
Hardness as CaCO3	133	mg/L		1		A2340 B	05/23/13 23:32 / abb		CALC_130529A : 388		R88634
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.6	mg/L		0.1		A5310 C	05/21/13 19:15 / eli-c		SUB-C173857 : 4		C_R173857
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:52 / reh		FIA203-HE_130523C : 22		R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:18 / reh		FIA203-HE_130520A : 92		R88429
Nitrogen, Total	0.3	mg/L		0.1		A4500 N-C	05/21/13 15:31 / reh		FIA203-HE_130521A : 87		20395
Phosphorus, Total as P	0.039	mg/L		0.005		E365.1	05/22/13 14:11 / reh	05/22/13 11:58	FIA202-HE_130522B : 23		20408
METALS, DISSOLVED											
Arsenic	0.017	mg/L		0.005		E200.8	05/23/13 23:09 / dck		ICPMS204-B_130523A : 169		R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 23:09 / dck		ICPMS204-B_130523A : 169		R88552
Copper	0.003	mg/L		0.001		E200.8	05/23/13 23:09 / dck		ICPMS204-B_130523A : 169		R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 23:09 / dck		ICPMS204-B_130523A : 169		R88552
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 23:09 / dck		ICPMS204-B_130523A : 169		R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.019	mg/L		0.005		E200.8	05/23/13 23:32 / dck	05/20/13 07:59	ICPMS204-B_130523A : 174		20368
Cadmium	0.00009	mg/L		0.00008		E200.8	05/23/13 23:32 / dck	05/20/13 07:59	ICPMS204-B_130523A : 174		20368
Calcium	38	mg/L		1		E200.8	05/23/13 23:32 / dck	05/20/13 07:59	ICPMS204-B_130523A : 174		20368
Copper	0.007	mg/L		0.001		E200.8	05/23/13 23:32 / dck	05/20/13 07:59	ICPMS204-B_130523A : 174		20368
Lead	0.0016	mg/L		0.0005		E200.8	05/23/13 23:32 / dck	05/20/13 07:59	ICPMS204-B_130523A : 174		20368
Magnesium	9	mg/L		1		E200.8	05/23/13 23:32 / dck	05/20/13 07:59	ICPMS204-B_130523A : 174		20368

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25
Lab ID: H13050302-017
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/16/13 11:00 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	05/30/13 13:37 / dck	05/29/13 08:20	ICPMS204-B_130530A : 45		20457

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25 Duplicate #2
Lab ID: H13050302-018
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/16/13 11:00 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	05/20/13 10:01 / cmm	05/20/13 09:49	-124 (14410200)_130520B	21	20378
INORGANICS											
Alkalinity, Total as CaCO3	76	mg/L		4		A2320 B	05/22/13 17:44 / cmm		MAN-TECH_130522A	35	R88510
Bicarbonate as HCO3	93	mg/L		4		A2320 B	05/22/13 17:44 / cmm		MAN-TECH_130522A	35	R88510
Sulfate	75	mg/L		1		E300.0	05/21/13 22:11 / cmm		IC102-H_130521A	44	R88469
Hardness as CaCO3	135	mg/L		1		A2340 B	05/23/13 23:42 / abb		CALC_130529A	399	R88634
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.6	mg/L		0.1		A5310 C	05/21/13 19:25 / eli-c		SUB-C173857	5	C_R173857
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:53 / reh		FIA203-HE_130523C	23	R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:19 / reh		FIA203-HE_130520A	93	R88429
Nitrogen, Total	0.3	mg/L		0.1		A4500 N-C	05/21/13 15:32 / reh		FIA203-HE_130521A	88	20395
Phosphorus, Total as P	0.041	mg/L		0.005		E365.1	05/22/13 14:12 / reh	05/22/13 11:58	FIA202-HE_130522B	24	20408
METALS, DISSOLVED											
Arsenic	0.016	mg/L		0.005		E200.8	05/23/13 23:37 / dck		ICPMS204-B_130523A	175	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 23:37 / dck		ICPMS204-B_130523A	175	R88552
Copper	0.003	mg/L		0.001		E200.8	05/23/13 23:37 / dck		ICPMS204-B_130523A	175	R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 23:37 / dck		ICPMS204-B_130523A	175	R88552
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 23:37 / dck		ICPMS204-B_130523A	175	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.019	mg/L		0.005		E200.8	05/23/13 23:42 / dck	05/20/13 07:59	ICPMS204-B_130523A	176	20368
Cadmium	0.00008	mg/L		0.00008		E200.8	05/23/13 23:42 / dck	05/20/13 07:59	ICPMS204-B_130523A	176	20368
Calcium	38	mg/L		1		E200.8	05/23/13 23:42 / dck	05/20/13 07:59	ICPMS204-B_130523A	176	20368
Copper	0.007	mg/L		0.001		E200.8	05/23/13 23:42 / dck	05/20/13 07:59	ICPMS204-B_130523A	176	20368
Lead	0.0016	mg/L		0.0005		E200.8	05/23/13 23:42 / dck	05/20/13 07:59	ICPMS204-B_130523A	176	20368
Magnesium	10	mg/L		1		E200.8	05/23/13 23:42 / dck	05/20/13 07:59	ICPMS204-B_130523A	176	20368

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25 Duplicate #2
Lab ID: H13050302-018
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/16/13 11:00
DateReceived: 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	0.01	mg/L		0.01		E200.8	05/30/13 13:42 / dck	05/29/13 08:20	ICPMS204-B_130530A : 46		20457

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MWB-SBC
Lab ID: H13050302-019
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/16/13 12:00 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	05/20/13 10:02 / cmm	05/20/13 09:49	-124 (14410200)_130520B : 22		20378
INORGANICS											
Alkalinity, Total as CaCO3	61	mg/L		4		A2320 B	05/22/13 17:51 / cmm		MAN-TECH_130522A : 36		R88510
Bicarbonate as HCO3	74	mg/L		4		A2320 B	05/22/13 17:51 / cmm		MAN-TECH_130522A : 36		R88510
Sulfate	58	mg/L		1		E300.0	05/21/13 22:23 / cmm		IC102-H_130521A : 45		R88469
Hardness as CaCO3	108	mg/L		1		A2340 B	05/23/13 23:51 / abb		CALC_130529A : 410		R88634
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.0	mg/L		0.1		A5310 C	05/21/13 20:39 / eli-c		SUB-C173857 : 8		C_R173857
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 14:57 / reh		FIA203-HE_130523C : 26		R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:20 / reh		FIA203-HE_130520A : 94		R88429
Nitrogen, Total	0.2	mg/L		0.1		A4500 N-C	05/21/13 15:33 / reh		FIA203-HE_130521A : 89		20395
Phosphorus, Total as P	0.024	mg/L		0.005		E365.1	05/22/13 14:13 / reh	05/22/13 11:58	FIA202-HE_130522B : 25		20408
METALS, DISSOLVED											
Arsenic	0.019	mg/L		0.005		E200.8	05/23/13 23:46 / dck		ICPMS204-B_130523A : 177		R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 23:46 / dck		ICPMS204-B_130523A : 177		R88552
Copper	0.003	mg/L		0.001		E200.8	05/23/13 23:46 / dck		ICPMS204-B_130523A : 177		R88552
Lead	ND	mg/L		0.0005		E200.8	05/23/13 23:46 / dck		ICPMS204-B_130523A : 177		R88552
Zinc	0.01	mg/L		0.01		E200.8	05/23/13 23:46 / dck		ICPMS204-B_130523A : 177		R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.019	mg/L		0.005		E200.8	05/23/13 23:51 / dck	05/20/13 07:59	ICPMS204-B_130523A : 178		20368
Cadmium	0.00011	mg/L		0.00008		E200.8	05/23/13 23:51 / dck	05/20/13 07:59	ICPMS204-B_130523A : 178		20368
Calcium	31	mg/L		1		E200.8	05/23/13 23:51 / dck	05/20/13 07:59	ICPMS204-B_130523A : 178		20368
Copper	0.008	mg/L		0.001		E200.8	05/23/13 23:51 / dck	05/20/13 07:59	ICPMS204-B_130523A : 178		20368
Lead	0.0018	mg/L		0.0005		E200.8	05/23/13 23:51 / dck	05/20/13 07:59	ICPMS204-B_130523A : 178		20368
Magnesium	7	mg/L		1		E200.8	05/23/13 23:51 / dck	05/20/13 07:59	ICPMS204-B_130523A : 178		20368

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR Monitoring-474374
Client Sample ID	MWB-SBC	**Collection Date:**	05/16/13 12:00
		DateReceived:	05/17/13
Lab ID:	H13050302-019	**Report Date:**	06/21/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	05/30/13 13:49 / dck	05/29/13 08:20	ICPMS204-B_130530A : 47		20457

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SBC-P2
Lab ID: H13050302-020
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/16/13 12:45 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	2	mg/L		1		A2540 D	05/20/13 10:02 / cmm	05/20/13 09:49	-124 (14410200)_130520B	23	20378
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	05/22/13 17:58 / cmm		MAN-TECH_130522A	37	R88510
Bicarbonate as HCO3	130	mg/L		4		A2320 B	05/22/13 17:58 / cmm		MAN-TECH_130522A	37	R88510
Sulfate	130	mg/L		1		E300.0	05/21/13 23:26 / cmm		IC102-H_130521A	50	R88469
Hardness as CaCO3	206	mg/L		1		A2340 B	05/24/13 00:00 / abb		CALC_130529A	421	R88634
NUTRIENTS											
Nitrogen, Ammonia as N	0.15	mg/L		0.05		E350.1	05/23/13 15:00 / reh		FIA203-HE_130523C	29	R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:21 / reh		FIA203-HE_130520A	95	R88429
Nitrogen, Total	0.8	mg/L		0.1		A4500 N-C	05/21/13 15:34 / reh		FIA203-HE_130521A	90	20395
Phosphorus, Total as P	0.095	mg/L		0.005		E365.1	05/22/13 14:16 / reh	05/22/13 11:58	FIA202-HE_130522B	28	20408
METALS, DISSOLVED											
Arsenic	0.016	mg/L		0.005		E200.8	05/23/13 23:56 / dck		ICPMS204-B_130523A	179	R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/23/13 23:56 / dck		ICPMS204-B_130523A	179	R88552
Copper	0.002	mg/L		0.001		E200.8	05/23/13 23:56 / dck		ICPMS204-B_130523A	179	R88552
Lead	0.0012	mg/L		0.0005		E200.8	05/23/13 23:56 / dck		ICPMS204-B_130523A	179	R88552
Zinc	0.02	mg/L		0.01		E200.8	05/23/13 23:56 / dck		ICPMS204-B_130523A	179	R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.017	mg/L		0.005		E200.8	05/24/13 00:00 / dck	05/20/13 07:59	ICPMS204-B_130523A	180	20368
Cadmium	ND	mg/L		0.00008		E200.8	05/24/13 00:00 / dck	05/20/13 07:59	ICPMS204-B_130523A	180	20368
Calcium	57	mg/L		1		E200.8	05/24/13 00:00 / dck	05/20/13 07:59	ICPMS204-B_130523A	180	20368
Copper	0.005	mg/L		0.001		E200.8	05/24/13 00:00 / dck	05/20/13 07:59	ICPMS204-B_130523A	180	20368
Lead	0.0022	mg/L		0.0005		E200.8	05/24/13 00:00 / dck	05/20/13 07:59	ICPMS204-B_130523A	180	20368
Magnesium	15	mg/L		1		E200.8	05/24/13 00:00 / dck	05/20/13 07:59	ICPMS204-B_130523A	180	20368
Zinc	ND	mg/L		0.01		E200.8	05/30/13 13:53 / dck	05/29/13 08:20	ICPMS204-B_130530A	48	20457

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MCWC-MWB
Lab ID: H13050302-021
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 05/16/13 14:00 **DateReceived:** 05/17/13
Report Date: 06/21/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	05/20/13 10:02 / cmm	05/20/13 09:49	-124 (14410200)_130520B : 24		20378
INORGANICS											
Alkalinity, Total as CaCO3	45	mg/L		4		A2320 B	05/22/13 18:05 / cmm		MAN-TECH_130522A : 38		R88510
Bicarbonate as HCO3	55	mg/L		4		A2320 B	05/22/13 18:05 / cmm		MAN-TECH_130522A : 38		R88510
Sulfate	13	mg/L		1		E300.0	05/21/13 23:39 / cmm		IC102-H_130521A : 51		R88469
Hardness as CaCO3	53	mg/L		1		A2340 B	05/24/13 00:38 / abb		CALC_130529A : 432		R88634
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	05/23/13 15:01 / reh		FIA203-HE_130523C : 30		R88542
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	05/20/13 13:25 / reh		FIA203-HE_130520A : 98		R88429
Nitrogen, Total	0.2	mg/L		0.1		A4500 N-C	05/21/13 15:35 / reh		FIA203-HE_130521A : 91		20395
Phosphorus, Total as P	0.023	mg/L		0.005		E365.1	05/22/13 14:17 / reh	05/22/13 11:58	FIA202-HE_130522B : 29		20408
METALS, DISSOLVED											
Arsenic	0.016	mg/L		0.005		E200.8	05/24/13 00:05 / dck		ICPMS204-B_130523A : 181		R88552
Cadmium	ND	mg/L		0.00008		E200.8	05/24/13 00:05 / dck		ICPMS204-B_130523A : 181		R88552
Copper	0.004	mg/L		0.001		E200.8	05/24/13 00:05 / dck		ICPMS204-B_130523A : 181		R88552
Lead	ND	mg/L		0.0005		E200.8	05/24/13 00:05 / dck		ICPMS204-B_130523A : 181		R88552
Zinc	0.01	mg/L		0.01		E200.8	05/24/13 00:05 / dck		ICPMS204-B_130523A : 181		R88552
METALS, TOTAL RECOVERABLE											
Arsenic	0.018	mg/L		0.005		E200.8	05/24/13 00:38 / dck	05/20/13 07:59	ICPMS204-B_130523A : 188		20368
Cadmium	0.00012	mg/L		0.00008		E200.8	05/24/13 00:38 / dck	05/20/13 07:59	ICPMS204-B_130523A : 188		20368
Calcium	15	mg/L		1		E200.8	05/24/13 00:38 / dck	05/20/13 07:59	ICPMS204-B_130523A : 188		20368
Copper	0.008	mg/L		0.001		E200.8	05/24/13 00:38 / dck	05/20/13 07:59	ICPMS204-B_130523A : 188		20368
Lead	0.0014	mg/L		0.0005		E200.8	05/24/13 00:38 / dck	05/20/13 07:59	ICPMS204-B_130523A : 188		20368
Magnesium	4	mg/L		1		E200.8	05/24/13 00:38 / dck	05/20/13 07:59	ICPMS204-B_130523A : 188		20368
Zinc	ND	mg/L		0.01		E200.8	05/30/13 13:58 / dck	05/29/13 08:20	ICPMS204-B_130530A : 49		20457

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20367

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130520A: 547** SampType: **Laboratory Control Sample** Sample ID: **LCS-20367** Method: **E200.8**
Analysis Date: **05/22/13 06:51** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.497	0.0010	0.5		99	85	115				
Cadmium	0.260	0.0010	0.25		104	85	115				
Calcium	26.1	1.0	25	0.06326	104	85	115				
Copper	0.487	0.0050	0.5		97	85	115				
Lead	0.435	0.0010	0.5		87	85	115				
Magnesium	25.7	1.0	25	0.02636	103	85	115				
Zinc	0.502	0.010	0.5		100	85	115				

Associated samples: **H13050302-001C; H13050302-002C; H13050302-003C; H13050302-005C; H13050302-006C; H13050302-007C; H13050302-008C; H13050302-009C; H13050302-010C; H13050302-011C; H13050302-012C; H13050302-013C; H13050302-014C**

Run ID :Run Order: **ICPMS204-B_130523A: 100** SampType: **Method Blank** Sample ID: **MB-20367** Method: **E200.8**
Analysis Date: **05/23/13 17:47** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Cadmium	ND	2E-05									
Calcium	0.03	0.01									
Copper	ND	0.0002									
Lead	ND	3E-05									
Magnesium	0.02	0.003									
Zinc	0.001	0.001									

Associated samples: **H13050302-001C; H13050302-002C; H13050302-003C; H13050302-005C; H13050302-006C; H13050302-007C; H13050302-008C; H13050302-009C; H13050302-010C; H13050302-011C; H13050302-012C; H13050302-013C; H13050302-014C**

Run ID :Run Order: **ICPMS204-B_130523A: 102** SampType: **Sample Matrix Spike** Sample ID: **H13050294-026CMS3** Method: **E200.8**
Analysis Date: **05/23/13 17:57** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.986	0.0010	1	0.004024	98	70	130				
Cadmium	0.480	0.0010	0.5	0.00012	96	70	130				
Calcium	435	1.0	50	379.6		70	130				A
Copper	0.958	0.0050	1	0.00818	95	70	130				
Lead	1.03	0.0010	1	0.003015	102	70	130				
Magnesium	385	1.0	50	346.2		70	130				A
Zinc	0.945	0.010	1	0.02608	92	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20367

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 102** SampType: **Sample Matrix Spike** Sample ID: **H13050294-026CMS3** Method: **E200.8**
Analysis Date: **05/23/13 17:57** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13050302-001C; H13050302-002C; H13050302-003C; H13050302-005C; H13050302-006C; H13050302-007C; H13050302-008C; H13050302-009C; H13050302-010C; H13050302-011C; H13050302-012C; H13050302-013C; H13050302-014C**

Run ID :Run Order: **ICPMS204-B_130523A: 103** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050294-026CMSD3** Method: **E200.8**
Analysis Date: **05/23/13 18:01** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.981	0.0010	1	0.004024	98	70	130	0.986	0.5	20	
Cadmium	0.481	0.0010	0.5	0.00012	96	70	130	0.48	0.2	20	
Calcium	429	1.0	50	379.6		70	130	434.8	1.3	20	A
Copper	0.953	0.0050	1	0.00818	94	70	130	0.9576	0.5	20	
Lead	1.03	0.0010	1	0.003015	103	70	130	1.026	0.5	20	
Magnesium	391	1.0	50	346.2		70	130	385.1	1.5	20	A
Zinc	0.917	0.010	1	0.02608	89	70	130	0.9452	3.0	20	

Associated samples: **H13050302-001C; H13050302-002C; H13050302-003C; H13050302-005C; H13050302-006C; H13050302-007C; H13050302-008C; H13050302-009C; H13050302-010C; H13050302-011C; H13050302-012C; H13050302-013C; H13050302-014C**

Run ID :Run Order: **ICPMS204-B_130523A: 123** SampType: **Sample Matrix Spike** Sample ID: **H13050302-005CMS3** Method: **E200.8**
Analysis Date: **05/23/13 19:34** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.513	0.0010	0.5	0.01952	99	70	130				
Cadmium	0.253	0.0010	0.25	0.000136	101	70	130				
Calcium	85.7	1.0	25	63.19	90	70	130				
Copper	0.490	0.0050	0.5	0.02536	93	70	130				
Lead	0.476	0.0010	0.5	0.002428	95	70	130				
Magnesium	39.6	1.0	25	14.36	101	70	130				
Zinc	0.497	0.010	0.5	0.02322	95	70	130				

Associated samples: **H13050302-001C; H13050302-002C; H13050302-003C; H13050302-005C; H13050302-006C; H13050302-007C; H13050302-008C; H13050302-009C; H13050302-010C; H13050302-011C; H13050302-012C; H13050302-013C; H13050302-014C**

Run ID :Run Order: **ICPMS204-B_130523A: 124** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-005CMSD3** Method: **E200.8**
Analysis Date: **05/23/13 19:38** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.511	0.0010	0.5	0.01952	98	70	130	0.5129	0.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20367

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 124** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-005CMSD3** Method: **E200.8**

Analysis Date: **05/23/13 19:38** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.254	0.0010	0.25	0.000136	101	70	130	0.2534	0.1	20	
Calcium	86.6	1.0	25	63.19	94	70	130	85.75	1.0	20	
Copper	0.489	0.0050	0.5	0.02536	93	70	130	0.4899	0.3	20	
Lead	0.471	0.0010	0.5	0.002428	94	70	130	0.4756	1.0	20	
Magnesium	39.7	1.0	25	14.36	101	70	130	39.62	0.1	20	
Zinc	0.502	0.010	0.5	0.02322	96	70	130	0.4966	1.0	20	

Associated samples: **H13050302-001C; H13050302-002C; H13050302-003C; H13050302-005C; H13050302-006C; H13050302-007C; H13050302-008C; H13050302-009C; H13050302-010C; H13050302-011C; H13050302-012C; H13050302-013C; H13050302-014C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20368

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 158** SampType: **Method Blank** Sample ID: **MB-20368** Method: **E200.8**
Analysis Date: **05/23/13 22:18** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Cadmium	ND	2E-05									
Calcium	0.03	0.01									
Copper	ND	0.0002									
Lead	4E-05	3E-05									
Magnesium	ND	0.003									

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130523A: 159** SampType: **Laboratory Control Sample** Sample ID: **LCS-20368** Method: **E200.8**
Analysis Date: **05/23/13 22:22** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.480	0.0010	0.5		**96**	85	115				
Cadmium	0.246	0.0010	0.25		**98**	85	115				
Calcium	25.2	1.0	25	0.02551	**101**	85	115				
Copper	0.479	0.0050	0.5		**96**	85	115				
Lead	0.446	0.0010	0.5	0.0000414	**89**	85	115				
Magnesium	25.0	1.0	25		**100**	85	115				

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130523A: 163** SampType: **Sample Matrix Spike** Sample ID: **H13050302-015CMS3** Method: **E200.8**
Analysis Date: **05/23/13 22:41** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.490	0.0010	0.5	0.006313	**97**	70	130				
Cadmium	0.246	0.0010	0.25	0.0000945	**98**	70	130				
Calcium	57.9	1.0	25	32.69	**101**	70	130				
Copper	0.497	0.0050	0.5	0.01766	**96**	70	130				
Lead	0.465	0.0010	0.5	0.002031	**93**	70	130				
Magnesium	31.5	1.0	25	6.503	**100**	70	130				

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20368

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 164** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-015CMSD3** Method: **E200.8**

Analysis Date: **05/23/13 22:45** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.482	0.0010	0.5	0.006313	95	70	130	0.49	1.6	20	
Cadmium	0.248	0.0010	0.25	0.0000945	99	70	130	0.2462	0.6	20	
Calcium	57.2	1.0	25	32.69	98	70	130	57.88	1.1	20	
Copper	0.487	0.0050	0.5	0.01766	94	70	130	0.4972	2.1	20	
Lead	0.466	0.0010	0.5	0.002031	93	70	130	0.4647	0.2	20	
Magnesium	31.1	1.0	25	6.503	98	70	130	31.46	1.3	20	

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20378

Date: *21-Jun-13*

Run ID :Run Order: **ACCU-124 (14410200)_130520B: 1** SampType: **Method Blank** Sample ID: **MB-20378** Method: **A2540 D**
Analysis Date: **05/20/13 09:57** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	1									

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **ACCU-124 (14410200)_130520B: 2** SampType: **Laboratory Control Sample** Sample ID: **LCS-20378** Method: **A2540 D**
Analysis Date: **05/20/13 09:57** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	1870	10	2000		94	70	130				

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **ACCU-124 (14410200)_130520B: 4** SampType: **Sample Duplicate** Sample ID: **H13050302-001ADUP** Method: **A2540 D**
Analysis Date: **05/20/13 09:57** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	44.0	10						44	0.0	5	

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **ACCU-124 (14410200)_130520B: 15** SampType: **Sample Duplicate** Sample ID: **H13050302-012ADUP** Method: **A2540 D**
Analysis Date: **05/20/13 10:00** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	22.0	10						22	0.0	5	

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20381

Date: *21-Jun-13*

Run ID :Run Order: **FIA202-HE_130520A: 43** SampType: **Method Blank** Sample ID: **MB-20381** Method: **E365.1**
Analysis Date: **05/20/13 15:59** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D**

Run ID :Run Order: **FIA202-HE_130520A: 44** SampType: **Laboratory Control Sample** Sample ID: **LCS-20381** Method: **E365.1**
Analysis Date: **05/20/13 16:00** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.372	0.010	0.4		93	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D**

Run ID :Run Order: **FIA202-HE_130520A: 48** SampType: **Sample Matrix Spike** Sample ID: **H13050300-001DMS** Method: **E365.1**
Analysis Date: **05/20/13 16:04** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.198	0.010	0.2	0.00215	98	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D**

Run ID :Run Order: **FIA202-HE_130520A: 49** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050300-001DMSD** Method: **E365.1**
Analysis Date: **05/20/13 16:05** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.201	0.010	0.2	0.00215	100	90	110	0.1984	1.4	20	

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D**

Run ID :Run Order: **FIA202-HE_130520A: 60** SampType: **Sample Matrix Spike** Sample ID: **H13050302-006DMS** Method: **E365.1**
Analysis Date: **05/20/13 16:16** Units: **mg/L** **Prep Info:** Prep Date: **5/20/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.199	0.010	0.2	0.00139	99	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20381

Date: *21-Jun-13*

Run ID :Run Order: **FIA202-HE_130520A: 61**   SampType: **Sample Matrix Spike Duplicate**   Sample ID: **H13050302-006DMSD**   Method: **E365.1**

Analysis Date: **05/20/13 16:17**   Units: **mg/L**   **Prep Info:** Prep Date: **5/20/2013**   Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.197	0.010	0.2	0.00139	**98**	90	110	0.1985	**0.7**	20	

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20394

Date: *21-Jun-13*

Run ID :Run Order: **FIA203-HE_130521A: 38** SampType: **Method Blank** Sample ID: **MB-20394** Method: **A4500 N-C**
Analysis Date: **05/21/13 14:32** Units: **mg/L** **Prep Info:** Prep Date: **5/21/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.02									

Associated samples: **H13050302-001E; H13050302-002E; H13050302-003E; H13050302-005E**

Run ID :Run Order: **FIA203-HE_130521A: 41** SampType: **Laboratory Control Sample** Sample ID: **LCS-20394** Method: **A4500 N-C**
Analysis Date: **05/21/13 14:35** Units: **mg/L** **Prep Info:** Prep Date: **5/21/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	21.4	0.20	22.6		**95**	90	110				

Associated samples: **H13050302-001E; H13050302-002E; H13050302-003E; H13050302-005E**

Run ID :Run Order: **FIA203-HE_130521A: 56** SampType: **Sample Matrix Spike** Sample ID: **H13050286-001AMS** Method: **A4500 N-C**
Analysis Date: **05/21/13 14:53** Units: **mg/L** **Prep Info:** Prep Date: **5/17/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.13	0.10	1	0.2175	**91**	90	110				

Associated samples: **H13050302-001E; H13050302-002E; H13050302-003E; H13050302-005E**

Run ID :Run Order: **FIA203-HE_130521A: 57** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050286-001AMSD** Method: **A4500 N-C**
Analysis Date: **05/21/13 14:54** Units: **mg/L** **Prep Info:** Prep Date: **5/17/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.15	0.10	1	0.2175	**93**	90	110	1.129	**1.8**	20	

Associated samples: **H13050302-001E; H13050302-002E; H13050302-003E; H13050302-005E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *21-Jun-13*

BatchID: 20395

Run ID :Run Order: **FIA203-HE_130521A: 66** SampType: **Method Blank** Sample ID: **MB-20395** Method: **A4500 N-C**
Analysis Date: **05/21/13 15:05** Units: **mg/L** **Prep Info:** Prep Date: **5/21/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.02									

Associated samples: **H13050302-006E; H13050302-007E; H13050302-008E; H13050302-009E; H13050302-010E; H13050302-011E; H13050302-012E; H13050302-013E; H13050302-014E; H13050302-015E; H13050302-016E; H13050302-017E; H13050302-018E; H13050302-019E; H13050302-020E; H13050302-021E**

Run ID :Run Order: **FIA203-HE_130521A: 69** SampType: **Laboratory Control Sample** Sample ID: **LCS-20395** Method: **A4500 N-C**
Analysis Date: **05/21/13 15:09** Units: **mg/L** **Prep Info:** Prep Date: **5/21/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	24.7	0.20	22.6		109	90	110				

Associated samples: **H13050302-006E; H13050302-007E; H13050302-008E; H13050302-009E; H13050302-010E; H13050302-011E; H13050302-012E; H13050302-013E; H13050302-014E; H13050302-015E; H13050302-016E; H13050302-017E; H13050302-018E; H13050302-019E; H13050302-020E; H13050302-021E**

Run ID :Run Order: **FIA203-HE_130521A: 71** SampType: **Sample Matrix Spike** Sample ID: **H13050302-006EMS** Method: **A4500 N-C**
Analysis Date: **05/21/13 15:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.05	0.10	1		105	90	110				

Associated samples: **H13050302-006E; H13050302-007E; H13050302-008E; H13050302-009E; H13050302-010E; H13050302-011E; H13050302-012E; H13050302-013E; H13050302-014E; H13050302-015E; H13050302-016E; H13050302-017E; H13050302-018E; H13050302-019E; H13050302-020E; H13050302-021E**

Run ID :Run Order: **FIA203-HE_130521A: 72** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-006EMSD** Method: **A4500 N-C**
Analysis Date: **05/21/13 15:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.06	0.10	1		106	90	110	1.047	1.0	20	

Associated samples: **H13050302-006E; H13050302-007E; H13050302-008E; H13050302-009E; H13050302-010E; H13050302-011E; H13050302-012E; H13050302-013E; H13050302-014E; H13050302-015E; H13050302-016E; H13050302-017E; H13050302-018E; H13050302-019E; H13050302-020E; H13050302-021E**

Run ID :Run Order: **FIA203-HE_130521A: 85** SampType: **Sample Matrix Spike** Sample ID: **H13050302-016EMS** Method: **A4500 N-C**
Analysis Date: **05/21/13 15:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.09	0.10	1		109	90	110				

Associated samples: **H13050302-006E; H13050302-007E; H13050302-008E; H13050302-009E; H13050302-010E; H13050302-011E; H13050302-012E; H13050302-013E; H13050302-014E; H13050302-015E; H13050302-016E; H13050302-017E; H13050302-018E; H13050302-019E; H13050302-020E; H13050302-021E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20395

Date: *21-Jun-13*

Run ID :Run Order: **FIA203-HE_130521A: 86** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-016EMSD** Method: **A4500 N-C**

Analysis Date: **05/21/13 15:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.07	0.10	1		**107**	90	110	1.086	**1.3**	20	

Associated samples: **H13050302-006E; H13050302-007E; H13050302-008E; H13050302-009E; H13050302-010E; H13050302-011E; H13050302-012E; H13050302-013E; H13050302-014E; H13050302-015E; H13050302-016E; H13050302-017E; H13050302-018E; H13050302-019E; H13050302-020E; H13050302-021E**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20408

Date: *21-Jun-13*

Run ID :Run Order: **FIA202-HE_130522B: 12** SampType: **Method Blank** Sample ID: **MB-20408** Method: **E365.1**
Analysis Date: **05/22/13 13:59** Units: **mg/L** **Prep Info:** Prep Date: **5/22/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA202-HE_130522B: 13** SampType: **Laboratory Control Sample** Sample ID: **LCS-20408** Method: **E365.1**
Analysis Date: **05/22/13 14:00** Units: **mg/L** **Prep Info:** Prep Date: **5/22/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.359	0.010	0.4		90	90	110				

Associated samples: **H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA202-HE_130522B: 21** SampType: **Sample Matrix Spike** Sample ID: **H13050302-016DMS** Method: **E365.1**
Analysis Date: **05/22/13 14:09** Units: **mg/L** **Prep Info:** Prep Date: **5/22/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.193	0.010	0.2		96	90	110				

Associated samples: **H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA202-HE_130522B: 22** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-016DMSD** Method: **E365.1**
Analysis Date: **05/22/13 14:10** Units: **mg/L** **Prep Info:** Prep Date: **5/22/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.196	0.010	0.2		98	90	110	0.1925	2.0	20	

Associated samples: **H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA202-HE_130522B: 34** SampType: **Sample Matrix Spike** Sample ID: **H13050353-003DMS** Method: **E365.1**
Analysis Date: **05/22/13 14:22** Units: **mg/L** **Prep Info:** Prep Date: **5/22/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.210	0.010	0.2	0.01383	98	90	110				

Associated samples: **H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20408

Date: *21-Jun-13*

Run ID :Run Order: **FIA202-HE_130522B: 35** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050353-003DMSD** Method: **E365.1**

Analysis Date: **05/22/13 14:23** Units: **mg/L** **Prep Info:** Prep Date: **5/22/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.212	0.010	0.2	0.01383	99	90	110	0.2102	1.0	20	

Associated samples: **H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20457

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130530A: 26** SampType: **Method Blank** Sample ID: **MB-20457** Method: **E200.8**
Analysis Date: **05/30/13 12:08** Units: **mg/L** **Prep Info:** Prep Date: **5/29/2013** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	0.001									

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130530A: 27** SampType: **Laboratory Control Sample** Sample ID: **LCS-20457** Method: **E200.8**
Analysis Date: **05/30/13 12:13** Units: **mg/L** **Prep Info:** Prep Date: **5/29/2013** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.483	0.010	0.5		97	85	115				

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130530A: 32** SampType: **Sample Matrix Spike** Sample ID: **H13050298-001CMS3** Method: **E200.8**
Analysis Date: **05/30/13 12:36** Units: **mg/L** **Prep Info:** Prep Date: **5/29/2013** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	10.4	0.021	10	2.158	83	70	130				

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130530A: 33** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050298-001CMSD3** Method: **E200.8**
Analysis Date: **05/30/13 12:41** Units: **mg/L** **Prep Info:** Prep Date: **5/29/2013** Prep Method: **E200.2**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	10.6	0.021	10	2.158	84	70	130	10.44	1.6	20	

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- N - Analyte concentration was not sufficiently high to calculate RPD
- A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **B_130524Z**

Date: *21-Jun-13*

Run ID :Run Order: **SUB-B205235: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **QCS** Method: **E245.1**

Analysis Date: **05/24/13 12:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	1.0E-05	0.0002		100	90	110				

Associated samples: **H13050302-003C; H13050302-004C**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: B_71549

Date: *21-Jun-13*

Run ID :Run Order: **SUB-B205235: 2** SampType: **Method Blank** Sample ID: **MB-71549** Method: **E245.1**
Analysis Date: **05/24/13 13:16** Units: **mg/L** **Prep Info:** Prep Date: **5/24/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	3E-06									

Associated samples: **H13050302-003C; H13050302-004C**

Run ID :Run Order: **SUB-B205235: 3** SampType: **Laboratory Control Sample** Sample ID: **LCS-71549** Method: **E245.1**
Analysis Date: **05/24/13 13:23** Units: **mg/L** **Prep Info:** Prep Date: **5/24/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00018	1.0E-05	0.0002		**92**	85	115				

Associated samples: **H13050302-003C; H13050302-004C**

Run ID :Run Order: **SUB-B205235: 6** SampType: **Sample Matrix Spike** Sample ID: **B13051851-010BMS** Method: **E245.1**
Analysis Date: **05/24/13 13:36** Units: **mg/L** **Prep Info:** Prep Date: **5/24/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	1.0E-05	0.0002	0.00000524	**97**	70	130				

Associated samples: **H13050302-003C; H13050302-004C**

Run ID :Run Order: **SUB-B205235: 7** SampType: **Sample Matrix Spike Duplicate** Sample ID: **B13051851-010BMSD** Method: **E245.1**
Analysis Date: **05/24/13 13:39** Units: **mg/L** **Prep Info:** Prep Date: **5/24/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	1.0E-05	0.0002	0.00000524	**91**	70	130	0.0002	6.7	30	

Associated samples: **H13050302-003C; H13050302-004C**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R173857

Date: *21-Jun-13*

Run ID :Run Order: **SUB-C173857: 1** SampType: **Method Blank** Sample ID: **MBLK** Method: **A5310 C**
Analysis Date: **05/21/13 17:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.04									

Associated samples: **H13050302-016F; H13050302-017F; H13050302-018F; H13050302-019F**

Run ID :Run Order: **SUB-C173857: 2** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV-7265** Method: **A5310 C**
Analysis Date: **05/21/13 17:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.94	0.10	10		99	90	110				

Associated samples: **H13050302-016F; H13050302-017F; H13050302-018F; H13050302-019F**

Run ID :Run Order: **SUB-C173857: 6** SampType: **Sample Matrix Spike** Sample ID: **C13050743-001DMS** Method: **A5310 C**
Analysis Date: **05/21/13 19:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.01	0.50	5	3.944	101	85	115				

Associated samples: **H13050302-016F; H13050302-017F; H13050302-018F; H13050302-019F**

Run ID :Run Order: **SUB-C173857: 7** SampType: **Sample Matrix Spike Duplicate** Sample ID: **C13050743-001DMSD** Method: **A5310 C**
Analysis Date: **05/21/13 19:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.02	0.50	5	3.944	101	85	115	9.011	0.1	10	

Associated samples: **H13050302-016F; H13050302-017F; H13050302-018F; H13050302-019F**

Run ID :Run Order: **SUB-C173857: 9** SampType: **Sample Matrix Spike** Sample ID: **H13050302-019F** Method: **A5310 C**
Analysis Date: **05/21/13 21:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	8.05	0.50	5	3.042	100	85	115				

Associated samples: **H13050302-016F; H13050302-017F; H13050302-018F; H13050302-019F**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R173857

Date: *21-Jun-13*

Run ID :Run Order: **SUB-C173857: 10** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-019F** Method: **A5310 C**
Analysis Date: **05/21/13 21:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	8.17	0.50	5	3.042	**103**	85	115	8.052	**1.5**	10	

Associated samples: **H13050302-016F; H13050302-017F; H13050302-018F; H13050302-019F**

Run ID :Run Order: **SUB-C173857: 11** SampType: **Laboratory Control Sample** Sample ID: **LCS-7265** Method: **A5310 C**
Analysis Date: **05/21/13 21:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.91	0.10	10		**99**	90	110				

Associated samples: **H13050302-016F; H13050302-017F; H13050302-018F; H13050302-019F**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88429

Date: *21-Jun-13*

Run ID :Run Order: **FIA203-HE_130520A: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E353.2**
Analysis Date: **05/20/13 11:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.07	0.010	1		107	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130520A: 9** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E353.2**
Analysis Date: **05/20/13 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1		101	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130520A: 12** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E353.2**
Analysis Date: **05/20/13 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.0102	0.010				0	0				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130520A: 13** SampType: **Method Blank** Sample ID: **MBLK** Method: **E353.2**
Analysis Date: **05/20/13 11:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.001									

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130520A: 69** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**
Analysis Date: **05/20/13 12:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.500	0.010	0.5		100	90	110				

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88429

Date: *21-Jun-13*

Run ID :Run Order: **FIA203-HE_130520A: 69** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**
Analysis Date: **05/20/13 12:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D**

Run ID :Run Order: **FIA203-HE_130520A: 71** SampType: **Sample Matrix Spike** Sample ID: **H13050300-004CMS** Method: **E353.2**
Analysis Date: **05/20/13 12:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.06	0.011	1	0.04952	101	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130520A: 72** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050300-004CMSD** Method: **E353.2**
Analysis Date: **05/20/13 12:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.06	0.011	1	0.04952	101	90	110	1.062	0.1	20	

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130520A: 83** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**
Analysis Date: **05/20/13 13:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.506	0.010	0.5		101	90	110				

Associated samples: **H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D**

Run ID :Run Order: **FIA203-HE_130520A: 85** SampType: **Sample Matrix Spike** Sample ID: **H13050302-011DMS** Method: **E353.2**
Analysis Date: **05/20/13 13:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.05	0.011	1	0.05629	100	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *21-Jun-13*

BatchID: R88429

Run ID :Run Order: **FIA203-HE_130520A: 86** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-011DMSD** Method: **E353.2**

Analysis Date: **05/20/13 13:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.06	0.011	1	0.05629	100	90	110	1.055	0.5	20	

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130520A: 97** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**

Analysis Date: **05/20/13 13:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.499	0.010	0.5		100	90	110				

Associated samples: **H13050302-021D**

Run ID :Run Order: **FIA203-HE_130520A: 99** SampType: **Sample Matrix Spike** Sample ID: **H13050302-021DMS** Method: **E353.2**

Analysis Date: **05/20/13 13:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1		101	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130520A: 100** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-021DMSD** Method: **E353.2**

Analysis Date: **05/20/13 13:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1		102	90	110	1.01	1.1	20	

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88434

Date: *21-Jun-13*

Run ID :Run Order: **FIA202-HE_130520A: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E365.1**
Analysis Date: **05/20/13 15:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.244	0.010	0.25		98	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D**

Run ID :Run Order: **FIA202-HE_130520A: 9** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E365.1**
Analysis Date: **05/20/13 15:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.000960	0.010				0	0				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D**

Run ID :Run Order: **FIA202-HE_130520A: 42** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**
Analysis Date: **05/20/13 15:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.101	0.010	0.1		101	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D**

Run ID :Run Order: **FIA202-HE_130520A: 58** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**
Analysis Date: **05/20/13 16:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.102	0.010	0.1		102	90	110				

Associated samples: **H13050302-006D; H13050302-007D; H13050302-008D; H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88442

Date: *21-Jun-13*

Run ID :Run Order: **FIA203-HE_130520B: 7** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E350.1**
Analysis Date: **05/20/13 16:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	5.50	0.25	5.66		97	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D**

Run ID :Run Order: **FIA203-HE_130520B: 8** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E350.1**
Analysis Date: **05/20/13 16:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.972	0.055	1		97	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D**

Run ID :Run Order: **FIA203-HE_130520B: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E350.1**
Analysis Date: **05/20/13 16:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	-0.0432	0.050				0	0				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D**

Run ID :Run Order: **FIA203-HE_130520B: 11** SampType: **Method Blank** Sample ID: **MBLK** Method: **E350.1**
Analysis Date: **05/20/13 16:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.01									

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D**

Run ID :Run Order: **FIA203-HE_130520B: 25** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **05/20/13 16:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.460	0.050	0.5		92	90	110				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R88442**

Date: *21-Jun-13*

Run ID :Run Order: **FIA203-HE_130520B: 34** SampType: **Sample Matrix Spike** Sample ID: **H13050302-006DMS** Method: **E350.1**
Analysis Date: **05/20/13 16:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.924	0.055	1		92	80	120				

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D**

Run ID :Run Order: **FIA203-HE_130520B: 35** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-006DMSD** Method: **E350.1**
Analysis Date: **05/20/13 16:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.908	0.055	1		91	80	120	0.9244	1.8	10	

Associated samples: **H13050302-001D; H13050302-002D; H13050302-003D; H13050302-005D; H13050302-006D; H13050302-007D; H13050302-008D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88461

Date: *21-Jun-13*

Run ID :Run Order: **FIA203-HE_130521A: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **A4500 N-C**
Analysis Date: **05/21/13 13:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.978	0.10	1		98	90	110				

Associated samples: **H13050302-001E; H13050302-002E; H13050302-003E; H13050302-005E; H13050302-006E; H13050302-007E; H13050302-008E; H13050302-009E; H13050302-010E; H13050302-011E; H13050302-012E; H13050302-013E; H13050302-014E; H13050302-015E; H13050302-016E; H13050302-017E; H13050302-018E; H13050302-019E; H13050302-020E; H13050302-021E**

Run ID :Run Order: **FIA203-HE_130521A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **A4500 N-C**
Analysis Date: **05/21/13 13:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.0219	0.10				0	0				

Associated samples: **H13050302-001E; H13050302-002E; H13050302-003E; H13050302-005E; H13050302-006E; H13050302-007E; H13050302-008E; H13050302-009E; H13050302-010E; H13050302-011E; H13050302-012E; H13050302-013E; H13050302-014E; H13050302-015E; H13050302-016E; H13050302-017E; H13050302-018E; H13050302-019E; H13050302-020E; H13050302-021E**

Run ID :Run Order: **FIA203-HE_130521A: 54** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **05/21/13 14:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.467	0.10	0.5		93	90	110				

Associated samples: **H13050302-001E; H13050302-002E; H13050302-003E; H13050302-005E**

Run ID :Run Order: **FIA203-HE_130521A: 68** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **05/21/13 15:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.473	0.10	0.5		95	90	110				

Associated samples: **H13050302-006E; H13050302-007E; H13050302-008E; H13050302-009E; H13050302-010E; H13050302-011E; H13050302-012E; H13050302-013E; H13050302-014E**

Run ID :Run Order: **FIA203-HE_130521A: 82** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **05/21/13 15:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.464	0.10	0.5		93	90	110				

Associated samples: **H13050302-015E; H13050302-016E; H13050302-017E; H13050302-018E; H13050302-019E; H13050302-020E; H13050302-021E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88463

Date: *21-Jun-13*

Run ID :Run Order: **MAN-TECH_130521A: 58** SampType: **Method Blank** Sample ID: **MBLK** Method: **A2320 B**
Analysis Date: **05/21/13 17:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A**

Run ID :Run Order: **MAN-TECH_130521A: 60** SampType: **Laboratory Control Sample** Sample ID: **LCS-05162013** Method: **A2320 B**
Analysis Date: **05/21/13 17:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	560	4.0	600		**93**	90	110				

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A**

Run ID :Run Order: **MAN-TECH_130521A: 80** SampType: **Sample Duplicate** Sample ID: **H13050294-025ADUP** Method: **A2320 B**
Analysis Date: **05/21/13 18:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	680	4.0						686.2	**0.3**	10	
Bicarbonate as HCO3	820	4.0						837.1	**2.1**	10	

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A**

Run ID :Run Order: **MAN-TECH_130521A: 84** SampType: **Sample Matrix Spike** Sample ID: **H13050294-026AMS** Method: **A2320 B**
Analysis Date: **05/21/13 18:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	790	4.0	600	208.4	**97**	80	120				

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A**

Run ID :Run Order: **MAN-TECH_130521A: 98** SampType: **Sample Duplicate** Sample ID: **H13050302-005ADUP** Method: **A2320 B**
Analysis Date: **05/21/13 19:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	140	4.0						140.6	**2.5**	10	
Bicarbonate as HCO3	160	4.0						152.8	**3.2**	10	

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88469

Date: *21-Jun-13*

Run ID :Run Order: **IC102-H_130521A: 15** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV052113-12** Method: **E300.0**

Analysis Date: **05/21/13 16:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	420	1.0	400		105	90	110				

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **IC102-H_130521A: 16** SampType: **Method Blank** Sample ID: **ICB052113-13** Method: **E300.0**

Analysis Date: **05/21/13 16:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.08									

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **IC102-H_130521A: 17** SampType: **Laboratory Fortified Blank** Sample ID: **LFB052113-14** Method: **E300.0**

Analysis Date: **05/21/13 16:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	210	1.0	200		105	90	110				

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **IC102-H_130521A: 19** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV052113-15** Method: **E300.0**

Analysis Date: **05/21/13 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	420	1.0	400		106	90	110				

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A**

Run ID :Run Order: **IC102-H_130521A: 32** SampType: **Sample Matrix Spike** Sample ID: **H13050302-009AMS** Method: **E300.0**

Analysis Date: **05/21/13 19:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	280	1.0	200	62.49	109	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88469

Date: *21-Jun-13*

Run ID :Run Order: **IC102-H_130521A: 32** SampType: **Sample Matrix Spike** Sample ID: **H13050302-009AMS** Method: **E300.0**
Analysis Date: **05/21/13 19:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **IC102-H_130521A: 33** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-009AMSD** Method: **E300.0**
Analysis Date: **05/21/13 19:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	280	1.0	200	62.49	110	90	110	281	0.7	20	

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **IC102-H_130521A: 34** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV052113-30** Method: **E300.0**
Analysis Date: **05/21/13 20:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	430	1.0	400		108	90	110				

Associated samples: **H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A**

Run ID :Run Order: **IC102-H_130521A: 46** SampType: **Sample Matrix Spike** Sample ID: **H13050302-019AMS** Method: **E300.0**
Analysis Date: **05/21/13 22:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	270	1.0	200	57.95	108	90	110				

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **IC102-H_130521A: 47** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-019AMSD** Method: **E300.0**
Analysis Date: **05/21/13 22:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	280	1.0	200	57.95	109	90	110	274.1	0.5	20	

Associated samples: **H13050302-001A; H13050302-002A; H13050302-003A; H13050302-005A; H13050302-006A; H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88469

Date: *21-Jun-13*

Run ID :Run Order: **IC102-H_130521A: 48** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV052113-44** Method: **E300.0**

Analysis Date: **05/21/13 23:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	430	1.0	400		**108**	90	110				

Associated samples: **H13050302-020A; H13050302-021A**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88504

Date: *21-Jun-13*

Run ID :Run Order: **FIA202-HE_130522B: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E365.1**

Analysis Date: **05/22/13 13:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.244	0.010	0.25		98	90	110				

Associated samples: **H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA202-HE_130522B: 9** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E365.1**

Analysis Date: **05/22/13 13:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.000280	0.010				0	0				

Associated samples: **H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA202-HE_130522B: 10** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**

Analysis Date: **05/22/13 13:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.101	0.010	0.1		101	90	110				

Associated samples: **H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D**

Run ID :Run Order: **FIA202-HE_130522B: 27** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**

Analysis Date: **05/22/13 14:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.101	0.010	0.1		101	90	110				

Associated samples: **H13050302-020D; H13050302-021D**

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88510

Date: *21-Jun-13*

Run ID :Run Order: **MAN-TECH_130522A: 8** SampType: **Method Blank** Sample ID: **MBLK** Method: **A2320 B**
Analysis Date: **05/22/13 15:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **MAN-TECH_130522A: 10** SampType: **Laboratory Control Sample** Sample ID: **LCS-05162013** Method: **A2320 B**
Analysis Date: **05/22/13 15:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	610	4.0	600		**102**	90	110				

Associated samples: **H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **MAN-TECH_130522A: 25** SampType: **Sample Duplicate** Sample ID: **H13050302-011ADUP** Method: **A2320 B**
Analysis Date: **05/22/13 16:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	91	4.0						92.09	**1.2**	10	
Bicarbonate as HCO3	110	4.0						112.4	**1.2**	10	

Associated samples: **H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **MAN-TECH_130522A: 28** SampType: **Sample Matrix Spike** Sample ID: **H13050302-012AMS** Method: **A2320 B**
Analysis Date: **05/22/13 17:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	740	4.0	600	78.68	**110**	80	120				

Associated samples: **H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Run ID :Run Order: **MAN-TECH_130522A: 41** SampType: **Sample Duplicate** Sample ID: **H13050337-001ADUP** Method: **A2320 B**
Analysis Date: **05/22/13 18:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	170	4.0						174.3	**0.2**	10	
Bicarbonate as HCO3	210	4.0						212.7	**0.2**	10	

Associated samples: **H13050302-007A; H13050302-008A; H13050302-009A; H13050302-010A; H13050302-011A; H13050302-012A; H13050302-013A; H13050302-014A; H13050302-015A; H13050302-016A; H13050302-017A; H13050302-018A; H13050302-019A; H13050302-020A; H13050302-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88542

Date: *21-Jun-13*

Run ID :Run Order: **FIA203-HE_130523C: 7** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E350.1**
Analysis Date: **05/23/13 14:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	5.18	0.25	5.66		92	90	110				

Associated samples: **H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130523C: 8** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E350.1**
Analysis Date: **05/23/13 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.925	0.055	1		93	90	110				

Associated samples: **H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130523C: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **05/23/13 14:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.519	0.050	0.5		104	90	110				

Associated samples: **H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D**

Run ID :Run Order: **FIA203-HE_130523C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E350.1**
Analysis Date: **05/23/13 14:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	-0.0168	0.050				0	0				

Associated samples: **H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130523C: 11** SampType: **Method Blank** Sample ID: **MBLK** Method: **E350.1**
Analysis Date: **05/23/13 14:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.01									

Associated samples: **H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Qualifiers:
- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- N - Analyte concentration was not sufficiently high to calculate RPD
- A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88542

Date: *21-Jun-13*

Run ID :Run Order: **FIA203-HE_130523C: 20** SampType: **Sample Matrix Spike** Sample ID: **H13050302-016DMS** Method: **E350.1**
Analysis Date: **05/23/13 14:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.965	0.055	1		96	80	120				

Associated samples: **H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130523C: 21** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-016DMSD** Method: **E350.1**
Analysis Date: **05/23/13 14:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.951	0.055	1		95	80	120	0.9648	1.4	10	

Associated samples: **H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130523C: 25** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **05/23/13 14:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.516	0.050	0.5		103	90	110				

Associated samples: **H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130523C: 27** SampType: **Sample Matrix Spike** Sample ID: **H13050302-019DMS** Method: **E350.1**
Analysis Date: **05/23/13 14:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.925	0.055	1		93	80	120				

Associated samples: **H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Run ID :Run Order: **FIA203-HE_130523C: 38** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-019DMSD** Method: **E350.1**
Analysis Date: **05/23/13 15:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.847	0.050	1		85	80	120	0.9252	8.9	10	

Associated samples: **H13050302-009D; H13050302-010D; H13050302-011D; H13050302-012D; H13050302-013D; H13050302-014D; H13050302-015D; H13050302-016D; H13050302-017D; H13050302-018D; H13050302-019D; H13050302-020D; H13050302-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88552

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **05/23/13 10:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0590	0.0050	0.06		98	90	110				
Cadmium	0.0308	0.0010	0.03		103	90	110				
Calcium	3.12	0.50	3		104	90	110				
Copper	0.0600	0.010	0.06		100	90	110				
Lead	0.0566	0.010	0.06		94	90	110				
Magnesium	3.04	0.50	3		101	90	110				
Zinc	0.0617	0.010	0.06		103	90	110				

Associated samples: **H13050302-001B; H13050302-001C; H13050302-002B; H13050302-002C; H13050302-003B; H13050302-003C; H13050302-005B; H13050302-005C; H13050302-006B; H13050302-006C; H13050302-007B; H13050302-007C; H13050302-008B; H13050302-008C; H13050302-009B; H13050302-009C; H13050302-010B; H13050302-010C; H13050302-011B; H13050302-011C; H13050302-012B; H13050302-012C; H13050302-013B; H13050302-013C; H13050302-014B; H13050302-014C; H13050302-015B; H13050302-015C; H13050302-016B; H13050302-016C; H13050302-017B; H13050302-017C; H13050302-018B; H13050302-018C; H13050302-019B; H13050302-019C; H13050302-020B; H13050302-020C; H13050302-021B; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130523A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **05/23/13 10:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000294	0.0050									
Cadmium	0.00121	0.0010									
Calcium	115	0.50	120		96	70	130				
Copper	0.000807	0.010									
Lead	0.000229	0.010									
Magnesium	41.2	0.50	40		103	70	130				
Zinc	0.00148	0.010									

Associated samples: **H13050302-001B; H13050302-001C; H13050302-002B; H13050302-002C; H13050302-003B; H13050302-003C; H13050302-005B; H13050302-005C; H13050302-006B; H13050302-006C; H13050302-007B; H13050302-007C; H13050302-008B; H13050302-008C; H13050302-009B; H13050302-009C; H13050302-010B; H13050302-010C; H13050302-011B; H13050302-011C; H13050302-012B; H13050302-012C; H13050302-013B; H13050302-013C; H13050302-014B; H13050302-014C; H13050302-015B; H13050302-015C; H13050302-016B; H13050302-016C; H13050302-017B; H13050302-017C; H13050302-018B; H13050302-018C; H13050302-019B; H13050302-019C; H13050302-020B; H13050302-020C; H13050302-021B; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130523A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **05/23/13 10:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0101	0.0050	0.01		101	70	130				
Cadmium	0.0108	0.0010	0.01		108	70	130				
Calcium	114	0.50	120		95	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88552

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **05/23/13 10:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0196	0.010	0.02		98	70	130				
Lead	0.000195	0.010				0	0				
Magnesium	41.4	0.50	40		104	70	130				
Zinc	0.0110	0.010	0.01		109	70	130				

Associated samples: **H13050302-001B; H13050302-001C; H13050302-002B; H13050302-002C; H13050302-003B; H13050302-003C; H13050302-005B; H13050302-005C; H13050302-006B; H13050302-006C; H13050302-007B; H13050302-007C; H13050302-008B; H13050302-008C; H13050302-009B; H13050302-009C; H13050302-010B; H13050302-010C; H13050302-011B; H13050302-011C; H13050302-012B; H13050302-012C; H13050302-013B; H13050302-013C; H13050302-014B; H13050302-014C; H13050302-015B; H13050302-015C; H13050302-016B; H13050302-016C; H13050302-017B; H13050302-017C; H13050302-018B; H13050302-018C; H13050302-019B; H13050302-019C; H13050302-020B; H13050302-020C; H13050302-021B; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130523A: 19** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**
Analysis Date: **05/23/13 11:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Cadmium	ND	7E-06									
Copper	ND	3E-05									
Lead	ND	6E-06									
Zinc	0.0006	0.0003									

Associated samples: **H13050302-001B; H13050302-002B; H13050302-003B; H13050302-005B; H13050302-006B; H13050302-007B; H13050302-008B; H13050302-009B; H13050302-010B; H13050302-011B; H13050302-012B; H13050302-013B; H13050302-014B; H13050302-015B; H13050302-016B; H13050302-017B; H13050302-018B; H13050302-019B; H13050302-020B; H13050302-021B**

Run ID :Run Order: **ICPMS204-B_130523A: 20** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **05/23/13 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0478	0.0050	0.05		96	85	115				
Cadmium	0.0485	0.0010	0.05		97	85	115				
Copper	0.0482	0.010	0.05		96	85	115				
Lead	0.0467	0.010	0.05		93	85	115				
Zinc	0.0497	0.010	0.05	0.0006407	98	85	115				

Associated samples: **H13050302-001B; H13050302-002B; H13050302-003B; H13050302-005B; H13050302-006B; H13050302-007B; H13050302-008B; H13050302-009B; H13050302-010B; H13050302-011B; H13050302-012B; H13050302-013B; H13050302-014B; H13050302-015B; H13050302-016B; H13050302-017B; H13050302-018B; H13050302-019B; H13050302-020B; H13050302-021B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88552

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 82** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **05/23/13 16:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0599	0.0050	0.06		100	90	110				
Cadmium	0.0305	0.0010	0.03		102	90	110				
Calcium	3.08	0.50	3		103	90	110				
Copper	0.0600	0.010	0.06		100	90	110				
Lead	0.0573	0.010	0.06		96	90	110				
Magnesium	3.10	0.50	3		103	90	110				
Zinc	0.0621	0.010	0.06		104	90	110				

Associated samples: **H13050302-001B; H13050302-001C; H13050302-002B; H13050302-002C; H13050302-003B; H13050302-003C; H13050302-005B; H13050302-005C; H13050302-006B; H13050302-006C; H13050302-007B; H13050302-007C; H13050302-008B; H13050302-008C; H13050302-009B; H13050302-009C; H13050302-010B; H13050302-010C; H13050302-011B; H13050302-011C; H13050302-012B; H13050302-012C; H13050302-013B; H13050302-013C; H13050302-014B; H13050302-014C; H13050302-015B; H13050302-015C; H13050302-016B; H13050302-016C; H13050302-017B; H13050302-017C; H13050302-018B; H13050302-018C; H13050302-019B; H13050302-019C; H13050302-020B; H13050302-020C; H13050302-021B; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130523A: 83** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **05/23/13 16:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000311	0.0050									
Cadmium	0.00118	0.0010									
Calcium	117	0.50	120		98	70	130				
Copper	0.000821	0.010									
Lead	0.000192	0.010									
Magnesium	40.4	0.50	40		101	70	130				
Zinc	0.00149	0.010									

Associated samples: **H13050302-001B; H13050302-001C; H13050302-002B; H13050302-002C; H13050302-003B; H13050302-003C; H13050302-005B; H13050302-005C; H13050302-006B; H13050302-006C; H13050302-007B; H13050302-007C; H13050302-008B; H13050302-008C; H13050302-009B; H13050302-009C; H13050302-010B; H13050302-010C; H13050302-011B; H13050302-011C; H13050302-012B; H13050302-012C; H13050302-013B; H13050302-013C; H13050302-014B; H13050302-014C; H13050302-015B; H13050302-015C; H13050302-016B; H13050302-016C; H13050302-017B; H13050302-017C; H13050302-018B; H13050302-018C; H13050302-019B; H13050302-019C; H13050302-020B; H13050302-020C; H13050302-021B; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130523A: 84** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **05/23/13 16:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0103	0.0050	0.01		103	70	130				
Cadmium	0.0106	0.0010	0.01		106	70	130				
Calcium	116	0.50	120		97	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88552

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 84** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **05/23/13 16:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0196	0.010	0.02		98	70	130				
Lead	0.000193	0.010				0	0				
Magnesium	40.7	0.50	40		102	70	130				
Zinc	0.0105	0.010	0.01		105	70	130				

Associated samples: **H13050302-001B; H13050302-001C; H13050302-002B; H13050302-002C; H13050302-003B; H13050302-003C; H13050302-005B; H13050302-005C; H13050302-006B; H13050302-006C; H13050302-007B; H13050302-007C; H13050302-008B; H13050302-008C; H13050302-009B; H13050302-009C; H13050302-010B; H13050302-010C; H13050302-011B; H13050302-011C; H13050302-012B; H13050302-012C; H13050302-013B; H13050302-013C; H13050302-014B; H13050302-014C; H13050302-015B; H13050302-015C; H13050302-016B; H13050302-016C; H13050302-017B; H13050302-017C; H13050302-018B; H13050302-018C; H13050302-019B; H13050302-019C; H13050302-020B; H13050302-020C; H13050302-021B; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130523A: 95** SampType: **Sample Matrix Spike** Sample ID: **H13050294-018BMS** Method: **E200.8**
Analysis Date: **05/23/13 17:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0562	0.0010	0.05	0.005893	101	70	130				
Cadmium	0.0425	0.0010	0.05	0.0000093	85	70	130				
Copper	0.0469	0.0050	0.05	0.0005584	93	70	130				
Lead	0.0500	0.0010	0.05	0.0000485	100	70	130				
Zinc	0.0468	0.010	0.05	0.001513	90	70	130				

Associated samples: **H13050302-001B; H13050302-002B; H13050302-003B; H13050302-005B; H13050302-006B; H13050302-007B; H13050302-008B; H13050302-009B; H13050302-010B; H13050302-011B; H13050302-012B; H13050302-013B; H13050302-014B; H13050302-015B; H13050302-016B; H13050302-017B; H13050302-018B; H13050302-019B; H13050302-020B; H13050302-021B**

Run ID :Run Order: **ICPMS204-B_130523A: 96** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050294-018BMSD** Method: **E200.8**
Analysis Date: **05/23/13 17:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0562	0.0010	0.05	0.005893	101	70	130	0.05617	0.1	20	
Cadmium	0.0428	0.0010	0.05	0.0000093	86	70	130	0.04251	0.8	20	
Copper	0.0466	0.0050	0.05	0.0005584	92	70	130	0.04692	0.8	20	
Lead	0.0510	0.0010	0.05	0.0000485	102	70	130	0.05	1.9	20	
Zinc	0.0472	0.010	0.05	0.001513	91	70	130	0.04676	1.0	20	

Associated samples: **H13050302-001B; H13050302-002B; H13050302-003B; H13050302-005B; H13050302-006B; H13050302-007B; H13050302-008B; H13050302-009B; H13050302-010B; H13050302-011B; H13050302-012B; H13050302-013B; H13050302-014B; H13050302-015B; H13050302-016B; H13050302-017B; H13050302-018B; H13050302-019B; H13050302-020B; H13050302-021B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *21-Jun-13*

BatchID: R88552

Run ID :Run Order: **ICPMS204-B_130523A: 142** SampType: **Sample Matrix Spike** Sample ID: **H13050302-011BMS** Method: **E200.8**
Analysis Date: **05/23/13 21:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0640	0.0010	0.05	0.01319	102	70	130				
Cadmium	0.0492	0.0010	0.05	0.0000277	98	70	130				
Copper	0.0549	0.0050	0.05	0.006056	98	70	130				
Lead	0.0495	0.0010	0.05	0.0002821	99	70	130				
Zinc	0.0642	0.010	0.05	0.01426	100	70	130				

Associated samples: **H13050302-001B; H13050302-002B; H13050302-003B; H13050302-005B; H13050302-006B; H13050302-007B; H13050302-008B; H13050302-009B; H13050302-010B; H13050302-011B; H13050302-012B; H13050302-013B; H13050302-014B; H13050302-015B; H13050302-016B; H13050302-017B; H13050302-018B; H13050302-019B; H13050302-020B; H13050302-021B**

Run ID :Run Order: **ICPMS204-B_130523A: 143** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-011BMSD** Method: **E200.8**
Analysis Date: **05/23/13 21:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0635	0.0010	0.05	0.01319	101	70	130	0.06399	0.7	20	
Cadmium	0.0496	0.0010	0.05	0.0000277	99	70	130	0.04915	1.0	20	
Copper	0.0540	0.0050	0.05	0.006056	96	70	130	0.05488	1.6	20	
Lead	0.0498	0.0010	0.05	0.0002821	99	70	130	0.04955	0.5	20	
Zinc	0.0639	0.010	0.05	0.01426	99	70	130	0.06419	0.5	20	

Associated samples: **H13050302-001B; H13050302-002B; H13050302-003B; H13050302-005B; H13050302-006B; H13050302-007B; H13050302-008B; H13050302-009B; H13050302-010B; H13050302-011B; H13050302-012B; H13050302-013B; H13050302-014B; H13050302-015B; H13050302-016B; H13050302-017B; H13050302-018B; H13050302-019B; H13050302-020B; H13050302-021B**

Run ID :Run Order: **ICPMS204-B_130523A: 182** SampType: **Sample Matrix Spike** Sample ID: **H13050302-021BMS** Method: **E200.8**
Analysis Date: **05/24/13 00:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0693	0.0010	0.05	0.01623	106	70	130				
Cadmium	0.0492	0.0010	0.05	0.000034	98	70	130				
Copper	0.0541	0.0050	0.05	0.00377	101	70	130				
Lead	0.0492	0.0010	0.05	0.0001457	98	70	130				
Zinc	0.0680	0.010	0.05	0.01489	106	70	130				

Associated samples: **H13050302-001B; H13050302-002B; H13050302-003B; H13050302-005B; H13050302-006B; H13050302-007B; H13050302-008B; H13050302-009B; H13050302-010B; H13050302-011B; H13050302-012B; H13050302-013B; H13050302-014B; H13050302-015B; H13050302-016B; H13050302-017B; H13050302-018B; H13050302-019B; H13050302-020B; H13050302-021B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88552

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 183** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13050302-021BMSD** Method: **E200.8**

Analysis Date: **05/24/13 00:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0661	0.0010	0.05	0.01623	100	70	130	0.0693	4.7	20	
Cadmium	0.0495	0.0010	0.05	0.000034	99	70	130	0.04923	0.5	20	
Copper	0.0526	0.0050	0.05	0.00377	98	70	130	0.0541	2.8	20	
Lead	0.0490	0.0010	0.05	0.0001457	98	70	130	0.04925	0.4	20	
Zinc	0.0651	0.010	0.05	0.01489	100	70	130	0.06798	4.3	20	

Associated samples: **H13050302-001B; H13050302-002B; H13050302-003B; H13050302-005B; H13050302-006B; H13050302-007B; H13050302-008B; H13050302-009B; H13050302-010B; H13050302-011B; H13050302-012B; H13050302-013B; H13050302-014B; H13050302-015B; H13050302-016B; H13050302-017B; H13050302-018B; H13050302-019B; H13050302-020B; H13050302-021B**

Run ID :Run Order: **ICPMS204-B_130523A: 249** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **05/24/13 05:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000357	0.0050									
Cadmium	0.000944	0.0010									
Calcium	115	0.50	120		96	70	130				
Copper	0.000762	0.010									
Lead	0.000195	0.010									
Magnesium	41.0	0.50	40		102	70	130				
Zinc	0.00141	0.010									

Associated samples: **H13050302-001B; H13050302-001C; H13050302-002B; H13050302-002C; H13050302-003B; H13050302-003C; H13050302-005B; H13050302-005C; H13050302-006B; H13050302-006C; H13050302-007B; H13050302-007C; H13050302-008B; H13050302-008C; H13050302-009B; H13050302-009C; H13050302-010B; H13050302-010C; H13050302-011B; H13050302-011C; H13050302-012B; H13050302-012C; H13050302-013B; H13050302-013C; H13050302-014B; H13050302-014C; H13050302-015B; H13050302-015C; H13050302-016B; H13050302-016C; H13050302-017B; H13050302-017C; H13050302-018B; H13050302-018C; H13050302-019B; H13050302-019C; H13050302-020B; H13050302-020C; H13050302-021B; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130523A: 250** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **05/24/13 05:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0102	0.0050	0.01		102	70	130				
Cadmium	0.0101	0.0010	0.01		101	70	130				
Calcium	115	0.50	120		96	70	130				
Copper	0.0197	0.010	0.02		98	70	130				
Lead	0.000182	0.010				0	0				
Magnesium	40.7	0.50	40		102	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88552

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130523A: 250** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **05/24/13 05:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0111	0.010	0.01		111	70	130				

Associated samples: **H13050302-001B; H13050302-001C; H13050302-002B; H13050302-002C; H13050302-003B; H13050302-003C; H13050302-005B; H13050302-005C; H13050302-006B; H13050302-006C; H13050302-007B; H13050302-007C; H13050302-008B; H13050302-008C; H13050302-009B; H13050302-009C; H13050302-010B; H13050302-010C; H13050302-011B; H13050302-011C; H13050302-012B; H13050302-012C; H13050302-013B; H13050302-013C; H13050302-014B; H13050302-014C; H13050302-015B; H13050302-015C; H13050302-016B; H13050302-016C; H13050302-017B; H13050302-017C; H13050302-018B; H13050302-018C; H13050302-019B; H13050302-019C; H13050302-020B; H13050302-020C; H13050302-021B; H13050302-021C**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88689

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130530A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **05/30/13 10:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0636	0.010	0.06		106	90	110				

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130530A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **05/30/13 10:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.00166	0.010									

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130530A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **05/30/13 10:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0102	0.010	0.01		102	70	130				

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130530A: 200** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **05/31/13 01:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.00123	0.010									

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130530A: 201** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **05/31/13 01:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0107	0.010	0.01		107	70	130				

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R88689

Date: *21-Jun-13*

Run ID :Run Order: **ICPMS204-B_130530A: 253** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **05/31/13 12:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0620	0.010	0.06		**103**	90	110				

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130530A: 254** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **05/31/13 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.00143	0.010									

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Run ID :Run Order: **ICPMS204-B_130530A: 255** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **05/31/13 12:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0105	0.010	0.01		**105**	70	130				

Associated samples: **H13050302-015C; H13050302-016C; H13050302-017C; H13050302-018C; H13050302-019C; H13050302-020C; H13050302-021C**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13050302
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R88689**

Date: *21-Jun-13*

BROOKS
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June 19, 2013

Energy Laboratories, Inc.
ATTN: Jonathan Dee Hager
PO Box 5688
Helena MT 59604
jhager@energylab.com

RE: Project ENL-HL1201

Dear Jonathan Dee Hager,

This report contains results for the 3 samples received by Brooks Rand Labs (BRL) on May 22, 2013. The samples were logged-in for the contracted analyses according to the chain-of-custody form(s). The samples were received, prepared, analyzed, and stored according to BRL SOPs and EPA methodology.

The results were method blank corrected as described in the calculations section of the relevant BRL SOP(s) and may have been evaluated using reporting limits that have been adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details. All data is reported without qualification (with the exception of concentration qualifiers), and all associated quality control sample results meet the acceptance criteria.

BRL, an accredited laboratory, certifies that the reported results of all analyses for which BRL is NELAP accredited meet all NELAP requirements. For more details, please see the *Report Information* page in your report. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Lydia Greaves

Lydia Greaves
Project Manager
Lydia@brooksrand.com

Report Information

Laboratory Accreditation

BRL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BRL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksrand.com/default.asp?contentID=586>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BLK	method blank	**MS**	matrix spike
BRL	Brooks Rand Labs	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
CRM	certified reference material	**RPD**	relative percent difference
D	dissolved fraction	**RSD**	relative standard deviation
DUP	duplicate	**SCV**	secondary calibration verification
ICV	initial calibration verification	**SOP**	standard operating procedure
MDL	method detection limit	**SRM**	standard reference material
MRL	method reporting limit	**T**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

B	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Rand Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BRL.

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
H13050302-003F	1321007-01	Water	Sample	05/14/2013	05/22/2013
H13050302-004F	1321007-02	Water	Sample	05/14/2013	05/22/2013
H13050302-006F	1321007-03	Water	Sample	05/15/2013	05/22/2013

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
MeHg	Water	EPA 1630	06/10/2013	06/12/2013	B130836	1300407

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
H13050302-003F										
1321007-01	MeHg	Water	T	2.55		0.020	0.049	ng/L	B130836	1300407
H13050302-004F										
1321007-02	MeHg	Water	T	0.420		0.020	0.049	ng/L	B130836	1300407
H13050302-006F										
1321007-03	MeHg	Water	T	0.020	U	0.020	0.051	ng/L	B130836	1300407

Accuracy & Precision Summary

Batch: B130836
Lab Matrix: Water
Method: EPA 1630

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B130836-BS1	**Laboratory Fortified Blank (1321019)**						
	MeHg		1.010	0.971	ng/L	96% 67-133	
B130836-BS2	**Laboratory Fortified Blank (1321019)**						
	MeHg		0.9955	0.977	ng/L	98% 67-133	
B130836-MS2	**Matrix Spike (1321007-02)**						
	MeHg	0.420	1.790	2.209	ng/L	100% 65-135	
B130836-MSD2	**Matrix Spike Duplicate (1321007-02)**						
	MeHg	0.420	1.812	2.454	ng/L	112% 65-135	11% 35

Method Blanks & Reporting Limits

Batch: B130836
Matrix: Water
Method: EPA 1630
Analyte: MeHg

Sample	Result	Units
B130836-BLK1	0.010	ng/L
B130836-BLK2	0.011	ng/L
B130836-BLK3	0.006	ng/L
B130836-BLK4	0.007	ng/L

Average: 0.009
Limit: 0.045

Standard Deviation: 0.002
Limit: 0.015

MDL: 0.020
MRL: 0.049

Sample Containers

Lab ID: 1321007-01
Sample: H13050302-003F
Report Matrix: Water
Sample Type: Sample
Collected: 05/14/2013
Received: 05/22/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	250mL	13-0001	1mL 6N HCL (PP)	1310019	<2	Cooler

Lab ID: 1321007-02
Sample: H13050302-004F
Report Matrix: Water
Sample Type: Sample
Collected: 05/14/2013
Received: 05/22/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	250mL	13-0001	1mL 6N HCL (PP)	1310019	<2	Cooler

Lab ID: 1321007-03
Sample: H13050302-006F
Report Matrix: Water
Sample Type: Sample
Collected: 05/15/2013
Received: 05/22/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	250mL	13-0001	1mL 6N HCL (PP)	1310019	<2	Cooler

Shipping Containers

Cooler

Received: May 22, 2013 14:08
Tracking No: 1Z37EW970351969398 via UPS
Coolant Type: Ice
Temperature: 0.1 °C

Description: Cooler
Damaged in transit? No
Returned to client? No

Custody seals present? Yes
Custody seals intact? Yes
COC present? Yes

1321007

Energy Laboratories Inc
3161 East Lyndale Avenue
Helena, MT 59601
(406) 442-0711

H13050302

CHAIN-OF-CUSTODY RECORD

BRL Report 1321007
Page 1 of 1
17-May-13

Custody Seal: [✓ Y] N
Intacted: [✓ Y] N
Signature Match: Y N

Shipped By:
Receipt Temp: 0.1

Subcontractor:

Brooks Rand Labs
3958 6th Ave NW
Seattle, WA 98106
TEL: (206) 632-6206 FAX: (206) 632-6017
Acct #:

Subcontractor's Client:

Shipped By:

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests SUB-BROOKSRAND																	
H13050302-003F	Aqueous	05/14/13 01:15 P	1-CLIENT-UP	1																	
H13050302-004F	Aqueous	05/14/13 02:45 P	1-CLIENT-UP	1																	
H13050302-006F	Aqueous	05/15/13 09:00 A	1-CLIENT-UP	1																	

Comments: Methyl Mercury analysis

QC Level:
STD

	Date/Time		Date/Time
Relinquished by:		**Received by:**	5/22/13 1408
Relinquished by:	5/20/13 9:22	**Received by:**	

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Federal Superfund

H13050302

Login completed by:	Tracy L. Lorash	Date Received:	5/17/2013
Reviewed by:	BL2000\sdull	Received by:	wjj
Reviewed Date:	5/23/2013	Carrier name:	Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	℃ See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Sample ID on COC is CFR-03A LBG - ID on bottles is CFR-03A Left Bank Grab. Logged in with ID from COC.
Sample ID on COC is CFR-03A RBG - ID on bottles is CFR-03A Right Bank Grab. Logged in with ID from COC.
No time on page 3 of the COC when client relinquished the COC.
Received metals bottle and methyl mercury bottle only for sample CFR-84F; however, COC is marked for TR metals, Diss metals, TPN, Nutrients, TSS, Commons and Hardness. Per Erich, we are to analyze only for total mercury and methyl mercury.
Cooler 1 was received at 3.0℃, Cooler 2 at 1.1℃, Cooler 3 at 1.5℃. Samples were received on wet ice.
Metals sample for SBC-P2 was preserved with 2 mL nitric acid upon receipt to pH of 1-2 in the laboratory. In accordance with the Clean Water Act, these samples must be held for 24 hours prior to analysis. Tl 5/17/13

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 1 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Report Mail Address (Required):
jgriffin@mt.gov
erich.weber@atkinsglobal.com
gary.Ingman@atkinsglobal.com
☐ No Hard Copy Email:

Invoice Address (Required):
MT DEQ
P.O. Box 200901
Helena, MT 59620-0901
☐ No Hard Copy Email:

Special Report/Formats:
☐ DW ☐ POTW/WWTP ☐ State: ☐ Other:
☐ EDD/EDT (Electronic Data) Format: ☐ LEVEL IV ☐ NELAC

Project Name, PWS, Permit, Etc.: CFR OU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Contact Name: Joe Griffin, Erich Weber
Phone/Fax: 560-6060 (MDEQ), 437-9245
Cell: 439-0563

Sampler: (Please Print) E. Weber, G. Ingman

Invoice Contact & Phone: Joe Griffin (above)

Purchase Order:

Quote/Bottle Order: 624/11913

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO3+2, TP	TSS	Tot. Alk., SO4	Hardness (TR Ca & Mg)	Total Hg (low level)	Methyl Hg (contract)	SEE ATTACHED
1	CFR-116A	5-14-2013	0945	5W	X	X	X	X	X	X	X			
2	CSC	5-14-2013	1045	5W										
3	FC-CFR	5-14-2013	1315	6W								X	X	
4	CFR-84F	5-14-2013	1445	6W								X	X	
5	CFR-42G	5-14-2013	1600	5W										
6	Field Blank #1	5-15-2013	0900	6W									X	
7	LBR-CFR	5-15-2013	0945	5W										
8	LBR-CFR duplicate*	5-15-2013	0945	5W										
9	CFR-27H	5-15-2013	1045	5W										
10	CFR-11F	5-15-2013	1145	5W										

Standard Turnaround (TAT)

R U S H — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
all dissolved samples field filtered
Total Hg from TR metals sample
TB
Cooler #1-3.0
Cooler #2-1.1
Cooler #3-1.5

LABORATORY USE ONLY

Shipped by: handdel
Cooler ID(s): Y
Receipt Temp: see comment
On Ice: [✓ Y] N
Custody Seal On Bottle: Y [✓ N]
On Cooler: Y [✓ N]
Intact: Y [✓ N]
Signature Match: Y [✓ N]

H13050362

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 5-17-2013 11:10 Signature:
Received by (print): Date/Time: Signature:
Relinquished by (print): Date/Time: Signature:
Received by (print): Date/Time: Signature:
Sample Disposal: Return to Client: Lab Disposal:
Received by Laboratory: Wanda Johnson Date/Time: 5-17-13 11:10 Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 2 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ	Project Name, PWS, Permit, Etc. CFR OU Monitoring	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address (Required): please see page 1 ❑ No Hard Copy Email:	Contact Name: please see page 1 Phone/Fax:	Cell:	Sampler: (Please Print) E. Weber G. Ingman
	Invoice Contact & Phone: please see page 1	Purchase Order:	Quote/Bottle Order: 624/11913
Invoice Address (Required): please see page 1 ❑ No Hard Copy Email:			

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: ________
☐ Other: ________
☐ EDD/EDT(Electronic Data)
Format: ________
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO3+2, TP	TSS	Tot. Alk., SO4-	Hardness (TR Ca & Mg)	DOC		SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments: all dissolved samples Field Filtered
Q	1 CFR-07D	5-15-2013	1300	5W	X	X	X	X	X	X	X						TB Cooler #1 - 3.0
	2 CFR-03A	5-15-2013	1415	5W													Cooler #2 - 1.1
	3 CFR-03A LBG	5-15-2013	1430	5W													Cooler #3 - 1.5
	4 CFR-03A RBG	5-15-2013	1440	5W													
Q	5 WSC-SBC	5-15-2013	1515	5W													
C3	6 Field Blank #2	5-16-2013	1030	6W								X					
	7 SS-25	5-16-2013	1100	6W													
	8 SS-25 duplicate #2	5-16-2013	1100	6W													
	9 MWB-SBC	5-16-2013	1200	6W													
	10 SBC-P2	5-16-2013	1245	5W													

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

LABORATORY USE ONLY

Shipped by: hand del
Cooler ID(s): Y
Receipt Temp: see comments
On Ice: [✓ Y] N
Custody Seal On Bottle Y [✓ N]
Custody Seal On Cooler Y [✓ N]
Intact Y [✓ N]
Signature Match Y [✓ N]
H13050302

Custody Record MUST be Signed

Relinquished by (print): Erich Weber	Date/Time: 5-17-2013 11:10	Signature:	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: ______		Lab Disposal: ______	Received by Laboratory: Wanda Johnson	Date/Time: 5-17-13 11:10	Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 3 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT-DEQ	Project Name, PWS, Permit, Etc. CFROU Monitoring	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address (Required): please see page 1 ☐ No Hard Copy Email:	Contact Name: please see page 1 Phone/Fax:	Cell:	Sampler: (Please Print) E. Weber G. Ingman
	Invoice Contact & Phone: please see page 1	Purchase Order:	Quote/Bottle Order: 624/11913

Invoice Address (Required): please see page 1

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: ____
☐ Other: ____
☐ EDD/EDT (Electronic Data)
Format: ____
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO3+2, TP	TSS	Tot. Alk., SO4⁻	Hardness (TR Ca & Mg)	SEE ATTACHED
1 MCWC-MWB	5-16-2013	1400	5W	X	X	X	X	X	X	X	
2											
3											
4											
5											
6											
7											
8											
9											
10											

33

Standard Turnaround (TAT)

RUSH → Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: all dissolved samples field filtered

TB

cooler #1-3.0
cooler #2-1.1
cooler #3 1.5

LABORATORY USE ONLY

Shipped by: handdel
Cooler ID(s): V
Receipt Temp: See comment
On Ice: [✓ Y] N
Custody Seal On Bottle Y [✓ N]
On Cooler Y [✓ N]
Intact Y [✓ N]
Signature Match Y [✓ N]

H13050302

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 5-17-2013 Signature: E. Weber

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Wanda Johnson Date/Time: 5-17-13 1110 Signature:

Sample Disposal: Return to Client: ____ Lab Disposal: ____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

APPENDIX B2.2

SECOND QUARTER (PEAK) ANALYSIS RESULTS FOR SURFACE WATER SAMPLES

ANALYTICAL SUMMARY REPORT

August 16, 2013

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13060239 Quote ID: H624 - CFR Monitoring-474374

Project Name: CFR OU Monitoring

Energy Laboratories Inc Helena MT received the following 21 samples for MT DEQ-Federal Superfund on 6/14/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13060239-001	CFR-116A	06/11/13 9:45	06/14/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13060239-002	CSC	06/11/13 11:15	06/14/13	Aqueous	Same As Above
H13060239-003	CFR-84F	06/11/13 13:00	06/14/13	Aqueous	Mercury, Total Digestion, Mercury by CVAA Subcontracted, Analytics
H13060239-004	Field Blank #1	06/11/13 13:15	06/14/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Total Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended Subcontracted, Analytics
H13060239-005	FC-CFR	06/11/13 13:45	06/14/13	Aqueous	Same As Above
H13060239-006	FC-CFR Duplicate #1	06/11/13 13:45	06/14/13	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H13060239-007	CFR-42G	06/11/13 15:00	06/14/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13060239-008	LBR-CFR	06/11/13 16:30	06/14/13	Aqueous	Same As Above
H13060239-009	CFR-27H	06/12/13 9:30	06/14/13	Aqueous	Same As Above
H13060239-010	CFR-11F	06/12/13 10:30	06/14/13	Aqueous	Same As Above
H13060239-011	CFR-07D	06/12/13 11:30	06/14/13	Aqueous	Same As Above
H13060239-012	CFR-03A	06/12/13 13:00	06/14/13	Aqueous	Same As Above
H13060239-013	CFR-03A LBG	06/12/13 13:15	06/14/13	Aqueous	Same As Above
H13060239-014	CFR-03A RBG	06/12/13 13:30	06/14/13	Aqueous	Same As Above
H13060239-015	WSC-SBC	06/12/13 14:00	06/14/13	Aqueous	Same As Above
H13060239-016	Field Blank #2	06/13/13 10:30	06/14/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13060239-017	SS-25	06/13/13 11:00	06/14/13	Aqueous	Same As Above
H13060239-018	SS-25 Duplicate	06/13/13 11:00	06/14/13	Aqueous	Same As Above
H13060239-019	MWB-SBC	06/13/13 12:00	06/14/13	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H13060239-020	SBC-P2	06/13/13 12:30	06/14/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13060239-021	MCWC-MWB	06/13/13 14:00	06/14/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: CFR OU Monitoring
Sample Delivery Group: H13060239

Report Date: 07/22/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

Samples 003, 004, 005 & 006 were submitted to BrooksRand for analysis of Methyl Mercury analysis. Attached is the report from BrooksRand Labs. Wj 7/17/13

Per email from G.Ingman, Atkins, the Mercury results were reviewed for samples -003 (CFR-84F), -005 (FC-CFR) and -006 (FC-CFR Duplicate #1). The samples were re-analyzed at both the Billings laboratory and the Helena laboratory. The results for -003 were not changed from the original report. The results for sample -005 and -006 were revised. The result for -005 was 0.000011 mg/L and was revised to 0.000059 mg/L. The result for -006 was 0.000020 mg/L and was revised to 0.000064 mg/L. The revised values were analyzed using a sample aliquot directly from the Total Recoverable Metals bottle submitted for analysis. Abb 8/16/13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-116A
Lab ID: H13060239-001
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 09:45 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	19	mg/L		1		A2540 D	06/17/13 14:54 / glj	06/17/13 13:24	-124 (14410200)_130617A : 55		20669
INORGANICS											
Alkalinity, Total as CaCO3	97	mg/L		4		A2320 B	06/17/13 15:08 / cmm		MAN-TECH_130618A : 16		R89110
Bicarbonate as HCO3	110	mg/L		4		A2320 B	06/17/13 15:08 / cmm		MAN-TECH_130618A : 16		R89110
Sulfate	30	mg/L		1		E300.0	06/21/13 11:56 / cmm		IC102-H_130621A : 23		R89261
Hardness as CaCO3	106	mg/L		1		A2340 B	06/19/13 12:23 / sld		WATERCALC_130619A : 6		R89160
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:18 / reh		FIA203-HE_130618A : 16		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 11:56 / reh		FIA203-HE_130617A : 114		R89105
Nitrogen, Total	0.19	mg/L		0.05		A4500 N-C	06/19/13 14:44 / reh	06/19/13 13:03	FIA203-HE_130619C : 27		20706
Phosphorus, Total as P	0.031	mg/L		0.005		E365.1	06/18/13 09:29 / reh	06/17/13 14:58	FIA202-HE_130618A : 14		20674
METALS, DISSOLVED											
Arsenic	0.006	mg/L		0.005		E200.8	06/19/13 05:52 / dck		ICPMS204-B_130617A : 329		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 05:52 / dck		ICPMS204-B_130617A : 329		R89151
Copper	0.005	mg/L		0.001		E200.8	06/19/13 05:52 / dck		ICPMS204-B_130617A : 329		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 05:52 / dck		ICPMS204-B_130617A : 329		R89151
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 05:52 / dck		ICPMS204-B_130617A : 329		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.007	mg/L		0.005		E200.8	06/19/13 05:57 / dck	06/17/13 16:02	ICPMS204-B_130617A : 330		20675
Cadmium	0.00012	mg/L		0.00008		E200.8	06/19/13 05:57 / dck	06/17/13 16:02	ICPMS204-B_130617A : 330		20675
Calcium	30	mg/L		1		E200.7	06/18/13 21:28 / sld	06/17/13 16:02	ICP2-HE_130618A : 114		20675
Copper	0.014	mg/L		0.001		E200.8	06/19/13 05:57 / dck	06/17/13 16:02	ICPMS204-B_130617A : 330		20675
Lead	0.0021	mg/L		0.0005		E200.8	06/19/13 05:57 / dck	06/17/13 16:02	ICPMS204-B_130617A : 330		20675
Magnesium	8	mg/L		1		E200.7	06/18/13 21:28 / sld	06/17/13 16:02	ICP2-HE_130618A : 114		20675
Zinc	0.02	mg/L		0.01		E200.8	06/19/13 05:57 / dck	06/17/13 16:02	ICPMS204-B_130617A : 330		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CSC
Lab ID: H13060239-002
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 11:15 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	06/17/13 14:54 / glj	06/17/13 13:24	-124 (14410200)_130617A :	56	20669
INORGANICS											
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	06/17/13 15:15 / cmm		MAN-TECH_130618A :	17	R89110
Bicarbonate as HCO3	160	mg/L		4		A2320 B	06/17/13 15:15 / cmm		MAN-TECH_130618A :	17	R89110
Sulfate	39	mg/L		1		E300.0	06/17/13 20:37 / cmm		IC102-H_130617A :	65	R89116
Hardness as CaCO3	148	mg/L		1		A2340 B	06/17/13 19:58 / abb		CALC_130618A :	509	R89120
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:19 / reh		FIA203-HE_130618A :	17	R89134
Nitrogen, Nitrate+Nitrite as N	0.23	mg/L		0.05		E353.2	06/17/13 11:57 / reh		FIA203-HE_130617A :	115	R89105
Nitrogen, Total	0.27	mg/L		0.05		A4500 N-C	06/19/13 14:45 / reh	06/19/13 13:03	FIA203-HE_130619C :	28	20706
Phosphorus, Total as P	0.011	mg/L		0.005		E365.1	06/18/13 09:30 / reh	06/17/13 14:58	FIA202-HE_130618A :	15	20674
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	06/19/13 06:20 / dck		ICPMS204-B_130617A :	335	R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 06:20 / dck		ICPMS204-B_130617A :	335	R89151
Copper	ND	mg/L		0.001		E200.8	06/19/13 06:20 / dck		ICPMS204-B_130617A :	335	R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 06:20 / dck		ICPMS204-B_130617A :	335	R89151
Zinc	0.02	mg/L		0.01		E200.8	06/19/13 06:20 / dck		ICPMS204-B_130617A :	335	R89151
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	06/19/13 06:25 / dck	06/17/13 16:02	ICPMS204-B_130617A :	336	20675
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 06:25 / dck	06/17/13 16:02	ICPMS204-B_130617A :	336	20675
Calcium	42	mg/L		1		E200.7	06/18/13 21:42 / sld	06/17/13 16:02	ICP2-HE_130618A :	118	20675
Copper	0.001	mg/L		0.001		E200.8	06/19/13 06:25 / dck	06/17/13 16:02	ICPMS204-B_130617A :	336	20675
Lead	ND	mg/L		0.0005		E200.8	06/19/13 06:25 / dck	06/17/13 16:02	ICPMS204-B_130617A :	336	20675
Magnesium	9	mg/L		1		E200.7	06/18/13 21:42 / sld	06/17/13 16:02	ICP2-HE_130618A :	118	20675
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 06:25 / dck	06/17/13 16:02	ICPMS204-B_130617A :	336	20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-84F
Lab ID: H13060239-003
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 13:00
Report Date: 07/22/13
DateReceived: 06/14/13
Revised Date: 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	0.000018	mg/L		0.000010		E245.1	06/24/13 13:00 / eli-b	06/20/13 12:21	SUB-B206963 : 12		B_72214

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #1
Lab ID: H13060239-004
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 13:15 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	06/17/13 14:54 / glj	06/17/13 13:24	-124 (14410200)_130617A : 57		20669
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	06/17/13 15:19 / cmm		MAN-TECH_130618A : 18		R89110
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	06/17/13 15:19 / cmm		MAN-TECH_130618A : 18		R89110
Sulfate	ND	mg/L		1		E300.0	06/17/13 20:49 / cmm		IC102-H_130617A : 66		R89116
Hardness as CaCO3	ND	mg/L		1		A2340 B	06/20/13 11:50 / sld		WATERCALC_130620A : 1		R89208
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:20 / reh		FIA203-HE_130618A : 18		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 11:58 / reh		FIA203-HE_130617A : 116		R89105
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	06/19/13 14:46 / reh	06/19/13 13:03	FIA203-HE_130619C : 29		20706
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	06/18/13 09:31 / reh	06/17/13 14:58	FIA202-HE_130618A : 16		20674
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	06/19/13 06:49 / dck		ICPMS204-B_130617A : 341		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 06:49 / dck		ICPMS204-B_130617A : 341		R89151
Copper	ND	mg/L		0.001		E200.8	06/19/13 06:49 / dck		ICPMS204-B_130617A : 341		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 06:49 / dck		ICPMS204-B_130617A : 341		R89151
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 06:49 / dck		ICPMS204-B_130617A : 341		R89151
METALS, TOTAL											
Mercury	ND	mg/L		0.000010		E245.1	06/19/13 14:05 / eli-b	06/19/13 09:29	SUB-B206685 : 28		B_72178
Mercury	ND	mg/L	H	0.000010		E245.1	08/01/13 14:23 / eli-b	08/01/13 08:58	SUB-B209270 : 7		B_73293
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	06/19/13 06:54 / dck	06/17/13 16:02	ICPMS204-B_130617A : 342		20675
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 06:54 / dck	06/17/13 16:02	ICPMS204-B_130617A : 342		20675
Calcium	ND	mg/L		1		E200.7	06/18/13 21:46 / sld	06/17/13 16:02	ICP2-HE_130618A : 119		20675
Copper	ND	mg/L		0.001		E200.8	06/19/13 06:54 / dck	06/17/13 16:02	ICPMS204-B_130617A : 342		20675
Lead	ND	mg/L		0.0005		E200.8	06/19/13 06:54 / dck	06/17/13 16:02	ICPMS204-B_130617A : 342		20675

Report Definitions:
RL - Analyte reporting limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	Field Blank #1	**Collection Date:**	06/11/13 13:15	**DateReceived:**	06/14/13
Lab ID:	H13060239-004	**Report Date:**	07/22/13	**Revised Date:**	08/16/13
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Magnesium	ND	mg/L		1		E200.7	06/18/13 21:46 / sld	06/17/13 16:02	ICP2-HE_130618A : 119		20675
Zinc	ND	mg/L		0.01		E200.8	06/19/13 06:54 / dck	06/17/13 16:02	ICPMS204-B_130617A : 342		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR
Lab ID: H13060239-005
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 13:45
DateReceived: 06/14/13
Report Date: 07/22/13
Revised Date: 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	4	mg/L		1		A2540 D	06/17/13 14:55 / glj	06/17/13 13:24	-124 (14410200)_130617A : 58		20669
INORGANICS											
Alkalinity, Total as CaCO3	190	mg/L		4		A2320 B	06/17/13 15:26 / cmm		MAN-TECH_130618A : 19		R89110
Bicarbonate as HCO3	210	mg/L		4		A2320 B	06/17/13 15:26 / cmm		MAN-TECH_130618A : 19		R89110
Sulfate	21	mg/L		1		E300.0	06/17/13 21:02 / cmm		IC102-H_130617A : 67		R89116
Hardness as CaCO3	177	mg/L		1		A2340 B	06/17/13 20:06 / abb		CALC_130618A : 531		R89120
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:24 / reh		FIA203-HE_130618A : 21		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:02 / reh		FIA203-HE_130617A : 119		R89105
Nitrogen, Total	0.30	mg/L		0.05		A4500 N-C	06/19/13 14:50 / reh	06/19/13 13:03	FIA203-HE_130619C : 32		20706
Phosphorus, Total as P	0.059	mg/L		0.005		E365.1	06/18/13 09:34 / reh	06/17/13 14:58	FIA202-HE_130618A : 19		20674
METALS, DISSOLVED											
Arsenic	0.010	mg/L		0.005		E200.8	06/19/13 06:59 / dck		ICPMS204-B_130617A : 343		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 06:59 / dck		ICPMS204-B_130617A : 343		R89151
Copper	0.001	mg/L		0.001		E200.8	06/19/13 06:59 / dck		ICPMS204-B_130617A : 343		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 06:59 / dck		ICPMS204-B_130617A : 343		R89151
Zinc	ND	mg/L		0.01		E200.8	06/19/13 06:59 / dck		ICPMS204-B_130617A : 343		R89151
METALS, TOTAL											
Mercury	0.000059	mg/L	H	0.000010		E245.1	08/02/13 16:04 / dck		HGCV202-H_130802A : 7		21171
METALS, TOTAL RECOVERABLE											
Arsenic	0.011	mg/L		0.005		E200.8	06/19/13 07:03 / dck	06/17/13 16:02	ICPMS204-B_130617A : 344		20675
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 07:03 / dck	06/17/13 16:02	ICPMS204-B_130617A : 344		20675
Calcium	47	mg/L		1		E200.7	06/18/13 21:50 / sld	06/17/13 16:02	ICP2-HE_130618A : 120		20675
Copper	0.002	mg/L		0.001		E200.8	06/19/13 07:03 / dck	06/17/13 16:02	ICPMS204-B_130617A : 344		20675
Lead	0.0014	mg/L		0.0005		E200.8	06/19/13 07:03 / dck	06/17/13 16:02	ICPMS204-B_130617A : 344		20675
Magnesium	13	mg/L		1		E200.7	06/18/13 21:50 / sld	06/17/13 16:02	ICP2-HE_130618A : 120		20675

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR
Lab ID: H13060239-005
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 13:45 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	06/19/13 07:03 / dck	06/17/13 16:02	ICPMS204-B_130617A : 344		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR Duplicate #1
Lab ID: H13060239-006
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 13:45 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	4	mg/L		1		A2540 D	06/17/13 14:55 / glj	06/17/13 13:24	-124 (14410200)_130617A :	59	20669
INORGANICS											
Alkalinity, Total as CaCO3	190	mg/L		4		A2320 B	06/17/13 15:33 / cmm		MAN-TECH_130618A :	20	R89110
Bicarbonate as HCO3	200	mg/L		4		A2320 B	06/17/13 15:33 / cmm		MAN-TECH_130618A :	20	R89110
Sulfate	21	mg/L		1		E300.0	06/17/13 21:14 / cmm		IC102-H_130617A :	68	R89116
Hardness as CaCO3	180	mg/L		1		A2340 B	06/17/13 20:10 / abb		CALC_130620A :	69	R89198
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:25 / reh		FIA203-HE_130618A :	22	R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:03 / reh		FIA203-HE_130617A :	120	R89105
Nitrogen, Total	0.30	mg/L		0.05		A4500 N-C	06/19/13 14:51 / reh	06/19/13 13:03	FIA203-HE_130619C :	33	20706
Phosphorus, Total as P	0.060	mg/L		0.005		E365.1	06/18/13 09:35 / reh	06/17/13 14:58	FIA202-HE_130618A :	20	20674
METALS, DISSOLVED											
Arsenic	0.010	mg/L		0.005		E200.8	06/19/13 07:08 / dck		ICPMS204-B_130617A :	345	R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 07:08 / dck		ICPMS204-B_130617A :	345	R89151
Copper	0.001	mg/L		0.001		E200.8	06/19/13 07:08 / dck		ICPMS204-B_130617A :	345	R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 07:08 / dck		ICPMS204-B_130617A :	345	R89151
Zinc	ND	mg/L		0.01		E200.8	06/19/13 07:08 / dck		ICPMS204-B_130617A :	345	R89151
METALS, TOTAL											
Mercury	0.000064	mg/L	H	0.000010		E245.1	08/02/13 16:08 / dck		HGCV202-H_130802A :	8	21171
METALS, TOTAL RECOVERABLE											
Arsenic	0.011	mg/L		0.005		E200.8	06/21/13 13:25 / dck	06/18/13 08:21	ICPMS204-B_130620A :	243	20679
Cadmium	ND	mg/L		0.00008		E200.8	06/21/13 13:25 / dck	06/18/13 08:21	ICPMS204-B_130620A :	243	20679
Calcium	52	mg/L		1		E200.7	06/19/13 17:31 / sld	06/18/13 08:21	ICP2-HE_130619C :	92	20679
Copper	0.002	mg/L		0.001		E200.8	06/21/13 13:25 / dck	06/18/13 08:21	ICPMS204-B_130620A :	243	20679
Lead	0.0015	mg/L		0.0005		E200.8	06/21/13 13:25 / dck	06/18/13 08:21	ICPMS204-B_130620A :	243	20679
Magnesium	13	mg/L		1		E200.7	06/19/13 17:31 / sld	06/18/13 08:21	ICP2-HE_130619C :	92	20679

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR Duplicate #1
Lab ID: H13060239-006
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 13:45 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	06/21/13 13:25 / dck	06/18/13 08:21	ICPMS204-B_130620A : 243		20679

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-42G
Lab ID: H13060239-007
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 15:00 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	24	mg/L		1		A2540 D	06/17/13 14:55 / glj	06/17/13 13:24	-124 (14410200)_130617A : 60		20669
INORGANICS											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	06/17/13 15:39 / cmm		MAN-TECH_130618A : 21		R89110
Bicarbonate as HCO3	160	mg/L		4		A2320 B	06/17/13 15:39 / cmm		MAN-TECH_130618A : 21		R89110
Sulfate	71	mg/L		1		E300.0	06/17/13 21:27 / cmm		IC102-H_130617A : 69		R89116
Hardness as CaCO3	180	mg/L		1		A2340 B	06/17/13 20:24 / abb		CALC_130618A : 542		R89120
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:26 / reh		FIA203-HE_130618A : 23		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:04 / reh		FIA203-HE_130617A : 121		R89105
Nitrogen, Total	0.27	mg/L		0.05		A4500 N-C	06/19/13 14:52 / reh	06/19/13 13:03	FIA203-HE_130619C : 34		20706
Phosphorus, Total as P	0.040	mg/L		0.005		E365.1	06/18/13 09:36 / reh	06/17/13 14:58	FIA202-HE_130618A : 21		20674
METALS, DISSOLVED											
Arsenic	0.019	mg/L		0.005		E200.8	06/21/13 13:30 / dck		ICPMS204-B_130620A : 244		R89225
Cadmium	ND	mg/L		0.00008		E200.8	06/20/13 05:32 / dck		ICPMS204-B_130617A : 506		R89151
Copper	0.009	mg/L		0.001		E200.8	06/21/13 13:30 / dck		ICPMS204-B_130620A : 244		R89225
Lead	ND	mg/L		0.0005		E200.8	06/20/13 05:32 / dck		ICPMS204-B_130617A : 506		R89151
Zinc	ND	mg/L		0.01		E200.8	06/21/13 13:30 / dck		ICPMS204-B_130620A : 244		R89225
METALS, TOTAL RECOVERABLE											
Arsenic	0.020	mg/L		0.005		E200.8	06/21/13 13:48 / dck	06/18/13 08:21	ICPMS204-B_130620A : 248		20679
Cadmium	0.00015	mg/L		0.00008		E200.8	06/21/13 13:48 / dck	06/18/13 08:21	ICPMS204-B_130620A : 248		20679
Calcium	54	mg/L		1		E200.7	06/19/13 17:35 / sld	06/18/13 08:21	ICP2-HE_130619C : 93		20679
Copper	0.023	mg/L		0.001		E200.8	06/21/13 13:48 / dck	06/18/13 08:21	ICPMS204-B_130620A : 248		20679
Lead	0.0025	mg/L		0.0005		E200.8	06/21/13 13:48 / dck	06/18/13 08:21	ICPMS204-B_130620A : 248		20679
Magnesium	12	mg/L		1		E200.7	06/19/13 17:35 / sld	06/18/13 08:21	ICP2-HE_130619C : 93		20679
Zinc	0.02	mg/L		0.01		E200.8	06/21/13 13:48 / dck	06/18/13 08:21	ICPMS204-B_130620A : 248		20679

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID LBR-CFR
Lab ID: H13060239-008
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/11/13 16:30 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	06/17/13 14:55 / glj	06/17/13 13:24	-124 (14410200)_130617A : 61		20669
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	06/17/13 15:54 / cmm		MAN-TECH_130618A : 24		R89110
Bicarbonate as HCO3	120	mg/L		4		A2320 B	06/17/13 15:54 / cmm		MAN-TECH_130618A : 24		R89110
Sulfate	12	mg/L		1		E300.0	06/17/13 21:40 / cmm		IC102-H_130617A : 70		R89116
Hardness as CaCO3	99	mg/L		1		A2340 B	06/25/13 07:56 / sld		WATERCALC_130625A : 1		R89288
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:30 / reh		FIA203-HE_130618A : 26		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:06 / reh		FIA203-HE_130617A : 122		R89105
Nitrogen, Total	0.16	mg/L		0.05		A4500 N-C	06/19/13 14:53 / reh	06/19/13 13:03	FIA203-HE_130619C : 35		20706
Phosphorus, Total as P	0.032	mg/L		0.005		E365.1	06/18/13 09:37 / reh	06/17/13 14:58	FIA202-HE_130618A : 22		20674
METALS, DISSOLVED											
Arsenic	0.005	mg/L		0.005		E200.8	06/20/13 06:10 / dck		ICPMS204-B_130617A : 514		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/20/13 06:10 / dck		ICPMS204-B_130617A : 514		R89151
Copper	0.001	mg/L		0.001		E200.8	06/20/13 06:10 / dck		ICPMS204-B_130617A : 514		R89151
Lead	ND	mg/L		0.0005		E200.8	06/20/13 06:10 / dck		ICPMS204-B_130617A : 514		R89151
Zinc	0.01	mg/L		0.01		E200.8	06/20/13 06:10 / dck		ICPMS204-B_130617A : 514		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.005	mg/L		0.005		E200.8	06/21/13 13:53 / dck	06/18/13 08:21	ICPMS204-B_130620A : 249		20679
Cadmium	ND	mg/L		0.00008		E200.8	06/21/13 13:53 / dck	06/18/13 08:21	ICPMS204-B_130620A : 249		20679
Calcium	29	mg/L		1		E200.7	06/19/13 17:56 / sld	06/18/13 08:21	ICP2-HE_130619C : 99		20679
Copper	0.002	mg/L		0.001		E200.8	06/21/13 13:53 / dck	06/18/13 08:21	ICPMS204-B_130620A : 249		20679
Lead	ND	mg/L		0.0005		E200.8	06/20/13 06:15 / dck	06/18/13 08:21	ICPMS204-B_130617A : 515		20679
Magnesium	6	mg/L		1		E200.7	06/19/13 17:56 / sld	06/18/13 08:21	ICP2-HE_130619C : 99		20679
Zinc	ND	mg/L		0.01		E200.8	06/21/13 13:53 / dck	06/18/13 08:21	ICPMS204-B_130620A : 249		20679

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-27H
Lab ID: H13060239-009
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/12/13 09:30 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	23	mg/L		1		A2540 D	06/17/13 14:56 / glj	06/17/13 13:24	-124 (14410200)_130617A : 63		20669
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	06/17/13 16:09 / cmm		MAN-TECH_130618A : 27		R89110
Bicarbonate as HCO3	150	mg/L		4		A2320 B	06/17/13 16:09 / cmm		MAN-TECH_130618A : 27		R89110
Sulfate	72	mg/L		1		E300.0	06/17/13 21:52 / cmm		IC102-H_130617A : 71		R89116
Hardness as CaCO3	167	mg/L		1		A2340 B	06/17/13 20:31 / abb		CALC_130618A : 553		R89120
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:31 / reh		FIA203-HE_130618A : 27		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:07 / reh		FIA203-HE_130617A : 123		R89105
Nitrogen, Total	0.20	mg/L		0.05		A4500 N-C	06/19/13 14:55 / reh	06/19/13 13:03	FIA203-HE_130619C : 36		20706
Phosphorus, Total as P	0.023	mg/L		0.005		E365.1	06/18/13 09:38 / reh	06/17/13 14:58	FIA202-HE_130618A : 23		20674
METALS, DISSOLVED											
Arsenic	0.016	mg/L		0.005		E200.8	06/19/13 07:13 / dck		ICPMS204-B_130617A : 346		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 07:13 / dck		ICPMS204-B_130617A : 346		R89151
Copper	0.008	mg/L		0.001		E200.8	06/19/13 07:13 / dck		ICPMS204-B_130617A : 346		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 07:13 / dck		ICPMS204-B_130617A : 346		R89151
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 07:13 / dck		ICPMS204-B_130617A : 346		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.018	mg/L		0.005		E200.8	06/19/13 07:18 / dck	06/17/13 16:02	ICPMS204-B_130617A : 347		20675
Cadmium	0.00015	mg/L		0.00008		E200.8	06/19/13 07:18 / dck	06/17/13 16:02	ICPMS204-B_130617A : 347		20675
Calcium	47	mg/L		1		E200.7	06/18/13 21:54 / sld	06/17/13 16:02	ICP2-HE_130618A : 121		20675
Copper	0.030	mg/L		0.001		E200.8	06/19/13 07:18 / dck	06/17/13 16:02	ICPMS204-B_130617A : 347		20675
Lead	0.0034	mg/L		0.0005		E200.8	06/19/13 07:18 / dck	06/17/13 16:02	ICPMS204-B_130617A : 347		20675
Magnesium	10	mg/L		1		E200.7	06/18/13 21:54 / sld	06/17/13 16:02	ICP2-HE_130618A : 121		20675
Zinc	0.03	mg/L		0.01		E200.8	06/19/13 07:18 / dck	06/17/13 16:02	ICPMS204-B_130617A : 347		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	CFR-11F	**Collection Date:**	06/12/13 10:30	**DateReceived:**	06/14/13
Lab ID:	H13060239-010	**Report Date:**	07/22/13	**Revised Date:**	08/16/13
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	06/17/13 14:56 / glj	06/17/13 13:24	-124 (14410200)_130617A : 64		20669
INORGANICS											
Alkalinity, Total as CaCO3	99	mg/L		4		A2320 B	06/17/13 16:16 / cmm		MAN-TECH_130618A : 28		R89110
Bicarbonate as HCO3	120	mg/L		4		A2320 B	06/17/13 16:16 / cmm		MAN-TECH_130618A : 28		R89110
Sulfate	73	mg/L		1		E300.0	06/17/13 22:05 / cmm		IC102-H_130617A : 72		R89116
Hardness as CaCO3	150	mg/L		1		A2340 B	06/25/13 07:56 / sld		WATERCALC_130625A : 2		R89288
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:32 / reh		FIA203-HE_130618A : 28		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:08 / reh		FIA203-HE_130617A : 124		R89105
Nitrogen, Total	0.22	mg/L		0.05		A4500 N-C	06/19/13 14:56 / reh	06/19/13 13:03	FIA203-HE_130619C : 37		20706
Phosphorus, Total as P	0.025	mg/L		0.005		E365.1	06/18/13 09:39 / reh	06/17/13 14:58	FIA202-HE_130618A : 24		20674
METALS, DISSOLVED											
Arsenic	0.014	mg/L		0.005		E200.8	06/21/13 13:57 / dck		ICPMS204-B_130620A : 250		R89225
Cadmium	ND	mg/L		0.00008		E200.8	06/20/13 06:19 / dck		ICPMS204-B_130617A : 516		R89151
Copper	0.006	mg/L		0.001		E200.8	06/21/13 13:57 / dck		ICPMS204-B_130620A : 250		R89225
Lead	ND	mg/L		0.0005		E200.8	06/20/13 06:19 / dck		ICPMS204-B_130617A : 516		R89151
Zinc	0.01	mg/L		0.01		E200.8	06/21/13 13:57 / dck		ICPMS204-B_130620A : 250		R89225
METALS, TOTAL RECOVERABLE											
Arsenic	0.017	mg/L		0.005		E200.8	06/21/13 14:02 / dck	06/18/13 08:21	ICPMS204-B_130620A : 251		20679
Cadmium	0.00014	mg/L		0.00008		E200.8	06/21/13 14:02 / dck	06/18/13 08:21	ICPMS204-B_130620A : 251		20679
Calcium	44	mg/L		1		E200.7	06/19/13 18:00 / sld	06/18/13 08:21	ICP2-HE_130619C : 100		20679
Copper	0.023	mg/L		0.001		E200.8	06/21/13 14:02 / dck	06/18/13 08:21	ICPMS204-B_130620A : 251		20679
Lead	0.0024	mg/L		0.0005		E200.8	06/21/13 14:02 / dck	06/18/13 08:21	ICPMS204-B_130620A : 251		20679
Magnesium	10	mg/L		1		E200.7	06/19/13 18:00 / sld	06/18/13 08:21	ICP2-HE_130619C : 100		20679
Zinc	0.02	mg/L		0.01		E200.8	06/21/13 14:02 / dck	06/18/13 08:21	ICPMS204-B_130620A : 251		20679

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring
Client Sample ID	CFR-07D	**Collection Date:**	06/12/13 11:30
		DateReceived:	06/14/13
Lab ID:	H13060239-011	**Report Date:**	07/22/13
		Revised Date:	08/16/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	13	mg/L		1		A2540 D	06/17/13 14:56 / glj	06/17/13 13:24	-124 (14410200)_130617A : 65		20669
INORGANICS											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	06/17/13 16:24 / cmm		MAN-TECH_130618A : 29		R89110
Bicarbonate as HCO3	100	mg/L		4		A2320 B	06/17/13 16:24 / cmm		MAN-TECH_130618A : 29		R89110
Sulfate	65	mg/L		1		E300.0	06/17/13 22:17 / cmm		IC102-H_130617A : 73		R89116
Hardness as CaCO3	133	mg/L		1		A2340 B	06/17/13 20:46 / abb		CALC_130618A : 564		R89120
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:34 / reh		FIA203-HE_130618A : 29		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:09 / reh		FIA203-HE_130617A : 125		R89105
Nitrogen, Total	0.22	mg/L		0.05		A4500 N-C	06/19/13 14:57 / reh	06/19/13 13:03	FIA203-HE_130619C : 38		20706
Phosphorus, Total as P	0.023	mg/L		0.005		E365.1	06/18/13 09:40 / reh	06/17/13 14:58	FIA202-HE_130618A : 25		20674
METALS, DISSOLVED											
Arsenic	0.015	mg/L		0.005		E200.8	06/21/13 14:07 / dck		ICPMS204-B_130620A : 252		R89225
Cadmium	ND	mg/L		0.00008		E200.8	06/21/13 14:07 / dck		ICPMS204-B_130620A : 252		R89225
Copper	0.006	mg/L		0.001		E200.8	06/21/13 14:07 / dck		ICPMS204-B_130620A : 252		R89225
Lead	ND	mg/L		0.0005		E200.8	06/20/13 06:29 / dck		ICPMS204-B_130617A : 518		R89151
Zinc	0.01	mg/L		0.01		E200.8	06/21/13 14:07 / dck		ICPMS204-B_130620A : 252		R89225
METALS, TOTAL RECOVERABLE											
Arsenic	0.016	mg/L		0.005		E200.8	06/21/13 14:11 / dck	06/18/13 08:21	ICPMS204-B_130620A : 253		20679
Cadmium	0.00012	mg/L		0.00008		E200.8	06/21/13 14:11 / dck	06/18/13 08:21	ICPMS204-B_130620A : 253		20679
Calcium	40	mg/L		1		E200.7	06/19/13 18:04 / sld	06/18/13 08:21	ICP2-HE_130619C : 101		20679
Copper	0.019	mg/L		0.001		E200.8	06/21/13 14:11 / dck	06/18/13 08:21	ICPMS204-B_130620A : 253		20679
Lead	0.0024	mg/L		0.0005		E200.8	06/21/13 14:11 / dck	06/18/13 08:21	ICPMS204-B_130620A : 253		20679
Magnesium	9	mg/L		1		E200.7	06/19/13 18:04 / sld	06/18/13 08:21	ICP2-HE_130619C : 101		20679
Zinc	0.02	mg/L		0.01		E200.8	06/21/13 14:11 / dck	06/18/13 08:21	ICPMS204-B_130620A : 253		20679

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A
Lab ID: H13060239-012
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/12/13 13:00
DateReceived: 06/14/13
Report Date: 07/22/13
Revised Date: 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	06/17/13 14:59 / glj	06/17/13 13:24	-124 (14410200)_130617A : 66		20669
INORGANICS											
Alkalinity, Total as CaCO3	77	mg/L		4		A2320 B	06/17/13 16:31 / cmm		MAN-TECH_130618A : 30		R89110
Bicarbonate as HCO3	90	mg/L		4		A2320 B	06/17/13 16:31 / cmm		MAN-TECH_130618A : 30		R89110
Sulfate	58	mg/L		1		E300.0	06/17/13 23:20 / cmm		IC102-H_130617A : 78		R89116
Hardness as CaCO3	115	mg/L		1		A2340 B	06/20/13 11:50 / sld		WATERCALC_130620A : 2		R89208
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:35 / reh		FIA203-HE_130618A : 30		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:13 / reh		FIA203-HE_130617A : 128		R89105
Nitrogen, Total	0.20	mg/L		0.05		A4500 N-C	06/19/13 15:03 / reh	06/19/13 13:06	FIA203-HE_130619C : 43		20707
Phosphorus, Total as P	0.025	mg/L		0.005		E365.1	06/18/13 09:43 / reh	06/17/13 14:58	FIA202-HE_130618A : 28		20674
METALS, DISSOLVED											
Arsenic	0.016	mg/L		0.005		E200.8	06/19/13 07:22 / dck		ICPMS204-B_130617A : 348		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 07:22 / dck		ICPMS204-B_130617A : 348		R89151
Copper	0.005	mg/L		0.001		E200.8	06/19/13 07:22 / dck		ICPMS204-B_130617A : 348		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 07:22 / dck		ICPMS204-B_130617A : 348		R89151
Zinc	ND	mg/L		0.01		E200.8	06/19/13 07:22 / dck		ICPMS204-B_130617A : 348		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.017	mg/L		0.005		E200.8	06/19/13 07:27 / dck	06/17/13 16:02	ICPMS204-B_130617A : 349		20675
Cadmium	0.00009	mg/L		0.00008		E200.8	06/19/13 07:27 / dck	06/17/13 16:02	ICPMS204-B_130617A : 349		20675
Calcium	33	mg/L		1		E200.7	06/18/13 22:05 / sld	06/17/13 16:02	ICP2-HE_130618A : 124		20675
Copper	0.015	mg/L		0.001		E200.8	06/19/13 07:27 / dck	06/17/13 16:02	ICPMS204-B_130617A : 349		20675
Lead	0.0016	mg/L		0.0005		E200.8	06/19/13 07:27 / dck	06/17/13 16:02	ICPMS204-B_130617A : 349		20675
Magnesium	8	mg/L		1		E200.7	06/18/13 22:05 / sld	06/17/13 16:02	ICP2-HE_130618A : 124		20675
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 07:27 / dck	06/17/13 16:02	ICPMS204-B_130617A : 349		20675

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A LBG
Lab ID: H13060239-013
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/12/13 13:15 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	22	mg/L		1		A2540 D	06/17/13 15:00 / glj	06/17/13 13:24	-124 (14410200)_130617A : 67		20669
INORGANICS											
Alkalinity, Total as CaCO3	98	mg/L		4		A2320 B	06/17/13 16:38 / cmm		MAN-TECH_130618A : 31		R89110
Bicarbonate as HCO3	120	mg/L		4		A2320 B	06/17/13 16:38 / cmm		MAN-TECH_130618A : 31		R89110
Sulfate	160	mg/L		1		E300.0	06/17/13 23:33 / cmm		IC102-H_130617A : 79		R89116
Hardness as CaCO3	221	mg/L		1		A2340 B	06/17/13 20:54 / abb		CALC_130618A : 575		R89120
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:36 / reh		FIA203-HE_130618A : 31		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:14 / reh		FIA203-HE_130617A : 129		R89105
Nitrogen, Total	0.35	mg/L		0.05		A4500 N-C	06/19/13 15:04 / reh	06/19/13 13:06	FIA203-HE_130619C : 44		20707
Phosphorus, Total as P	0.024	mg/L		0.005		E365.1	06/18/13 09:44 / reh	06/17/13 14:58	FIA202-HE_130618A : 29		20674
METALS, DISSOLVED											
Arsenic	0.033	mg/L		0.005		E200.8	06/19/13 08:10 / dck		ICPMS204-B_130617A : 358		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 08:10 / dck		ICPMS204-B_130617A : 358		R89151
Copper	0.005	mg/L		0.001		E200.8	06/19/13 08:10 / dck		ICPMS204-B_130617A : 358		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 08:10 / dck		ICPMS204-B_130617A : 358		R89151
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 08:10 / dck		ICPMS204-B_130617A : 358		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.031	mg/L		0.005		E200.8	06/19/13 08:29 / dck	06/17/13 16:02	ICPMS204-B_130617A : 362		20675
Cadmium	0.00012	mg/L		0.00008		E200.8	06/19/13 08:29 / dck	06/17/13 16:02	ICPMS204-B_130617A : 362		20675
Calcium	53	mg/L		1		E200.7	06/18/13 22:19 / sld	06/17/13 16:02	ICP2-HE_130618A : 128		20675
Copper	0.012	mg/L		0.001		E200.8	06/19/13 08:29 / dck	06/17/13 16:02	ICPMS204-B_130617A : 362		20675
Lead	0.0012	mg/L		0.0005		E200.8	06/19/13 08:29 / dck	06/17/13 16:02	ICPMS204-B_130617A : 362		20675
Magnesium	17	mg/L		1		E200.7	06/18/13 22:19 / sld	06/17/13 16:02	ICP2-HE_130618A : 128		20675
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 08:29 / dck	06/17/13 16:02	ICPMS204-B_130617A : 362		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A RBG
Lab ID: H13060239-014
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/12/13 13:30
Report Date: 07/22/13
DateReceived: 06/14/13
Revised Date: 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	06/17/13 15:00 / glj	06/17/13 13:24	-124 (14410200)_130617A : 68		20669
INORGANICS											
Alkalinity, Total as CaCO3	76	mg/L		4		A2320 B	06/17/13 16:45 / cmm		MAN-TECH_130618A : 32		R89110
Bicarbonate as HCO3	87	mg/L		4		A2320 B	06/17/13 16:45 / cmm		MAN-TECH_130618A : 32		R89110
Sulfate	47	mg/L		1		E300.0	06/17/13 23:46 / cmm		IC102-H_130617A : 80		R89116
Hardness as CaCO3	106	mg/L		1		A2340 B	06/20/13 11:50 / sld		WATERCALC_130620A : 3		R89208
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:37 / reh		FIA203-HE_130618A : 32		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:15 / reh		FIA203-HE_130617A : 130		R89105
Nitrogen, Total	0.18	mg/L		0.05		A4500 N-C	06/19/13 15:05 / reh	06/19/13 13:06	FIA203-HE_130619C : 45		20707
Phosphorus, Total as P	0.024	mg/L		0.005		E365.1	06/18/13 09:45 / reh	06/17/13 14:58	FIA202-HE_130618A : 30		20674
METALS, DISSOLVED											
Arsenic	0.013	mg/L		0.005		E200.8	06/19/13 08:34 / dck		ICPMS204-B_130617A : 363		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 08:34 / dck		ICPMS204-B_130617A : 363		R89151
Copper	0.005	mg/L		0.001		E200.8	06/19/13 08:34 / dck		ICPMS204-B_130617A : 363		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 08:34 / dck		ICPMS204-B_130617A : 363		R89151
Zinc	ND	mg/L		0.01		E200.8	06/19/13 08:34 / dck		ICPMS204-B_130617A : 363		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.015	mg/L		0.005		E200.8	06/19/13 08:38 / dck	06/17/13 16:02	ICPMS204-B_130617A : 364		20675
Cadmium	0.00009	mg/L		0.00008		E200.8	06/19/13 08:38 / dck	06/17/13 16:02	ICPMS204-B_130617A : 364		20675
Calcium	31	mg/L		1		E200.7	06/18/13 22:23 / sld	06/17/13 16:02	ICP2-HE_130618A : 129		20675
Copper	0.014	mg/L		0.001		E200.8	06/19/13 08:38 / dck	06/17/13 16:02	ICPMS204-B_130617A : 364		20675
Lead	0.0014	mg/L		0.0005		E200.8	06/19/13 08:38 / dck	06/17/13 16:02	ICPMS204-B_130617A : 364		20675
Magnesium	7	mg/L		1		E200.7	06/18/13 22:23 / sld	06/17/13 16:02	ICP2-HE_130618A : 129		20675
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 08:38 / dck	06/17/13 16:02	ICPMS204-B_130617A : 364		20675

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID WSC-SBC
Lab ID: H13060239-015
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/12/13 14:00
DateReceived: 06/14/13
Report Date: 07/22/13
Revised Date: 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	14	mg/L		1		A2540 D	06/17/13 15:00 / glj	06/17/13 13:24	-124 (14410200)_130617A :	69	20669
INORGANICS											
Alkalinity, Total as CaCO3	88	mg/L		4		A2320 B	06/17/13 16:52 / cmm		MAN-TECH_130618A :	33	R89110
Bicarbonate as HCO3	110	mg/L		4		A2320 B	06/17/13 16:52 / cmm		MAN-TECH_130618A :	33	R89110
Sulfate	30	mg/L		1		E300.0	06/17/13 23:58 / cmm		IC102-H_130617A :	81	R89116
Hardness as CaCO3	109	mg/L		1		A2340 B	06/17/13 21:01 / abb		CALC_130618A :	586	R89120
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:38 / reh		FIA203-HE_130618A :	33	R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:17 / reh		FIA203-HE_130617A :	131	R89105
Nitrogen, Total	0.10	mg/L		0.05		A4500 N-C	06/19/13 15:07 / reh	06/19/13 13:06	FIA203-HE_130619C :	46	20707
Phosphorus, Total as P	0.008	mg/L		0.005		E365.1	06/18/13 09:46 / reh	06/17/13 14:58	FIA202-HE_130618A :	31	20674
METALS, DISSOLVED											
Arsenic	0.005	mg/L		0.005		E200.8	06/19/13 08:43 / dck		ICPMS204-B_130617A :	365	R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 08:43 / dck		ICPMS204-B_130617A :	365	R89151
Copper	0.004	mg/L		0.001		E200.8	06/19/13 08:43 / dck		ICPMS204-B_130617A :	365	R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 08:43 / dck		ICPMS204-B_130617A :	365	R89151
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 08:43 / dck		ICPMS204-B_130617A :	365	R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.006	mg/L		0.005		E200.8	06/19/13 08:48 / dck	06/17/13 16:02	ICPMS204-B_130617A :	366	20675
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 08:48 / dck	06/17/13 16:02	ICPMS204-B_130617A :	366	20675
Calcium	32	mg/L		1		E200.7	06/18/13 22:27 / sld	06/17/13 16:02	ICP2-HE_130618A :	130	20675
Copper	0.012	mg/L		0.001		E200.8	06/19/13 08:48 / dck	06/17/13 16:02	ICPMS204-B_130617A :	366	20675
Lead	0.0009	mg/L		0.0005		E200.8	06/19/13 08:48 / dck	06/17/13 16:02	ICPMS204-B_130617A :	366	20675
Magnesium	6	mg/L		1		E200.7	06/18/13 22:27 / sld	06/17/13 16:02	ICP2-HE_130618A :	130	20675
Zinc	ND	mg/L		0.01		E200.8	06/19/13 08:48 / dck	06/17/13 16:02	ICPMS204-B_130617A :	366	20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	Field Blank #2	**Collection Date:**	06/13/13 10:30	**DateReceived:**	06/14/13
Lab ID:	H13060239-016	**Report Date:**	07/22/13	**Revised Date:**	08/16/13
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	06/17/13 15:00 / glj	06/17/13 13:24	-124 (14410200)_130617A : 70		20669
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	06/17/13 16:56 / cmm		MAN-TECH_130618A : 34		R89110
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	06/17/13 16:56 / cmm		MAN-TECH_130618A : 34		R89110
Sulfate	ND	mg/L		1		E300.0	06/18/13 00:11 / cmm		IC102-H_130617A : 82		R89116
Hardness as CaCO3	ND	mg/L		1		A2340 B	06/20/13 11:50 / sld		WATERCALC_130620A : 4		R89208
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	0.1	mg/L		0.1		A5310 C	06/18/13 15:53 / eli-c		SUB-C174933 : 3		C_R174933
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:40 / reh		FIA203-HE_130618A : 34		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:18 / reh		FIA203-HE_130617A : 132		R89105
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	06/19/13 15:08 / reh	06/19/13 13:06	FIA203-HE_130619C : 47		20707
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	06/18/13 09:48 / reh	06/17/13 14:58	FIA202-HE_130618A : 32		20674
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	06/19/13 08:53 / dck		ICPMS204-B_130617A : 367		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 08:53 / dck		ICPMS204-B_130617A : 367		R89151
Copper	ND	mg/L		0.001		E200.8	06/19/13 08:53 / dck		ICPMS204-B_130617A : 367		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 08:53 / dck		ICPMS204-B_130617A : 367		R89151
Zinc	ND	mg/L		0.01		E200.8	06/19/13 08:53 / dck		ICPMS204-B_130617A : 367		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	06/19/13 09:17 / dck	06/17/13 16:02	ICPMS204-B_130617A : 372		20675
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 09:17 / dck	06/17/13 16:02	ICPMS204-B_130617A : 372		20675
Calcium	ND	mg/L		1		E200.7	06/18/13 22:31 / sld	06/17/13 16:02	ICP2-HE_130618A : 131		20675
Copper	ND	mg/L		0.001		E200.8	06/19/13 09:17 / dck	06/17/13 16:02	ICPMS204-B_130617A : 372		20675
Lead	ND	mg/L		0.0005		E200.8	06/19/13 09:17 / dck	06/17/13 16:02	ICPMS204-B_130617A : 372		20675
Magnesium	ND	mg/L		1		E200.7	06/18/13 22:31 / sld	06/17/13 16:02	ICP2-HE_130618A : 131		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	Field Blank #2	**Collection Date:**	06/13/13 10:30	**DateReceived:**	06/14/13
Lab ID:	H13060239-016	**Report Date:**	07/22/13	**Revised Date:**	08/16/13
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	06/19/13 09:17 / dck	06/17/13 16:02	ICPMS204-B_130617A : 372		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25
Lab ID: H13060239-017
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/13/13 11:00 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	10	mg/L		1		A2540 D	06/17/13 15:00 / glj	06/17/13 13:26 -124 (14410200)_130617A : 73			20670
INORGANICS											
Alkalinity, Total as CaCO3	65	mg/L		4		A2320 B	06/17/13 17:03 / cmm		MAN-TECH_130618A : 35		R89110
Bicarbonate as HCO3	77	mg/L		4		A2320 B	06/17/13 17:03 / cmm		MAN-TECH_130618A : 35		R89110
Sulfate	56	mg/L		1		E300.0	06/19/13 18:24 / cmm		IC102-H_130619A : 40		R89194
Hardness as CaCO3	103	mg/L		1		A2340 B	06/20/13 11:50 / sld		WATERCALC_130620A : 5		R89208
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.9	mg/L		0.1		A5310 C	06/18/13 17:05 / eli-c		SUB-C174933 : 7		C_R174933
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:43 / reh		FIA203-HE_130618A : 37		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:21 / reh		FIA203-HE_130617A : 135		R89105
Nitrogen, Total	0.31	mg/L		0.05		A4500 N-C	06/19/13 15:11 / reh	06/19/13 13:06	FIA203-HE_130619C : 50		20707
Phosphorus, Total as P	0.031	mg/L		0.005		E365.1	06/18/13 09:51 / reh	06/17/13 14:58	FIA202-HE_130618A : 35		20674
METALS, DISSOLVED											
Arsenic	0.023	mg/L		0.005		E200.8	06/19/13 09:21 / dck		ICPMS204-B_130617A : 373		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 09:21 / dck		ICPMS204-B_130617A : 373		R89151
Copper	0.005	mg/L		0.001		E200.8	06/19/13 09:21 / dck		ICPMS204-B_130617A : 373		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 09:21 / dck		ICPMS204-B_130617A : 373		R89151
Zinc	ND	mg/L		0.01		E200.8	06/19/13 09:21 / dck		ICPMS204-B_130617A : 373		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.024	mg/L		0.005		E200.8	06/19/13 09:26 / dck	06/17/13 16:02	ICPMS204-B_130617A : 374		20675
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 09:26 / dck	06/17/13 16:02	ICPMS204-B_130617A : 374		20675
Calcium	29	mg/L		1		E200.7	06/18/13 22:34 / sld	06/17/13 16:02	ICP2-HE_130618A : 132		20675
Copper	0.008	mg/L		0.001		E200.8	06/19/13 09:26 / dck	06/17/13 16:02	ICPMS204-B_130617A : 374		20675
Lead	0.0010	mg/L		0.0005		E200.8	06/19/13 09:26 / dck	06/17/13 16:02	ICPMS204-B_130617A : 374		20675
Magnesium	8	mg/L		1		E200.7	06/18/13 22:34 / sld	06/17/13 16:02	ICP2-HE_130618A : 132		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	SS-25	**Collection Date:**	06/13/13 11:00	**DateReceived:**	06/14/13
Lab ID:	H13060239-017	**Report Date:**	07/22/13	**Revised Date:**	08/16/13
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	06/19/13 09:26 / dck	06/17/13 16:02	ICPMS204-B_130617A : 374		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25 Duplicate
Lab ID: H13060239-018
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/13/13 11:00 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	9	mg/L		1		A2540 D	06/17/13 15:01 / glj	06/17/13 13:26	-124 (14410200)_130617A : 75		20670
INORGANICS											
Alkalinity, Total as CaCO3	64	mg/L		4		A2320 B	06/17/13 17:09 / cmm		MAN-TECH_130618A : 36		R89110
Bicarbonate as HCO3	78	mg/L		4		A2320 B	06/17/13 17:09 / cmm		MAN-TECH_130618A : 36		R89110
Sulfate	59	mg/L		1		E300.0	06/18/13 00:36 / cmm		IC102-H_130617A : 84		R89116
Hardness as CaCO3	104	mg/L		1		A2340 B	06/20/13 11:50 / sld		WATERCALC_130620A : 6		R89208
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.8	mg/L		0.1		A5310 C	06/18/13 17:15 / eli-c		SUB-C174933 : 8		C_R174933
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:47 / reh		FIA203-HE_130618A : 40		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:23 / reh		FIA203-HE_130617A : 136		R89105
Nitrogen, Total	0.29	mg/L		0.05		A4500 N-C	06/19/13 15:13 / reh	06/19/13 13:06	FIA203-HE_130619C : 51		20707
Phosphorus, Total as P	0.033	mg/L		0.005		E365.1	06/18/13 09:52 / reh	06/17/13 14:58	FIA202-HE_130618A : 36		20674
METALS, DISSOLVED											
Arsenic	0.022	mg/L		0.005		E200.8	06/19/13 09:31 / dck		ICPMS204-B_130617A : 375		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 09:31 / dck		ICPMS204-B_130617A : 375		R89151
Copper	0.005	mg/L		0.001		E200.8	06/19/13 09:31 / dck		ICPMS204-B_130617A : 375		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 09:31 / dck		ICPMS204-B_130617A : 375		R89151
Zinc	ND	mg/L		0.01		E200.8	06/19/13 09:31 / dck		ICPMS204-B_130617A : 375		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.025	mg/L		0.005		E200.8	06/19/13 09:36 / dck	06/17/13 16:02	ICPMS204-B_130617A : 376		20675
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 09:36 / dck	06/17/13 16:02	ICPMS204-B_130617A : 376		20675
Calcium	29	mg/L		1		E200.7	06/18/13 22:38 / sld	06/17/13 16:02	ICP2-HE_130618A : 133		20675
Copper	0.008	mg/L		0.001		E200.8	06/19/13 09:36 / dck	06/17/13 16:02	ICPMS204-B_130617A : 376		20675
Lead	0.0010	mg/L		0.0005		E200.8	06/19/13 09:36 / dck	06/17/13 16:02	ICPMS204-B_130617A : 376		20675
Magnesium	8	mg/L		1		E200.7	06/18/13 22:38 / sld	06/17/13 16:02	ICP2-HE_130618A : 133		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	SS-25 Duplicate	**Collection Date:**	06/13/13 11:00	**DateReceived:**	06/14/13
Lab ID:	H13060239-018	**Report Date:**	07/22/13	**Revised Date:**	08/16/13
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	06/19/13 09:36 / dck	06/17/13 16:02	ICPMS204-B_130617A : 376		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MWB-SBC
Lab ID: H13060239-019
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/13/13 12:00 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	06/17/13 15:01 / glj	06/17/13 13:26	-124 (14410200)_130617A : 76		20670
INORGANICS											
Alkalinity, Total as CaCO3	63	mg/L		4		A2320 B	06/17/13 17:37 / cmm		MAN-TECH_130618A : 44		R89110
Bicarbonate as HCO3	76	mg/L		4		A2320 B	06/17/13 17:37 / cmm		MAN-TECH_130618A : 44		R89110
Sulfate	44	mg/L		1		E300.0	06/18/13 00:49 / cmm		IC102-H_130617A : 85		R89116
Hardness as CaCO3	92	mg/L		1		A2340 B	06/17/13 21:34 / abb		CALC_130618A : 608		R89120
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.5	mg/L		0.1		A5310 C	06/18/13 17:25 / eli-c		SUB-C174933 : 9		C_R174933
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:50 / reh		FIA203-HE_130618A : 43		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:24 / reh		FIA203-HE_130617A : 137		R89105
Nitrogen, Total	0.22	mg/L		0.05		A4500 N-C	06/19/13 15:14 / reh	06/19/13 13:06	FIA203-HE_130619C : 52		20707
Phosphorus, Total as P	0.026	mg/L		0.005		E365.1	06/18/13 09:53 / reh	06/17/13 14:58	FIA202-HE_130618A : 37		20674
METALS, DISSOLVED											
Arsenic	0.024	mg/L		0.005		E200.8	06/19/13 09:40 / dck		ICPMS204-B_130617A : 377		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 09:40 / dck		ICPMS204-B_130617A : 377		R89151
Copper	0.004	mg/L		0.001		E200.8	06/19/13 09:40 / dck		ICPMS204-B_130617A : 377		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 09:40 / dck		ICPMS204-B_130617A : 377		R89151
Zinc	ND	mg/L		0.01		E200.8	06/19/13 09:40 / dck		ICPMS204-B_130617A : 377		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.025	mg/L		0.005		E200.8	06/21/13 14:53 / dck	06/17/13 16:02	ICPMS204-B_130620A : 262		20675
Cadmium	ND	mg/L		0.00008		E200.8	06/21/13 14:53 / dck	06/17/13 16:02	ICPMS204-B_130620A : 262		20675
Calcium	28	mg/L		1		E200.7	06/18/13 23:15 / sld	06/17/13 16:02	ICP2-HE_130618A : 143		20675
Copper	0.007	mg/L		0.001		E200.8	06/21/13 14:53 / dck	06/17/13 16:02	ICPMS204-B_130620A : 262		20675
Lead	0.0011	mg/L		0.0005		E200.8	06/21/13 14:53 / dck	06/17/13 16:02	ICPMS204-B_130620A : 262		20675
Magnesium	6	mg/L		1		E200.7	06/18/13 23:15 / sld	06/17/13 16:02	ICP2-HE_130618A : 143		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MWB-SBC
Lab ID: H13060239-019
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/13/13 12:00
DateReceived: 06/14/13
Report Date: 07/22/13
Revised Date: 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	06/21/13 14:53 / dck	06/17/13 16:02	ICPMS204-B_130620A : 262		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund	**Project:** CFR OU Monitoring		
Client Sample ID SBC-P2	**Collection Date:** 06/13/13 12:30	**DateReceived:** 06/14/13	
Lab ID: H13060239-020	**Report Date:** 07/22/13	**Revised Date:** 08/16/13	
Matrix: Aqueous			

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	4	mg/L		1		A2540 D	06/17/13 15:01 / glj	06/17/13 13:26	-124 (14410200)_130617A : 77		20670
INORGANICS											
Alkalinity, Total as CaCO3	64	mg/L		4		A2320 B	06/17/13 17:45 / cmm		MAN-TECH_130618A : 45		R89110
Bicarbonate as HCO3	58	mg/L		4		A2320 B	06/17/13 17:45 / cmm		MAN-TECH_130618A : 45		R89110
Sulfate	110	mg/L		1		E300.0	06/18/13 01:01 / cmm		IC102-H_130617A : 86		R89116
Hardness as CaCO3	145	mg/L		1		A2340 B	06/17/13 21:38 / abb		CALC_130618A : 619		R89120
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:52 / reh		FIA203-HE_130618A : 44		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:25 / reh		FIA203-HE_130617A : 138		R89105
Nitrogen, Total	0.51	mg/L		0.05		A4500 N-C	06/19/13 15:17 / reh	06/19/13 13:06	FIA203-HE_130619C : 55		20707
Phosphorus, Total as P	0.057	mg/L		0.005		E365.1	06/18/13 09:54 / reh	06/17/13 14:58	FIA202-HE_130618A : 38		20674
METALS, DISSOLVED											
Arsenic	0.022	mg/L		0.005		E200.8	06/21/13 14:57 / dck		ICPMS204-B_130620A : 263		R89225
Cadmium	ND	mg/L		0.00008		E200.8	06/20/13 06:58 / dck		ICPMS204-B_130617A : 524		R89151
Copper	0.007	mg/L		0.001		E200.8	06/21/13 14:57 / dck		ICPMS204-B_130620A : 263		R89225
Lead	ND	mg/L		0.0005		E200.8	06/20/13 06:58 / dck		ICPMS204-B_130617A : 524		R89151
Zinc	ND	mg/L		0.01		E200.8	06/21/13 14:57 / dck		ICPMS204-B_130620A : 263		R89225
METALS, TOTAL RECOVERABLE											
Arsenic	0.022	mg/L		0.005		E200.8	06/21/13 15:02 / dck	06/17/13 16:02	ICPMS204-B_130620A : 264		20675
Cadmium	ND	mg/L		0.00008		E200.8	06/21/13 15:02 / dck	06/17/13 16:02	ICPMS204-B_130620A : 264		20675
Calcium	37	mg/L		1		E200.7	06/18/13 23:19 / sld	06/17/13 16:02	ICP2-HE_130618A : 144		20675
Copper	0.008	mg/L		0.001		E200.8	06/21/13 15:02 / dck	06/17/13 16:02	ICPMS204-B_130620A : 264		20675
Lead	0.0007	mg/L		0.0005		E200.8	06/20/13 07:02 / dck	06/17/13 16:02	ICPMS204-B_130617A : 525		20675
Magnesium	13	mg/L		1		E200.7	06/18/13 23:19 / sld	06/17/13 16:02	ICP2-HE_130618A : 144		20675
Zinc	ND	mg/L		0.01		E200.8	06/21/13 15:02 / dck	06/17/13 16:02	ICPMS204-B_130620A : 264		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MCWC-MWB
Lab ID: H13060239-021
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/13/13 14:00 **DateReceived:** 06/14/13
Report Date: 07/22/13 **Revised Date:** 08/16/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	06/17/13 15:01 / glj	06/17/13 13:26	-124 (14410200)_130617A : 78		20670
INORGANICS											
Alkalinity, Total as CaCO3	52	mg/L		4		A2320 B	06/17/13 17:51 / cmm		MAN-TECH_130618A : 46		R89110
Bicarbonate as HCO3	64	mg/L		4		A2320 B	06/17/13 17:51 / cmm		MAN-TECH_130618A : 46		R89110
Sulfate	10	mg/L		1		E300.0	06/18/13 01:14 / cmm		IC102-H_130617A : 87		R89116
Hardness as CaCO3	51	mg/L		1		A2340 B	06/17/13 21:42 / abb		CALC_130618A : 630		R89120
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	06/18/13 14:53 / reh		FIA203-HE_130618A : 45		R89134
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	06/17/13 12:26 / reh		FIA203-HE_130617A : 139		R89105
Nitrogen, Total	0.16	mg/L		0.05		A4500 N-C	06/19/13 15:19 / reh	06/19/13 13:06	FIA203-HE_130619C : 56		20707
Phosphorus, Total as P	0.026	mg/L		0.005		E365.1	06/18/13 09:55 / reh	06/17/13 14:58	FIA202-HE_130618A : 39		20674
METALS, DISSOLVED											
Arsenic	0.024	mg/L		0.005		E200.8	06/19/13 09:45 / dck		ICPMS204-B_130617A : 378		R89151
Cadmium	ND	mg/L		0.00008		E200.8	06/19/13 09:45 / dck		ICPMS204-B_130617A : 378		R89151
Copper	0.005	mg/L		0.001		E200.8	06/19/13 09:45 / dck		ICPMS204-B_130617A : 378		R89151
Lead	ND	mg/L		0.0005		E200.8	06/19/13 09:45 / dck		ICPMS204-B_130617A : 378		R89151
Zinc	0.01	mg/L		0.01		E200.8	06/19/13 09:45 / dck		ICPMS204-B_130617A : 378		R89151
METALS, TOTAL RECOVERABLE											
Arsenic	0.026	mg/L		0.005		E200.8	06/19/13 09:50 / dck	06/17/13 16:02	ICPMS204-B_130617A : 379		20675
Cadmium	0.00008	mg/L		0.00008		E200.8	06/19/13 09:50 / dck	06/17/13 16:02	ICPMS204-B_130617A : 379		20675
Calcium	15	mg/L		1		E200.7	06/18/13 23:23 / sld	06/17/13 16:02	ICP2-HE_130618A : 145		20675
Copper	0.007	mg/L		0.001		E200.8	06/19/13 09:50 / dck	06/17/13 16:02	ICPMS204-B_130617A : 379		20675
Lead	0.0011	mg/L		0.0005		E200.8	06/19/13 09:50 / dck	06/17/13 16:02	ICPMS204-B_130617A : 379		20675
Magnesium	3	mg/L		1		E200.7	06/18/13 23:23 / sld	06/17/13 16:02	ICP2-HE_130618A : 145		20675
Zinc	ND	mg/L		0.01		E200.8	06/19/13 09:50 / dck	06/17/13 16:02	ICPMS204-B_130617A : 379		20675

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 130802wa

Date: *16-Aug-13*

Run ID :Run Order: **HGCV202-H_130802A: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E245.1**

Analysis Date: **08/02/13 15:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002		**93**	90	110				

Associated samples: **H13060239-005F; H13060239-006F**

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	N - Analyte concentration was not sufficiently high to calculate RPD
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20669

Date: *16-Aug-13*

Run ID :Run Order: **ACCU-124 (14410200)_130617A: 47** SampType: **Method Blank** Sample ID: **MB-20669** Method: **A2540 D**
Analysis Date: **06/17/13 14:53** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	1									

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A**

Run ID :Run Order: **ACCU-124 (14410200)_130617A: 48** SampType: **Laboratory Control Sample** Sample ID: **LCS-20669** Method: **A2540 D**
Analysis Date: **06/17/13 14:53** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	1870	10	2000		94	70	130				

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A**

Run ID :Run Order: **ACCU-124 (14410200)_130617A: 50** SampType: **Sample Duplicate** Sample ID: **H13060235-001ADUP** Method: **A2540 D**
Analysis Date: **06/17/13 14:53** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	23.0	10						23		5	

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A**

Run ID :Run Order: **ACCU-124 (14410200)_130617A: 62** SampType: **Sample Duplicate** Sample ID: **H13060239-008ADUP** Method: **A2540 D**
Analysis Date: **06/17/13 14:55** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	6.00	10						6		5	

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20670

Date: *16-Aug-13*

Run ID :Run Order: **ACCU-124 (14410200)_130617A: 71** SampType: **Method Blank** Sample ID: **MB-20670** Method: **A2540 D**
Analysis Date: **06/17/13 15:00** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	1									

Associated samples: **H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **ACCU-124 (14410200)_130617A: 72** SampType: **Laboratory Control Sample** Sample ID: **LCS-20670** Method: **A2540 D**
Analysis Date: **06/17/13 15:00** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	1860	10	2000		**93**	70	130				

Associated samples: **H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **ACCU-124 (14410200)_130617A: 74** SampType: **Sample Duplicate** Sample ID: **H13060239-017ADUP** Method: **A2540 D**
Analysis Date: **06/17/13 15:01** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	10.0	10						10	**0.0**	5	

Associated samples: **H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **ACCU-124 (14410200)_130617A: 88** SampType: **Sample Duplicate** Sample ID: **H13060240-009ADUP** Method: **A2540 D**
Analysis Date: **06/17/13 15:06** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	12.0	10						12	**0.0**	5	

Associated samples: **H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20674

Date: *16-Aug-13*

Run ID :Run Order: **FIA202-HE_130618A: 12** SampType: **Method Blank** Sample ID: **MB-20674** Method: **E365.1**
Analysis Date: **06/18/13 09:27** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA202-HE_130618A: 13** SampType: **Laboratory Control Sample** Sample ID: **LCS-20674** Method: **E365.1**
Analysis Date: **06/18/13 09:28** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.369	0.010	0.4		92	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA202-HE_130618A: 17** SampType: **Sample Matrix Spike** Sample ID: **H13060239-004EMS** Method: **E365.1**
Analysis Date: **06/18/13 09:32** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.195	0.010	0.2		98	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA202-HE_130618A: 18** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-004EMSD** Method: **E365.1**
Analysis Date: **06/18/13 09:33** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.198	0.010	0.2		99	90	110	0.1952	1.4	20	

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA202-HE_130618A: 33** SampType: **Sample Matrix Spike** Sample ID: **H13060239-016EMS** Method: **E365.1**
Analysis Date: **06/18/13 09:49** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.202	0.010	0.2		101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20674

Date: *16-Aug-13*

Run ID :Run Order: **FIA202-HE_130618A: 33** SampType: **Sample Matrix Spike** Sample ID: **H13060239-016EMS** Method: **E365.1**

Analysis Date: **06/18/13 09:49** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA202-HE_130618A: 34** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-016EMSD** Method: **E365.1**

Analysis Date: **06/18/13 09:50** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.204	0.010	0.2		102	90	110	0.2016	1.0	20	

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20675

Date: *16-Aug-13*

Run ID :Run Order: **ICP2-HE_130618A: 112** SampType: **Method Blank** Sample ID: **MB-20675** Method: **E200.7**
Analysis Date: **06/18/13 21:20** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.06									
Magnesium	0.01	0.006									

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICP2-HE_130618A: 113** SampType: **Laboratory Control Sample** Sample ID: **LCS-20675** Method: **E200.7**
Analysis Date: **06/18/13 21:24** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.2	1.0	25		97	85	115				
Magnesium	24.2	1.0	25	0.01036	97	85	115				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICP2-HE_130618A: 116** SampType: **Sample Matrix Spike** Sample ID: **H13060239-001DMS3** Method: **E200.7**
Analysis Date: **06/18/13 21:35** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	53.1	1.0	25	29.79	93	70	130				
Magnesium	30.7	1.0	25	7.558	92	70	130				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICP2-HE_130618A: 117** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-001DMSD3** Method: **E200.7**
Analysis Date: **06/18/13 21:39** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	52.2	1.0	25	29.79	90	70	130	53.1	1.7	20	
Magnesium	31.3	1.0	25	7.558	95	70	130	30.68	2.1	20	

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICP2-HE_130618A: 126** SampType: **Sample Matrix Spike** Sample ID: **H13060239-012DMS3** Method: **E200.7**
Analysis Date: **06/18/13 22:12** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	56.6	1.0	25	32.99	95	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20675

Date: *16-Aug-13*

Run ID :Run Order: **ICP2-HE_130618A: 126** SampType: **Sample Matrix Spike** Sample ID: **H13060239-012DMS3** Method: **E200.7**
Analysis Date: **06/18/13 22:12** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	32.3	1.0	25	7.977	**97**	70	130				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICP2-HE_130618A: 127** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-012DMSD3** Method: **E200.7**
Analysis Date: **06/18/13 22:16** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	57.8	1.0	25	32.99	**99**	70	130	56.65	**1.9**	20	
Magnesium	32.9	1.0	25	7.977	**100**	70	130	32.3	**1.9**	20	

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20675

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 325** SampType: **Method Blank** Sample ID: **MB-20675** Method: **E200.8**
Analysis Date: **06/19/13 05:33** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Cadmium	ND	2E-05									
Copper	ND	0.0002									
Lead	ND	3E-05									
Zinc	0.002	0.001									

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 326** SampType: **Laboratory Control Sample** Sample ID: **LCS-20675** Method: **E200.8**
Analysis Date: **06/19/13 05:38** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.495	0.0010	0.5		**99**	85	115				
Cadmium	0.259	0.0010	0.25		**104**	85	115				
Copper	0.506	0.0050	0.5		**101**	85	115				
Lead	0.471	0.0010	0.5		**94**	85	115				
Zinc	0.524	0.010	0.5	0.00199	**105**	85	115				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 331** SampType: **Sample Matrix Spike** Sample ID: **H13060239-001DMS3** Method: **E200.8**
Analysis Date: **06/19/13 06:02** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.506	0.0010	0.5	0.006916	**100**	70	130				
Cadmium	0.257	0.0010	0.25	0.0001228	**103**	70	130				
Copper	0.512	0.0050	0.5	0.0138	**100**	70	130				
Lead	0.464	0.0010	0.5	0.002127	**92**	70	130				
Zinc	0.524	0.010	0.5	0.02052	**101**	70	130				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20675

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 332** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-001DMSD3** Method: **E200.8**
Analysis Date: **06/19/13 06:06** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.500	0.0010	0.5	0.006916	99	70	130	0.5064	1.4	20	
Cadmium	0.251	0.0010	0.25	0.0001228	100	70	130	0.2567	2.1	20	
Copper	0.512	0.0050	0.5	0.0138	100	70	130	0.5115	0.1	20	
Lead	0.465	0.0010	0.5	0.002127	93	70	130	0.4637	0.3	20	
Zinc	0.542	0.010	0.5	0.02052	104	70	130	0.524	3.3	20	

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130716A: 538** SampType: **Sample Matrix Spike** Sample ID: **H13060239-012DMS3** Method: **E200.8**
Analysis Date: **07/18/13 18:38** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.508	0.0010	0.5	0.01689	98	70	130				
Cadmium	0.231	0.0010	0.25	0.0000924	92	70	130				
Copper	0.464	0.0050	0.5	0.01526	90	70	130				
Lead	0.464	0.0010	0.5	0.001818	92	70	130				
Zinc	0.502	0.010	0.5	0.01146	98	70	130				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130716A: 539** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-012DMSD3** Method: **E200.8**
Analysis Date: **07/18/13 18:42** Units: **mg/L** **Prep Info:** Prep Date: **6/17/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.497	0.0010	0.5	0.01689	96	70	130	0.508	2.1	20	
Cadmium	0.231	0.0010	0.25	0.0000924	92	70	130	0.2307	0.2	20	
Copper	0.454	0.0050	0.5	0.01526	88	70	130	0.4636	2.1	20	
Lead	0.467	0.0010	0.5	0.001818	93	70	130	0.4636	0.7	20	
Zinc	0.492	0.010	0.5	0.01146	96	70	130	0.5023	2.2	20	

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20679

Date: *16-Aug-13*

Run ID :Run Order: **ICP2-HE_130619C: 90** SampType: **Method Blank** Sample ID: **MB-20679** Method: **E200.7**
Analysis Date: **06/19/13 17:24** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.06									
Magnesium	ND	0.006									

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICP2-HE_130619C: 91** SampType: **Laboratory Control Sample** Sample ID: **LCS-20679** Method: **E200.7**
Analysis Date: **06/19/13 17:27** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.4	1.0	25		**102**	85	115				
Magnesium	24.2	1.0	25		**97**	85	115				

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICP2-HE_130619C: 95** SampType: **Sample Matrix Spike** Sample ID: **H13060239-007DMS3** Method: **E200.7**
Analysis Date: **06/19/13 17:42** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	77.5	1.0	25	54.21	**93**	70	130				
Magnesium	35.3	1.0	25	11.84	**94**	70	130				

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICP2-HE_130619C: 98** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-007DMSD3** Method: **E200.7**
Analysis Date: **06/19/13 17:53** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	78.8	1.0	25	54.21	**98**	70	130	77.47	**1.7**	20	
Magnesium	35.9	1.0	25	11.84	**96**	70	130	35.28	**1.6**	20	

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICP2-HE_130620A: 126** SampType: **Sample Matrix Spike** Sample ID: **H13060239-007DMS3** Method: **E200.7**
Analysis Date: **06/20/13 19:26** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	72.8	1.0	25	50.99	**87**	70	130				
Magnesium	35.0	1.0	25	11.74	**93**	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20679

Date: *16-Aug-13*

Run ID :Run Order: **ICP2-HE_130620A: 126** SampType: **Sample Matrix Spike** Sample ID: **H13060239-007DMS3** Method: **E200.7**

Analysis Date: **06/20/13 19:26** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICP2-HE_130620A: 127** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-007DMSD3** Method: **E200.7**

Analysis Date: **06/20/13 19:29** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	72.9	1.0	25	50.99	88	70	130	72.82	0.1	20	
Magnesium	34.7	1.0	25	11.74	92	70	130	34.95	0.8	20	

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **20679**

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 502** SampType: **Method Blank** Sample ID: **MB-20679** Method: **E200.8**
Analysis Date: **06/20/13 05:13** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Cadmium	ND	2E-05									
Copper	ND	0.0002									
Lead	ND	3E-05									
Zinc	0.002	0.001									

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICPMS204-B_130617A: 503** SampType: **Laboratory Control Sample** Sample ID: **LCS-20679** Method: **E200.8**
Analysis Date: **06/20/13 05:18** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.514	0.0010	0.5		**103**	85	115				
Cadmium	0.260	0.0010	0.25		**104**	85	115				
Copper	0.504	0.0050	0.5		**101**	85	115				
Lead	0.472	0.0010	0.5		**94**	85	115				
Zinc	0.521	0.010	0.5	0.002306	**104**	85	115				

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICPMS204-B_130617A: 508** SampType: **Sample Matrix Spike** Sample ID: **H13060239-007DMS3** Method: **E200.8**
Analysis Date: **06/20/13 05:41** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.523	0.0010	0.5	0.02103	**100**	70	130				
Cadmium	0.254	0.0010	0.25	0.0001308	**102**	70	130				
Copper	0.518	0.0050	0.5	0.02383	**99**	70	130				
Lead	0.485	0.0010	0.5	0.002597	**97**	70	130				
Zinc	0.509	0.010	0.5	0.02115	**98**	70	130				

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICPMS204-B_130617A: 509** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-007DMSD3** Method: **E200.8**
Analysis Date: **06/20/13 05:46** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.525	0.0010	0.5	0.02103	**101**	70	130	0.5229	**0.4**	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20679

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 509** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-007DMSD3** Method: **E200.8**
Analysis Date: **06/20/13 05:46** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.254	0.0010	0.25	0.0001308	102	70	130	0.254	0.2	20	
Copper	0.528	0.0050	0.5	0.02383	101	70	130	0.5178	1.9	20	
Lead	0.474	0.0010	0.5	0.002597	94	70	130	0.4852	2.4	20	
Zinc	0.514	0.010	0.5	0.02115	99	70	130	0.5093	0.9	20	

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICPMS204-B_130620A: 242** SampType: **Method Blank** Sample ID: **MB-20679** Method: **E200.8**
Analysis Date: **06/21/13 13:21** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Cadmium	2E-05	2E-05									
Copper	ND	0.0002									
Lead	ND	3E-05									
Zinc	0.001	0.001									

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICPMS204-B_130620A: 270** SampType: **Sample Matrix Spike** Sample ID: **H13060240-006CMS3** Method: **E200.8**
Analysis Date: **06/21/13 15:29** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.02	0.0016	1	0.01129	101	70	130				
Cadmium	0.528	0.0010	0.5	0.000439	105	70	130				
Copper	1.06	0.0050	1	0.02662	103	70	130				
Lead	1.05	0.0010	1	0.01486	103	70	130				
Zinc	1.26	0.010	1	0.1901	107	70	130				

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICPMS204-B_130620A: 271** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060240-006CMSD3** Method: **E200.8**
Analysis Date: **06/21/13 15:34** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.02	0.0016	1	0.01129	101	70	130	1.022	0.5	20	
Cadmium	0.514	0.0010	0.5	0.000439	103	70	130	0.5276	2.5	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20679

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130620A: 271** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060240-006CMSD3** Method: **E200.8**

Analysis Date: **06/21/13 15:34** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1.05	0.0050	1	0.02662	102	70	130	1.059	0.9	20	
Lead	1.03	0.0010	1	0.01486	101	70	130	1.046	1.6	20	
Zinc	1.22	0.010	1	0.1901	103	70	130	1.256	2.5	20	

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20706

Date: *16-Aug-13*

Run ID :Run Order: **FIA203-HE_130619C: 11** SampType: **Method Blank** Sample ID: **MB-20706** Method: **A4500 N-C**
Analysis Date: **06/19/13 14:25** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.04	0.02									

Associated samples: **H13060239-001B; H13060239-002B; H13060239-004B; H13060239-005B; H13060239-006B; H13060239-007B; H13060239-008B; H13060239-009B; H13060239-010B; H13060239-011B**

Run ID :Run Order: **FIA203-HE_130619C: 12** SampType: **Laboratory Control Sample** Sample ID: **LCS-20706** Method: **A4500 N-C**
Analysis Date: **06/19/13 14:26** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	18.4	0.10	18.7	0.03682	98	90	110				

Associated samples: **H13060239-001B; H13060239-002B; H13060239-004B; H13060239-005B; H13060239-006B; H13060239-007B; H13060239-008B; H13060239-009B; H13060239-010B; H13060239-011B**

Run ID :Run Order: **FIA203-HE_130619C: 18** SampType: **Sample Matrix Spike** Sample ID: **H13060230-005AMS** Method: **A4500 N-C**
Analysis Date: **06/19/13 14:33** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.06	0.10	1	0.07844	98	90	110				

Associated samples: **H13060239-001B; H13060239-002B; H13060239-004B; H13060239-005B; H13060239-006B; H13060239-007B; H13060239-008B; H13060239-009B; H13060239-010B; H13060239-011B**

Run ID :Run Order: **FIA203-HE_130619C: 19** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060230-005AMSD** Method: **A4500 N-C**
Analysis Date: **06/19/13 14:34** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.06	0.10	1	0.07844	98	90	110	1.059	0.4	20	

Associated samples: **H13060239-001B; H13060239-002B; H13060239-004B; H13060239-005B; H13060239-006B; H13060239-007B; H13060239-008B; H13060239-009B; H13060239-010B; H13060239-011B**

Run ID :Run Order: **FIA203-HE_130619C: 30** SampType: **Sample Matrix Spike** Sample ID: **H13060239-004BMS** Method: **A4500 N-C**
Analysis Date: **06/19/13 14:47** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.974	0.10	1	0.02049	95	90	110				

Associated samples: **H13060239-001B; H13060239-002B; H13060239-004B; H13060239-005B; H13060239-006B; H13060239-007B; H13060239-008B; H13060239-009B; H13060239-010B; H13060239-011B**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *16-Aug-13*

BatchID: 20706

Run ID :Run Order: **FIA203-HE_130619C: 31** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-004BMSD** Method: **A4500 N-C**

Analysis Date: **06/19/13 14:49** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.973	0.10	1	0.02049	95	90	110	0.9739	0.1	20	

Associated samples: **H13060239-001B; H13060239-002B; H13060239-004B; H13060239-005B; H13060239-006B; H13060239-007B; H13060239-008B; H13060239-009B; H13060239-010B; H13060239-011B**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20707

Date: *16-Aug-13*

Run ID :Run Order: **FIA203-HE_130619C: 41** SampType: **Method Blank** Sample ID: **MB-20707** Method: **A4500 N-C**
Analysis Date: **06/19/13 15:01** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.02									

Associated samples: **H13060239-012B; H13060239-013B; H13060239-014B; H13060239-015B; H13060239-016B; H13060239-017B; H13060239-018B; H13060239-019B; H13060239-020B; H13060239-021B**

Run ID :Run Order: **FIA203-HE_130619C: 42** SampType: **Laboratory Control Sample** Sample ID: **LCS-20707** Method: **A4500 N-C**
Analysis Date: **06/19/13 15:02** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	19.2	0.10	18.7		**103**	90	110				

Associated samples: **H13060239-012B; H13060239-013B; H13060239-014B; H13060239-015B; H13060239-016B; H13060239-017B; H13060239-018B; H13060239-019B; H13060239-020B; H13060239-021B**

Run ID :Run Order: **FIA203-HE_130619C: 48** SampType: **Sample Matrix Spike** Sample ID: **H13060239-016BMS** Method: **A4500 N-C**
Analysis Date: **06/19/13 15:09** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.07	0.10	1	0.04535	**102**	90	110				

Associated samples: **H13060239-012B; H13060239-013B; H13060239-014B; H13060239-015B; H13060239-016B; H13060239-017B; H13060239-018B; H13060239-019B; H13060239-020B; H13060239-021B**

Run ID :Run Order: **FIA203-HE_130619C: 49** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-016BMSD** Method: **A4500 N-C**
Analysis Date: **06/19/13 15:10** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.06	0.10	1	0.04535	**101**	90	110	1.066	**0.8**	20	

Associated samples: **H13060239-012B; H13060239-013B; H13060239-014B; H13060239-015B; H13060239-016B; H13060239-017B; H13060239-018B; H13060239-019B; H13060239-020B; H13060239-021B**

Run ID :Run Order: **FIA203-HE_130619C: 59** SampType: **Sample Matrix Spike** Sample ID: **H13060287-002BMS** Method: **A4500 N-C**
Analysis Date: **06/19/13 15:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.14	0.10	1	0.1631	**97**	90	110				

Associated samples: **H13060239-012B; H13060239-013B; H13060239-014B; H13060239-015B; H13060239-016B; H13060239-017B; H13060239-018B; H13060239-019B; H13060239-020B; H13060239-021B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20707

Date: *16-Aug-13*

Run ID :Run Order: **FIA203-HE_130619C: 60** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060287-002BMSD** Method: **A4500 N-C**

Analysis Date: **06/19/13 15:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.15	0.10	1	0.1631	99	90	110	1.136	1.1	20	

Associated samples: **H13060239-012B; H13060239-013B; H13060239-014B; H13060239-015B; H13060239-016B; H13060239-017B; H13060239-018B; H13060239-019B; H13060239-020B; H13060239-021B**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21171

Date: *16-Aug-13*

Run ID :Run Order: **HGCV202-H_130802A: 5** SampType: **Method Blank** Sample ID: **MB-21171** Method: **E245.1**
Analysis Date: **08/02/13 15:57** Units: **mg/L** **Prep Info:** Prep Date: **8/2/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	5E-06									

Associated samples: **H13060239-005F; H13060239-006F**

Run ID :Run Order: **HGCV202-H_130802A: 6** SampType: **Laboratory Control Sample** Sample ID: **LCS-21171** Method: **E245.1**
Analysis Date: **08/02/13 16:01** Units: **mg/L** **Prep Info:** Prep Date: **8/2/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00038	0.00010	0.0004		**94**	90	110				

Associated samples: **H13060239-005F; H13060239-006F**

Run ID :Run Order: **HGCV202-H_130802A: 34** SampType: **Sample Matrix Spike** Sample ID: **H13070565-008BMS** Method: **E245.1**
Analysis Date: **08/02/13 17:58** Units: **mg/L** **Prep Info:** Prep Date: **8/2/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00035	0.00010	0.0004	0.00001854	**82**	70	130				

Associated samples: **H13060239-005F; H13060239-006F**

Run ID :Run Order: **HGCV202-H_130802A: 35** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13070565-008BMSD** Method: **E245.1**
Analysis Date: **08/02/13 18:01** Units: **mg/L** **Prep Info:** Prep Date: **8/2/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00035	0.00010	0.0004	0.00001854	**84**	70	130	0.000347	**2.0**	20	

Associated samples: **H13060239-005F; H13060239-006F**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: B_130619Z

Date: *16-Aug-13*

Run ID :Run Order: **SUB-B206685: 18** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E245.1**

Analysis Date: **06/19/13 13:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00011	1.0E-05	0.0001		**107**	90	110				

Associated samples: **H13060239-004F**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: B_130801Z

Date: *16-Aug-13*

Run ID :Run Order: **SUB-B209270: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **QCS** Method: **E245.1**

Analysis Date: **08/01/13 14:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	1.0E-05	0.0002		**107**	90	110				

Associated samples: **H13060239-004F**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: B_72178

Date: *16-Aug-13*

Run ID :Run Order: **SUB-B206685: 19** SampType: **Method Blank** Sample ID: **MB-72178** Method: **E245.1**

Analysis Date: **06/19/13 13:41** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3E-06	3E-06									

Associated samples: **H13060239-004F**

Run ID :Run Order: **SUB-B206685: 20** SampType: **Laboratory Control Sample** Sample ID: **LCS-72178** Method: **E245.1**

Analysis Date: **06/19/13 13:44** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	1.0E-05	0.0002	0.00000299	**102**	85	115				

Associated samples: **H13060239-004F**

Run ID :Run Order: **SUB-B206685: 21** SampType: **Sample Matrix Spike** Sample ID: **B13061510-001BMS** Method: **E245.1**

Analysis Date: **06/19/13 13:51** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00022	1.0E-05	0.0002	0.0000156	**104**	70	130				

Associated samples: **H13060239-004F**

Run ID :Run Order: **SUB-B206685: 22** SampType: **Sample Matrix Spike Duplicate** Sample ID: **B13061510-001BMSD** Method: **E245.1**

Analysis Date: **06/19/13 13:54** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00022	1.0E-05	0.0002	0.0000156	**103**	70	130	0.000224	**0.9**	30	

Associated samples: **H13060239-004F**

Run ID :Run Order: **SUB-B206685: 25** SampType: **Sample Matrix Spike** Sample ID: **B13061619-006BMS** Method: **E245.1**

Analysis Date: **06/19/13 14:19** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	1.0E-05	0.0002		**106**	70	130				

Associated samples: **H13060239-004F**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: B_72178

Date: *16-Aug-13*

Run ID :Run Order: **SUB-B206685: 26** SampType: **Sample Matrix Spike Duplicate** Sample ID: **B13061619-006BMSD** Method: **E245.1**

Analysis Date: **06/19/13 14:22** Units: **mg/L** **Prep Info:** Prep Date: **6/19/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	1.0E-05	0.0002		**106**	70	130	0.000212	**0.5**	30	

Associated samples: **H13060239-004F**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **B_72214**

Date: *16-Aug-13*

Run ID :Run Order: **SUB-B206963: 10** SampType: **Sample Matrix Spike** Sample ID: **B13061764-001CMS** Method: **E245.1**
Analysis Date: **06/24/13 13:38** Units: **mg/L** **Prep Info:** Prep Date: **6/20/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00014	1.0E-05	0.0002		**71**	70	130				

Associated samples: **H13060239-003A**

Run ID :Run Order: **SUB-B206963: 11** SampType: **Sample Matrix Spike Duplicate** Sample ID: **B13061764-001CMSD** Method: **E245.1**
Analysis Date: **06/24/13 13:40** Units: **mg/L** **Prep Info:** Prep Date: **6/20/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00014	1.0E-05	0.0002		**72**	70	130	0.000142	**1.4**	30	

Associated samples: **H13060239-003A**

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: B_73293

Date: *16-Aug-13*

Run ID :Run Order: **SUB-B209270: 2** SampType: **Method Blank** Sample ID: **MB-73293** Method: **E245.1**
Analysis Date: **08/01/13 14:10** Units: **mg/L** **Prep Info:** Prep Date: **8/1/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	3E-06									

Associated samples: **H13060239-004F**

Run ID :Run Order: **SUB-B209270: 3** SampType: **Laboratory Control Sample** Sample ID: **LCS-73293** Method: **E245.1**
Analysis Date: **08/01/13 14:13** Units: **mg/L** **Prep Info:** Prep Date: **8/1/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	1.0E-05	0.0002		**97**	85	115				

Associated samples: **H13060239-004F**

Run ID :Run Order: **SUB-B209270: 5** SampType: **Sample Matrix Spike** Sample ID: **H13060239-003A** Method: **E245.1**
Analysis Date: **08/01/13 14:18** Units: **mg/L** **Prep Info:** Prep Date: **8/1/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00022	1.0E-05	0.0002	0.0000282	**95**	70	130				

Associated samples: **H13060239-004F**

Run ID :Run Order: **SUB-B209270: 6** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-003A** Method: **E245.1**
Analysis Date: **08/01/13 14:21** Units: **mg/L** **Prep Info:** Prep Date: **8/1/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	1.0E-05	0.0002	0.0000282	**92**	70	130	0.000219	**3.2**	30	

Associated samples: **H13060239-004F**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R174933

Date: *16-Aug-13*

Run ID :Run Order: **SUB-C174933: 1** SampType: **Method Blank** Sample ID: **MBLK** Method: **A5310 C**
Analysis Date: **06/18/13 14:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.04									

Associated samples: **H13060239-016F; H13060239-017F; H13060239-018F; H13060239-019F**

Run ID :Run Order: **SUB-C174933: 2** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV-7265** Method: **A5310 C**
Analysis Date: **06/18/13 14:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.0	0.10	10		**100**	90	110				

Associated samples: **H13060239-016F; H13060239-017F; H13060239-018F; H13060239-019F**

Run ID :Run Order: **SUB-C174933: 4** SampType: **Sample Matrix Spike** Sample ID: **C13060596-006DMS** Method: **A5310 C**
Analysis Date: **06/18/13 16:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	7.48	0.50	5	2.495	**100**	85	115				

Associated samples: **H13060239-016F; H13060239-017F; H13060239-018F; H13060239-019F**

Run ID :Run Order: **SUB-C174933: 5** SampType: **Sample Matrix Spike Duplicate** Sample ID: **C13060596-006DMSD** Method: **A5310 C**
Analysis Date: **06/18/13 16:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	7.52	0.50	5	2.495	**101**	85	115	7.478	**0.6**	10	

Associated samples: **H13060239-016F; H13060239-017F; H13060239-018F; H13060239-019F**

Run ID :Run Order: **SUB-C174933: 6** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV-6904** Method: **A5310 C**
Analysis Date: **06/18/13 16:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.1	0.10	10		**101**	90	110				

Associated samples: **H13060239-017F; H13060239-018F; H13060239-019F**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R174933

Date: *16-Aug-13*

Run ID :Run Order: **SUB-C174933: 10** SampType: **Sample Matrix Spike** Sample ID: **H13060239-017F** Method: **A5310 C**
Analysis Date: **06/18/13 17:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	8.96	0.50	5	3.949	100	85	115				

Associated samples: **H13060239-016F; H13060239-017F; H13060239-018F; H13060239-019F**

Run ID :Run Order: **SUB-C174933: 11** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-017F** Method: **A5310 C**
Analysis Date: **06/18/13 17:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.12	0.50	5	3.949	103	85	115	8.958	1.8	10	

Associated samples: **H13060239-016F; H13060239-017F; H13060239-018F; H13060239-019F**

Run ID :Run Order: **SUB-C174933: 12** SampType: **Laboratory Control Sample** Sample ID: **LCS-7265** Method: **A5310 C**
Analysis Date: **06/18/13 17:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.89	0.10	10		99	90	110				

Associated samples: **H13060239-016F; H13060239-017F; H13060239-018F; H13060239-019F**

Run ID :Run Order: **SUB-C174933: 13** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV-6904** Method: **A5310 C**
Analysis Date: **06/18/13 18:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.1	0.10	10		101	90	110				

Associated samples:

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *16-Aug-13*

BatchID: R89105

Run ID :Run Order: **FIA203-HE_130617A: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E353.2**
Analysis Date: **06/17/13 09:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.010	1		**103**	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130617A: 9** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E353.2**
Analysis Date: **06/17/13 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.997	0.011	1		**100**	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130617A: 12** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E353.2**
Analysis Date: **06/17/13 09:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.00838	0.010				0	0				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130617A: 13** SampType: **Method Blank** Sample ID: **MBLK** Method: **E353.2**
Analysis Date: **06/17/13 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.001									

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130617A: 113** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**
Analysis Date: **06/17/13 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.507	0.010	0.5		**101**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89105

Date: *16-Aug-13*

Run ID :Run Order: **FIA203-HE_130617A: 113** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**

Analysis Date: **06/17/13 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E**

Run ID :Run Order: **FIA203-HE_130617A: 117** SampType: **Sample Matrix Spike** Sample ID: **H13060239-004EMS** Method: **E353.2**

Analysis Date: **06/17/13 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1		102	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130617A: 118** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-004EMSD** Method: **E353.2**

Analysis Date: **06/17/13 12:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.05	0.011	1		105	90	110	1.017	2.7	20	

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130617A: 127** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**

Analysis Date: **06/17/13 12:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.505	0.010	0.5		101	90	110				

Associated samples: **H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130617A: 133** SampType: **Sample Matrix Spike** Sample ID: **H13060239-016EMS** Method: **E353.2**

Analysis Date: **06/17/13 12:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1		102	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89105

Date: *16-Aug-13*

Run ID :Run Order: **FIA203-HE_130617A: 134** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-016EMSD** Method: **E353.2**

Analysis Date: **06/17/13 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.04	0.011	1		104	90	110	1.02	1.9	20	

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130617A: 144** SampType: **Sample Matrix Spike** Sample ID: **H13060243-002BMS** Method: **E353.2**

Analysis Date: **06/17/13 12:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.08	0.011	1	0.05467	103	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130617A: 145** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060243-002BMSD** Method: **E353.2**

Analysis Date: **06/17/13 12:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.12	0.011	1	0.05467	107	90	110	1.084	3.2	20	

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89110

Date: *16-Aug-13*

Run ID :Run Order: **MAN-TECH_130618A: 8** SampType: **Method Blank** Sample ID: **MBLK** Method: **A2320 B**
Analysis Date: **06/17/13 14:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **MAN-TECH_130618A: 10** SampType: **Laboratory Control Sample** Sample ID: **LCS-05302013** Method: **A2320 B**
Analysis Date: **06/17/13 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	630	4.0	600		**106**	90	110				

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **MAN-TECH_130618A: 22** SampType: **Sample Duplicate** Sample ID: **H13060239-007ADUP** Method: **A2320 B**
Analysis Date: **06/17/13 15:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	150	4.0						146.8	**0.0**	10	
Bicarbonate as HCO3	160	4.0						155.5	**1.2**	10	

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **MAN-TECH_130618A: 25** SampType: **Sample Matrix Spike** Sample ID: **H13060239-008AMS** Method: **A2320 B**
Analysis Date: **06/17/13 16:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	770	4.0	600	105.3	**110**	80	120				

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **MAN-TECH_130618A: 37** SampType: **Sample Duplicate** Sample ID: **H13060239-018ADUP** Method: **A2320 B**
Analysis Date: **06/17/13 17:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	64	4.0						64.24	**0.4**	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89110

Date: *16-Aug-13*

Run ID :Run Order: **MAN-TECH_130618A: 37** SampType: **Sample Duplicate** Sample ID: **H13060239-018ADUP** Method: **A2320 B**
Analysis Date: **06/17/13 17:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	77	4.0						78.37	1.9	10	

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **MAN-TECH_130618A: 40** SampType: **Method Blank** Sample ID: **MBLK** Method: **A2320 B**
Analysis Date: **06/17/13 17:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **MAN-TECH_130618A: 42** SampType: **Laboratory Control Sample** Sample ID: **LCS-05302013** Method: **A2320 B**
Analysis Date: **06/17/13 17:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	630	4.0	600		105	90	110				

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **MAN-TECH_130618A: 59** SampType: **Sample Duplicate** Sample ID: **H13060240-006ADUP** Method: **A2320 B**
Analysis Date: **06/17/13 18:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	120	4.0						116.5	0.2	10	
Bicarbonate as HCO3	140	4.0						142.1	0.2	10	

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **MAN-TECH_130618A: 63** SampType: **Sample Matrix Spike** Sample ID: **H13060240-007AMS** Method: **A2320 B**
Analysis Date: **06/17/13 18:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	750	4.0	600	119	105	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89110

Date: *16-Aug-13*

Run ID :Run Order: **MAN-TECH_130618A: 63** SampType: **Sample Matrix Spike** Sample ID: **H13060240-007AMS** Method: **A2320 B**
Analysis Date: **06/17/13 18:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **MAN-TECH_130618A: 81** SampType: **Sample Duplicate** Sample ID: **H13060242-006ADUP** Method: **A2320 B**
Analysis Date: **06/17/13 20:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	180	4.0						179.6	**0.1**	10	
Bicarbonate as HCO3	220	4.0						216.2	**0.2**	10	

Associated samples: **H13060239-001A; H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-017A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89116

Date: *16-Aug-13*

Run ID :Run Order: **IC102-H_130617A: 16** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV061713-12** Method: **E300.0**
Analysis Date: **06/17/13 10:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	430	1.0	400		107	90	110				

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **IC102-H_130617A: 17** SampType: **Method Blank** Sample ID: **ICB061713-13** Method: **E300.0**
Analysis Date: **06/17/13 10:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.08									

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **IC102-H_130617A: 18** SampType: **Laboratory Fortified Blank** Sample ID: **LFB061713-14** Method: **E300.0**
Analysis Date: **06/17/13 10:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	210	1.0	200		106	90	110				

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **IC102-H_130617A: 60** SampType: **Sample Matrix Spike** Sample ID: **H13060235-002AMS** Method: **E300.0**
Analysis Date: **06/17/13 19:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	220	1.0	200	7.381	105	90	110				

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **IC102-H_130617A: 61** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060235-002AMSD** Method: **E300.0**
Analysis Date: **06/17/13 19:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	220	1.0	200	7.381	106	90	110	218.3	0.9	20	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89116

Date: *16-Aug-13*

Run ID :Run Order: **IC102-H_130617A: 61** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060235-002AMSD** Method: **E300.0**
Analysis Date: **06/17/13 19:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **IC102-H_130617A: 62** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV061713-58** Method: **E300.0**
Analysis Date: **06/17/13 19:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	430	1.0	400		**108**	90	110				

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A**

Run ID :Run Order: **IC102-H_130617A: 74** SampType: **Sample Matrix Spike** Sample ID: **H13060239-011AMS** Method: **E300.0**
Analysis Date: **06/17/13 22:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	280	1.0	200	65.35	**107**	90	110				

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **IC102-H_130617A: 75** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-011AMSD** Method: **E300.0**
Analysis Date: **06/17/13 22:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	280	1.0	200	65.35	**108**	90	110	279.2	**0.9**	20	

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **IC102-H_130617A: 76** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV061713-72** Method: **E300.0**
Analysis Date: **06/17/13 22:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	430	1.0	400		**108**	90	110				

Associated samples: **H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89116

Date: *16-Aug-13*

Run ID :Run Order: **IC102-H_130617A: 88** SampType: **Sample Matrix Spike** Sample ID: **H13060239-021AMS** Method: **E300.0**
Analysis Date: **06/18/13 01:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	220	1.0	200	10.34	**104**	90	110				

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Run ID :Run Order: **IC102-H_130617A: 89** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-021AMSD** Method: **E300.0**
Analysis Date: **06/18/13 01:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	220	1.0	200	10.34	**106**	90	110	219.2	**1.4**	20	

Associated samples: **H13060239-002A; H13060239-004A; H13060239-005A; H13060239-006A; H13060239-007A; H13060239-008A; H13060239-009A; H13060239-010A; H13060239-011A; H13060239-012A; H13060239-013A; H13060239-014A; H13060239-015A; H13060239-016A; H13060239-018A; H13060239-019A; H13060239-020A; H13060239-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *16-Aug-13*

BatchID: R89121

Run ID :Run Order: **FIA202-HE_130618A: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E365.1**
Analysis Date: **06/18/13 09:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.255	0.010	0.25		102	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA202-HE_130618A: 9** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E365.1**
Analysis Date: **06/18/13 09:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00195	0.010				0	0				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA202-HE_130618A: 10** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**
Analysis Date: **06/18/13 09:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.106	0.010	0.1		106	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E**

Run ID :Run Order: **FIA202-HE_130618A: 27** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**
Analysis Date: **06/18/13 09:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.106	0.010	0.1		106	90	110				

Associated samples: **H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89134

Date: *16-Aug-13*

Run ID :Run Order: **FIA203-HE_130618A: 7** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E350.1**
Analysis Date: **06/18/13 14:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	5.46	0.25	5.66		96	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130618A: 8** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E350.1**
Analysis Date: **06/18/13 14:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.995	0.055	1		99	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130618A: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **06/18/13 14:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.502	0.050	0.5		100	90	110				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E**

Run ID :Run Order: **FIA203-HE_130618A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E350.1**
Analysis Date: **06/18/13 14:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	-0.0466	0.050				0	0				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130618A: 11** SampType: **Method Blank** Sample ID: **MBLK** Method: **E350.1**
Analysis Date: **06/18/13 14:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.01									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89134

Date: *16-Aug-13*

Run ID :Run Order: **FIA203-HE_130618A: 11** SampType: **Method Blank** Sample ID: **MBLK** Method: **E350.1**
Analysis Date: **06/18/13 14:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130618A: 19** SampType: **Sample Matrix Spike** Sample ID: **H13060239-004EMS** Method: **E350.1**
Analysis Date: **06/18/13 14:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.923	0.055	1		92	80	120				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130618A: 20** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-004EMSD** Method: **E350.1**
Analysis Date: **06/18/13 14:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.921	0.055	1		92	80	120	0.923	0.3	10	

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130618A: 25** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **06/18/13 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.484	0.050	0.5		97	90	110				

Associated samples: **H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E**

Run ID :Run Order: **FIA203-HE_130618A: 35** SampType: **Sample Matrix Spike** Sample ID: **H13060239-016EMS** Method: **E350.1**
Analysis Date: **06/18/13 14:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.930	0.055	1		93	80	120				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89134

Date: *16-Aug-13*

Run ID :Run Order: **FIA203-HE_130618A: 36** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-016EMSD** Method: **E350.1**
Analysis Date: **06/18/13 14:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.915	0.055	1		91	80	120	0.9297	1.6	10	

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130618A: 39** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **06/18/13 14:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.475	0.050	0.5		95	90	110				

Associated samples: **H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130618A: 41** SampType: **Sample Matrix Spike** Sample ID: **H13060239-018EMS** Method: **E350.1**
Analysis Date: **06/18/13 14:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.852	0.055	1		85	80	120				

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Run ID :Run Order: **FIA203-HE_130618A: 42** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-018EMSD** Method: **E350.1**
Analysis Date: **06/18/13 14:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.859	0.055	1		86	80	120	0.8522	0.8	10	

Associated samples: **H13060239-001E; H13060239-002E; H13060239-004E; H13060239-005E; H13060239-006E; H13060239-007E; H13060239-008E; H13060239-009E; H13060239-010E; H13060239-011E; H13060239-012E; H13060239-013E; H13060239-014E; H13060239-015E; H13060239-016E; H13060239-017E; H13060239-018E; H13060239-019E; H13060239-020E; H13060239-021E**

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *16-Aug-13*

BatchID: R89143

Run ID :Run Order: **ICP2-HE_130618A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**
Analysis Date: **06/18/13 14:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	40.0	1.0	40		100	95	105				
Magnesium	40.1	1.0	40		100	95	105				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICP2-HE_130618A: 7** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV-1** Method: **E200.7**
Analysis Date: **06/18/13 14:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.7	1.0	25		99	95	105				
Magnesium	24.6	1.0	25		98	95	105				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICP2-HE_130618A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**
Analysis Date: **06/18/13 14:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	463	1.0	500		93	80	120				
Magnesium	514	1.0	500		103	80	120				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICP2-HE_130618A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**
Analysis Date: **06/18/13 14:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	467	1.0	500		93	80	120				
Magnesium	515	1.0	500		103	80	120				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D; H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D; H13060239-019D; H13060239-020D; H13060239-021D**

Run ID :Run Order: **ICP2-HE_130618A: 110** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **06/18/13 21:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	23.5	1.0	25		94	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R89143**

Date: *16-Aug-13*

Run ID :Run Order: **ICP2-HE_130618A: 110** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **06/18/13 21:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	23.2	1.0	25		93	90	110				

Associated samples: **H13060239-001D; H13060239-002D; H13060239-004D; H13060239-005D; H13060239-009D**

Run ID :Run Order: **ICP2-HE_130618A: 122** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **06/18/13 21:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	23.3	1.0	25		93	90	110				
Magnesium	23.1	1.0	25		92	90	110				

Associated samples: **H13060239-012D; H13060239-013D; H13060239-014D; H13060239-015D; H13060239-016D; H13060239-017D; H13060239-018D**

Run ID :Run Order: **ICP2-HE_130618A: 141** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **06/18/13 23:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.7	1.0	25		99	90	110				
Magnesium	24.3	1.0	25		97	90	110				

Associated samples: **H13060239-019D; H13060239-020D; H13060239-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/17/13 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0602	0.0050	0.06		100	90	110				
Cadmium	0.0317	0.0010	0.03		106	90	110				
Copper	0.0626	0.010	0.06		104	90	110				
Lead	0.0606	0.010	0.06		101	90	110				
Zinc	0.0648	0.010	0.06		108	90	110				

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **06/17/13 13:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000198	0.0050									
Cadmium	0.000862	0.0010									
Copper	0.000343	0.010									
Lead	0.000207	0.010									
Zinc	0.000892	0.010									

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/17/13 13:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0111	0.0050	0.01		111	70	130				
Cadmium	0.0107	0.0010	0.01		107	70	130				
Copper	0.0209	0.010	0.02		104	70	130				
Lead	0.000254	0.010				0	0				
Zinc	0.0109	0.010	0.01		109	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/17/13 13:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 21** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**

Analysis Date: **06/17/13 15:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Cadmium	1E-05	7E-06									
Copper	3E-05	3E-05									
Lead	1E-05	6E-06									
Zinc	0.0010	0.0003									

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Run ID :Run Order: **ICPMS204-B_130617A: 22** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**

Analysis Date: **06/17/13 15:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0527	0.0050	0.05		105	85	115				
Cadmium	0.0533	0.0010	0.05	0.0000125	107	85	115				
Copper	0.0525	0.010	0.05	0.0000295	105	85	115				
Lead	0.0530	0.010	0.05	0.0000105	106	85	115				
Zinc	0.0547	0.010	0.05	0.0009608	108	85	115				

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Run ID :Run Order: **ICPMS204-B_130617A: 191** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **06/18/13 04:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000402	0.0050									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 191** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **06/18/13 04:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.000859	0.0010									
Copper	0.000308	0.010									
Lead	0.000177	0.010									
Zinc	0.00113	0.010									

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 192** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **06/18/13 04:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0113	0.0050	0.01		113	70	130				
Cadmium	0.0106	0.0010	0.01		106	70	130				
Copper	0.0216	0.010	0.02		108	70	130				
Lead	0.000239	0.010				0	0				
Zinc	0.0115	0.010	0.01		115	70	130				

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 226** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/18/13 21:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0576	0.0050	0.06		96	90	110				
Cadmium	0.0316	0.0010	0.03		105	90	110				
Copper	0.0597	0.010	0.06		100	90	110				
Lead	0.0589	0.010	0.06		98	90	110				
Zinc	0.0630	0.010	0.06		105	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 226** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/18/13 21:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 227** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **06/18/13 21:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000427	0.0050									
Cadmium	0.000934	0.0010									
Copper	0.000209	0.010									
Lead	0.000174	0.010									
Zinc	0.000950	0.010									

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 228** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **06/18/13 21:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0102	0.0050	0.01		**102**	70	130				
Cadmium	0.0106	0.0010	0.01		**106**	70	130				
Copper	0.0199	0.010	0.02		**99**	70	130				
Lead	0.000231	0.010				0	0				
Zinc	0.0110	0.010	0.01		**110**	70	130				

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 234** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**
Analysis Date: **06/18/13 22:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	7E-05	7E-05									
Cadmium	ND	7E-06									
Copper	ND	3E-05									
Lead	1E-05	6E-06									
Zinc	0.002	0.0003									

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Run ID :Run Order: **ICPMS204-B_130617A: 235** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **06/18/13 22:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0510	0.0050	0.05	0.0000731	102	85	115				
Cadmium	0.0528	0.0010	0.05		105	85	115				
Copper	0.0522	0.010	0.05		104	85	115				
Lead	0.0513	0.010	0.05	0.0000113	103	85	115				
Zinc	0.0542	0.010	0.05	0.001745	105	85	115				

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Run ID :Run Order: **ICPMS204-B_130617A: 312** SampType: **Sample Matrix Spike** Sample ID: **H13060237-001BMS** Method: **E200.8**
Analysis Date: **06/19/13 04:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0592	0.0010	0.05	0.006689	105	70	130				
Cadmium	0.0502	0.0010	0.05	0.0001906	100	70	130				
Copper	0.0614	0.0050	0.05	0.00978	103	70	130				
Lead	0.0522	0.0010	0.05	0.0000742	104	70	130				
Zinc	0.0870	0.010	0.05	0.03873	97	70	130				

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 313** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060237-001BMSD** Method: **E200.8**
Analysis Date: **06/19/13 04:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0586	0.0010	0.05	0.006689	104	70	130	0.05915	1.0	20	
Cadmium	0.0497	0.0010	0.05	0.0001906	99	70	130	0.05022	1.0	20	
Copper	0.0610	0.0050	0.05	0.00978	102	70	130	0.06137	0.6	20	
Lead	0.0515	0.0010	0.05	0.0000742	103	70	130	0.05215	1.3	20	
Zinc	0.0887	0.010	0.05	0.03873	100	70	130	0.08698	2.0	20	

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Run ID :Run Order: **ICPMS204-B_130617A: 359** SampType: **Sample Matrix Spike** Sample ID: **H13060239-013CMS** Method: **E200.8**
Analysis Date: **06/19/13 08:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0840	0.0010	0.05	0.03253	103	70	130				
Cadmium	0.0529	0.0010	0.05	0.0000409	106	70	130				
Copper	0.0557	0.0050	0.05	0.004628	102	70	130				
Lead	0.0514	0.0010	0.05	0.0001507	103	70	130				
Zinc	0.0656	0.010	0.05	0.01072	110	70	130				

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Run ID :Run Order: **ICPMS204-B_130617A: 360** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-013CMSD** Method: **E200.8**
Analysis Date: **06/19/13 08:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0820	0.0010	0.05	0.03253	99	70	130	0.08396	2.4	20	
Cadmium	0.0520	0.0010	0.05	0.0000409	104	70	130	0.05292	1.8	20	
Copper	0.0538	0.0050	0.05	0.004628	98	70	130	0.05566	3.3	20	
Lead	0.0509	0.0010	0.05	0.0001507	102	70	130	0.05144	1.0	20	
Zinc	0.0604	0.010	0.05	0.01072	99	70	130	0.06562	8.3	20	

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 383** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **06/19/13 10:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000348	0.0050									
Cadmium	0.000869	0.0010									
Copper	0.000205	0.010									
Lead	0.000154	0.010									
Zinc	0.00119	0.010									

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 384** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **06/19/13 10:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0107	0.0050	0.01		**107**	70	130				
Cadmium	0.0104	0.0010	0.01		**104**	70	130				
Copper	0.0197	0.010	0.02		**98**	70	130				
Lead	0.000211	0.010				0	0				
Zinc	0.0101	0.010	0.01		**101**	70	130				

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 442** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/19/13 23:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0613	0.0050	0.06		**102**	90	110				
Cadmium	0.0323	0.0010	0.03		**108**	90	110				
Copper	0.0616	0.010	0.06		**103**	90	110				
Lead	0.0601	0.010	0.06		**100**	90	110				
Zinc	0.0634	0.010	0.06		**106**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 442** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/19/13 23:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 443** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **06/19/13 23:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000242	0.0050									
Cadmium	0.000813	0.0010									
Copper	0.000221	0.010									
Lead	0.000153	0.010									
Zinc	0.00123	0.010									

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 444** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/19/13 23:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0104	0.0050	0.01		104	70	130				
Cadmium	0.0104	0.0010	0.01		104	70	130				
Copper	0.0199	0.010	0.02		99	70	130				
Lead	0.000216	0.010				0	0				
Zinc	0.0110	0.010	0.01		110	70	130				

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 450** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**
Analysis Date: **06/20/13 00:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Cadmium	1E-05	7E-06									
Copper	ND	3E-05									
Lead	ND	6E-06									
Zinc	0.0006	0.0003									

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Run ID :Run Order: **ICPMS204-B_130617A: 451** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **06/20/13 00:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0529	0.0050	0.05		106	85	115				
Cadmium	0.0527	0.0010	0.05	0.0000143	105	85	115				
Copper	0.0518	0.010	0.05		104	85	115				
Lead	0.0517	0.010	0.05		103	85	115				
Zinc	0.0558	0.010	0.05	0.0005882	110	85	115				

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Run ID :Run Order: **ICPMS204-B_130617A: 538** SampType: **Sample Matrix Spike** Sample ID: **H13060240-004DMS** Method: **E200.8**
Analysis Date: **06/20/13 08:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0590	0.0010	0.05	0.004541	109	70	130				
Cadmium	0.0539	0.0010	0.05	0.0000333	108	70	130				
Copper	0.0562	0.0050	0.05	0.002541	107	70	130				
Lead	0.0540	0.0010	0.05	0.0009752	106	70	130				
Zinc	0.0668	0.010	0.05	0.01203	109	70	130				

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 539** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060240-004DMSD** Method: **E200.8**

Analysis Date: **06/20/13 08:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0578	0.0010	0.05	0.004541	106	70	130	0.05905	2.2	20	
Cadmium	0.0529	0.0010	0.05	0.0000333	106	70	130	0.05386	1.9	20	
Copper	0.0543	0.0050	0.05	0.002541	104	70	130	0.05622	3.5	20	
Lead	0.0534	0.0010	0.05	0.0009752	105	70	130	0.05401	1.1	20	
Zinc	0.0654	0.010	0.05	0.01203	107	70	130	0.06676	2.1	20	

Associated samples: **H13060239-001C; H13060239-002C; H13060239-004C; H13060239-005C; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-009C; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-013C; H13060239-014C; H13060239-015C; H13060239-016C; H13060239-017C; H13060239-018C; H13060239-019C; H13060239-020C; H13060239-021C**

Run ID :Run Order: **ICPMS204-B_130617A: 574** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **06/20/13 11:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000265	0.0050									
Cadmium	0.000856	0.0010									
Copper	0.000246	0.010									
Lead	0.000148	0.010									
Zinc	0.000912	0.010									

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 575** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/20/13 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0107	0.0050	0.01		107	70	130				
Cadmium	0.0106	0.0010	0.01		106	70	130				
Copper	0.0200	0.010	0.02		100	70	130				
Lead	0.000208	0.010				0	0				
Zinc	0.0105	0.010	0.01		105	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 575** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/20/13 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 586** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/20/13 12:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0599	0.0050	0.06		100	90	110				
Cadmium	0.0318	0.0010	0.03		106	90	110				
Copper	0.0620	0.010	0.06		103	90	110				
Lead	0.0600	0.010	0.06		100	90	110				
Zinc	0.0635	0.010	0.06		106	90	110				

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Run ID :Run Order: **ICPMS204-B_130617A: 587** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **06/20/13 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000283	0.0050									
Cadmium	0.000855	0.0010									
Copper	0.000310	0.010									
Lead	0.000169	0.010									
Zinc	0.00134	0.010									

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89151

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130617A: 588** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/20/13 12:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0108	0.0050	0.01		108	70	130				
Cadmium	0.0106	0.0010	0.01		106	70	130				
Copper	0.0204	0.010	0.02		102	70	130				
Lead	0.000207	0.010				0	0				
Zinc	0.0110	0.010	0.01		110	70	130				

Associated samples: **H13060239-001C; H13060239-001D; H13060239-002C; H13060239-002D; H13060239-004C; H13060239-004D; H13060239-005C; H13060239-005D; H13060239-006C; H13060239-007C; H13060239-008C; H13060239-008D; H13060239-009C; H13060239-009D; H13060239-010C; H13060239-011C; H13060239-012C; H13060239-012D; H13060239-013C; H13060239-013D; H13060239-014C; H13060239-014D; H13060239-015C; H13060239-015D; H13060239-016C; H13060239-016D; H13060239-017C; H13060239-017D; H13060239-018C; H13060239-018D; H13060239-019C; H13060239-020C; H13060239-020D; H13060239-021C; H13060239-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89185

Date: *16-Aug-13*

Run ID :Run Order: **FIA203-HE_130619C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **A4500 N-C**
Analysis Date: **06/19/13 14:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.152	0.10				0	0				

Associated samples: **H13060239-001B; H13060239-002B; H13060239-004B; H13060239-005B; H13060239-006B; H13060239-007B; H13060239-008B; H13060239-009B; H13060239-010B; H13060239-011B; H13060239-012B; H13060239-013B; H13060239-014B; H13060239-015B; H13060239-016B; H13060239-017B; H13060239-018B; H13060239-019B; H13060239-020B; H13060239-021B**

Run ID :Run Order: **FIA203-HE_130619C: 26** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **06/19/13 14:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.517	0.10	0.5		**103**	90	110				

Associated samples: **H13060239-001B; H13060239-002B; H13060239-004B; H13060239-005B; H13060239-006B; H13060239-007B; H13060239-008B; H13060239-009B; H13060239-010B; H13060239-011B**

Run ID :Run Order: **FIA203-HE_130619C: 40** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **06/19/13 14:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.534	0.10	0.5		**107**	90	110				

Associated samples: **H13060239-012B; H13060239-013B; H13060239-014B; H13060239-015B; H13060239-016B; H13060239-017B; H13060239-018B; H13060239-019B**

Run ID :Run Order: **FIA203-HE_130619C: 54** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **06/19/13 15:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.510	0.10	0.5		**102**	90	110				

Associated samples: **H13060239-020B; H13060239-021B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89189

Date: *16-Aug-13*

Run ID :Run Order: **ICP2-HE_130619C: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**
Analysis Date: **06/19/13 11:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	40.5	1.0	40		101	95	105				
Magnesium	40.3	1.0	40		101	95	105				

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICP2-HE_130619C: 7** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV-1** Method: **E200.7**
Analysis Date: **06/19/13 11:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.2	1.0	25		101	95	105				
Magnesium	24.9	1.0	25		100	95	105				

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICP2-HE_130619C: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**
Analysis Date: **06/19/13 11:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	466	1.0	500		93	80	120				
Magnesium	507	1.0	500		101	80	120				

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICP2-HE_130619C: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**
Analysis Date: **06/19/13 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	471	1.0	500		94	80	120				
Magnesium	521	1.0	500		104	80	120				

Associated samples: **H13060239-006D; H13060239-007D; H13060239-008D; H13060239-010D; H13060239-011D**

Run ID :Run Order: **ICP2-HE_130619C: 84** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **06/19/13 17:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.8	1.0	25		99	90	110				
Magnesium	24.1	1.0	25		96	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89189

Date: *16-Aug-13*

Run ID :Run Order: **ICP2-HE_130619C: 84** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **06/19/13 17:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-006D; H13060239-007D**

Run ID :Run Order: **ICP2-HE_130619C: 96** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **06/19/13 17:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.5	1.0	25		98	90	110				
Magnesium	23.3	1.0	25		93	90	110				

Associated samples: **H13060239-008D; H13060239-010D; H13060239-011D**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89194

Date: *16-Aug-13*

Run ID :Run Order: **IC102-H_130619A: 13** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV061913-12** Method: **E300.0**
Analysis Date: **06/19/13 12:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	410	1.0	400		103	90	110				

Associated samples: **H13060239-017A**

Run ID :Run Order: **IC102-H_130619A: 14** SampType: **Method Blank** Sample ID: **ICB061913-13** Method: **E300.0**
Analysis Date: **06/19/13 12:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.1	0.08									

Associated samples: **H13060239-017A**

Run ID :Run Order: **IC102-H_130619A: 15** SampType: **Laboratory Fortified Blank** Sample ID: **LFB061913-14** Method: **E300.0**
Analysis Date: **06/19/13 13:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	200	1.0	200	0.133	101	90	110				

Associated samples: **H13060239-017A**

Run ID :Run Order: **IC102-H_130619A: 31** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV061913-30** Method: **E300.0**
Analysis Date: **06/19/13 16:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	390	1.0	400		99	90	110				

Associated samples: **H13060239-017A**

Run ID :Run Order: **IC102-H_130619A: 43** SampType: **Sample Matrix Spike** Sample ID: **H13060269-001AMS** Method: **E300.0**
Analysis Date: **06/19/13 19:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	620	1.0	200	420	100	90	110				

Associated samples: **H13060239-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R89194**

Date: *16-Aug-13*

Run ID :Run Order: **IC102-H_130619A: 44** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060269-001AMSD** Method: **E300.0**

Analysis Date: **06/19/13 19:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	620	1.0	200	420	**98**	90	110	619.9	**0.7**	20	

Associated samples: **H13060239-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89225

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130620A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/20/13 18:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0582	0.0050	0.06		**97**	90	110				
Cadmium	0.0306	0.0010	0.03		**102**	90	110				
Copper	0.0604	0.010	0.06		**101**	90	110				
Lead	0.0601	0.010	0.06		**100**	90	110				
Zinc	0.0613	0.010	0.06		**102**	90	110				

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **06/20/13 18:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000248	0.0050									
Cadmium	0.00106	0.0010									
Copper	0.000278	0.010									
Lead	0.000182	0.010									
Zinc	0.00114	0.010									

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/20/13 18:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0108	0.0050	0.01		**107**	70	130				
Cadmium	0.0102	0.0010	0.01		**102**	70	130				
Copper	0.0209	0.010	0.02		**105**	70	130				
Lead	0.000219	0.010				0	0				
Zinc	0.0108	0.010	0.01		**108**	70	130				

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89225

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130620A: 180** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **06/21/13 07:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000349	0.0050									
Cadmium	0.000959	0.0010									
Copper	0.000245	0.010									
Lead	0.000183	0.010									
Zinc	0.00123	0.010									

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 181** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/21/13 07:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0109	0.0050	0.01		**109**	70	130				
Cadmium	0.00988	0.0010	0.01		**99**	70	130				
Copper	0.0210	0.010	0.02		**105**	70	130				
Lead	0.000212	0.010				0	0				
Zinc	0.0111	0.010	0.01		**111**	70	130				

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 193** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **06/21/13 08:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0585	0.0050	0.06		**98**	90	110				
Cadmium	0.0316	0.0010	0.03		**105**	90	110				
Copper	0.0611	0.010	0.06		**102**	90	110				
Lead	0.0599	0.010	0.06		**100**	90	110				
Zinc	0.0646	0.010	0.06		**108**	90	110				

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89225

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130620A: 194** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **06/21/13 08:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000298	0.0050									
Cadmium	0.000951	0.0010									
Copper	0.000279	0.010									
Lead	0.000170	0.010									
Zinc	0.00127	0.010									

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 195** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **06/21/13 08:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0108	0.0050	0.01		108	70	130				
Cadmium	0.0105	0.0010	0.01		105	70	130				
Copper	0.0205	0.010	0.02		103	70	130				
Lead	0.000212	0.010				0	0				
Zinc	0.0111	0.010	0.01		111	70	130				

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 201** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**
Analysis Date: **06/21/13 09:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Cadmium	9E-06	7E-06									
Copper	ND	3E-05									
Zinc	0.001	0.0003									

Associated samples: **H13060239-007C; H13060239-010C; H13060239-011C; H13060239-020C**

Run ID :Run Order: **ICPMS204-B_130620A: 202** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **06/21/13 09:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0513	0.0050	0.05		103	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *16-Aug-13*

BatchID: R89225

Run ID :Run Order: **ICPMS204-B_130620A: 202** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **06/21/13 09:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0526	0.0010	0.05	0.0000094	105	85	115				
Copper	0.0525	0.010	0.05		105	85	115				
Zinc	0.0550	0.010	0.05	0.001336	107	85	115				

Associated samples: **H13060239-007C; H13060239-010C; H13060239-011C; H13060239-020C**

Run ID :Run Order: **ICPMS204-B_130620A: 245** SampType: **Sample Matrix Spike** Sample ID: **H13060239-007CMS** Method: **E200.8**
Analysis Date: **06/21/13 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0706	0.0010	0.05	0.01896	103	70	130				
Cadmium	0.0503	0.0010	0.05	0.0000403	100	70	130				
Copper	0.0585	0.0050	0.05	0.009433	98	70	130				
Zinc	0.0540	0.010	0.05	0.005295	98	70	130				

Associated samples: **H13060239-007C; H13060239-010C; H13060239-011C; H13060239-020C**

Run ID :Run Order: **ICPMS204-B_130620A: 246** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060239-007CMSD** Method: **E200.8**
Analysis Date: **06/21/13 13:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0698	0.0010	0.05	0.01896	102	70	130	0.07064	1.1	20	
Cadmium	0.0499	0.0010	0.05	0.0000403	100	70	130	0.05029	0.7	20	
Copper	0.0578	0.0050	0.05	0.009433	97	70	130	0.05854	1.3	20	
Zinc	0.0541	0.010	0.05	0.005295	98	70	130	0.05405	0.1	20	

Associated samples: **H13060239-007C; H13060239-010C; H13060239-011C; H13060239-020C**

Run ID :Run Order: **ICPMS204-B_130620A: 387** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/22/13 00:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0604	0.0050	0.06		101	90	110				
Cadmium	0.0323	0.0010	0.03		108	90	110				
Copper	0.0614	0.010	0.06		102	90	110				
Lead	0.0602	0.010	0.06		100	90	110				
Zinc	0.0630	0.010	0.06		105	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89225

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130620A: 387** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/22/13 00:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 388** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **06/22/13 00:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000337	0.0050									
Cadmium	0.000936	0.0010									
Copper	0.000259	0.010									
Lead	0.000162	0.010									
Zinc	0.00110	0.010									

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 389** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **06/22/13 00:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0110	0.0050	0.01		**110**	70	130				
Cadmium	0.0106	0.0010	0.01		**106**	70	130				
Copper	0.0205	0.010	0.02		**103**	70	130				
Lead	0.000221	0.010				0	0				
Zinc	0.0110	0.010	0.01		**110**	70	130				

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 497** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/22/13 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0599	0.0050	0.06		**100**	90	110				
Cadmium	0.0312	0.0010	0.03		**104**	90	110				
Copper	0.0610	0.010	0.06		**102**	90	110				
Lead	0.0607	0.010	0.06		**101**	90	110				
Zinc	0.0627	0.010	0.06		**105**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89225

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130620A: 497** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/22/13 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 498** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **06/22/13 13:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000245	0.0050									
Cadmium	0.000790	0.0010									
Copper	0.000197	0.010									
Lead	0.000183	0.010									
Zinc	0.00127	0.010									

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 499** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **06/22/13 13:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0108	0.0050	0.01		**108**	70	130				
Cadmium	0.0102	0.0010	0.01		**102**	70	130				
Copper	0.0204	0.010	0.02		**102**	70	130				
Lead	0.000220	0.010				0	0				
Zinc	0.0110	0.010	0.01		**110**	70	130				

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 603** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/22/13 22:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0594	0.0050	0.06		**99**	90	110				
Cadmium	0.0317	0.0010	0.03		**106**	90	110				
Copper	0.0618	0.010	0.06		**103**	90	110				
Lead	0.0602	0.010	0.06		**100**	90	110				
Zinc	0.0639	0.010	0.06		**107**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89225

Date: *16-Aug-13*

Run ID :Run Order: **ICPMS204-B_130620A: 603** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **06/22/13 22:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 604** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **06/22/13 22:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.00200	0.0050									
Cadmium	0.000815	0.0010									
Copper	0.000217	0.010									
Lead	0.000164	0.010									
Zinc	0.00111	0.010									

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Run ID :Run Order: **ICPMS204-B_130620A: 605** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **06/22/13 22:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0118	0.0050	0.01		**118**	70	130				
Cadmium	0.0104	0.0010	0.01		**104**	70	130				
Copper	0.0201	0.010	0.02		**100**	70	130				
Lead	0.000214	0.010				0	0				
Zinc	0.0116	0.010	0.01		**116**	70	130				

Associated samples: **H13060239-006D; H13060239-007C; H13060239-007D; H13060239-008D; H13060239-010C; H13060239-010D; H13060239-011C; H13060239-011D; H13060239-019D; H13060239-020C; H13060239-020D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R89261**

Date: *16-Aug-13*

Run ID :Run Order: **IC102-H_130621A: 15** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E300.0**
Analysis Date: **06/21/13 10:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	420	1.0	400		104	90	110				

Associated samples: **H13060239-001A**

Run ID :Run Order: **IC102-H_130621A: 16** SampType: **Method Blank** Sample ID: **ICB** Method: **E300.0**
Analysis Date: **06/21/13 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.1	0.08									

Associated samples: **H13060239-001A**

Run ID :Run Order: **IC102-H_130621A: 17** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E300.0**
Analysis Date: **06/21/13 10:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	210	1.0	200	0.11	105	90	110				

Associated samples: **H13060239-001A**

Run ID :Run Order: **IC102-H_130621A: 18** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV062113-1** Method: **E300.0**
Analysis Date: **06/21/13 10:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	400	1.0	400		99	90	110				

Associated samples: **H13060239-001A**

Run ID :Run Order: **IC102-H_130621A: 30** SampType: **Sample Matrix Spike** Sample ID: **H13060324-009AMS** Method: **E300.0**
Analysis Date: **06/21/13 13:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2200	1.0	1000	1112	104	90	110				

Associated samples: **H13060239-001A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R89261**

Date: *16-Aug-13*

Run ID :Run Order: **IC102-H_130621A: 31** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060324-009AMSD** Method: **E300.0**

Analysis Date: **06/21/13 13:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2100	1.0	1000	1112	**102**	90	110	2155	**1.1**	20	

Associated samples: **H13060239-001A**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060239
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R90205**

Date: *16-Aug-13*

Run ID :Run Order: **HGCV202-H_130802A: 4** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV1** Method: **E245.1**

Analysis Date: **08/02/13 15:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00047	0.00010	0.0005		**95**	95	105				

Associated samples: **H13060239-005F; H13060239-006F**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Federal Superfund H13060239

Login completed by: Wanda Johnson
Reviewed by: BL2000\sdull
Reviewed Date: 6/21/2013

Date Received: 6/14/2013
Received by: wjj
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

Cooler 1 was received at 0.3°C, Cooler 2 at 0.8°C and Cooler 3 at 0.9°C, all coolers on ice. COC states SBC-P2, bottles state SBC-PD2. Used ID from COC per E. Weber. Wj 6/14/13

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 1 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: CFR OU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required):
jgriffin@mt.gov
erich.weber@atkinsglobal.com
gary.ingman@atkinsglobal.com
☐ No Hard Copy Email:

Contact Name: Joe Griffin Phone/Fax: 560-6060 (MDEQ)
Erich Weber 437-9245 Cell: 439-0563

Sampler: (Please Print) E. Weber
G. Ingman

Invoice Contact & Phone: Joe Griffin (above)

Purchase Order:

Quote/Bottle Order: 624/12173

Invoice Address (Required):
MT DEQ
P.O. Box 200901
Helena, MT 59620-0901
☐ No Hard Copy Email:

Special Report/Formats:
☐ DW
☐ POTW/WWTP
☐ State:
☐ Other:
☐ EDD/EDT (Electronic Data)
Format:
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

R U S H

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
all dissolved sample field filtered
Total Hg from TR metals sample
TB

Shipped by: handdel

Cooler ID(s): Y

Receipt Temp: see comments

On Ice: [✓ Y] N

Custody Seal
On Bottle Y [✓ N]
On Cooler Y [✓ N]
Intact Y [✓ N]
Signature Match Y [✓ N]

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH_3, NO_{3+2}, TP	TSS	Tot. Alk., SO_4	Hardness (TR Ca & Mg)	Total Hg (low level)	Methyl Hg (contract)	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments	LABORATORY USE ONLY
1	CFR-116A	6-11-2013	0945	5W	X	X	X	X	X	X	X						Cooler 1 0.3	H13060239
2	CSC	6-11-2013	1115	5W	X	X	X	X	X	X	X						Cooler 2 0.8	
3	CFR-84F	6-11-2013	1300	2W								X	X				Cooler 3 0.9	
4	Field Blank #1	6-11-2013	1315	6W	X	X	X	X	X	X	X	X	X					
5	FC-CFR	6-11-2013	1345	6W	│	│	│	│	│	│	│	X	X					
6	FC-CFR Duplicate #1	6-11-2013	1345	6W	│	│	│	│	│	│	│	X	X					
7	CFR-42G	6-11-2013	1500	5W	│	│	│	│	│	│	│							
8	LBR-CFR	6-11-2013	1630	5W	│	│	│	│	│	│	│							
9	CFR-27H	6-12-2013	0930	5W	│	│	│	│	│	│	│							
10	CFR-11F	6-12-2013	1030	5W	│	│	│	│	│	│	│							

Custody Record MUST be Signed

Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
Erich Weber	6-14-2013 12:07				

Received by Laboratory: Wanda Johnson Date/Time: 6-14-13 12:07 Signature:

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 2 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ

Project Name, PWS, Permit, Etc.: CFR OU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required): please see page 1

Contact Name: please see page 1 Phone/Fax:

Cell:

Sampler: (Please Print) E. Weber, G. Ingman

☐ No Hard Copy Email:

Invoice Contact & Phone: please see page 1

Purchase Order:

Quote/Bottle Order: 624/12173

Invoice Address (Required): please see page 1

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT(Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

R U S H

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: All dissolved samples field filtered TD

LABORATORY USE ONLY

Shipped by: hand del

Cooler ID(s): Y

Receipt Temp: see comments

On Ice: [✓ Y] N

Custody Seal On Bottle Y [✓ N]

On Cooler Y [✓ N]

Intact Y [✓ N]

Signature Match Y [✓ N]

#13060239

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO3+2, TP	TSS	Tot. Alk., SO4=	Hardness (TR Ca & Mg)	DOC		SEE ATTACHED	Comments
1	CFR-07D	6-12-2013	1130	5W	X	X	X	X	X	X	X				Cooler 1 - 0.3 cooler 2 - 0.8
2	CFR-03A	6-12-2013	1300	5W											cooler 3 - 0.9
3	CFR-03A LBG	6-12-2013	1315	5W											Left Bank Grab
4	CFR-03A RBG	6-12-2013	1330	5W											Right Bank Grab
5	WSC-SBC	6-12-2013	1400	5W											
6	Field Blank #2	6-13-2013	1030	6W								X			
7	SS-25	6-13-2013	1100	6W								X			
8	SS-25 duplicate	6-13-2013	1100	6W								X			
9	MWB-SBC	6-13-2013	1200	6W								X			
10	SBC-P2	6-13-2013	1230	5W											

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 6-14-2013 12:07 Signature:

Received by (print): Date/Time: Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Sample Disposal: Return to Client: Lab Disposal:

Received by Laboratory: Wanda Jdn Date/Time: 6-14-13 12:07 Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 3 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ
Project Name, PWS, Permit, Etc.: CFR OU Monitoring
Sample Origin State: MT
EPA/State Compliance: Yes ☐ No ☐
Report Mail Address (Required): please see page 1
Contact Name: please see page 1
Phone/Fax:
Cell:
Sampler: (Please Print) E. Weber G. Ingman
☐ No Hard Copy Email: ____
Invoice Contact & Phone: please see page 1
Purchase Order:
Quote/Bottle Order: 624/12173
Invoice Address (Required): please see page 1
☐ No Hard Copy Email: ____

Special Report/Formats:
☐ DW
☐ POTW/WWTP
☐ State: ____
☐ Other: ____
☐ EDD/EDT (Electronic Data)
Format: ____
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH: Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH_3, NO_{3+2}, TP	TSS	Tot. Alk., $SO_4^=$	Hardness (TR Ca & Mg)			SEE ATTACHED	R U S H	Comments: all dissolved samples field filtered TB
1 MCWC-MWB	6-13-2013	1400	SW	X	X	X	X	X	X	X					cooler 1 0.3
2															cooler 2 0.8
3															cooler 3 0.9
4															
5															
6															
7															
8															
9															
10															

LABORATORY USE ONLY
Shipped by: handdel
Cooler ID(s): Y
Receipt Temp: See comment
On Ice: [✓ Y] N
Custody Seal
On Bottle Y [✓ N]
On Cooler Y [✓ N]
Intact Y [✓ N]
Signature Match Y [✓ N]
H13060239

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 6-14-2013 12:07 Signature: EEZ
Received by (print): Date/Time: Signature:
Relinquished by (print): Date/Time: Signature:
Received by (print): Date/Time: Signature:
Sample Disposal: Return to Client: ____ Lab Disposal: ____
Received by Laboratory: Wanda Tom Date/Time: 6-14-13 12:02 Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

APPENDIX B2.3

SECOND QUARTER (FALLING LIMB) ANALYSIS RESULTS FOR SURFACE WATER SAMPLES

ANALYTICAL SUMMARY REPORT

August 01, 2013

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13060510 Quote ID: H624 - CFR Monitoring-474374

Project Name: CFR OU Monitoring

Energy Laboratories Inc Helena MT received the following 21 samples for MT DEQ-Federal Superfund on 6/28/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13060510-001	CFR-116A	06/25/13 9:30	06/28/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13060510-002	CSC	06/25/13 10:45	06/28/13	Aqueous	Same As Above
H13060510-003	CFR-84F	06/25/13 12:00	06/28/13	Aqueous	Mercury, Total Digestion, Mercury by CVAA Subcontracted, Analytics
H13060510-004	Field Blank #1	06/25/13 13:00	06/28/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Total Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended Subcontracted, Analytics
H13060510-005	FC-CFR	06/25/13 13:30	06/28/13	Aqueous	Same As Above
H13060510-006	FC-CFR Duplicate	06/25/13 13:30	06/28/13	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H13060510-007	CFR-42G	06/25/13 14:30	06/28/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13060510-008	LBR-CFR	06/25/13 15:45	06/28/13	Aqueous	Same As Above
H13060510-009	CFR-27H	06/26/13 10:00	06/28/13	Aqueous	Same As Above
H13060510-010	CFR-11F	06/26/13 11:00	06/28/13	Aqueous	Same As Above
H13060510-011	CFR-07D	06/26/13 12:00	06/28/13	Aqueous	Same As Above
H13060510-012	CFR-03A	06/26/13 12:30	06/28/13	Aqueous	Same As Above
H13060510-013	CFR-03A RBG	06/26/13 12:45	06/28/13	Aqueous	Same As Above
H13060510-014	CFR-03A LBG	06/26/13 13:00	06/28/13	Aqueous	Same As Above
H13060510-015	WSC-SBC	06/26/13 14:00	06/28/13	Aqueous	Same As Above
H13060510-016	Field Blank #2	06/27/13 10:00	06/28/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13060510-017	SS-25	06/27/13 10:45	06/28/13	Aqueous	Same As Above
H13060510-018	SS-25 Duplicate	06/27/13 10:45	06/28/13	Aqueous	Same As Above
H13060510-019	MWB-SBC	06/27/13 11:30	06/28/13	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H13060510-020	SBC-P2	06/27/13 12:30	06/28/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13060510-021	MCWC-MWB	06/27/13 13:30	06/28/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: CFR OU Monitoring
Sample Delivery Group: H13060510

Report Date: 08/01/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

Samples 003, 004, 005 & 006 were submitted to BrooksRand for analysis of Methyl Mercury analysis. Attached is the report from BrooksRand Labs. Wj 7/31/13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-116A
Lab ID: H13060510-001
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 09:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	07/01/13 14:40 / glj	07/01/13 14:17	J-124 (14410200)_130701A : 7		20832
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	07/01/13 17:22 / cmm		MAN-TECH_130701A : 23		R89448
Bicarbonate as HCO3	130	mg/L		4		A2320 B	07/01/13 17:22 / cmm		MAN-TECH_130701A : 23		R89448
Sulfate	32	mg/L		1		E300.0	07/02/13 14:44 / jaw		IC102-H_130702A : 39		R89481
Hardness as CaCO3	130	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 1		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:26 / reh		FIA203-HE_130702A : 16		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:05 / reh		FIA203-HE_130701A : 53		R89440
Nitrogen, Total	0.16	mg/L		0.05		A4500 N-C	07/03/13 10:01 / reh	07/03/13 08:17	FIA203-HE_130703A : 22		20848
Phosphorus, Total as P	0.013	mg/L		0.005		E365.1	07/01/13 17:02 / reh	07/01/13 09:55	FIA202-HE_130701A : 31		20823
METALS, DISSOLVED											
Arsenic	0.006	mg/L		0.005		E200.8	07/02/13 20:57 / dck		ICPMS204-B_130702B : 68		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 20:57 / dck		ICPMS204-B_130702B : 68		R89517
Copper	0.003	mg/L		0.001		E200.8	07/02/13 20:57 / dck		ICPMS204-B_130702B : 68		R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 20:57 / dck		ICPMS204-B_130702B : 68		R89517
Zinc	0.01	mg/L		0.01		E200.8	07/02/13 20:57 / dck		ICPMS204-B_130702B : 68		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.006	mg/L		0.005		E200.8	07/02/13 21:40 / dck	07/01/13 08:48	ICPMS204-B_130702B : 77		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 21:40 / dck	07/01/13 08:48	ICPMS204-B_130702B : 77		20821
Calcium	36	mg/L		1		E200.7	07/02/13 12:34 / sld	07/01/13 08:48	ICP2-HE_130702A : 40		20821
Copper	0.006	mg/L		0.001		E200.8	07/02/13 21:40 / dck	07/01/13 08:48	ICPMS204-B_130702B : 77		20821
Lead	0.0007	mg/L		0.0005		E200.8	07/02/13 21:40 / dck	07/01/13 08:48	ICPMS204-B_130702B : 77		20821
Magnesium	9	mg/L		1		E200.7	07/02/13 12:34 / sld	07/01/13 08:48	ICP2-HE_130702A : 40		20821
Zinc	ND	mg/L		0.01		E200.8	07/02/13 21:40 / dck	07/01/13 08:48	ICPMS204-B_130702B : 77		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CSC
Lab ID: H13060510-002
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 10:45 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	07/01/13 14:40 / glj	07/01/13 14:17	J-124 (14410200)_130701A : 8		20832
INORGANICS											
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	07/01/13 17:29 / cmm		MAN-TECH_130701A : 24		R89448
Bicarbonate as HCO3	160	mg/L		4		A2320 B	07/01/13 17:29 / cmm		MAN-TECH_130701A : 24		R89448
Sulfate	36	mg/L		1		E300.0	07/02/13 14:57 / jaw		IC102-H_130702A : 40		R89481
Hardness as CaCO3	151	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 2		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:27 / reh		FIA203-HE_130702A : 17		R89466
Nitrogen, Nitrate+Nitrite as N	0.16	mg/L		0.05		E353.2	07/01/13 16:08 / reh		FIA203-HE_130701A : 56		R89440
Nitrogen, Total	0.23	mg/L		0.05		A4500 N-C	07/03/13 10:07 / reh	07/03/13 08:17	FIA203-HE_130703A : 27		20848
Phosphorus, Total as P	0.008	mg/L		0.005		E365.1	07/01/13 17:03 / reh	07/01/13 09:55	FIA202-HE_130701A : 32		20823
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	07/02/13 22:14 / dck		ICPMS204-B_130702B : 84		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 22:14 / dck		ICPMS204-B_130702B : 84		R89517
Copper	ND	mg/L		0.001		E200.8	07/02/13 22:14 / dck		ICPMS204-B_130702B : 84		R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 22:14 / dck		ICPMS204-B_130702B : 84		R89517
Zinc	0.02	mg/L		0.01		E200.8	07/02/13 22:14 / dck		ICPMS204-B_130702B : 84		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	07/02/13 22:18 / dck	07/01/13 08:48	ICPMS204-B_130702B : 85		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 22:18 / dck	07/01/13 08:48	ICPMS204-B_130702B : 85		20821
Calcium	44	mg/L		1		E200.7	07/02/13 12:55 / sld	07/01/13 08:48	ICP2-HE_130702A : 46		20821
Copper	0.002	mg/L		0.001		E200.8	07/02/13 22:18 / dck	07/01/13 08:48	ICPMS204-B_130702B : 85		20821
Lead	ND	mg/L		0.0005		E200.8	07/02/13 22:18 / dck	07/01/13 08:48	ICPMS204-B_130702B : 85		20821
Magnesium	10	mg/L		1		E200.7	07/02/13 12:55 / sld	07/01/13 08:48	ICP2-HE_130702A : 46		20821
Zinc	0.01	mg/L		0.01		E200.8	07/02/13 22:18 / dck	07/01/13 08:48	ICPMS204-B_130702B : 85		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-84F
Lab ID: H13060510-003
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 12:00 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	ND	mg/L		0.000010		E245.1	07/05/13 14:35 / eli-b	07/05/13 09:51	SUB-B207688 : 17		B_72592

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #1
Lab ID: H13060510-004
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 13:00 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	07/01/13 14:40 / glj	07/01/13 14:17	J-124 (14410200)_130701A	9	20832
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	07/01/13 17:33 / cmm		MAN-TECH_130701A	25	R89448
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	07/01/13 17:33 / cmm		MAN-TECH_130701A	25	R89448
Sulfate	ND	mg/L		1		E300.0	07/02/13 15:10 / jaw		IC102-H_130702A	41	R89481
Hardness as CaCO3	ND	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A	3	R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:28 / reh		FIA203-HE_130702A	18	R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:10 / reh		FIA203-HE_130701A	57	R89440
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	07/03/13 10:08 / reh	07/03/13 08:17	FIA203-HE_130703A	28	20848
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	07/01/13 17:04 / reh	07/01/13 09:55	FIA202-HE_130701A	33	20823
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	07/02/13 22:23 / dck		ICPMS204-B_130702B	86	R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 22:23 / dck		ICPMS204-B_130702B	86	R89517
Copper	ND	mg/L		0.001		E200.8	07/02/13 22:23 / dck		ICPMS204-B_130702B	86	R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 22:23 / dck		ICPMS204-B_130702B	86	R89517
Zinc	ND	mg/L		0.01		E200.8	07/08/13 22:31 / dck		ICPMS204-B_130708A	90	R89585
METALS, TOTAL											
Mercury	ND	mg/L		0.000010		E245.1	07/03/13 14:47 / eli-b	07/03/13 08:41	SUB-B207587	19	B_72557
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	07/02/13 22:28 / dck	07/01/13 08:48	ICPMS204-B_130702B	87	20821
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 22:28 / dck	07/01/13 08:48	ICPMS204-B_130702B	87	20821
Calcium	ND	mg/L		1		E200.7	07/02/13 12:59 / sld	07/01/13 08:48	ICP2-HE_130702A	47	20821
Copper	ND	mg/L		0.001		E200.8	07/02/13 22:28 / dck	07/01/13 08:48	ICPMS204-B_130702B	87	20821
Lead	ND	mg/L		0.0005		E200.8	07/02/13 22:28 / dck	07/01/13 08:48	ICPMS204-B_130702B	87	20821
Magnesium	ND	mg/L		1		E200.7	07/02/13 12:59 / sld	07/01/13 08:48	ICP2-HE_130702A	47	20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #1
Lab ID: H13060510-004
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 13:00 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	07/02/13 22:28 / dck	07/01/13 08:48	ICPMS204-B_130702B :	87	20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR
Lab ID: H13060510-005
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 13:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	12	mg/L		1		A2540 D	07/01/13 14:40 / glj	07/01/13 14:17	-124 (14410200)_130701A : 10		20832
INORGANICS											
Alkalinity, Total as CaCO3	210	mg/L		4		A2320 B	07/01/13 17:41 / cmm		MAN-TECH_130701A : 26		R89448
Bicarbonate as HCO3	240	mg/L		4		A2320 B	07/01/13 17:41 / cmm		MAN-TECH_130701A : 26		R89448
Sulfate	17	mg/L		1		E300.0	07/02/13 15:22 / jaw		IC102-H_130702A : 42		R89481
Hardness as CaCO3	199	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 4		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:32 / reh		FIA203-HE_130702A : 21		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:11 / reh		FIA203-HE_130701A : 58		R89440
Nitrogen, Total	0.35	mg/L		0.05		A4500 N-C	07/03/13 10:12 / reh	07/03/13 08:17	FIA203-HE_130703A : 31		20848
Phosphorus, Total as P	0.058	mg/L		0.005		E365.1	07/01/13 17:07 / reh	07/01/13 09:55	FIA202-HE_130701A : 36		20823
METALS, DISSOLVED											
Arsenic	0.011	mg/L		0.005		E200.8	07/02/13 22:33 / dck		ICPMS204-B_130702B : 88		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 22:33 / dck		ICPMS204-B_130702B : 88		R89517
Copper	0.001	mg/L		0.001		E200.8	07/02/13 22:33 / dck		ICPMS204-B_130702B : 88		R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 22:33 / dck		ICPMS204-B_130702B : 88		R89517
Zinc	ND	mg/L		0.01		E200.8	07/02/13 22:33 / dck		ICPMS204-B_130702B : 88		R89517
METALS, TOTAL											
Mercury	0.000056	mg/L		0.000010		E245.1	07/05/13 14:40 / eli-b	07/05/13 09:51	SUB-B207688 : 19		B_72592
METALS, TOTAL RECOVERABLE											
Arsenic	0.012	mg/L		0.005		E200.8	07/02/13 22:38 / dck	07/01/13 08:48	ICPMS204-B_130702B : 89		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 22:38 / dck	07/01/13 08:48	ICPMS204-B_130702B : 89		20821
Calcium	54	mg/L		1		E200.7	07/02/13 13:03 / sld	07/01/13 08:48	ICP2-HE_130702A : 48		20821
Copper	0.002	mg/L		0.001		E200.8	07/02/13 22:38 / dck	07/01/13 08:48	ICPMS204-B_130702B : 89		20821
Lead	0.0015	mg/L		0.0005		E200.8	07/02/13 22:38 / dck	07/01/13 08:48	ICPMS204-B_130702B : 89		20821
Magnesium	15	mg/L		1		E200.7	07/02/13 13:03 / sld	07/01/13 08:48	ICP2-HE_130702A : 48		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR
Lab ID: H13060510-005
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 13:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	07/02/13 22:38 / dck	07/01/13 08:48	ICPMS204-B_130702B : 89		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR Duplicate
Lab ID: H13060510-006
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 13:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	07/01/13 14:41 / glj	07/01/13 14:17	-124 (14410200)_130701A : 11		20832
INORGANICS											
Alkalinity, Total as CaCO3	210	mg/L		4		A2320 B	07/01/13 17:48 / cmm		MAN-TECH_130701A : 27		R89448
Bicarbonate as HCO3	230	mg/L		4		A2320 B	07/01/13 17:48 / cmm		MAN-TECH_130701A : 27		R89448
Sulfate	17	mg/L		1		E300.0	07/02/13 15:35 / jaw		IC102-H_130702A : 43		R89481
Hardness as CaCO3	201	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 5		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:33 / reh		FIA203-HE_130702A : 22		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:12 / reh		FIA203-HE_130701A : 59		R89440
Nitrogen, Total	0.32	mg/L		0.05		A4500 N-C	07/03/13 10:13 / reh	07/03/13 08:17	FIA203-HE_130703A : 32		20848
Phosphorus, Total as P	0.058	mg/L		0.005		E365.1	07/01/13 17:08 / reh	07/01/13 09:55	FIA202-HE_130701A : 37		20823
METALS, DISSOLVED											
Arsenic	0.010	mg/L		0.005		E200.8	07/02/13 22:43 / dck		ICPMS204-B_130702B : 90		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 22:43 / dck		ICPMS204-B_130702B : 90		R89517
Copper	0.001	mg/L		0.001		E200.8	07/02/13 22:43 / dck		ICPMS204-B_130702B : 90		R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 22:43 / dck		ICPMS204-B_130702B : 90		R89517
Zinc	ND	mg/L		0.01		E200.8	07/02/13 22:43 / dck		ICPMS204-B_130702B : 90		R89517
METALS, TOTAL											
Mercury	0.000058	mg/L		0.000010		E245.1	07/03/13 14:52 / eli-b	07/03/13 08:41	SUB-B207587 : 21		B_72557
METALS, TOTAL RECOVERABLE											
Arsenic	0.012	mg/L		0.005		E200.8	07/02/13 22:47 / dck	07/01/13 08:48	ICPMS204-B_130702B : 91		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 22:47 / dck	07/01/13 08:48	ICPMS204-B_130702B : 91		20821
Calcium	55	mg/L		1		E200.7	07/02/13 13:07 / sld	07/01/13 08:48	ICP2-HE_130702A : 49		20821
Copper	0.003	mg/L		0.001		E200.8	07/02/13 22:47 / dck	07/01/13 08:48	ICPMS204-B_130702B : 91		20821
Lead	0.0016	mg/L		0.0005		E200.8	07/02/13 22:47 / dck	07/01/13 08:48	ICPMS204-B_130702B : 91		20821
Magnesium	15	mg/L		1		E200.7	07/02/13 13:07 / sld	07/01/13 08:48	ICP2-HE_130702A : 49		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR Duplicate
Lab ID: H13060510-006
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 13:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	07/02/13 22:47 / dck	07/01/13 08:48	ICPMS204-B_130702B : 91		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring
Client Sample ID	CFR-42G	**Collection Date:**	06/25/13 14:30
		DateReceived:	06/28/13
Lab ID:	H13060510-007	**Report Date:**	08/01/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	18	mg/L		1		A2540 D	07/01/13 14:41 / glj	07/01/13 14:17	-124 (14410200)_130701A	12	20832
INORGANICS											
Alkalinity, Total as CaCO3	170	mg/L		4		A2320 B	07/01/13 17:55 / cmm		MAN-TECH_130701A	28	R89448
Bicarbonate as HCO3	190	mg/L		4		A2320 B	07/01/13 17:55 / cmm		MAN-TECH_130701A	28	R89448
Sulfate	62	mg/L		1		E300.0	07/02/13 16:38 / jaw		IC102-H_130702A	48	R89481
Hardness as CaCO3	202	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A	6	R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:34 / reh		FIA203-HE_130702A	23	R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:13 / reh		FIA203-HE_130701A	60	R89440
Nitrogen, Total	0.30	mg/L		0.05		A4500 N-C	07/03/13 10:14 / reh	07/03/13 08:17	FIA203-HE_130703A	33	20848
Phosphorus, Total as P	0.053	mg/L		0.005		E365.1	07/01/13 17:09 / reh	07/01/13 09:55	FIA202-HE_130701A	38	20823
METALS, DISSOLVED											
Arsenic	0.018	mg/L		0.005		E200.8	07/02/13 22:52 / dck		ICPMS204-B_130702B	92	R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 22:52 / dck		ICPMS204-B_130702B	92	R89517
Copper	0.010	mg/L		0.001		E200.8	07/02/13 22:52 / dck		ICPMS204-B_130702B	92	R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 22:52 / dck		ICPMS204-B_130702B	92	R89517
Zinc	ND	mg/L		0.01		E200.8	07/02/13 22:52 / dck		ICPMS204-B_130702B	92	R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.019	mg/L		0.005		E200.8	07/02/13 22:57 / dck	07/01/13 08:48	ICPMS204-B_130702B	93	20821
Cadmium	0.00013	mg/L		0.00008		E200.8	07/02/13 22:57 / dck	07/01/13 08:48	ICPMS204-B_130702B	93	20821
Calcium	58	mg/L		1		E200.7	07/02/13 13:10 / sld	07/01/13 08:48	ICP2-HE_130702A	50	20821
Copper	0.024	mg/L		0.001		E200.8	07/02/13 22:57 / dck	07/01/13 08:48	ICPMS204-B_130702B	93	20821
Lead	0.0026	mg/L		0.0005		E200.8	07/02/13 22:57 / dck	07/01/13 08:48	ICPMS204-B_130702B	93	20821
Magnesium	14	mg/L		1		E200.7	07/02/13 13:10 / sld	07/01/13 08:48	ICP2-HE_130702A	50	20821
Zinc	0.02	mg/L		0.01		E200.8	07/02/13 22:57 / dck	07/01/13 08:48	ICPMS204-B_130702B	93	20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID LBR-CFR
Lab ID: H13060510-008
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/25/13 15:45 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	07/01/13 14:41 / glj	07/01/13 14:17	-124 (14410200)_130701A	13	20832
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	07/01/13 18:11 / cmm		MAN-TECH_130701A	31	R89448
Bicarbonate as HCO3	150	mg/L		4		A2320 B	07/01/13 18:11 / cmm		MAN-TECH_130701A	31	R89448
Sulfate	13	mg/L		1		E300.0	07/02/13 16:50 / jaw		IC102-H_130702A	49	R89481
Hardness as CaCO3	119	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A	7	R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:38 / reh		FIA203-HE_130702A	26	R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:14 / reh		FIA203-HE_130701A	61	R89440
Nitrogen, Total	0.17	mg/L		0.05		A4500 N-C	07/03/13 10:15 / reh	07/03/13 08:17	FIA203-HE_130703A	34	20848
Phosphorus, Total as P	0.028	mg/L		0.005		E365.1	07/01/13 17:10 / reh	07/01/13 09:55	FIA202-HE_130701A	39	20823
METALS, DISSOLVED											
Arsenic	0.005	mg/L		0.005		E200.8	07/02/13 23:21 / dck		ICPMS204-B_130702B	98	R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 23:21 / dck		ICPMS204-B_130702B	98	R89517
Copper	ND	mg/L		0.001		E200.8	07/02/13 23:21 / dck		ICPMS204-B_130702B	98	R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 23:21 / dck		ICPMS204-B_130702B	98	R89517
Zinc	0.01	mg/L		0.01		E200.8	07/02/13 23:21 / dck		ICPMS204-B_130702B	98	R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.006	mg/L		0.005		E200.8	07/02/13 23:26 / dck	07/01/13 08:48	ICPMS204-B_130702B	99	20821
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 23:26 / dck	07/01/13 08:48	ICPMS204-B_130702B	99	20821
Calcium	35	mg/L		1		E200.7	07/02/13 13:14 / sld	07/01/13 08:48	ICP2-HE_130702A	51	20821
Copper	0.001	mg/L		0.001		E200.8	07/02/13 23:26 / dck	07/01/13 08:48	ICPMS204-B_130702B	99	20821
Lead	ND	mg/L		0.0005		E200.8	07/02/13 23:26 / dck	07/01/13 08:48	ICPMS204-B_130702B	99	20821
Magnesium	8	mg/L		1		E200.7	07/02/13 13:14 / sld	07/01/13 08:48	ICP2-HE_130702A	51	20821
Zinc	ND	mg/L		0.01		E200.8	07/02/13 23:26 / dck	07/01/13 08:48	ICPMS204-B_130702B	99	20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	CFR-27H	**Collection Date:**	06/26/13 10:00	**DateReceived:**	06/28/13
Lab ID:	H13060510-009	**Report Date:**	08/01/13		
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	14	mg/L		1		A2540 D	07/01/13 14:41 / glj	07/01/13 14:17	-124 (14410200)_130701A : 14		20832
INORGANICS											
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	07/01/13 18:18 / cmm		MAN-TECH_130701A : 32		R89448
Bicarbonate as HCO3	170	mg/L		4		A2320 B	07/01/13 18:18 / cmm		MAN-TECH_130701A : 32		R89448
Sulfate	71	mg/L		1		E300.0	07/02/13 17:03 / jaw		IC102-H_130702A : 50		R89481
Hardness as CaCO3	192	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 8		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:39 / reh		FIA203-HE_130702A : 27		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:18 / reh		FIA203-HE_130701A : 64		R89440
Nitrogen, Total	0.22	mg/L		0.05		A4500 N-C	07/03/13 10:17 / reh	07/03/13 08:17	FIA203-HE_130703A : 35		20848
Phosphorus, Total as P	0.020	mg/L		0.005		E365.1	07/01/13 17:15 / reh	07/01/13 09:56	FIA202-HE_130701A : 44		20824
METALS, DISSOLVED											
Arsenic	0.019	mg/L		0.005		E200.8	07/02/13 23:31 / dck		ICPMS204-B_130702B : 100		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 23:31 / dck		ICPMS204-B_130702B : 100		R89517
Copper	0.008	mg/L		0.001		E200.8	07/02/13 23:31 / dck		ICPMS204-B_130702B : 100		R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 23:31 / dck		ICPMS204-B_130702B : 100		R89517
Zinc	0.01	mg/L		0.01		E200.8	07/02/13 23:31 / dck		ICPMS204-B_130702B : 100		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.020	mg/L		0.005		E200.8	07/02/13 23:35 / dck	07/01/13 08:48	ICPMS204-B_130702B : 101		20821
Cadmium	0.00011	mg/L		0.00008		E200.8	07/02/13 23:35 / dck	07/01/13 08:48	ICPMS204-B_130702B : 101		20821
Calcium	56	mg/L		1		E200.7	07/02/13 13:18 / sld	07/01/13 08:48	ICP2-HE_130702A : 52		20821
Copper	0.021	mg/L		0.001		E200.8	07/02/13 23:35 / dck	07/01/13 08:48	ICPMS204-B_130702B : 101		20821
Lead	0.0021	mg/L		0.0005		E200.8	07/02/13 23:35 / dck	07/01/13 08:48	ICPMS204-B_130702B : 101		20821
Magnesium	13	mg/L		1		E200.7	07/02/13 13:18 / sld	07/01/13 08:48	ICP2-HE_130702A : 52		20821
Zinc	0.02	mg/L		0.01		E200.8	07/02/13 23:35 / dck	07/01/13 08:48	ICPMS204-B_130702B : 101		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-11F
Lab ID: H13060510-010
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/26/13 11:00 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	10	mg/L		1		A2540 D	07/01/13 14:41 / glj	07/01/13 14:17	-124 (14410200)_130701A	: 15	20832
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	07/01/13 18:26 / cmm		MAN-TECH_130701A	: 33	R89448
Bicarbonate as HCO3	140	mg/L		4		A2320 B	07/01/13 18:26 / cmm		MAN-TECH_130701A	: 33	R89448
Sulfate	76	mg/L		1		E300.0	07/02/13 17:16 / jaw		IC102-H_130702A	: 51	R89481
Hardness as CaCO3	177	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A	: 9	R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:40 / reh		FIA203-HE_130702A	: 28	R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:19 / reh		FIA203-HE_130701A	: 65	R89440
Nitrogen, Total	0.23	mg/L		0.05		A4500 N-C	07/03/13 10:18 / reh	07/03/13 08:17	FIA203-HE_130703A	: 36	20848
Phosphorus, Total as P	0.047	mg/L		0.005		E365.1	07/01/13 17:18 / reh	07/01/13 09:56	FIA202-HE_130701A	: 47	20824
METALS, DISSOLVED											
Arsenic	0.023	mg/L		0.005		E200.8	07/02/13 23:40 / dck		ICPMS204-B_130702B	: 102	R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 23:40 / dck		ICPMS204-B_130702B	: 102	R89517
Copper	0.007	mg/L		0.001		E200.8	07/02/13 23:40 / dck		ICPMS204-B_130702B	: 102	R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 23:40 / dck		ICPMS204-B_130702B	: 102	R89517
Zinc	0.01	mg/L		0.01		E200.8	07/02/13 23:40 / dck		ICPMS204-B_130702B	: 102	R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.025	mg/L		0.005		E200.8	07/02/13 23:45 / dck	07/01/13 08:48	ICPMS204-B_130702B	: 103	20821
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 23:45 / dck	07/01/13 08:48	ICPMS204-B_130702B	: 103	20821
Calcium	51	mg/L		1		E200.7	07/02/13 13:22 / sld	07/01/13 08:48	ICP2-HE_130702A	: 53	20821
Copper	0.013	mg/L		0.001		E200.8	07/02/13 23:45 / dck	07/01/13 08:48	ICPMS204-B_130702B	: 103	20821
Lead	0.0011	mg/L		0.0005		E200.8	07/02/13 23:45 / dck	07/01/13 08:48	ICPMS204-B_130702B	: 103	20821
Magnesium	12	mg/L		1		E200.7	07/02/13 13:22 / sld	07/01/13 08:48	ICP2-HE_130702A	: 53	20821
Zinc	0.01	mg/L		0.01		E200.8	07/02/13 23:45 / dck	07/01/13 08:48	ICPMS204-B_130702B	: 103	20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-07D
Lab ID: H13060510-011
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/26/13 12:00 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	07/01/13 14:41 / glj	07/01/13 14:17	-124 (14410200)_130701A : 16		20832
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	07/01/13 18:33 / cmm		MAN-TECH_130701A : 34		R89448
Bicarbonate as HCO3	130	mg/L		4		A2320 B	07/01/13 18:33 / cmm		MAN-TECH_130701A : 34		R89448
Sulfate	72	mg/L		1		E300.0	07/02/13 17:28 / jaw		IC102-H_130702A : 52		R89481
Hardness as CaCO3	161	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 10		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:41 / reh		FIA203-HE_130702A : 29		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:20 / reh		FIA203-HE_130701A : 66		R89440
Nitrogen, Total	0.17	mg/L		0.05		A4500 N-C	07/03/13 10:19 / reh	07/03/13 08:17	FIA203-HE_130703A : 37		20848
Phosphorus, Total as P	0.038	mg/L		0.005		E365.1	07/01/13 17:19 / reh	07/01/13 09:56	FIA202-HE_130701A : 48		20824
METALS, DISSOLVED											
Arsenic	0.022	mg/L		0.005		E200.8	07/02/13 23:50 / dck		ICPMS204-B_130702B : 104		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 23:50 / dck		ICPMS204-B_130702B : 104		R89517
Copper	0.006	mg/L		0.001		E200.8	07/02/13 23:50 / dck		ICPMS204-B_130702B : 104		R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 23:50 / dck		ICPMS204-B_130702B : 104		R89517
Zinc	0.01	mg/L		0.01		E200.8	07/02/13 23:50 / dck		ICPMS204-B_130702B : 104		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.024	mg/L		0.005		E200.8	07/02/13 23:55 / dck	07/01/13 08:48	ICPMS204-B_130702B : 105		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 23:55 / dck	07/01/13 08:48	ICPMS204-B_130702B : 105		20821
Calcium	47	mg/L		1		E200.7	07/02/13 13:25 / sld	07/01/13 08:48	ICP2-HE_130702A : 54		20821
Copper	0.011	mg/L		0.001		E200.8	07/02/13 23:55 / dck	07/01/13 08:48	ICPMS204-B_130702B : 105		20821
Lead	0.0009	mg/L		0.0005		E200.8	07/02/13 23:55 / dck	07/01/13 08:48	ICPMS204-B_130702B : 105		20821
Magnesium	11	mg/L		1		E200.7	07/02/13 13:25 / sld	07/01/13 08:48	ICP2-HE_130702A : 54		20821
Zinc	ND	mg/L		0.01		E200.8	07/02/13 23:55 / dck	07/01/13 08:48	ICPMS204-B_130702B : 105		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A
Lab ID: H13060510-012
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/26/13 12:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	9	mg/L		1		A2540 D	07/01/13 14:42 / glj	07/01/13 14:17	-124 (14410200)_130701A : 18		20832
INORGANICS											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	07/01/13 18:48 / cmm		MAN-TECH_130701A : 37		R89448
Bicarbonate as HCO3	110	mg/L		4		A2320 B	07/01/13 18:48 / cmm		MAN-TECH_130701A : 37		R89448
Sulfate	65	mg/L		1		E300.0	07/02/13 17:41 / jaw		IC102-H_130702A : 53		R89481
Hardness as CaCO3	145	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 11		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:43 / reh		FIA203-HE_130702A : 30		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:22 / reh		FIA203-HE_130701A : 67		R89440
Nitrogen, Total	0.19	mg/L		0.05		A4500 N-C	07/03/13 10:20 / reh	07/03/13 08:17	FIA203-HE_130703A : 38		20848
Phosphorus, Total as P	0.041	mg/L		0.005		E365.1	07/01/13 17:20 / reh	07/01/13 09:56	FIA202-HE_130701A : 49		20824
METALS, DISSOLVED											
Arsenic	0.022	mg/L		0.005		E200.8	07/02/13 23:59 / dck		ICPMS204-B_130702B : 106		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/02/13 23:59 / dck		ICPMS204-B_130702B : 106		R89517
Copper	0.005	mg/L		0.001		E200.8	07/02/13 23:59 / dck		ICPMS204-B_130702B : 106		R89517
Lead	ND	mg/L		0.0005		E200.8	07/02/13 23:59 / dck		ICPMS204-B_130702B : 106		R89517
Zinc	ND	mg/L		0.01		E200.8	07/02/13 23:59 / dck		ICPMS204-B_130702B : 106		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.022	mg/L		0.005		E200.8	07/03/13 00:33 / dck	07/01/13 08:48	ICPMS204-B_130702B : 113		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 00:33 / dck	07/01/13 08:48	ICPMS204-B_130702B : 113		20821
Calcium	42	mg/L		1		E200.7	07/02/13 13:36 / sld	07/01/13 08:48	ICP2-HE_130702A : 57		20821
Copper	0.010	mg/L		0.001		E200.8	07/03/13 00:33 / dck	07/01/13 08:48	ICPMS204-B_130702B : 113		20821
Lead	0.0009	mg/L		0.0005		E200.8	07/03/13 00:33 / dck	07/01/13 08:48	ICPMS204-B_130702B : 113		20821
Magnesium	10	mg/L		1		E200.7	07/02/13 13:36 / sld	07/01/13 08:48	ICP2-HE_130702A : 57		20821
Zinc	ND	mg/L		0.01		E200.8	07/03/13 00:33 / dck	07/01/13 08:48	ICPMS204-B_130702B : 113		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A RBG
Lab ID: H13060510-013
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/26/13 12:45 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	07/01/13 14:42 / glj	07/01/13 14:17	-124 (14410200)_130701A : 19		20832
INORGANICS											
Alkalinity, Total as CaCO3	99	mg/L		4		A2320 B	07/01/13 19:19 / cmm		MAN-TECH_130701A : 45		R89448
Bicarbonate as HCO3	110	mg/L		4		A2320 B	07/01/13 19:19 / cmm		MAN-TECH_130701A : 45		R89448
Sulfate	55	mg/L		1		E300.0	07/02/13 17:53 / jaw		IC102-H_130702A : 54		R89481
Hardness as CaCO3	137	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 12		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:44 / reh		FIA203-HE_130702A : 31		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:23 / reh		FIA203-HE_130701A : 68		R89440
Nitrogen, Total	0.20	mg/L		0.05		A4500 N-C	07/09/13 15:52 / reh	07/09/13 13:49	FIA203-HE_130709A : 13		20908
Phosphorus, Total as P	0.043	mg/L		0.005		E365.1	07/01/13 17:21 / reh	07/01/13 09:56	FIA202-HE_130701A : 50		20824
METALS, DISSOLVED											
Arsenic	0.020	mg/L		0.005		E200.8	07/03/13 00:57 / dck		ICPMS204-B_130702B : 118		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 00:57 / dck		ICPMS204-B_130702B : 118		R89517
Copper	0.005	mg/L		0.001		E200.8	07/03/13 00:57 / dck		ICPMS204-B_130702B : 118		R89517
Lead	ND	mg/L		0.0005		E200.8	07/03/13 00:57 / dck		ICPMS204-B_130702B : 118		R89517
Zinc	ND	mg/L		0.01		E200.8	07/03/13 00:57 / dck		ICPMS204-B_130702B : 118		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.021	mg/L		0.005		E200.8	07/03/13 01:02 / dck	07/01/13 08:48	ICPMS204-B_130702B : 119		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 01:02 / dck	07/01/13 08:48	ICPMS204-B_130702B : 119		20821
Calcium	40	mg/L		1		E200.7	07/02/13 13:51 / sld	07/01/13 08:48	ICP2-HE_130702A : 61		20821
Copper	0.010	mg/L		0.001		E200.8	07/03/13 01:02 / dck	07/01/13 08:48	ICPMS204-B_130702B : 119		20821
Lead	0.0009	mg/L		0.0005		E200.8	07/03/13 01:02 / dck	07/01/13 08:48	ICPMS204-B_130702B : 119		20821
Magnesium	9	mg/L		1		E200.7	07/02/13 13:51 / sld	07/01/13 08:48	ICP2-HE_130702A : 61		20821
Zinc	ND	mg/L		0.01		E200.8	07/03/13 01:02 / dck	07/01/13 08:48	ICPMS204-B_130702B : 119		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A LBG
Lab ID: H13060510-014
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/26/13 13:00 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	07/01/13 14:42 / glj	07/01/13 14:17	-124 (14410200)_130701A : 20		20832
INORGANICS											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	07/01/13 19:25 / cmm		MAN-TECH_130701A : 46		R89448
Bicarbonate as HCO3	120	mg/L		4		A2320 B	07/01/13 19:25 / cmm		MAN-TECH_130701A : 46		R89448
Sulfate	150	mg/L		1		E300.0	07/02/13 18:06 / jaw		IC102-H_130702A : 55		R89481
Hardness as CaCO3	228	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 13		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:45 / reh		FIA203-HE_130702A : 32		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:24 / reh		FIA203-HE_130701A : 69		R89440
Nitrogen, Total	0.31	mg/L		0.05		A4500 N-C	07/09/13 15:53 / reh	07/09/13 13:49	FIA203-HE_130709A : 14		20908
Phosphorus, Total as P	0.029	mg/L		0.005		E365.1	07/01/13 17:22 / reh	07/01/13 09:56	FIA202-HE_130701A : 51		20824
METALS, DISSOLVED											
Arsenic	0.032	mg/L		0.005		E200.8	07/03/13 01:06 / dck		ICPMS204-B_130702B : 120		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 01:06 / dck		ICPMS204-B_130702B : 120		R89517
Copper	0.004	mg/L		0.001		E200.8	07/03/13 01:06 / dck		ICPMS204-B_130702B : 120		R89517
Lead	ND	mg/L		0.0005		E200.8	07/03/13 01:06 / dck		ICPMS204-B_130702B : 120		R89517
Zinc	ND	mg/L		0.01		E200.8	07/03/13 01:06 / dck		ICPMS204-B_130702B : 120		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.034	mg/L		0.005		E200.8	07/03/13 01:11 / dck	07/01/13 08:48	ICPMS204-B_130702B : 121		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 01:11 / dck	07/01/13 08:48	ICPMS204-B_130702B : 121		20821
Calcium	60	mg/L		1		E200.7	07/02/13 13:55 / sld	07/01/13 08:48	ICP2-HE_130702A : 62		20821
Copper	0.007	mg/L		0.001		E200.8	07/03/13 01:11 / dck	07/01/13 08:48	ICPMS204-B_130702B : 121		20821
Lead	0.0006	mg/L		0.0005		E200.8	07/03/13 01:11 / dck	07/01/13 08:48	ICPMS204-B_130702B : 121		20821
Magnesium	19	mg/L		1		E200.7	07/02/13 13:55 / sld	07/01/13 08:48	ICP2-HE_130702A : 62		20821
Zinc	ND	mg/L		0.01		E200.8	07/03/13 01:11 / dck	07/01/13 08:48	ICPMS204-B_130702B : 121		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID WSC-SBC
Lab ID: H13060510-015
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/26/13 14:00 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	4	mg/L		1		A2540 D	07/01/13 14:46 / glj	07/01/13 14:17	-124 (14410200)_130701A : 21		20832
INORGANICS											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	07/01/13 19:33 / cmm		MAN-TECH_130701A : 47		R89448
Bicarbonate as HCO3	110	mg/L		4		A2320 B	07/01/13 19:33 / cmm		MAN-TECH_130701A : 47		R89448
Sulfate	28	mg/L		1		E300.0	07/02/13 18:19 / jaw		IC102-H_130702A : 56		R89481
Hardness as CaCO3	112	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 14		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:46 / reh		FIA203-HE_130702A : 33		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:25 / reh		FIA203-HE_130701A : 70		R89440
Nitrogen, Total	0.07	mg/L		0.05		A4500 N-C	07/09/13 15:55 / reh	07/09/13 13:49	FIA203-HE_130709A : 15		20908
Phosphorus, Total as P	0.006	mg/L		0.005		E365.1	07/01/13 17:23 / reh	07/01/13 09:56	FIA202-HE_130701A : 52		20824
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	07/03/13 01:16 / dck		ICPMS204-B_130702B : 122		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 01:16 / dck		ICPMS204-B_130702B : 122		R89517
Copper	0.003	mg/L		0.001		E200.8	07/03/13 01:16 / dck		ICPMS204-B_130702B : 122		R89517
Lead	ND	mg/L		0.0005		E200.8	07/03/13 01:16 / dck		ICPMS204-B_130702B : 122		R89517
Zinc	0.01	mg/L		0.01		E200.8	07/03/13 01:16 / dck		ICPMS204-B_130702B : 122		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.005	mg/L		0.005		E200.8	07/03/13 01:21 / dck	07/01/13 08:48	ICPMS204-B_130702B : 123		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 01:21 / dck	07/01/13 08:48	ICPMS204-B_130702B : 123		20821
Calcium	34	mg/L		1		E200.7	07/02/13 13:58 / sld	07/01/13 08:48	ICP2-HE_130702A : 63		20821
Copper	0.008	mg/L		0.001		E200.8	07/03/13 01:21 / dck	07/01/13 08:48	ICPMS204-B_130702B : 123		20821
Lead	0.0006	mg/L		0.0005		E200.8	07/03/13 01:21 / dck	07/01/13 08:48	ICPMS204-B_130702B : 123		20821
Magnesium	6	mg/L		1		E200.7	07/02/13 13:58 / sld	07/01/13 08:48	ICP2-HE_130702A : 63		20821
Zinc	ND	mg/L		0.01		E200.8	07/03/13 01:21 / dck	07/01/13 08:48	ICPMS204-B_130702B : 123		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #2
Lab ID: H13060510-016
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 10:00 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	07/01/13 14:46 / glj	07/01/13 14:17	-124 (14410200)_130701A :	22	20832
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	07/01/13 19:37 / cmm		MAN-TECH_130701A :	48	R89448
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	07/01/13 19:37 / cmm		MAN-TECH_130701A :	48	R89448
Sulfate	ND	mg/L		1		E300.0	07/02/13 18:31 / jaw		IC102-H_130702A :	57	R89481
Hardness as CaCO3	ND	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A :	15	R89554
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	0.1	mg/L		0.1		A5310 C	07/03/13 16:31 / eli-c		SUB-C175662 :	12	C_R175662
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:47 / reh		FIA203-HE_130702A :	34	R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:26 / reh		FIA203-HE_130701A :	71	R89440
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	07/09/13 15:56 / reh	07/09/13 13:49	FIA203-HE_130709A :	16	20908
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	07/01/13 17:24 / reh	07/01/13 09:56	FIA202-HE_130701A :	53	20824
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	07/03/13 01:26 / dck		ICPMS204-B_130702B :	124	R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 01:26 / dck		ICPMS204-B_130702B :	124	R89517
Copper	ND	mg/L		0.001		E200.8	07/03/13 01:26 / dck		ICPMS204-B_130702B :	124	R89517
Lead	ND	mg/L		0.0005		E200.8	07/03/13 01:26 / dck		ICPMS204-B_130702B :	124	R89517
Zinc	0.01	mg/L		0.01		E200.8	07/08/13 22:36 / dck		ICPMS204-B_130708A :	91	R89585
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	07/03/13 01:50 / dck	07/01/13 08:48	ICPMS204-B_130702B :	129	20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 01:50 / dck	07/01/13 08:48	ICPMS204-B_130702B :	129	20821
Calcium	ND	mg/L		1		E200.7	07/02/13 14:02 / sld	07/01/13 08:48	ICP2-HE_130702A :	64	20821
Copper	ND	mg/L		0.001		E200.8	07/03/13 01:50 / dck	07/01/13 08:48	ICPMS204-B_130702B :	129	20821
Lead	ND	mg/L		0.0005		E200.8	07/03/13 01:50 / dck	07/01/13 08:48	ICPMS204-B_130702B :	129	20821
Magnesium	ND	mg/L		1		E200.7	07/02/13 14:02 / sld	07/01/13 08:48	ICP2-HE_130702A :	64	20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #2
Lab ID: H13060510-016
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 10:00 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	07/03/13 01:50 / dck	07/01/13 08:48	ICPMS204-B_130702B : 129		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25
Lab ID: H13060510-017
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 10:45 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	07/01/13 14:46 / glj	07/01/13 14:17	-124 (14410200)_130701A :	23	20832
INORGANICS											
Alkalinity, Total as CaCO3	97	mg/L		4		A2320 B	07/01/13 19:44 / cmm		MAN-TECH_130701A :	49	R89448
Bicarbonate as HCO3	100	mg/L		4		A2320 B	07/01/13 19:44 / cmm		MAN-TECH_130701A :	49	R89448
Sulfate	74	mg/L		1		E300.0	07/02/13 19:34 / jaw		IC102-H_130702A :	62	R89481
Hardness as CaCO3	151	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A :	16	R89554
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.7	mg/L		0.1		A5310 C	07/03/13 16:42 / eli-c		SUB-C175662 :	13	C_R175662
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:51 / reh		FIA203-HE_130702A :	37	R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:30 / reh		FIA203-HE_130701A :	74	R89440
Nitrogen, Total	0.28	mg/L		0.05		A4500 N-C	07/09/13 16:01 / reh	07/09/13 13:49	FIA203-HE_130709A :	20	20908
Phosphorus, Total as P	0.086	mg/L		0.005		E365.1	07/01/13 17:25 / reh	07/01/13 09:56	FIA202-HE_130701A :	54	20824
METALS, DISSOLVED											
Arsenic	0.035	mg/L		0.005		E200.8	07/03/13 01:55 / dck		ICPMS204-B_130702B :	130	R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 01:55 / dck		ICPMS204-B_130702B :	130	R89517
Copper	0.005	mg/L		0.001		E200.8	07/03/13 01:55 / dck		ICPMS204-B_130702B :	130	R89517
Lead	ND	mg/L		0.0005		E200.8	07/03/13 01:55 / dck		ICPMS204-B_130702B :	130	R89517
Zinc	ND	mg/L		0.01		E200.8	07/03/13 01:55 / dck		ICPMS204-B_130702B :	130	R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.037	mg/L		0.005		E200.8	07/03/13 02:00 / dck	07/01/13 08:48	ICPMS204-B_130702B :	131	20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 02:00 / dck	07/01/13 08:48	ICPMS204-B_130702B :	131	20821
Calcium	43	mg/L		1		E200.7	07/02/13 14:06 / sld	07/01/13 08:48	ICP2-HE_130702A :	65	20821
Copper	0.006	mg/L		0.001		E200.8	07/03/13 02:00 / dck	07/01/13 08:48	ICPMS204-B_130702B :	131	20821
Lead	0.0007	mg/L		0.0005		E200.8	07/03/13 02:00 / dck	07/01/13 08:48	ICPMS204-B_130702B :	131	20821
Magnesium	11	mg/L		1		E200.7	07/02/13 14:06 / sld	07/01/13 08:48	ICP2-HE_130702A :	65	20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25
Lab ID: H13060510-017
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 10:45 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	07/03/13 02:00 / dck	07/01/13 08:48	ICPMS204-B_130702B : 131		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25 Duplicate
Lab ID: H13060510-018
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 10:45 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	07/01/13 14:46 / glj	07/01/13 14:17	-124 (14410200)_130701A : 24		20832
INORGANICS											
Alkalinity, Total as CaCO3	97	mg/L		4		A2320 B	07/01/13 20:00 / cmm		MAN-TECH_130701A : 52		R89448
Bicarbonate as HCO3	100	mg/L		4		A2320 B	07/01/13 20:00 / cmm		MAN-TECH_130701A : 52		R89448
Sulfate	74	mg/L		1		E300.0	07/02/13 19:47 / jaw		IC102-H_130702A : 63		R89481
Hardness as CaCO3	154	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 17		R89554
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.7	mg/L		0.1		A5310 C	07/03/13 16:52 / eli-c		SUB-C175662 : 14		C_R175662
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:55 / reh		FIA203-HE_130702A : 40		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:31 / reh		FIA203-HE_130701A : 75		R89440
Nitrogen, Total	0.31	mg/L		0.05		A4500 N-C	07/09/13 16:02 / reh	07/09/13 13:49	FIA203-HE_130709A : 21		20908
Phosphorus, Total as P	0.083	mg/L		0.005		E365.1	07/01/13 17:26 / reh	07/01/13 09:56	FIA202-HE_130701A : 55		20824
METALS, DISSOLVED											
Arsenic	0.035	mg/L		0.005		E200.8	07/03/13 02:05 / dck		ICPMS204-B_130702B : 132		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 02:05 / dck		ICPMS204-B_130702B : 132		R89517
Copper	0.005	mg/L		0.001		E200.8	07/03/13 02:05 / dck		ICPMS204-B_130702B : 132		R89517
Lead	ND	mg/L		0.0005		E200.8	07/03/13 02:05 / dck		ICPMS204-B_130702B : 132		R89517
Zinc	ND	mg/L		0.01		E200.8	07/03/13 02:05 / dck		ICPMS204-B_130702B : 132		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.037	mg/L		0.005		E200.8	07/03/13 02:09 / dck	07/01/13 08:48	ICPMS204-B_130702B : 133		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 02:09 / dck	07/01/13 08:48	ICPMS204-B_130702B : 133		20821
Calcium	44	mg/L		1		E200.7	07/02/13 14:10 / sld	07/01/13 08:48	ICP2-HE_130702A : 66		20821
Copper	0.006	mg/L		0.001		E200.8	07/03/13 02:09 / dck	07/01/13 08:48	ICPMS204-B_130702B : 133		20821
Lead	0.0007	mg/L		0.0005		E200.8	07/03/13 02:09 / dck	07/01/13 08:48	ICPMS204-B_130702B : 133		20821
Magnesium	11	mg/L		1		E200.7	07/02/13 14:10 / sld	07/01/13 08:48	ICP2-HE_130702A : 66		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25 Duplicate
Lab ID: H13060510-018
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 10:45 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	07/03/13 02:09 / dck	07/01/13 08:48	ICPMS204-B_130702B : 133		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MWB-SBC
Lab ID: H13060510-019
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 11:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	07/01/13 14:47 / glj	07/01/13 14:19	-124 (14410200)_130701A : 27		20833
INORGANICS											
Alkalinity, Total as CaCO3	93	mg/L		4		A2320 B	07/01/13 20:07 / cmm		MAN-TECH_130701A : 53		R89448
Bicarbonate as HCO3	110	mg/L		4		A2320 B	07/01/13 20:07 / cmm		MAN-TECH_130701A : 53		R89448
Sulfate	63	mg/L		1		E300.0	07/02/13 19:59 / jaw		IC102-H_130702A : 64		R89481
Hardness as CaCO3	151	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 18		R89554
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.7	mg/L		0.1		A5310 C	07/03/13 17:03 / eli-c		SUB-C175662 : 15		C_R175662
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:56 / reh		FIA203-HE_130702A : 41		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:35 / reh		FIA203-HE_130701A : 78		R89440
Nitrogen, Total	0.21	mg/L		0.05		A4500 N-C	07/09/13 16:03 / reh	07/09/13 13:49	FIA203-HE_130709A : 22		20908
Phosphorus, Total as P	0.026	mg/L		0.005		E365.1	07/01/13 17:30 / reh	07/01/13 09:56	FIA202-HE_130701A : 58		20824
METALS, DISSOLVED											
Arsenic	0.037	mg/L		0.005		E200.8	07/03/13 02:14 / dck		ICPMS204-B_130702B : 134		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 02:14 / dck		ICPMS204-B_130702B : 134		R89517
Copper	0.005	mg/L		0.001		E200.8	07/03/13 02:14 / dck		ICPMS204-B_130702B : 134		R89517
Lead	ND	mg/L		0.0005		E200.8	07/03/13 02:14 / dck		ICPMS204-B_130702B : 134		R89517
Zinc	0.01	mg/L		0.01		E200.8	07/03/13 02:14 / dck		ICPMS204-B_130702B : 134		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.038	mg/L		0.005		E200.8	07/03/13 02:19 / dck	07/01/13 08:48	ICPMS204-B_130702B : 135		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 02:19 / dck	07/01/13 08:48	ICPMS204-B_130702B : 135		20821
Calcium	44	mg/L		1		E200.7	07/02/13 14:47 / sld	07/01/13 08:48	ICP2-HE_130702A : 76		20821
Copper	0.006	mg/L		0.001		E200.8	07/03/13 02:19 / dck	07/01/13 08:48	ICPMS204-B_130702B : 135		20821
Lead	0.0007	mg/L		0.0005		E200.8	07/03/13 02:19 / dck	07/01/13 08:48	ICPMS204-B_130702B : 135		20821
Magnesium	10	mg/L		1		E200.7	07/02/13 14:47 / sld	07/01/13 08:48	ICP2-HE_130702A : 76		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MWB-SBC
Lab ID: H13060510-019
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 11:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	07/03/13 02:19 / dck	07/01/13 08:48	ICPMS204-B_130702B : 135		20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SBC-P2
Lab ID: H13060510-020
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 12:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	3	mg/L		1		A2540 D	07/01/13 14:47 / glj	07/01/13 14:19	-124 (14410200)_130701A	29	20833
INORGANICS											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	07/01/13 20:15 / cmm		MAN-TECH_130701A	54	R89448
Bicarbonate as HCO3	77	mg/L		4		A2320 B	07/01/13 20:15 / cmm		MAN-TECH_130701A	54	R89448
Sulfate	93	mg/L		1		E300.0	07/02/13 20:12 / jaw		IC102-H_130702A	65	R89481
Hardness as CaCO3	172	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A	19	R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 12:59 / reh		FIA203-HE_130702A	44	R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:39 / reh		FIA203-HE_130701A	81	R89440
Nitrogen, Total	0.52	mg/L		0.05		A4500 N-C	07/09/13 16:04 / reh	07/09/13 13:49	FIA203-HE_130709A	23	20908
Phosphorus, Total as P	0.196	mg/L		0.005		E365.1	07/01/13 17:31 / reh	07/01/13 09:56	FIA202-HE_130701A	59	20824
METALS, DISSOLVED											
Arsenic	0.034	mg/L		0.005		E200.8	07/03/13 02:24 / dck		ICPMS204-B_130702B	136	R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 02:24 / dck		ICPMS204-B_130702B	136	R89517
Copper	0.005	mg/L		0.001		E200.8	07/03/13 02:24 / dck		ICPMS204-B_130702B	136	R89517
Lead	0.0005	mg/L		0.0005		E200.8	07/03/13 02:24 / dck		ICPMS204-B_130702B	136	R89517
Zinc	ND	mg/L		0.01		E200.8	07/03/13 02:24 / dck		ICPMS204-B_130702B	136	R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.035	mg/L		0.005		E200.8	07/03/13 02:29 / dck	07/01/13 08:48	ICPMS204-B_130702B	137	20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 02:29 / dck	07/01/13 08:48	ICPMS204-B_130702B	137	20821
Calcium	47	mg/L		1		E200.7	07/02/13 14:50 / sld	07/01/13 08:48	ICP2-HE_130702A	77	20821
Copper	0.006	mg/L		0.001		E200.8	07/03/13 02:29 / dck	07/01/13 08:48	ICPMS204-B_130702B	137	20821
Lead	0.0008	mg/L		0.0005		E200.8	07/03/13 02:29 / dck	07/01/13 08:48	ICPMS204-B_130702B	137	20821
Magnesium	13	mg/L		1		E200.7	07/02/13 14:50 / sld	07/01/13 08:48	ICP2-HE_130702A	77	20821
Zinc	ND	mg/L		0.01		E200.8	07/03/13 02:29 / dck	07/01/13 08:48	ICPMS204-B_130702B	137	20821

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MCWC-MWB
Lab ID: H13060510-021
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 06/27/13 13:30 **DateReceived:** 06/28/13
Report Date: 08/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	07/01/13 14:47 / glj	07/01/13 14:19	-124 (14410200)_130701A : 30		20833
INORGANICS											
Alkalinity, Total as CaCO3	84	mg/L		4		A2320 B	07/01/13 20:22 / cmm		MAN-TECH_130701A : 55		R89448
Bicarbonate as HCO3	100	mg/L		4		A2320 B	07/01/13 20:22 / cmm		MAN-TECH_130701A : 55		R89448
Sulfate	14	mg/L		1		E300.0	07/02/13 20:25 / jaw		IC102-H_130702A : 66		R89481
Hardness as CaCO3	83	mg/L		1		A2340 B	07/08/13 12:32 / sld		WATERCALC_130708A : 20		R89554
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	07/02/13 13:01 / reh		FIA203-HE_130702A : 45		R89466
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	07/01/13 16:40 / reh		FIA203-HE_130701A : 82		R89440
Nitrogen, Total	0.21	mg/L		0.05		A4500 N-C	07/09/13 16:05 / reh	07/09/13 13:49	FIA203-HE_130709A : 24		20908
Phosphorus, Total as P	0.028	mg/L		0.005		E365.1	07/01/13 17:32 / reh	07/01/13 09:56	FIA202-HE_130701A : 60		20824
METALS, DISSOLVED											
Arsenic	0.043	mg/L		0.005		E200.8	07/03/13 02:34 / dck		ICPMS204-B_130702B : 138		R89517
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 02:34 / dck		ICPMS204-B_130702B : 138		R89517
Copper	0.005	mg/L		0.001		E200.8	07/03/13 02:34 / dck		ICPMS204-B_130702B : 138		R89517
Lead	ND	mg/L		0.0005		E200.8	07/03/13 02:34 / dck		ICPMS204-B_130702B : 138		R89517
Zinc	0.01	mg/L		0.01		E200.8	07/03/13 02:34 / dck		ICPMS204-B_130702B : 138		R89517
METALS, TOTAL RECOVERABLE											
Arsenic	0.045	mg/L		0.005		E200.8	07/03/13 02:58 / dck	07/01/13 08:48	ICPMS204-B_130702B : 143		20821
Cadmium	ND	mg/L		0.00008		E200.8	07/03/13 02:58 / dck	07/01/13 08:48	ICPMS204-B_130702B : 143		20821
Calcium	24	mg/L		1		E200.7	07/02/13 14:54 / sld	07/01/13 08:48	ICP2-HE_130702A : 78		20821
Copper	0.008	mg/L		0.001		E200.8	07/03/13 02:58 / dck	07/01/13 08:48	ICPMS204-B_130702B : 143		20821
Lead	0.0012	mg/L		0.0005		E200.8	07/03/13 02:58 / dck	07/01/13 08:48	ICPMS204-B_130702B : 143		20821
Magnesium	6	mg/L		1		E200.7	07/02/13 14:54 / sld	07/01/13 08:48	ICP2-HE_130702A : 78		20821
Zinc	ND	mg/L		0.01		E200.8	07/03/13 02:58 / dck	07/01/13 08:48	ICPMS204-B_130702B : 143		20821

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20821

Date: *02-Aug-13*

Run ID :Run Order: **ICP2-HE_130702A: 38** SampType: **Method Blank** Sample ID: **MB-20821** Method: **E200.7**
Analysis Date: **07/02/13 12:26** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.06									
Magnesium	ND	0.006									

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICP2-HE_130702A: 39** SampType: **Laboratory Control Sample** Sample ID: **LCS-20821** Method: **E200.7**
Analysis Date: **07/02/13 12:30** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.8	1.0	25		99	85	115				
Magnesium	25.2	1.0	25		101	85	115				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICP2-HE_130702A: 41** SampType: **Serial Dilution** Sample ID: **H13060510-001CDIL** Method: **E200.7**
Analysis Date: **07/02/13 12:37** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	36.8	1.0				0	0	36.34	1.2	10	
Magnesium	9.60	1.0				0	0	9.432	1.8	10	

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICP2-HE_130702A: 42** SampType: **Sample Matrix Spike** Sample ID: **H13060510-001CMS3** Method: **E200.7**
Analysis Date: **07/02/13 12:41** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	60.6	1.0	25	36.34	97	70	130				
Magnesium	34.7	1.0	25	9.432	101	70	130				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20821

Date: *02-Aug-13*

Run ID :Run Order: **ICP2-HE_130702A: 45** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-001CMSD3** Method: **E200.7**
Analysis Date: **07/02/13 12:52** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	60.6	1.0	25	36.34	97	70	130	60.61	0.1	20	
Magnesium	34.5	1.0	25	9.432	100	70	130	34.67	0.5	20	

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICP2-HE_130702A: 58** SampType: **Serial Dilution** Sample ID: **H13060510-012CDIL** Method: **E200.7**
Analysis Date: **07/02/13 13:40** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	42.2	1.0				0	0	41.77	1.0	10	
Magnesium	9.97	1.0				0	0	9.873	0.9	10	

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICP2-HE_130702A: 59** SampType: **Sample Matrix Spike** Sample ID: **H13060510-012CMS3** Method: **E200.7**
Analysis Date: **07/02/13 13:44** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	67.3	1.0	25	41.77	102	70	130				
Magnesium	35.1	1.0	25	9.873	101	70	130				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICP2-HE_130702A: 60** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-012CMSD3** Method: **E200.7**
Analysis Date: **07/02/13 13:47** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	66.1	1.0	25	41.77	97	70	130	67.26	1.7	20	
Magnesium	34.4	1.0	25	9.873	98	70	130	35.05	1.8	20	

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20821

Date: *02-Aug-13*

Run ID :Run Order: **ICPMS204-B_130702B: 73** SampType: **Method Blank** Sample ID: **MB-20821** Method: **E200.8**
Analysis Date: **07/02/13 21:21** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0005	0.0002									
Cadmium	2E-05	2E-05									
Copper	0.0003	0.0002									
Lead	3E-05	3E-05									
Zinc	0.001	0.001									

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 74** SampType: **Laboratory Control Sample** Sample ID: **LCS-20821** Method: **E200.8**
Analysis Date: **07/02/13 21:26** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.489	0.0010	0.5	0.0005239	**98**	85	115				
Cadmium	0.254	0.0010	0.25	0.0000206	**102**	85	115				
Copper	0.494	0.0050	0.5	0.0003468	**99**	85	115				
Lead	0.455	0.0010	0.5	0.0000335	**91**	85	115				
Zinc	0.496	0.010	0.5	0.001179	**99**	85	115				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 78** SampType: **Sample Matrix Spike** Sample ID: **H13060510-001CMS3** Method: **E200.8**
Analysis Date: **07/02/13 21:45** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.514	0.0010	0.5	0.006353	**101**	70	130				
Cadmium	0.259	0.0010	0.25	0.0000483	**104**	70	130				
Copper	0.511	0.0050	0.5	0.006448	**101**	70	130				
Lead	0.462	0.0010	0.5	0.0007448	**92**	70	130				
Zinc	0.510	0.010	0.5	0.009445	**100**	70	130				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20821

Date: *02-Aug-13*

Run ID :Run Order: **ICPMS204-B_130702B: 79** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-001CMSD3** Method: **E200.8**

Analysis Date: **07/02/13 21:50** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.514	0.0010	0.5	0.006353	**102**	70	130	0.5137	**0.1**	20	
Cadmium	0.258	0.0010	0.25	0.0000483	**103**	70	130	0.2588	**0.2**	20	
Copper	0.513	0.0050	0.5	0.006448	**101**	70	130	0.5114	**0.4**	20	
Lead	0.466	0.0010	0.5	0.0007448	**93**	70	130	0.4619	**0.8**	20	
Zinc	0.514	0.010	0.5	0.009445	**101**	70	130	0.5102	**0.8**	20	

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 114** SampType: **Sample Matrix Spike** Sample ID: **H13060510-012CMS3** Method: **E200.8**

Analysis Date: **07/03/13 00:38** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.514	0.0010	0.5	0.0222	**98**	70	130				
Cadmium	0.258	0.0010	0.25	0.0000714	**103**	70	130				
Copper	0.497	0.0050	0.5	0.009519	**97**	70	130				
Lead	0.459	0.0010	0.5	0.0008957	**92**	70	130				
Zinc	0.501	0.010	0.5	0.007676	**99**	70	130				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 115** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-012CMSD3** Method: **E200.8**

Analysis Date: **07/03/13 00:42** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.516	0.0010	0.5	0.0222	**99**	70	130	0.5142	**0.3**	20	
Cadmium	0.254	0.0010	0.25	0.0000714	**102**	70	130	0.2577	**1.4**	20	
Copper	0.506	0.0050	0.5	0.009519	**99**	70	130	0.4968	**1.8**	20	
Lead	0.458	0.0010	0.5	0.0008957	**92**	70	130	0.4591	**0.1**	20	
Zinc	0.506	0.010	0.5	0.007676	**100**	70	130	0.5012	**0.9**	20	

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20823

Date: *02-Aug-13*

Run ID :Run Order: **FIA202-HE_130701A: 12** SampType: **Method Blank** Sample ID: **MB-20823** Method: **E365.1**
Analysis Date: **07/01/13 16:42** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D**

Run ID :Run Order: **FIA202-HE_130701A: 13** SampType: **Laboratory Control Sample** Sample ID: **LCS-20823** Method: **E365.1**
Analysis Date: **07/01/13 16:44** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.364	0.010	0.4		91	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D**

Run ID :Run Order: **FIA202-HE_130701A: 34** SampType: **Sample Matrix Spike** Sample ID: **H13060510-004DMS** Method: **E365.1**
Analysis Date: **07/01/13 17:05** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.196	0.010	0.2		98	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D**

Run ID :Run Order: **FIA202-HE_130701A: 35** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-004DMSD** Method: **E365.1**
Analysis Date: **07/01/13 17:06** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.199	0.010	0.2		100	90	110	0.1961	1.5	20	

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20824

Date: *02-Aug-13*

Run ID :Run Order: **FIA202-HE_130701A: 42** SampType: **Method Blank** Sample ID: **MB-20824** Method: **E365.1**
Analysis Date: **07/01/13 17:13** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA202-HE_130701A: 43** SampType: **Laboratory Control Sample** Sample ID: **LCS-20824** Method: **E365.1**
Analysis Date: **07/01/13 17:14** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.371	0.010	0.4		93	90	110				

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA202-HE_130701A: 45** SampType: **Sample Matrix Spike** Sample ID: **H13060510-009DMS** Method: **E365.1**
Analysis Date: **07/01/13 17:16** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.221	0.010	0.2	0.02045	100	90	110				

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA202-HE_130701A: 46** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-009DMSD** Method: **E365.1**
Analysis Date: **07/01/13 17:17** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.221	0.010	0.2	0.02045	101	90	110	0.2207	0.3	20	

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA202-HE_130701A: 62** SampType: **Sample Matrix Spike** Sample ID: **H13060511-001BMS** Method: **E365.1**
Analysis Date: **07/01/13 17:34** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.214	0.010	0.2	0.01636	99	90	110				

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20824

Date: *02-Aug-13*

Run ID :Run Order: **FIA202-HE_130701A: 63** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060511-001BMSD** Method: **E365.1**
Analysis Date: **07/01/13 17:35** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.215	0.010	0.2	0.01636	100	90	110	0.2139	0.7	20	

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA202-HE_130701A: 77** SampType: **Sample Matrix Spike** Sample ID: **H13060510-009DMS** Method: **E365.1**
Analysis Date: **07/01/13 17:49** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.223	0.010	0.2	0.0218	101	90	110				

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA202-HE_130701A: 78** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-009DMSD** Method: **E365.1**
Analysis Date: **07/01/13 17:50** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.224	0.010	0.2	0.0218	101	90	110	0.2228	0.3	20	

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20832

Date: *02-Aug-13*

Run ID :Run Order: **ACCU-124 (14410200)_130701A: 1** SampType: **Method Blank** Sample ID: **MB-20832** Method: **A2540 D**
Analysis Date: **07/01/13 14:39** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	1									

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A**

Run ID :Run Order: **ACCU-124 (14410200)_130701A: 2** SampType: **Laboratory Control Sample** Sample ID: **LCS-20832** Method: **A2540 D**
Analysis Date: **07/01/13 14:39** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	1790	10	2000		90	70	130				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A**

Run ID :Run Order: **ACCU-124 (14410200)_130701A: 4** SampType: **Sample Duplicate** Sample ID: **H13060502-001BDUP** Method: **A2540 D**
Analysis Date: **07/01/13 14:39** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	6.00	10						6		5	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A**

Run ID :Run Order: **ACCU-124 (14410200)_130701A: 17** SampType: **Sample Duplicate** Sample ID: **H13060510-011ADUP** Method: **A2540 D**
Analysis Date: **07/01/13 14:42** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	6.00	10						6		5	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20833

Date: *02-Aug-13*

Run ID :Run Order: **ACCU-124 (14410200)_130701A: 25** SampType: **Method Blank** Sample ID: **MB-20833** Method: **A2540 D**
Analysis Date: **07/01/13 14:46** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	1									

Associated samples: **H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **ACCU-124 (14410200)_130701A: 26** SampType: **Laboratory Control Sample** Sample ID: **LCS-20833** Method: **A2540 D**
Analysis Date: **07/01/13 14:47** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	1910	10	2000		**96**	70	130				

Associated samples: **H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **ACCU-124 (14410200)_130701A: 28** SampType: **Sample Duplicate** Sample ID: **H13060510-019ADUP** Method: **A2540 D**
Analysis Date: **07/01/13 14:47** Units: **mg/L** **Prep Info:** Prep Date: **7/1/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	8.00	10						8		5	

Associated samples: **H13060510-019A; H13060510-020A; H13060510-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20848

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130703A: 11** SampType: **Method Blank** Sample ID: **MB-20848** Method: **A4500 N-C**
Analysis Date: **07/03/13 09:48** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.02									

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A**

Run ID :Run Order: **FIA203-HE_130703A: 12** SampType: **Laboratory Control Sample** Sample ID: **LCS-20848** Method: **A4500 N-C**
Analysis Date: **07/03/13 09:49** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	17.8	0.10	18.7		95	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A**

Run ID :Run Order: **FIA203-HE_130703A: 23** SampType: **Sample Matrix Spike** Sample ID: **H13060510-001AMS** Method: **A4500 N-C**
Analysis Date: **07/03/13 10:02** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.12	0.10	1	0.1573	96	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A**

Run ID :Run Order: **FIA203-HE_130703A: 24** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-001AMSD** Method: **A4500 N-C**
Analysis Date: **07/03/13 10:03** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.10	0.10	1	0.1573	94	90	110	1.122	2.3	20	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A**

Run ID :Run Order: **FIA203-HE_130703A: 29** SampType: **Sample Matrix Spike** Sample ID: **H13060510-004AMS** Method: **A4500 N-C**
Analysis Date: **07/03/13 10:09** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.975	0.10	1		98	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *02-Aug-13*

BatchID: 20848

Run ID :Run Order: **FIA203-HE_130703A: 30** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-004AMSD** Method: **A4500 N-C**

Analysis Date: **07/03/13 10:11** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.998	0.10	1		**100**	90	110	0.9755	**2.3**	20	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A**

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 20908

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130709A: 12** SampType: **Laboratory Control Sample** Sample ID: **LCS-20908** Method: **A4500 N-C**
Analysis Date: **07/09/13 15:51** Units: **mg/L** **Prep Info:** Prep Date: **7/9/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	17.9	0.10	18.7		96	90	110				

Associated samples: **H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **FIA203-HE_130709A: 17** SampType: **Sample Matrix Spike** Sample ID: **H13060510-016AMS** Method: **A4500 N-C**
Analysis Date: **07/09/13 15:57** Units: **mg/L** **Prep Info:** Prep Date: **7/9/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.988	0.10	1		99	90	110				

Associated samples: **H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **FIA203-HE_130709A: 18** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-016AMSD** Method: **A4500 N-C**
Analysis Date: **07/09/13 15:58** Units: **mg/L** **Prep Info:** Prep Date: **7/9/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.996	0.10	1		100	90	110	0.9885	0.7	20	

Associated samples: **H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **FIA203-HE_130709A: 19** SampType: **Method Blank** Sample ID: **MB-20908** Method: **A4500 N-C**
Analysis Date: **07/09/13 15:59** Units: **mg/L** **Prep Info:** Prep Date: **7/9/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.050									

Associated samples: **H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **FIA203-HE_130709A: 28** SampType: **Sample Matrix Spike** Sample ID: **H13070050-001AMS** Method: **A4500 N-C**
Analysis Date: **07/09/13 16:10** Units: **mg/L** **Prep Info:** Prep Date: **7/9/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.09	0.10	1	0.1282	96	90	110				

Associated samples: **H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *02-Aug-13*

BatchID: 20908

Run ID :Run Order: **FIA203-HE_130709A: 29** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13070050-001AMSD** Method: **A4500 N-C**

Analysis Date: **07/09/13 16:12** Units: **mg/L** **Prep Info:** Prep Date: **7/9/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.09	0.10	1	0.1282	96	90	110	1.087	0.0	20	

Associated samples: **H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	N - Analyte concentration was not sufficiently high to calculate RPD
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: B_72557

Date: *02-Aug-13*

Run ID :Run Order: **SUB-B207587: 16** SampType: **Method Blank** Sample ID: **MB-72557** Method: **E245.1**
Analysis Date: **07/03/13 14:34** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3.3E-06	1.0E-05									

Associated samples: **H13060510-004C; H13060510-006C**

Run ID :Run Order: **SUB-B207587: 17** SampType: **Laboratory Control Sample** Sample ID: **LCS-72557** Method: **E245.1**
Analysis Date: **07/03/13 14:37** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	1.0E-05	0.0002	0.00000326	**94**	85	115				

Associated samples: **H13060510-004C; H13060510-006C**

Run ID :Run Order: **SUB-B207587: 22** SampType: **Sample Matrix Spike** Sample ID: **H13060510-006C** Method: **E245.1**
Analysis Date: **07/03/13 15:46** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00024	1.0E-05	0.0002	0.0000584	**90**	70	130				

Associated samples: **H13060510-004C; H13060510-006C**

Run ID :Run Order: **SUB-B207587: 23** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-006C** Method: **E245.1**
Analysis Date: **07/03/13 15:52** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00026	1.0E-05	0.0002	0.0000584	**102**	70	130	0.000239	**9.6**	30	

Associated samples: **H13060510-004C; H13060510-006C**

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: B_72592

Date: *02-Aug-13*

Run ID :Run Order: **SUB-B207688: 2** SampType: **Method Blank** Sample ID: **MB-72592** Method: **E245.1**
Analysis Date: **07/05/13 13:57** Units: **mg/L** **Prep Info:** Prep Date: **7/5/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1.0E-05									

Associated samples: **H13060510-003A; H13060510-005C**

Run ID :Run Order: **SUB-B207688: 3** SampType: **Laboratory Control Sample** Sample ID: **LCS-72592** Method: **E245.1**
Analysis Date: **07/05/13 13:59** Units: **mg/L** **Prep Info:** Prep Date: **7/5/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	1.0E-05	0.0002		**99**	85	115				

Associated samples: **H13060510-003A; H13060510-005C**

Run ID :Run Order: **SUB-B207688: 13** SampType: **Sample Matrix Spike** Sample ID: **B13070301-001AMS** Method: **E245.1**
Analysis Date: **07/05/13 14:55** Units: **mg/L** **Prep Info:** Prep Date: **7/5/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	1.0E-05	0.0002		**98**	70	130				

Associated samples: **H13060510-003A; H13060510-005C**

Run ID :Run Order: **SUB-B207688: 14** SampType: **Sample Matrix Spike Duplicate** Sample ID: **B13070301-001AMSD** Method: **E245.1**
Analysis Date: **07/05/13 14:58** Units: **mg/L** **Prep Info:** Prep Date: **7/5/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	1.0E-05	0.0002		**98**	70	130	0.000195	**0.5**	30	

Associated samples: **H13060510-003A; H13060510-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_R175662

Date: *02-Aug-13*

Run ID :Run Order: **SUB-C175662: 3** SampType: **Method Blank** Sample ID: **MBLK** Method: **A5310 C**
Analysis Date: **07/03/13 10:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.50									

Associated samples: **H13060510-016E; H13060510-017E; H13060510-018E; H13060510-019E**

Run ID :Run Order: **SUB-C175662: 11** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV-7265** Method: **A5310 C**
Analysis Date: **07/03/13 16:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.2	0.50	10		102	90	110				

Associated samples: **H13060510-016E; H13060510-017E; H13060510-018E; H13060510-019E**

Run ID :Run Order: **SUB-C175662: 16** SampType: **Sample Matrix Spike** Sample ID: **H13060510-016E** Method: **A5310 C**
Analysis Date: **07/03/13 17:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.35	0.50	5	0.1484	104	85	115				

Associated samples: **H13060510-016E; H13060510-017E; H13060510-018E; H13060510-019E**

Run ID :Run Order: **SUB-C175662: 17** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-016E** Method: **A5310 C**
Analysis Date: **07/03/13 17:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.43	0.50	5	0.1484	106	85	115	5.351	1.4	10	

Associated samples: **H13060510-016E; H13060510-017E; H13060510-018E; H13060510-019E**

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89440

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130701A: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E353.2**
Analysis Date: **07/01/13 15:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.00	0.010	1		**100**	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 9** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E353.2**
Analysis Date: **07/01/13 15:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1		**101**	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 12** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E353.2**
Analysis Date: **07/01/13 15:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.00692	0.010				0	0				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 13** SampType: **Method Blank** Sample ID: **MBLK** Method: **E353.2**
Analysis Date: **07/01/13 15:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.001									

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 46** SampType: **Sample Matrix Spike** Sample ID: **H13060492-003BMS** Method: **E353.2**
Analysis Date: **07/01/13 15:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.77	0.022	2.2	0.8826	86	90	110				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89440

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130701A: 46** SampType: **Sample Matrix Spike** Sample ID: **H13060492-003BMS** Method: **E353.2**
Analysis Date: **07/01/13 15:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 47** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060492-003BMSD** Method: **E353.2**
Analysis Date: **07/01/13 15:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.76	0.022	2.2	0.8826	85	90	110	2.772	0.3	20	S

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 49** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**
Analysis Date: **07/01/13 16:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.470	0.010	0.5		94	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D**

Run ID :Run Order: **FIA203-HE_130701A: 54** SampType: **Sample Matrix Spike** Sample ID: **H13060510-001DMS** Method: **E353.2**
Analysis Date: **07/01/13 16:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.849	0.010	1		85	90	110				S

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 55** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-001DMSD** Method: **E353.2**
Analysis Date: **07/01/13 16:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.842	0.010	1		84	90	110	0.8493	0.9	20	S

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89440

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130701A: 63** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**

Analysis Date: **07/01/13 16:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.465	0.010	0.5		93	90	110				

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D**

Run ID :Run Order: **FIA203-HE_130701A: 72** SampType: **Sample Matrix Spike** Sample ID: **H13060510-016DMS** Method: **E353.2**

Analysis Date: **07/01/13 16:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.841	0.010	1		84	90	110				S

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 73** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-016DMSD** Method: **E353.2**

Analysis Date: **07/01/13 16:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.837	0.010	1		84	90	110	0.8414	0.5	20	S

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 77** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**

Analysis Date: **07/01/13 16:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.465	0.010	0.5		93	90	110				

Associated samples: **H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 79** SampType: **Sample Matrix Spike** Sample ID: **H13060510-019DMS** Method: **E353.2**

Analysis Date: **07/01/13 16:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.840	0.010	1		84	90	110				S

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89440

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130701A: 80** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-019DMSD** Method: **E353.2**
Analysis Date: **07/01/13 16:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.827	0.010	1		83	90	110	0.8396	1.5	20	S

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 91** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**
Analysis Date: **07/01/13 16:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.463	0.010	0.5		93	90	110				

Associated samples:

Run ID :Run Order: **FIA203-HE_130701A: 96** SampType: **Sample Matrix Spike** Sample ID: **H13060510-021DMS** Method: **E353.2**
Analysis Date: **07/01/13 16:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.919	0.011	1		92	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130701A: 97** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-021DMSD** Method: **E353.2**
Analysis Date: **07/01/13 16:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.920	0.011	1		92	90	110	0.919	0.2	20	

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89443

Date: *02-Aug-13*

Run ID :Run Order: **FIA202-HE_130701A: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E365.1**

Analysis Date: **07/01/13 16:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.253	0.010	0.25		101	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA202-HE_130701A: 9** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E365.1**

Analysis Date: **07/01/13 16:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00162	0.010				0	0				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA202-HE_130701A: 27** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**

Analysis Date: **07/01/13 16:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.106	0.010	0.1		106	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D**

Run ID :Run Order: **FIA202-HE_130701A: 41** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**

Analysis Date: **07/01/13 17:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.105	0.010	0.1		105	90	110				

Associated samples: **H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D**

Run ID :Run Order: **FIA202-HE_130701A: 57** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**

Analysis Date: **07/01/13 17:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.105	0.010	0.1		105	90	110				

Associated samples: **H13060510-019D; H13060510-020D; H13060510-021D**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89443

Date: *02-Aug-13*

Run ID :Run Order: **FIA202-HE_130701A: 71** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**

Analysis Date: **07/01/13 17:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.106	0.010	0.1		**106**	90	110				

Associated samples:

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89448

Date: *02-Aug-13*

Run ID :Run Order: **MAN-TECH_130701A: 8** SampType: **Method Blank** Sample ID: **MBLK** Method: **A2320 B**
Analysis Date: **07/01/13 16:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **MAN-TECH_130701A: 10** SampType: **Laboratory Control Sample** Sample ID: **LCS-061913** Method: **A2320 B**
Analysis Date: **07/01/13 16:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	620	4.0	600		**103**	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **MAN-TECH_130701A: 29** SampType: **Sample Duplicate** Sample ID: **H13060510-007ADUP** Method: **A2320 B**
Analysis Date: **07/01/13 18:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	170	4.0						172.3	**0.2**	10	
Bicarbonate as HCO3	190	4.0						193.3	**1.0**	10	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **MAN-TECH_130701A: 35** SampType: **Sample Duplicate** Sample ID: **H13060510-011ADUP** Method: **A2320 B**
Analysis Date: **07/01/13 18:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	110	4.0						107.5	**0.4**	10	
Bicarbonate as HCO3	130	4.0						128.9	**0.6**	10	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89448

Date: *02-Aug-13*

Run ID :Run Order: **MAN-TECH_130701A: 38** SampType: **Sample Matrix Spike** Sample ID: **H13060510-012AMS** Method: **A2320 B**
Analysis Date: **07/01/13 18:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	740	4.0	600	96.13	108	80	120				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **MAN-TECH_130701A: 41** SampType: **Method Blank** Sample ID: **MBLK** Method: **A2320 B**
Analysis Date: **07/01/13 19:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	4.0									

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **MAN-TECH_130701A: 43** SampType: **Laboratory Control Sample** Sample ID: **LCS-061913** Method: **A2320 B**
Analysis Date: **07/01/13 19:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	610	4.0	600		102	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **MAN-TECH_130701A: 50** SampType: **Sample Duplicate** Sample ID: **H13060510-017ADUP** Method: **A2320 B**
Analysis Date: **07/01/13 19:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	97	4.0						97.09	0.0	10	
Bicarbonate as HCO3	100	4.0						103.3	0.6	10	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **MAN-TECH_130701A: 59** SampType: **Sample Duplicate** Sample ID: **H13060511-003ADUP** Method: **A2320 B**
Analysis Date: **07/01/13 20:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	200	4.0						198	0.2	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *02-Aug-13*

BatchID: R89448

Run ID :Run Order: **MAN-TECH_130701A: 59** SampType: **Sample Duplicate** Sample ID: **H13060511-003ADUP** Method: **A2320 B**
Analysis Date: **07/01/13 20:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bicarbonate as HCO3	240	4.0						241.6	0.2	10	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **MAN-TECH_130701A: 66** SampType: **Sample Matrix Spike** Sample ID: **H13060511-008AMS** Method: **A2320 B**
Analysis Date: **07/01/13 21:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	900	4.0	600	299.3	100	80	120				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89466

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130702A: 7** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E350.1**
Analysis Date: **07/02/13 12:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	5.50	0.25	5.66		97	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130702A: 8** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E350.1**
Analysis Date: **07/02/13 12:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.970	0.055	1		97	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130702A: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **07/02/13 12:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.487	0.050	0.5		97	90	110				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D**

Run ID :Run Order: **FIA203-HE_130702A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E350.1**
Analysis Date: **07/02/13 12:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	-0.0664	0.050				0	0				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130702A: 11** SampType: **Method Blank** Sample ID: **MBLK** Method: **E350.1**
Analysis Date: **07/02/13 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.01									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89466

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130702A: 11** SampType: **Method Blank** Sample ID: **MBLK** Method: **E350.1**
Analysis Date: **07/02/13 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130702A: 19** SampType: **Sample Matrix Spike** Sample ID: **H13060510-004DMS** Method: **E350.1**
Analysis Date: **07/02/13 12:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.919	0.055	1		92	80	120				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130702A: 20** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-004DMSD** Method: **E350.1**
Analysis Date: **07/02/13 12:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.939	0.055	1		94	80	120	0.919	2.2	10	

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130702A: 25** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **07/02/13 12:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.485	0.050	0.5		97	90	110				

Associated samples: **H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D**

Run ID :Run Order: **FIA203-HE_130702A: 35** SampType: **Sample Matrix Spike** Sample ID: **H13060510-016DMS** Method: **E350.1**
Analysis Date: **07/02/13 12:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.975	0.055	1		98	80	120				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89466

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130702A: 36** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-016DMSD** Method: **E350.1**
Analysis Date: **07/02/13 12:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.964	0.055	1		96	80	120	0.9753	1.2	10	

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130702A: 39** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **07/02/13 12:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.490	0.050	0.5		98	90	110				

Associated samples: **H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130702A: 42** SampType: **Sample Matrix Spike** Sample ID: **H13060510-019DMS** Method: **E350.1**
Analysis Date: **07/02/13 12:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.869	0.055	1		87	80	120				

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Run ID :Run Order: **FIA203-HE_130702A: 43** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-019DMSD** Method: **E350.1**
Analysis Date: **07/02/13 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.898	0.055	1		90	80	120	0.8689	3.3	10	

Associated samples: **H13060510-001D; H13060510-002D; H13060510-004D; H13060510-005D; H13060510-006D; H13060510-007D; H13060510-008D; H13060510-009D; H13060510-010D; H13060510-011D; H13060510-012D; H13060510-013D; H13060510-014D; H13060510-015D; H13060510-016D; H13060510-017D; H13060510-018D; H13060510-019D; H13060510-020D; H13060510-021D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89470

Date: *02-Aug-13*

Run ID :Run Order: **ICP2-HE_130702A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**
Analysis Date: **07/02/13 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	39.7	1.0	40		99	95	105				
Magnesium	39.5	1.0	40		99	95	105				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICP2-HE_130702A: 7** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV-1** Method: **E200.7**
Analysis Date: **07/02/13 10:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.9	1.0	25		100	95	105				
Magnesium	24.9	1.0	25		99	95	105				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICP2-HE_130702A: 11** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**
Analysis Date: **07/02/13 10:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	461	1.0	500		92	80	120				
Magnesium	496	1.0	500		99	80	120				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Run ID :Run Order: **ICP2-HE_130702A: 12** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**
Analysis Date: **07/02/13 10:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	458	1.0	500		92	80	120				
Magnesium	495	1.0	500		99	80	120				

Associated samples: **H13060510-001C; H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C; H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C; H13060510-019C; H13060510-020C; H13060510-021C**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89470

Date: *02-Aug-13*

Run ID :Run Order: **ICP2-HE_130702A: 31** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **07/02/13 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.1	1.0	25		96	90	110				
Magnesium	24.5	1.0	25		98	90	110				

Associated samples: **H13060510-001C**

Run ID :Run Order: **ICP2-HE_130702A: 43** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **07/02/13 12:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.2	1.0	25		97	90	110				
Magnesium	24.6	1.0	25		98	90	110				

Associated samples: **H13060510-002C; H13060510-004C; H13060510-005C; H13060510-006C; H13060510-007C; H13060510-008C; H13060510-009C; H13060510-010C; H13060510-011C**

Run ID :Run Order: **ICP2-HE_130702A: 55** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **07/02/13 13:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	23.8	1.0	25		95	90	110				
Magnesium	23.9	1.0	25		96	90	110				

Associated samples: **H13060510-012C; H13060510-013C; H13060510-014C; H13060510-015C; H13060510-016C; H13060510-017C; H13060510-018C**

Run ID :Run Order: **ICP2-HE_130702A: 74** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **07/02/13 14:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.3	1.0	25		101	90	110				
Magnesium	25.3	1.0	25		101	90	110				

Associated samples: **H13060510-019C; H13060510-020C; H13060510-021C**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89481

Date: *02-Aug-13*

Run ID :Run Order: **IC102-H_130702A: 15** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E300.0**
Analysis Date: **07/02/13 09:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	400	1.0	400		100	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **IC102-H_130702A: 16** SampType: **Method Blank** Sample ID: **ICB** Method: **E300.0**
Analysis Date: **07/02/13 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	1.0									

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **IC102-H_130702A: 17** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E300.0**
Analysis Date: **07/02/13 10:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	190	1.0	200		96	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **IC102-H_130702A: 32** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV070213-2** Method: **E300.0**
Analysis Date: **07/02/13 13:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	400	1.0	400		99	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A**

Run ID :Run Order: **IC102-H_130702A: 44** SampType: **Sample Matrix Spike** Sample ID: **H13060510-006AMS** Method: **E300.0**
Analysis Date: **07/02/13 15:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	220	1.0	200	16.92	101	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89481

Date: *02-Aug-13*

Run ID :Run Order: **IC102-H_130702A: 44** SampType: **Sample Matrix Spike** Sample ID: **H13060510-006AMS** Method: **E300.0**
Analysis Date: **07/02/13 15:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **IC102-H_130702A: 45** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-006AMSD** Method: **E300.0**
Analysis Date: **07/02/13 16:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	220	1.0	200	16.92	101	90	110	219.9	0.1	20	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **IC102-H_130702A: 46** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV070213-3** Method: **E300.0**
Analysis Date: **07/02/13 16:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	400	1.0	400		99	90	110				

Associated samples: **H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A**

Run ID :Run Order: **IC102-H_130702A: 58** SampType: **Sample Matrix Spike** Sample ID: **H13060510-016AMS** Method: **E300.0**
Analysis Date: **07/02/13 18:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	200	1.0	200		100	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **IC102-H_130702A: 59** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-016AMSD** Method: **E300.0**
Analysis Date: **07/02/13 18:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	200	1.0	200		101	90	110	200.3	1.3	20	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89481

Date: *02-Aug-13*

Run ID :Run Order: **IC102-H_130702A: 60** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV070213-4** Method: **E300.0**
Analysis Date: **07/02/13 19:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	400	1.0	400		100	90	110				

Associated samples: **H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **IC102-H_130702A: 72** SampType: **Sample Matrix Spike** Sample ID: **H13060511-005AMS** Method: **E300.0**
Analysis Date: **07/02/13 21:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	250	1.0	200	44.48	103	90	110				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **IC102-H_130702A: 73** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060511-005AMSD** Method: **E300.0**
Analysis Date: **07/02/13 21:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	250	1.0	200	44.48	104	90	110	250	0.9	20	

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A; H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *02-Aug-13*

BatchID: R89500

Run ID :Run Order: **FIA203-HE_130703A: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **07/03/13 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.473	0.10	0.5		95	90	110				

Associated samples: **H13060510-001A**

Run ID :Run Order: **FIA203-HE_130703A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **A4500 N-C**
Analysis Date: **07/03/13 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.0180	0.10				0	0				

Associated samples: **H13060510-001A; H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A**

Run ID :Run Order: **FIA203-HE_130703A: 26** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **07/03/13 10:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.503	0.10	0.5		101	90	110				

Associated samples: **H13060510-002A; H13060510-004A; H13060510-005A; H13060510-006A; H13060510-007A; H13060510-008A; H13060510-009A; H13060510-010A; H13060510-011A; H13060510-012A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89517

Date: *02-Aug-13*

Run ID :Run Order: **ICPMS204-B_130702B: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **07/02/13 11:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0603	0.0050	0.06		100	90	110				
Cadmium	0.0318	0.0010	0.03		106	90	110				
Copper	0.0616	0.010	0.06		103	90	110				
Lead	0.0598	0.010	0.06		100	90	110				
Zinc	0.0627	0.010	0.06		104	90	110				

Associated samples: **H13060510-001B; H13060510-001C; H13060510-002B; H13060510-002C; H13060510-004B; H13060510-004C; H13060510-005B; H13060510-005C; H13060510-006B; H13060510-006C; H13060510-007B; H13060510-007C; H13060510-008B; H13060510-008C; H13060510-009B; H13060510-009C; H13060510-010B; H13060510-010C; H13060510-011B; H13060510-011C; H13060510-012B; H13060510-012C; H13060510-013B; H13060510-013C; H13060510-014B; H13060510-014C; H13060510-015B; H13060510-015C; H13060510-016B; H13060510-016C; H13060510-017B; H13060510-017C; H13060510-018B; H13060510-018C; H13060510-019B; H13060510-019C; H13060510-020B; H13060510-020C; H13060510-021B; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **07/02/13 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000367	0.0050									
Cadmium	0.00116	0.0010									
Copper	0.000462	0.010									
Lead	0.000159	0.010									
Zinc	0.00133	0.010									

Associated samples: **H13060510-001B; H13060510-001C; H13060510-002B; H13060510-002C; H13060510-004B; H13060510-004C; H13060510-005B; H13060510-005C; H13060510-006B; H13060510-006C; H13060510-007B; H13060510-007C; H13060510-008B; H13060510-008C; H13060510-009B; H13060510-009C; H13060510-010B; H13060510-010C; H13060510-011B; H13060510-011C; H13060510-012B; H13060510-012C; H13060510-013B; H13060510-013C; H13060510-014B; H13060510-014C; H13060510-015B; H13060510-015C; H13060510-016B; H13060510-016C; H13060510-017B; H13060510-017C; H13060510-018B; H13060510-018C; H13060510-019B; H13060510-019C; H13060510-020B; H13060510-020C; H13060510-021B; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **07/02/13 12:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0102	0.0050	0.01		102	70	130				
Cadmium	0.0110	0.0010	0.01		109	70	130				
Copper	0.0202	0.010	0.02		101	70	130				
Lead	0.000220	0.010				0	0				
Zinc	0.0111	0.010	0.01		111	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89517

Date: *02-Aug-13*

Run ID :Run Order: **ICPMS204-B_130702B: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **07/02/13 12:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060510-001B; H13060510-001C; H13060510-002B; H13060510-002C; H13060510-004B; H13060510-004C; H13060510-005B; H13060510-005C; H13060510-006B; H13060510-006C; H13060510-007B; H13060510-007C; H13060510-008B; H13060510-008C; H13060510-009B; H13060510-009C; H13060510-010B; H13060510-010C; H13060510-011B; H13060510-011C; H13060510-012B; H13060510-012C; H13060510-013B; H13060510-013C; H13060510-014B; H13060510-014C; H13060510-015B; H13060510-015C; H13060510-016B; H13060510-016C; H13060510-017B; H13060510-017C; H13060510-018B; H13060510-018C; H13060510-019B; H13060510-019C; H13060510-020B; H13060510-020C; H13060510-021B; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 21** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**
Analysis Date: **07/02/13 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Cadmium	ND	7E-06									
Copper	ND	3E-05									
Lead	ND	6E-06									
Zinc	ND	0.0003									

Associated samples: **H13060510-001B; H13060510-002B; H13060510-004B; H13060510-005B; H13060510-006B; H13060510-007B; H13060510-008B; H13060510-009B; H13060510-010B; H13060510-011B; H13060510-012B; H13060510-013B; H13060510-014B; H13060510-015B; H13060510-016B; H13060510-017B; H13060510-018B; H13060510-019B; H13060510-020B; H13060510-021B**

Run ID :Run Order: **ICPMS204-B_130702B: 22** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **07/02/13 14:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0492	0.0050	0.05		98	85	115				
Cadmium	0.0529	0.0010	0.05		106	85	115				
Copper	0.0493	0.010	0.05		99	85	115				
Lead	0.0502	0.010	0.05		100	85	115				
Zinc	0.0514	0.010	0.05		103	85	115				

Associated samples: **H13060510-001B; H13060510-002B; H13060510-004B; H13060510-005B; H13060510-006B; H13060510-007B; H13060510-008B; H13060510-009B; H13060510-010B; H13060510-011B; H13060510-012B; H13060510-013B; H13060510-014B; H13060510-015B; H13060510-016B; H13060510-017B; H13060510-018B; H13060510-019B; H13060510-020B; H13060510-021B**

Run ID :Run Order: **ICPMS204-B_130702B: 50** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **07/02/13 19:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0598	0.0050	0.06		100	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89517

Date: *02-Aug-13*

Run ID :Run Order: **ICPMS204-B_130702B: 50** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **07/02/13 19:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0320	0.0010	0.03		107	90	110				
Copper	0.0616	0.010	0.06		103	90	110				
Lead	0.0602	0.010	0.06		100	90	110				
Zinc	0.0614	0.010	0.06		102	90	110				

Associated samples: **H13060510-001B; H13060510-001C; H13060510-002B; H13060510-002C; H13060510-004B; H13060510-004C; H13060510-005B; H13060510-005C; H13060510-006B; H13060510-006C; H13060510-007B; H13060510-007C; H13060510-008B; H13060510-008C; H13060510-009B; H13060510-009C; H13060510-010B; H13060510-010C; H13060510-011B; H13060510-011C; H13060510-012B; H13060510-012C; H13060510-013B; H13060510-013C; H13060510-014B; H13060510-014C; H13060510-015B; H13060510-015C; H13060510-016B; H13060510-016C; H13060510-017B; H13060510-017C; H13060510-018B; H13060510-018C; H13060510-019B; H13060510-019C; H13060510-020B; H13060510-020C; H13060510-021B; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 51** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **07/02/13 19:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000260	0.0050									
Cadmium	0.00108	0.0010									
Copper	0.000366	0.010									
Lead	0.000174	0.010									
Zinc	0.00112	0.010									

Associated samples: **H13060510-001B; H13060510-001C; H13060510-002B; H13060510-002C; H13060510-004B; H13060510-004C; H13060510-005B; H13060510-005C; H13060510-006B; H13060510-006C; H13060510-007B; H13060510-007C; H13060510-008B; H13060510-008C; H13060510-009B; H13060510-009C; H13060510-010B; H13060510-010C; H13060510-011B; H13060510-011C; H13060510-012B; H13060510-012C; H13060510-013B; H13060510-013C; H13060510-014B; H13060510-014C; H13060510-015B; H13060510-015C; H13060510-016B; H13060510-016C; H13060510-017B; H13060510-017C; H13060510-018B; H13060510-018C; H13060510-019B; H13060510-019C; H13060510-020B; H13060510-020C; H13060510-021B; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 52** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **07/02/13 19:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0106	0.0050	0.01		106	70	130				
Cadmium	0.0109	0.0010	0.01		109	70	130				
Copper	0.0202	0.010	0.02		101	70	130				
Lead	0.000202	0.010				0	0				
Zinc	0.0104	0.010	0.01		104	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89517

Date: *02-Aug-13*

Run ID :Run Order: **ICPMS204-B_130702B: 52** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **07/02/13 19:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13060510-001B; H13060510-001C; H13060510-002B; H13060510-002C; H13060510-004B; H13060510-004C; H13060510-005B; H13060510-005C; H13060510-006B; H13060510-006C; H13060510-007B; H13060510-007C; H13060510-008B; H13060510-008C; H13060510-009B; H13060510-009C; H13060510-010B; H13060510-010C; H13060510-011B; H13060510-011C; H13060510-012B; H13060510-012C; H13060510-013B; H13060510-013C; H13060510-014B; H13060510-014C; H13060510-015B; H13060510-015C; H13060510-016B; H13060510-016C; H13060510-017B; H13060510-017C; H13060510-018B; H13060510-018C; H13060510-019B; H13060510-019C; H13060510-020B; H13060510-020C; H13060510-021B; H13060510-021C**

Run ID :Run Order: **ICPMS204-B_130702B: 69** SampType: **Sample Matrix Spike** Sample ID: **H13060510-001BMS** Method: **E200.8**
Analysis Date: **07/02/13 21:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0575	0.0010	0.05	0.005747	103	70	130				
Cadmium	0.0509	0.0010	0.05	0.0000104	102	70	130				
Copper	0.0529	0.0050	0.05	0.002757	100	70	130				
Lead	0.0504	0.0010	0.05	0.0000953	101	70	130				
Zinc	0.0609	0.010	0.05	0.01115	99	70	130				

Associated samples: **H13060510-001B; H13060510-002B; H13060510-004B; H13060510-005B; H13060510-006B; H13060510-007B; H13060510-008B; H13060510-009B; H13060510-010B; H13060510-011B; H13060510-012B; H13060510-013B; H13060510-014B; H13060510-015B; H13060510-016B; H13060510-017B; H13060510-018B; H13060510-019B; H13060510-020B; H13060510-021B**

Run ID :Run Order: **ICPMS204-B_130702B: 70** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-001BMSD** Method: **E200.8**
Analysis Date: **07/02/13 21:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0567	0.0010	0.05	0.005747	102	70	130	0.05748	1.3	20	
Cadmium	0.0509	0.0010	0.05	0.0000104	102	70	130	0.05087	0.0	20	
Copper	0.0526	0.0050	0.05	0.002757	100	70	130	0.05292	0.6	20	
Lead	0.0504	0.0010	0.05	0.0000953	101	70	130	0.05037	0.1	20	
Zinc	0.0633	0.010	0.05	0.01115	104	70	130	0.06087	3.9	20	

Associated samples: **H13060510-001B; H13060510-002B; H13060510-004B; H13060510-005B; H13060510-006B; H13060510-007B; H13060510-008B; H13060510-009B; H13060510-010B; H13060510-011B; H13060510-012B; H13060510-013B; H13060510-014B; H13060510-015B; H13060510-016B; H13060510-017B; H13060510-018B; H13060510-019B; H13060510-020B; H13060510-021B**

Run ID :Run Order: **ICPMS204-B_130702B: 107** SampType: **Sample Matrix Spike** Sample ID: **H13060510-012BMS** Method: **E200.8**
Analysis Date: **07/03/13 00:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0730	0.0010	0.05	0.02193	102	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89517

Date: *02-Aug-13*

Run ID :Run Order: **ICPMS204-B_130702B: 107** SampType: **Sample Matrix Spike** Sample ID: **H13060510-012BMS** Method: **E200.8**

Analysis Date: **07/03/13 00:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0522	0.0010	0.05	0.0000245	**104**	70	130				
Copper	0.0555	0.0050	0.05	0.004628	**102**	70	130				
Lead	0.0510	0.0010	0.05	0.0001736	**102**	70	130				
Zinc	0.0626	0.010	0.05	0.009454	**106**	70	130				

Associated samples: **H13060510-001B; H13060510-002B; H13060510-004B; H13060510-005B; H13060510-006B; H13060510-007B; H13060510-008B; H13060510-009B; H13060510-010B; H13060510-011B; H13060510-012B; H13060510-013B; H13060510-014B; H13060510-015B; H13060510-016B; H13060510-017B; H13060510-018B; H13060510-019B; H13060510-020B; H13060510-021B**

Run ID :Run Order: **ICPMS204-B_130702B: 108** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13060510-012BMSD** Method: **E200.8**

Analysis Date: **07/03/13 00:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0738	0.0010	0.05	0.02193	**104**	70	130	0.07298	**1.2**	20	
Cadmium	0.0517	0.0010	0.05	0.0000245	**103**	70	130	0.05223	**1.0**	20	
Copper	0.0550	0.0050	0.05	0.004628	**101**	70	130	0.05554	**0.9**	20	
Lead	0.0506	0.0010	0.05	0.0001736	**101**	70	130	0.05096	**0.8**	20	
Zinc	0.0626	0.010	0.05	0.009454	**106**	70	130	0.06261	**0.1**	20	

Associated samples: **H13060510-001B; H13060510-002B; H13060510-004B; H13060510-005B; H13060510-006B; H13060510-007B; H13060510-008B; H13060510-009B; H13060510-010B; H13060510-011B; H13060510-012B; H13060510-013B; H13060510-014B; H13060510-015B; H13060510-016B; H13060510-017B; H13060510-018B; H13060510-019B; H13060510-020B; H13060510-021B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89585

Date: *02-Aug-13*

Run ID :Run Order: **ICPMS204-B_130708A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **07/08/13 16:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0624	0.010	0.06		104	90	110				

Associated samples: **H13060510-004B; H13060510-016B**

Run ID :Run Order: **ICPMS204-B_130708A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **07/08/13 16:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.00116	0.010									

Associated samples: **H13060510-004B; H13060510-016B**

Run ID :Run Order: **ICPMS204-B_130708A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **07/08/13 16:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0119	0.010	0.01		119	70	130				

Associated samples: **H13060510-004B; H13060510-016B**

Run ID :Run Order: **ICPMS204-B_130708A: 17** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**
Analysis Date: **07/08/13 16:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	0.0003									

Associated samples: **H13060510-004B; H13060510-016B**

Run ID :Run Order: **ICPMS204-B_130708A: 18** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **07/08/13 16:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0549	0.010	0.05		110	85	115				

Associated samples: **H13060510-004B; H13060510-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89585

Date: *02-Aug-13*

Run ID :Run Order: **ICPMS204-B_130708A: 43** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **07/08/13 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0623	0.010	0.06		104	90	110				

Associated samples: **H13060510-004B; H13060510-016B**

Run ID :Run Order: **ICPMS204-B_130708A: 44** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **07/08/13 18:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.00115	0.010									

Associated samples: **H13060510-004B; H13060510-016B**

Run ID :Run Order: **ICPMS204-B_130708A: 45** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **07/08/13 19:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0114	0.010	0.01		114	70	130				

Associated samples: **H13060510-004B; H13060510-016B**

Run ID :Run Order: **ICPMS204-B_130708A: 97** SampType: **Sample Matrix Spike** Sample ID: **H13070011-003BMS** Method: **E200.8**
Analysis Date: **07/08/13 23:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	10.3	0.017	2.5	7.545	110	70	130				

Associated samples: **H13060510-004B; H13060510-016B**

Run ID :Run Order: **ICPMS204-B_130708A: 98** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13070011-003BMSD** Method: **E200.8**
Analysis Date: **07/08/13 23:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	10.1	0.017	2.5	7.545	101	70	130	10.3	2.4	20	

Associated samples: **H13060510-004B; H13060510-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89602

Date: *02-Aug-13*

Run ID :Run Order: **FIA203-HE_130709A: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**

Analysis Date: **07/09/13 15:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.499	0.10	0.5		**100**	90	110				

Associated samples: **H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Run ID :Run Order: **FIA203-HE_130709A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **A4500 N-C**

Analysis Date: **07/09/13 15:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.0161	0.10				0	0				

Associated samples: **H13060510-013A; H13060510-014A; H13060510-015A; H13060510-016A; H13060510-017A; H13060510-018A; H13060510-019A; H13060510-020A; H13060510-021A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13060510
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R89602

Date: *02-Aug-13*

BROOKS
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July 31, 2013

Energy Laboratories, Inc.
ATTN: Jonathan Dee Hager
PO Box 5688
Helena MT 59604
jhager@energylab.com

RE: Project ENL-HL1201

Dear Jonathan Dee Hager,

This report contains results for the 4 samples received by Brooks Rand Labs (BRL) on July 03, 2013. The samples were logged-in for the contracted analyses according to the chain-of-custody form(s). The samples were received, prepared, analyzed, and stored according to BRL SOPs and EPA methodology.

The samples were received in a cooler with wet ice and at a temperature of 21.7 °C. This temperature was above the control limit of 12 ± 2 oC for pre-preserved samples. Therefore, all sample results were qualified **H** for temperature requirements not being met.

The results were method blank corrected as described in the calculations section of the relevant BRL SOP(s) and may have been evaluated using reporting limits that have been adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details. All additional data is reported without qualification and all other associated quality control sample results meet the acceptance criteria.

BRL, an accredited laboratory, certifies that the reported results of all analyses for which BRL is NELAP accredited meet all NELAP requirements. For more details, please see the *Report Information* page in your report. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Lydia Greaves

Lydia Greaves
Project Manager
Lydia@brooksrand.com

Report Information

Laboratory Accreditation

BRL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BRL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksrand.com/default.asp?contentID=586>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BLK	method blank	**MS**	matrix spike
BRL	Brooks Rand Labs	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
CRM	certified reference material	**RPD**	relative percent difference
D	dissolved fraction	**RSD**	relative standard deviation
DUP	duplicate	**SCV**	secondary calibration verification
ICV	initial calibration verification	**SOP**	standard operating procedure
MDL	method detection limit	**SRM**	standard reference material
MRL	method reporting limit	**T**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

B	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Rand Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BRL.

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
H13060510-003B	1327011-01	Water	Sample	06/25/2013	07/03/2013
H13060510-004E	1327011-02	DIW	Field Blank	06/25/2013	07/03/2013
H13060510-005E	1327011-03	Water	Sample	06/25/2013	07/03/2013
H13060510-006E	1327011-04	Water	Field Duplicate	06/25/2013	07/03/2013

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
MeHg	Water	EPA 1630	07/15/2013	07/17/2013	B131038	1300493

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
H13060510-003B										
1327011-01	MeHg	Water	T	0.327	H	0.020	0.050	ng/L	B131038	1300493
H13060510-004E										
1327011-02	MeHg	DIW	T	0.020	H, U	0.020	0.050	ng/L	B131038	1300493
H13060510-005E										
1327011-03	MeHg	Water	T	1.26	H	0.020	0.049	ng/L	B131038	1300493
H13060510-006E										
1327011-04	MeHg	Water	T	1.33	H	0.020	0.049	ng/L	B131038	1300493

Accuracy & Precision Summary

Batch: B131038
Lab Matrix: Water
Method: EPA 1630

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B131038-BS1	**Laboratory Fortified Blank (1325051)**						
	MeHg		0.9995	1.109	ng/L	111% 67-133	
B131038-BS2	**Laboratory Fortified Blank (1325051)**						
	MeHg		1.018	1.030	ng/L	101% 67-133	
B131038-MS2	**Matrix Spike (1327011-04)**						
	MeHg	1.330	4.373	5.816	ng/L	103% 65-135	
B131038-MSD2	**Matrix Spike Duplicate (1327011-04)**						
	MeHg	1.330	4.419	5.211	ng/L	88% 65-135	11% 35

Method Blanks & Reporting Limits

Batch: B131038
Matrix: Water
Method: EPA 1630
Analyte: MeHg

Sample	Result	Units
B131038-BLK1	0.010	ng/L
B131038-BLK2	0.013	ng/L
B131038-BLK3	0.023	ng/L
B131038-BLK4	0.006	ng/L

Average: 0.013 **Standard Deviation:** 0.007 **MDL:** 0.020
Limit: 0.045 **Limit:** 0.015 **MRL:** 0.051

Sample Containers

Lab ID: 1327011-01
Sample: H13060510-003B
Comments: Qualify H

Report Matrix: Water
Sample Type: Sample

Collected: 06/25/2013
Received: 07/03/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	125mL	13-0123	2mL 6N HCL (pp)	1318009	<2	Cooler

Lab ID: 1327011-02
Sample: H13060510-004E
Comments: Qualify H

Report Matrix: DIW
Sample Type: Field Blank

Collected: 06/25/2013
Received: 07/03/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	125mL	13-0123	2mL 6N HCL (pp)	1318009	<2	Cooler

Lab ID: 1327011-03
Sample: H13060510-005E
Comments: Qualify H

Report Matrix: Water
Sample Type: Sample

Collected: 06/25/2013
Received: 07/03/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	125mL	13-0123	2mL 6N HCL (pp)	1318009	<2	Cooler

Lab ID: 1327011-04
Sample: H13060510-006E
Comments: Qualify H

Report Matrix: Water
Sample Type: Field Duplicate

Collected: 06/25/2013
Received: 07/03/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	125mL	13-0123	2mL 6N HCL (pp)	1318009	<2	Cooler

Shipping Containers

Cooler

Received: July 3, 2013 9:20
Tracking No: 1Z37EW970353747052 via UPS
Coolant Type: Ice
Temperature: 21.7 °C

Description: Cooler
Damaged in transit? No
Returned to client? No

Custody seals present? Yes
Custody seals intact? Yes
COC present? Yes

Energy Laboratories Inc
3161 East Lyndale Avenue
Helena, MT 59601
(406) 442-0711

H13060510

CHAIN-OF-CUSTODY RECORD

Page 1 of 1
30-Jun-13

Custody Seal: Y N
Intacted: Y N
Signature Match: Y N

Shipped By: ____________
Receipt Temp: ____________

Subcontractor:

Brooks Rand Labs
3958 6th Ave NW
Seattle, WA 98106
TEL: (206) 632-6206 FAX: (206) 632-6017
Acct #:

Subcontractor's Client:

Shipped By:

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests SUB-BROOKSRAND
H13060510-003B	Aqueous	06/25/13 12:00 P	1-CLIENT-SLD	1
H13060510-004E	Aqueous	06/25/13 01:00 P	1-CLIENT-SLD	1
H13060510-005E	Aqueous	06/25/13 01:30 P	1-CLIENT-SLD	1
H13060510-006E	Aqueous	06/25/13 01:30 P	1-CLIENT-SLD	1

Comments: Methyl Mercury analysis

QC Level:
STD

	Date/Time		Date/Time
Relinquished by:		**Received by:**	
Relinquished by:	6/30/13 20:10	**Received by:**	7/3/13 0920

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Federal Superfund

H13060510

Login completed by: Tracy L. Lorash
Reviewed by: BL2000\kwiegand
Reviewed Date: 7/4/2013

Date Received: 6/28/2013
Received by: TLL
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	℃ See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Sample ID on COC is CFR-03A RBG - ID on bottles has RBG spelled out. Logged in with ID from COC.
Sample ID on COC is CFR-03A LBG - ID on bottles has LBG spelled out. Logged in with ID from COC.
Sample ID on COC is SBC-P2 - ID on bottles is P2-SBC. Logged in with ID from COC.
Cooler 1 was received at 1.4℃, Cooler 2 at 0.2℃, Cooler 3 at 1.8℃. Samples were received on wet ice.
500 mL unpreserved bottle for SS-25 Duplicate was received preserved. TI 6/30/13.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 1 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ (via ATKINS)

Project Name, PWS, Permit, Etc.: CFR OU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required):
jgriffin@mt.gov
erich.weber@atkinsglobal.com
gary.ingman@atkinsglobal.com
☐ No Hard Copy Email:

Contact Name: Joe Griffin Phone/Fax: 560-6060 (MDEQ)
Erich Weber 437-9245 Cell: 439-0563

Sampler: (Please Print) E. Weber, G. Ingman

Invoice Contact & Phone: Joe Griffin (above)

Purchase Order:

Quote/Bottle Order: 624/12427

Invoice Address (Required):
MT DEQ
P.O. Box 200901
Helena, MT 59620-0901
☐ No Hard Copy Email:

Special Report/Formats:
☐ DW
☐ POTW/WWTP
☐ State: ______
☐ Other: ______
☐ EDD/EDT (Electronic Data)
Format: ______
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: all dissolved samples field filtered
Total Hg from TR metals sample

		SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO3+2, TP	TSS	Tot. Alk, SO4	Hardness (TR Ca & Mg)	Total Hg (low level)	Methyl Hg (contract)	SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments
3	1	CFR-116A	6-25-13	0930	5W	x	x	x	x	x	x	x						C1 1.4°
3	2	CSC	6-25-13	1045	5W	x	x	x	x	x	x	x						C2 0.2° TB
3	3	CFR-84F	6-25-13	1200	2W								x	x				C3 1.8°
3	4	Field Blank #1	6-25-13	1300	6W	x	x	x	x	x	x	x	x	x				
3	5	FC-CFR	6-25-13	1330	6W								x	x				
5	6	FC-CFR Duplicate	6-25-13	1330	6W								x	x				
1	7	CFR-42G	6-25-13	1430	5W													
3	8	LBR-CFR	6-25-13	1545	5W													
1	9	CFR-27H	6-26-13	1000	5W													
1	10	CFR-11F	6-26-13	1100	5W													

LABORATORY USE ONLY
Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: [✓ Y] N
Custody Seal On Bottle Y [✓ N]
On Cooler Y [✓ N]
Intact Y N
Signature Match Y N
H13060510

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 6/28/13 12:10 Signature:
Relinquished by (print): Date/Time: Signature:
Received by (print): Date/Time: Signature:
Received by (print): Date/Time: Signature:
Received by Laboratory: Tracy Orcutt Date/Time: 6/28/13 12:10 Signature: Tracy Orcutt

Sample Disposal: Return to Client: ______ Lab Disposal: ______

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 2 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MTDEQ (via ATKINS)	Project Name, PWS, Permit, Etc. CFR OU Monitoring	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address (Required): please see page 1	Contact Name: please see page 1 Phone/Fax:	Cell:	Sampler: (Please Print) E. Weber G. Ingman
☐ No Hard Copy Email:	Invoice Contact & Phone: please see page 1	Purchase Order:	Quote/Bottle Order: 624/12427

Invoice Address (Required): please see page 1

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State:
☐ Other:
☐ EDD/EDT (Electronic Data)
Format:
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: all dissolved samples field filtered

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: [✓ Y] N
Custody Seal On Bottle Y [✓ N]
On Cooler Y [✓ N]
Intact Y N
Signature Match Y N

LABORATORY USE ONLY

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO3+2, TP	TSS	Tot. Alk., SO4-	Hardness (TR Ca & Mg)	DOC		SEE ATTACHED	Standard Turnaround (TAT)	RUSH	Comments	Laboratory Use Only
1	1 CFR-07D	6-26-13	1200	5W	X	X	X	X	X	X	X						C1 1.4°	H13060510
1	2 CFR-03A	6-26-13	1230	5W													C2 0.2° TB	
1	3 CFR-03A RBG	6-26-13	1245	5W													C3 1.8°	
1	4 CFR-03A LBG	6-26-13	1300	5W													Right Bank Grab	
1	5 WSC-SBC	6-26-13	1400	5W													Left Bank Grab	
2	6 Field Blank #2	6-27-13	1000	6W								X						
2	7 SS-25	6-27-13	1045	6W								X						
2	8 SS-25 Duplicate	6-27-13	1045	6W								X						
2	9 MWB-SBC	6-27-13	1130	6W								X						
2	10 SBC-P2	6-27-13	1230	5W														

Custody Record MUST be Signed

Relinquished by (print): Erich Weber	Date/Time: 6/28/13 12:10	Signature:	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal:	Return to Client:	Lab Disposal:	Received by Laboratory: Tracey Cariol	Date/Time: 6/28/13 12:10	Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 3 of 3

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ (via ATKINS)

Project Name, PWS, Permit, Etc.: CFR OU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required): please see page 1

☐ No Hard Copy Email:

Contact Name: please see page 1

Phone/Fax:

Cell:

Sampler: (Please Print) E. Weber G. Ingman

Invoice Contact & Phone: please see page 1

Purchase Order:

Quote/Bottle Order: 624/12427

Invoice Address (Required): please see page 1

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State:
☐ Other:
☐ EDD/EDT (Electronic Data)
Format:
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss. As, Cd, Cu, Pb, Zn	TPH	NH_3, NO_{3+2}, TP	TSS	Tot. Alk., SO_4^-	Hardness (TR Ca & Mg)			SEE ATTACHED	Standard Turnaround (TAT)	R U S H	Comments	LABORATORY USE ONLY
2 1	MCWC-MWB	6-27-13	1330	SW	X	X	X	X	X	X	X						C1 1.4°	H13060510
2																	C2 0.2° TB	
3																	C3 1.8°	
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: all dissolved samples field filtered

Shipped by: Hand

Cooler ID(s): Y

Receipt Temp: See comments

On Ice: [✓ Y] N

Custody Seal
On Bottle Y [✓ N]
On Cooler Y N

Intact Y N

Signature Match Y N

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 6/28/13 12:10 Signature: E.S.W.

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Tracy Grauk Date/Time: 6/28/13 12:10 Signature: Tracy Grauk

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

APPENDIX B3

THIRD QUARTER
ANALYSIS RESULTS FOR
SURFACE WATER AND INSTREAM SEDMINT SAMPLES

ENERGY LABORATORIES
www.energylab.com
Analytical Excellence Since 1952
Helena, MT 877-472-0711 • Billings, MT 800-735-4489 • Casper, WY 888-235-0515
Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

ANALYTICAL SUMMARY REPORT

October 24, 2013

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13090377 Quote ID: H624 - CFR Monitoring-474374

Project Name: CFR OU Monitoring

Energy Laboratories Inc Helena MT received the following 30 samples for MT DEQ-Federal Superfund on 9/19/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13090377-001	CFR-116A	09/17/13 9:00	09/19/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13090377-002	CFR-84F	09/17/13 11:00	09/19/13	Aqueous	Mercury, Total Digestion, Mercury by CVAA Subcontracted, Analytics
H13090377-003	FC-CFR	09/17/13 12:00	09/19/13	Aqueous	Same As Above
H13090377-004	FC-CFR Duplicate	09/17/13 12:00	09/19/13	Aqueous	Same As Above
H13090377-005	Field Blank #1	09/17/13 12:30	09/19/13	Aqueous	Same As Above
H13090377-006	LBR-CFR	09/17/13 13:45	09/19/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13090377-007	CFR-27H	09/17/13 15:00	09/19/13	Aqueous	Same As Above
H13090377-008	CFR-11F	09/18/13 8:45	09/19/13	Aqueous	Same As Above
H13090377-009	CFR-07D	09/18/13 10:15	09/19/13	Aqueous	Same As Above
H13090377-010	CFR-03A	09/18/13 11:30	09/19/13	Aqueous	Same As Above
H13090377-011	WSC-SBC	09/18/13 12:30	09/19/13	Aqueous	Same As Above

H13090377-012	SS-25	09/18/13 14:00	09/19/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13090377-013	SS-25 Duplicate	09/18/13 14:00	09/19/13	Aqueous	Same As Above
H13090377-014	Field Blank #2	09/18/13 15:00	09/19/13	Aqueous	Same As Above
H13090377-015	MWB-SBC	09/18/13 15:45	09/19/13	Aqueous	Same As Above
H13090377-016	MCWC-MWB	09/18/13 17:00	09/19/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13090377-017	CFR-116A Sediment Sieve <0.065mm	09/17/13 9:00	09/19/13	Sediment	Metals by ICP/ICPMS, Total Digestion, Total Metals Sieves Soil Preparation
H13090377-018	LBR-CFR Sediment Sieve <0.065mm	09/17/13 13:45	09/19/13	Sediment	Metals by ICP/ICPMS, Total Digestion, Total Metals Sieves
H13090377-019	CFR-27H Sediment Sieve <0.065mm	09/17/13 15:00	09/19/13	Sediment	Same As Above
H13090377-020	RTC-1 Sediment Sieve <0.065mm	09/17/13 16:15	09/19/13	Sediment	Same As Above
H13090377-021	LC-7 Sediment Sieve <0.065mm	09/17/13 16:45	09/19/13	Sediment	Same As Above
H13090377-022	CFR-11F Sediment Sieve <0.065mm	09/18/13 8:45	09/19/13	Sediment	Same As Above
H13090377-023	CFR-07D Sediment Sieve <0.065mm	09/18/13 10:15	09/19/13	Sediment	Same As Above
H13090377-024	CFR-07D Duplicate Sediment Sieve <0.065mm	09/18/13 10:15	09/19/13	Sediment	Same As Above
H13090377-025	CFR-03A Sediment Sieve <0.065mm	09/18/13 11:30	09/19/13	Sediment	Same As Above
H13090377-026	WSC-SBC Sediment Sieve <0.065mm	09/18/13 12:30	09/19/13	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H13090377-027	SS-25 Sediment Sieve <0.065mm	09/18/13 14:00	09/19/13	Sediment	Same As Above
H13090377-028	SS-25 Duplicate Sediment Sieve <0.065mm	09/18/13 14:00	09/19/13	Sediment	Same As Above
H13090377-029	MWB-SBC Sediment Sieve <0.065mm	09/18/13 15:45	09/19/13	Sediment	Same As Above
H13090377-030	MCWC-MWB Sediment Sieve <0.065mm	09/18/13 17:00	09/19/13	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: CFR OU Monitoring
Sample Delivery Group: H13090377

Report Date: 10/24/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

Samples 002, 003, 004 & 005 were submitted to Brooks Rand Labs for analysis of Methyl Mercury. Attached is the final report. Wj 10/23/13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring
Client Sample ID	CFR-116A	**Collection Date:**	09/17/13 09:00
		DateReceived:	09/19/13
Lab ID:	H13090377-001	**Report Date:**	10/24/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	14	mg/L		1		A2540 D	09/20/13 12:51 / cmm	09/20/13 12:46	J-124 (14410200)_130920A	: 6	21763
INORGANICS											
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	09/20/13 19:57 / cmm		MAN-TECH_130920B	: 77	R91461
Bicarbonate as HCO3	170	mg/L		4		A2320 B	09/20/13 19:57 / cmm		MAN-TECH_130920B	: 77	R91461
Sulfate	61	mg/L		1		E300.0	09/20/13 20:36 / cmm		IC102-H_130920A	: 61	R91476
Hardness as CaCO3	176	mg/L		1		A2340 B	09/24/13 15:11 / abb		CALC_130925A	: 14	R91547
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:34 / reh		FIA203-HE_130924A	: 16	R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:20 / reh		FIA203-HE_130920C	: 35	R91442
Nitrogen, Total	0.13	mg/L		0.05		A4500 N-C	09/26/13 14:08 / reh	09/26/13 09:54	FIA203-HE_130926B	: 22	21845
Phosphorus, Total as P	0.008	mg/L		0.005		E365.1	09/23/13 15:32 / reh	09/23/13 10:53	FIA202-HE_130923A	: 22	21785
METALS, DISSOLVED											
Arsenic	0.005	mg/L		0.005		E200.8	09/24/13 20:16 / dck		ICPMS204-B_130924A	: 89	R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 20:16 / dck		ICPMS204-B_130924A	: 89	R91546
Copper	0.002	mg/L		0.001		E200.8	09/24/13 20:16 / dck		ICPMS204-B_130924A	: 89	R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 20:16 / dck		ICPMS204-B_130924A	: 89	R91546
Zinc	0.01	mg/L		0.01		E200.8	09/24/13 20:16 / dck		ICPMS204-B_130924A	: 89	R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.006	mg/L		0.005		E200.8	09/24/13 20:57 / dck	09/23/13 08:15	ICPMS204-B_130924A	: 98	21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 20:57 / dck	09/23/13 08:15	ICPMS204-B_130924A	: 98	21775
Calcium	48	mg/L		1		E200.7	09/24/13 15:11 / sld	09/23/13 08:15	ICP2-HE_130924A	: 76	21775
Copper	0.005	mg/L		0.001		E200.8	09/24/13 20:57 / dck	09/23/13 08:15	ICPMS204-B_130924A	: 98	21775
Lead	0.0007	mg/L		0.0005		E200.8	09/24/13 20:57 / dck	09/23/13 08:15	ICPMS204-B_130924A	: 98	21775
Magnesium	13	mg/L		1		E200.7	09/24/13 15:11 / sld	09/23/13 08:15	ICP2-HE_130924A	: 76	21775
Zinc	ND	mg/L		0.01		E200.8	09/24/13 20:57 / dck	09/23/13 08:15	ICPMS204-B_130924A	: 98	21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-84F
Lab ID: H13090377-002
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/17/13 11:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	0.00002	mg/L		0.00001		E245.1	09/26/13 13:19 / sbk	09/26/13 07:21	HGCV202-H_130926A : 12		21831

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	FC-CFR	**Collection Date:**	09/17/13 12:00	**DateReceived:**	09/19/13
Lab ID:	H13090377-003	**Report Date:**	10/24/13		
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	0.00003	mg/L		0.00001		E245.1	09/26/13 13:30 / sbk	09/26/13 07:21	HGCV202-H_130926A	15	21831

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR Duplicate
Lab ID: H13090377-004
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/17/13 12:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	0.00003	mg/L		0.00001		E245.1	09/26/13 13:34 / sbk	09/26/13 07:21	HGCV202-H_130926A : 16		21831

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #1
Lab ID: H13090377-005
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/17/13 12:30
DateReceived: 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	ND	mg/L		0.00001		E245.1	09/26/13 13:38 / sbk	09/26/13 07:21	HGCV202-H_130926A	17	21831

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID LBR-CFR
Lab ID: H13090377-006
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/17/13 13:45 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	4	mg/L		1		A2540 D	09/20/13 12:51 / cmm	09/20/13 12:46	J-124 (14410200)_130920A : 7		21763
INORGANICS											
Alkalinity, Total as CaCO3	190	mg/L		4		A2320 B	09/20/13 20:04 / cmm		MAN-TECH_130920B : 78		R91461
Bicarbonate as HCO3	210	mg/L		4		A2320 B	09/20/13 20:04 / cmm		MAN-TECH_130920B : 78		R91461
Sulfate	17	mg/L		1		E300.0	09/20/13 20:49 / cmm		IC102-H_130920A : 62		R91476
Hardness as CaCO3	182	mg/L		1		A2340 B	09/24/13 15:25 / abb		CALC_130925A : 25		R91547
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:37 / reh		FIA203-HE_130924A : 19		R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:21 / reh		FIA203-HE_130920C : 36		R91442
Nitrogen, Total	0.15	mg/L		0.05		A4500 N-C	09/26/13 14:09 / reh	09/26/13 09:54	FIA203-HE_130926B : 23		21845
Phosphorus, Total as P	0.027	mg/L		0.005		E365.1	09/23/13 15:33 / reh	09/23/13 10:53	FIA202-HE_130923A : 23		21785
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	09/24/13 21:27 / dck		ICPMS204-B_130924A : 105		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 21:27 / dck		ICPMS204-B_130924A : 105		R91546
Copper	ND	mg/L		0.001		E200.8	09/24/13 21:27 / dck		ICPMS204-B_130924A : 105		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 21:27 / dck		ICPMS204-B_130924A : 105		R91546
Zinc	ND	mg/L		0.01		E200.8	09/24/13 21:27 / dck		ICPMS204-B_130924A : 105		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.005	mg/L		0.005		E200.8	09/24/13 21:32 / dck	09/23/13 08:15	ICPMS204-B_130924A : 106		21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 21:32 / dck	09/23/13 08:15	ICPMS204-B_130924A : 106		21775
Calcium	53	mg/L		1		E200.7	09/24/13 15:25 / sld	09/23/13 08:15	ICP2-HE_130924A : 80		21775
Copper	0.001	mg/L		0.001		E200.8	09/24/13 21:32 / dck	09/23/13 08:15	ICPMS204-B_130924A : 106		21775
Lead	ND	mg/L		0.0005		E200.8	09/24/13 21:32 / dck	09/23/13 08:15	ICPMS204-B_130924A : 106		21775
Magnesium	12	mg/L		1		E200.7	09/24/13 15:25 / sld	09/23/13 08:15	ICP2-HE_130924A : 80		21775
Zinc	ND	mg/L		0.01		E200.8	09/24/13 21:32 / dck	09/23/13 08:15	ICPMS204-B_130924A : 106		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-27H
Lab ID: H13090377-007
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/17/13 15:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	13	mg/L		1		A2540 D	09/20/13 12:52 / cmm	09/20/13 12:46	J-124 (14410200)_130920A : 8		21763
INORGANICS											
Alkalinity, Total as CaCO3	180	mg/L		4		A2320 B	09/20/13 20:12 / cmm		MAN-TECH_130920B : 79		R91461
Bicarbonate as HCO3	210	mg/L		4		A2320 B	09/20/13 20:12 / cmm		MAN-TECH_130920B : 79		R91461
Sulfate	87	mg/L		1		E300.0	09/20/13 21:01 / cmm		IC102-H_130920A : 63		R91476
Hardness as CaCO3	230	mg/L		1		A2340 B	09/24/13 15:29 / abb		CALC_130925A : 36		R91547
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:39 / reh		FIA203-HE_130924A : 20		R91528
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.05		E353.2	09/20/13 13:22 / reh		FIA203-HE_130920C : 37		R91442
Nitrogen, Total	0.34	mg/L		0.05		A4500 N-C	09/26/13 14:13 / reh	09/26/13 09:54	FIA203-HE_130926B : 26		21845
Phosphorus, Total as P	0.013	mg/L		0.005		E365.1	09/23/13 15:34 / reh	09/23/13 10:53	FIA202-HE_130923A : 24		21785
METALS, DISSOLVED											
Arsenic	0.012	mg/L		0.005		E200.8	09/24/13 21:36 / dck		ICPMS204-B_130924A : 107		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 21:36 / dck		ICPMS204-B_130924A : 107		R91546
Copper	0.006	mg/L		0.001		E200.8	09/24/13 21:36 / dck		ICPMS204-B_130924A : 107		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 21:36 / dck		ICPMS204-B_130924A : 107		R91546
Zinc	0.01	mg/L		0.01		E200.8	09/24/13 21:36 / dck		ICPMS204-B_130924A : 107		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.014	mg/L		0.005		E200.8	09/24/13 21:41 / dck	09/23/13 08:15	ICPMS204-B_130924A : 108		21775
Cadmium	0.00009	mg/L		0.00008		E200.8	09/24/13 21:41 / dck	09/23/13 08:15	ICPMS204-B_130924A : 108		21775
Calcium	68	mg/L		1		E200.7	09/24/13 15:29 / sld	09/23/13 08:15	ICP2-HE_130924A : 81		21775
Copper	0.017	mg/L		0.001		E200.8	09/24/13 21:41 / dck	09/23/13 08:15	ICPMS204-B_130924A : 108		21775
Lead	0.0016	mg/L		0.0005		E200.8	09/24/13 21:41 / dck	09/23/13 08:15	ICPMS204-B_130924A : 108		21775
Magnesium	15	mg/L		1		E200.7	09/24/13 15:29 / sld	09/23/13 08:15	ICP2-HE_130924A : 81		21775
Zinc	0.02	mg/L		0.01		E200.8	09/24/13 21:41 / dck	09/23/13 08:15	ICPMS204-B_130924A : 108		21775

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-11F
Lab ID: H13090377-008
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/18/13 08:45 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	2	mg/L		1		A2540 D	09/20/13 12:52 / cmm	09/20/13 12:46	J-124 (14410200)_130920A : 9		21763
INORGANICS											
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	09/20/13 20:19 / cmm		MAN-TECH_130920B : 80		R91461
Bicarbonate as HCO3	180	mg/L		4		A2320 B	09/20/13 20:19 / cmm		MAN-TECH_130920B : 80		R91461
Sulfate	110	mg/L		1		E300.0	09/20/13 21:14 / cmm		IC102-H_130920A : 64		R91476
Hardness as CaCO3	245	mg/L		1		A2340 B	09/24/13 15:33 / abb		CALC_130925A : 47		R91547
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:40 / reh		FIA203-HE_130924A : 21		R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:24 / reh		FIA203-HE_130920C : 38		R91442
Nitrogen, Total	0.20	mg/L		0.05		A4500 N-C	09/26/13 14:14 / reh	09/26/13 09:54	FIA203-HE_130926B : 27		21845
Phosphorus, Total as P	0.018	mg/L		0.005		E365.1	09/23/13 15:37 / reh	09/23/13 10:53	FIA202-HE_130923A : 27		21785
METALS, DISSOLVED											
Arsenic	0.016	mg/L		0.005		E200.8	09/24/13 21:45 / dck		ICPMS204-B_130924A : 109		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 21:45 / dck		ICPMS204-B_130924A : 109		R91546
Copper	0.005	mg/L		0.001		E200.8	09/24/13 21:45 / dck		ICPMS204-B_130924A : 109		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 21:45 / dck		ICPMS204-B_130924A : 109		R91546
Zinc	0.01	mg/L		0.01		E200.8	09/24/13 21:45 / dck		ICPMS204-B_130924A : 109		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.016	mg/L		0.005		E200.8	09/24/13 21:50 / dck	09/23/13 08:15	ICPMS204-B_130924A : 110		21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 21:50 / dck	09/23/13 08:15	ICPMS204-B_130924A : 110		21775
Calcium	71	mg/L		1		E200.7	09/24/13 15:33 / sld	09/23/13 08:15	ICP2-HE_130924A : 82		21775
Copper	0.012	mg/L		0.001		E200.8	09/24/13 21:50 / dck	09/23/13 08:15	ICPMS204-B_130924A : 110		21775
Lead	ND	mg/L		0.0005		E200.8	09/24/13 21:50 / dck	09/23/13 08:15	ICPMS204-B_130924A : 110		21775
Magnesium	16	mg/L		1		E200.7	09/24/13 15:33 / sld	09/23/13 08:15	ICP2-HE_130924A : 82		21775
Zinc	ND	mg/L		0.01		E200.8	09/24/13 21:50 / dck	09/23/13 08:15	ICPMS204-B_130924A : 110		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring
Client Sample ID	CFR-07D	**Collection Date:**	09/18/13 10:15
		DateReceived:	09/19/13
Lab ID:	H13090377-009	**Report Date:**	10/24/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	09/20/13 12:52 / cmm	09/20/13 12:46	-124 (14410200)_130920A	10	21763
INORGANICS											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	09/20/13 20:27 / cmm		MAN-TECH_130920B	81	R91461
Bicarbonate as HCO3	170	mg/L		4		A2320 B	09/20/13 20:27 / cmm		MAN-TECH_130920B	81	R91461
Sulfate	110	mg/L		1		E300.0	09/20/13 21:26 / cmm		IC102-H_130920A	65	R91476
Hardness as CaCO3	243	mg/L		1		A2340 B	09/24/13 15:37 / abb		CALC_130925A	58	R91547
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:41 / reh		FIA203-HE_130924A	22	R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:25 / reh		FIA203-HE_130920C	39	R91442
Nitrogen, Total	0.23	mg/L		0.05		A4500 N-C	09/26/13 14:18 / reh	09/26/13 09:54	FIA203-HE_130926B	30	21845
Phosphorus, Total as P	0.023	mg/L		0.005		E365.1	09/23/13 15:38 / reh	09/23/13 10:53	FIA202-HE_130923A	28	21785
METALS, DISSOLVED											
Arsenic	0.016	mg/L		0.005		E200.8	09/24/13 21:54 / dck		ICPMS204-B_130924A	111	R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 21:54 / dck		ICPMS204-B_130924A	111	R91546
Copper	0.005	mg/L		0.001		E200.8	09/24/13 21:54 / dck		ICPMS204-B_130924A	111	R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 21:54 / dck		ICPMS204-B_130924A	111	R91546
Zinc	ND	mg/L		0.01		E200.8	09/24/13 21:54 / dck		ICPMS204-B_130924A	111	R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.017	mg/L		0.005		E200.8	09/24/13 21:59 / dck	09/23/13 08:15	ICPMS204-B_130924A	112	21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 21:59 / dck	09/23/13 08:15	ICPMS204-B_130924A	112	21775
Calcium	71	mg/L		1		E200.7	09/24/13 15:37 / sld	09/23/13 08:15	ICP2-HE_130924A	83	21775
Copper	0.007	mg/L		0.001		E200.8	09/24/13 21:59 / dck	09/23/13 08:15	ICPMS204-B_130924A	112	21775
Lead	ND	mg/L		0.0005		E200.8	09/24/13 21:59 / dck	09/23/13 08:15	ICPMS204-B_130924A	112	21775
Magnesium	16	mg/L		1		E200.7	09/24/13 15:37 / sld	09/23/13 08:15	ICP2-HE_130924A	83	21775
Zinc	ND	mg/L		0.01		E200.8	09/24/13 21:59 / dck	09/23/13 08:15	ICPMS204-B_130924A	112	21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A
Lab ID: H13090377-010
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/18/13 11:30 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	3	mg/L		1		A2540 D	09/20/13 12:52 / cmm	09/20/13 12:46	-124 (14410200)_130920A : 11		21763
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	09/20/13 20:34 / cmm		MAN-TECH_130920B : 82		R91461
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/13 20:34 / cmm		MAN-TECH_130920B : 82		R91461
Sulfate	100	mg/L		1		E300.0	09/20/13 21:39 / cmm		IC102-H_130920A : 66		R91476
Hardness as CaCO3	216	mg/L		1		A2340 B	09/24/13 15:40 / abb		CALC_130925A : 69		R91547
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:45 / reh		FIA203-HE_130924A : 25		R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:28 / reh		FIA203-HE_130920C : 42		R91442
Nitrogen, Total	0.27	mg/L		0.05		A4500 N-C	09/26/13 14:19 / reh	09/26/13 09:54	FIA203-HE_130926B : 31		21845
Phosphorus, Total as P	0.038	mg/L		0.005		E365.1	09/23/13 15:39 / reh	09/23/13 10:53	FIA202-HE_130923A : 29		21785
METALS, DISSOLVED											
Arsenic	0.019	mg/L		0.005		E200.8	09/24/13 22:03 / dck		ICPMS204-B_130924A : 113		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 22:03 / dck		ICPMS204-B_130924A : 113		R91546
Copper	0.003	mg/L		0.001		E200.8	09/24/13 22:03 / dck		ICPMS204-B_130924A : 113		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 22:03 / dck		ICPMS204-B_130924A : 113		R91546
Zinc	ND	mg/L		0.01		E200.8	09/24/13 22:03 / dck		ICPMS204-B_130924A : 113		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.019	mg/L		0.005		E200.8	09/24/13 22:08 / dck	09/23/13 08:15	ICPMS204-B_130924A : 114		21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 22:08 / dck	09/23/13 08:15	ICPMS204-B_130924A : 114		21775
Calcium	62	mg/L		1		E200.7	09/24/13 15:40 / sld	09/23/13 08:15	ICP2-HE_130924A : 84		21775
Copper	0.005	mg/L		0.001		E200.8	09/24/13 22:08 / dck	09/23/13 08:15	ICPMS204-B_130924A : 114		21775
Lead	ND	mg/L		0.0005		E200.8	09/24/13 22:08 / dck	09/23/13 08:15	ICPMS204-B_130924A : 114		21775
Magnesium	15	mg/L		1		E200.7	09/24/13 15:40 / sld	09/23/13 08:15	ICP2-HE_130924A : 84		21775
Zinc	ND	mg/L		0.01		E200.8	09/24/13 22:08 / dck	09/23/13 08:15	ICPMS204-B_130924A : 114		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID WSC-SBC
Lab ID: H13090377-011
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/18/13 12:30 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	3	mg/L		1		A2540 D	09/20/13 12:52 / cmm	09/20/13 12:46	-124 (14410200)_130920A : 12		21763
INORGANICS											
Alkalinity, Total as CaCO3	140	mg/L		4		A2320 B	09/20/13 20:42 / cmm		MAN-TECH_130920B : 83		R91461
Bicarbonate as HCO3	160	mg/L		4		A2320 B	09/20/13 20:42 / cmm		MAN-TECH_130920B : 83		R91461
Sulfate	54	mg/L		1		E300.0	09/20/13 21:52 / cmm		IC102-H_130920A : 67		R91476
Hardness as CaCO3	179	mg/L		1		A2340 B	09/24/13 15:44 / abb		CALC_130925A : 80		R91547
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:46 / reh		FIA203-HE_130924A : 26		R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:32 / reh		FIA203-HE_130920C : 45		R91442
Nitrogen, Total	0.06	mg/L		0.05		A4500 N-C	09/26/13 14:20 / reh	09/26/13 09:54	FIA203-HE_130926B : 32		21845
Phosphorus, Total as P	0.005	mg/L		0.005		E365.1	09/23/13 15:40 / reh	09/23/13 10:53	FIA202-HE_130923A : 30		21785
METALS, DISSOLVED											
Arsenic	0.006	mg/L		0.005		E200.8	09/24/13 22:30 / dck		ICPMS204-B_130924A : 119		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 22:30 / dck		ICPMS204-B_130924A : 119		R91546
Copper	0.003	mg/L		0.001		E200.8	09/24/13 22:30 / dck		ICPMS204-B_130924A : 119		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 22:30 / dck		ICPMS204-B_130924A : 119		R91546
Zinc	0.01	mg/L		0.01		E200.8	09/24/13 22:30 / dck		ICPMS204-B_130924A : 119		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.006	mg/L		0.005		E200.8	09/24/13 22:35 / dck	09/23/13 08:15	ICPMS204-B_130924A : 120		21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 22:35 / dck	09/23/13 08:15	ICPMS204-B_130924A : 120		21775
Calcium	54	mg/L		1		E200.7	09/24/13 15:44 / sld	09/23/13 08:15	ICP2-HE_130924A : 85		21775
Copper	0.007	mg/L		0.001		E200.8	09/24/13 22:35 / dck	09/23/13 08:15	ICPMS204-B_130924A : 120		21775
Lead	ND	mg/L		0.0005		E200.8	09/24/13 22:35 / dck	09/23/13 08:15	ICPMS204-B_130924A : 120		21775
Magnesium	11	mg/L		1		E200.7	09/24/13 15:44 / sld	09/23/13 08:15	ICP2-HE_130924A : 85		21775
Zinc	ND	mg/L		0.01		E200.8	09/24/13 22:35 / dck	09/23/13 08:15	ICPMS204-B_130924A : 120		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25
Lab ID: H13090377-012
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/18/13 14:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	09/20/13 12:53 / cmm	09/20/13 12:46	-124 (14410200)_130920A : 13		21763
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/20/13 20:49 / cmm		MAN-TECH_130920B : 84		R91461
Bicarbonate as HCO3	100	mg/L		4		A2320 B	09/20/13 20:49 / cmm		MAN-TECH_130920B : 84		R91461
Sulfate	140	mg/L		1		E300.0	09/20/13 22:04 / cmm		IC102-H_130920A : 68		R91476
Hardness as CaCO3	235	mg/L		1		A2340 B	09/24/13 15:55 / abb		CALC_130925A : 91		R91547
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.7	mg/L		0.1		A5310 C	09/20/13 21:50 / eli-c		SUB-C178617 : 3		C_39108
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:47 / reh		FIA203-HE_130924A : 27		R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:33 / reh		FIA203-HE_130920C : 46		R91442
Nitrogen, Total	0.57	mg/L		0.05		A4500 N-C	09/26/13 14:21 / reh	09/26/13 09:54	FIA203-HE_130926B : 33		21845
Phosphorus, Total as P	0.096	mg/L		0.005		E365.1	09/23/13 15:41 / reh	09/23/13 10:53	FIA202-HE_130923A : 31		21785
METALS, DISSOLVED											
Arsenic	0.033	mg/L		0.005		E200.8	09/24/13 22:39 / dck		ICPMS204-B_130924A : 121		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 22:39 / dck		ICPMS204-B_130924A : 121		R91546
Copper	0.002	mg/L		0.001		E200.8	09/24/13 22:39 / dck		ICPMS204-B_130924A : 121		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 22:39 / dck		ICPMS204-B_130924A : 121		R91546
Zinc	ND	mg/L		0.01		E200.8	09/24/13 22:39 / dck		ICPMS204-B_130924A : 121		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.034	mg/L		0.005		E200.8	09/24/13 22:44 / dck	09/23/13 08:15	ICPMS204-B_130924A : 122		21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 22:44 / dck	09/23/13 08:15	ICPMS204-B_130924A : 122		21775
Calcium	66	mg/L		1		E200.7	09/24/13 15:55 / sld	09/23/13 08:15	ICP2-HE_130924A : 88		21775
Copper	0.003	mg/L		0.001		E200.8	09/24/13 22:44 / dck	09/23/13 08:15	ICPMS204-B_130924A : 122		21775
Lead	0.0006	mg/L		0.0005		E200.8	09/24/13 22:44 / dck	09/23/13 08:15	ICPMS204-B_130924A : 122		21775
Magnesium	17	mg/L		1		E200.7	09/24/13 15:55 / sld	09/23/13 08:15	ICP2-HE_130924A : 88		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25
Lab ID: H13090377-012
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/18/13 14:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	09/24/13 22:44 / dck	09/23/13 08:15	ICPMS204-B_130924A : 122		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring
Client Sample ID	SS-25 Duplicate	**Collection Date:**	09/18/13 14:00
		DateReceived:	09/19/13
Lab ID:	H13090377-013	**Report Date:**	10/24/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	09/20/13 12:53 / cmm	09/20/13 12:46	-124 (14410200)_130920A : 14		21763
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/20/13 21:03 / cmm		MAN-TECH_130920B : 87		R91461
Bicarbonate as HCO3	100	mg/L		4		A2320 B	09/20/13 21:03 / cmm		MAN-TECH_130920B : 87		R91461
Sulfate	140	mg/L		1		E300.0	09/20/13 22:17 / cmm		IC102-H_130920A : 69		R91476
Hardness as CaCO3	233	mg/L		1		A2340 B	09/24/13 15:59 / abb		CALC_130925A : 102		R91547
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	4.5	mg/L		0.1		A5310 C	09/20/13 23:07 / eli-c		SUB-C178617 : 7		C_39108
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:48 / reh		FIA203-HE_130924A : 28		R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:34 / reh		FIA203-HE_130920C : 47		R91442
Nitrogen, Total	0.58	mg/L		0.05		A4500 N-C	09/26/13 14:22 / reh	09/26/13 09:54	FIA203-HE_130926B : 34		21845
Phosphorus, Total as P	0.095	mg/L		0.005		E365.1	09/23/13 15:42 / reh	09/23/13 10:53	FIA202-HE_130923A : 32		21785
METALS, DISSOLVED											
Arsenic	0.033	mg/L		0.005		E200.8	09/24/13 22:48 / dck		ICPMS204-B_130924A : 123		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 22:48 / dck		ICPMS204-B_130924A : 123		R91546
Copper	0.002	mg/L		0.001		E200.8	09/24/13 22:48 / dck		ICPMS204-B_130924A : 123		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 22:48 / dck		ICPMS204-B_130924A : 123		R91546
Zinc	ND	mg/L		0.01		E200.8	09/24/13 22:48 / dck		ICPMS204-B_130924A : 123		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.034	mg/L		0.005		E200.8	09/24/13 22:52 / dck	09/23/13 08:15	ICPMS204-B_130924A : 124		21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 22:52 / dck	09/23/13 08:15	ICPMS204-B_130924A : 124		21775
Calcium	66	mg/L		1		E200.7	09/24/13 15:59 / sld	09/23/13 08:15	ICP2-HE_130924A : 89		21775
Copper	0.003	mg/L		0.001		E200.8	09/24/13 22:52 / dck	09/23/13 08:15	ICPMS204-B_130924A : 124		21775
Lead	0.0005	mg/L		0.0005		E200.8	09/24/13 22:52 / dck	09/23/13 08:15	ICPMS204-B_130924A : 124		21775
Magnesium	17	mg/L		1		E200.7	09/24/13 15:59 / sld	09/23/13 08:15	ICP2-HE_130924A : 89		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25 Duplicate
Lab ID: H13090377-013
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/18/13 14:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	09/24/13 22:52 / dck	09/23/13 08:15	ICPMS204-B_130924A : 124		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	Field Blank #2	**Collection Date:**	09/18/13 15:00	**DateReceived:**	09/19/13
Lab ID:	H13090377-014	**Report Date:**	10/24/13		
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	09/20/13 12:53 / cmm	09/20/13 12:46	-124 (14410200)_130920A : 16		21763
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	09/20/13 21:32 / cmm		MAN-TECH_130920B : 95		R91461
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	09/20/13 21:32 / cmm		MAN-TECH_130920B : 95		R91461
Sulfate	ND	mg/L		1		E300.0	09/20/13 22:29 / cmm		IC102-H_130920A : 70		R91476
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.1		A5310 C	09/20/13 23:16 / eli-c		SUB-C178617 : 8		C_39108
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:49 / reh		FIA203-HE_130924A : 29		R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:36 / reh		FIA203-HE_130920C : 48		R91442
Nitrogen, Total	ND	mg/L		0.05		A4500 N-C	09/26/13 14:23 / reh	09/26/13 09:54	FIA203-HE_130926B : 35		21845
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	09/23/13 15:43 / reh	09/23/13 10:53	FIA202-HE_130923A : 33		21785
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	09/24/13 22:57 / dck		ICPMS204-B_130924A : 125		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 22:57 / dck		ICPMS204-B_130924A : 125		R91546
Copper	ND	mg/L		0.001		E200.8	09/24/13 22:57 / dck		ICPMS204-B_130924A : 125		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 22:57 / dck		ICPMS204-B_130924A : 125		R91546
Zinc	0.01	mg/L		0.01		E200.8	09/24/13 22:57 / dck		ICPMS204-B_130924A : 125		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	09/24/13 23:01 / dck	09/23/13 08:15	ICPMS204-B_130924A : 126		21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 23:01 / dck	09/23/13 08:15	ICPMS204-B_130924A : 126		21775
Calcium	ND	mg/L		1		E200.7	09/24/13 16:03 / sld	09/23/13 08:15	ICP2-HE_130924A : 90		21775
Copper	ND	mg/L		0.001		E200.8	09/24/13 23:01 / dck	09/23/13 08:15	ICPMS204-B_130924A : 126		21775
Lead	ND	mg/L		0.0005		E200.8	09/24/13 23:01 / dck	09/23/13 08:15	ICPMS204-B_130924A : 126		21775
Magnesium	ND	mg/L		1		E200.7	09/24/13 16:03 / sld	09/23/13 08:15	ICP2-HE_130924A : 90		21775
Zinc	ND	mg/L		0.01		E200.8	09/24/13 23:01 / dck	09/23/13 08:15	ICPMS204-B_130924A : 126		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring
Client Sample ID	MWB-SBC	**Collection Date:**	09/18/13 15:45
		DateReceived:	09/19/13
Lab ID:	H13090377-015	**Report Date:**	10/24/13
Matrix:	Aqueous		

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	09/20/13 12:53 / cmm	09/20/13 12:46	-124 (14410200)_130920A : 17		21763
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	09/20/13 21:42 / cmm		MAN-TECH_130920B : 98		R91461
Bicarbonate as HCO3	140	mg/L		4		A2320 B	09/20/13 21:42 / cmm		MAN-TECH_130920B : 98		R91461
Sulfate	180	mg/L		1		E300.0	09/20/13 23:32 / cmm		IC102-H_130920A : 75		R91476
Hardness as CaCO3	292	mg/L		1		A2340 B	09/24/13 16:06 / abb		CALC_130925A : 124		R91547
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	2.3	mg/L		0.1		A5310 C	09/20/13 23:27 / eli-c		SUB-C178617 : 9		C_39108
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:53 / reh		FIA203-HE_130924A : 32		R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:37 / reh		FIA203-HE_130920C : 49		R91442
Nitrogen, Total	0.17	mg/L		0.05		A4500 N-C	09/26/13 14:25 / reh	09/26/13 09:54	FIA203-HE_130926B : 36		21845
Phosphorus, Total as P	0.014	mg/L		0.005		E365.1	09/23/13 15:46 / reh	09/23/13 10:53	FIA202-HE_130923A : 36		21785
METALS, DISSOLVED											
Arsenic	0.022	mg/L		0.005		E200.8	09/24/13 23:06 / dck		ICPMS204-B_130924A : 127		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 23:06 / dck		ICPMS204-B_130924A : 127		R91546
Copper	0.001	mg/L		0.001		E200.8	09/24/13 23:06 / dck		ICPMS204-B_130924A : 127		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 23:06 / dck		ICPMS204-B_130924A : 127		R91546
Zinc	ND	mg/L		0.01		E200.8	09/24/13 23:06 / dck		ICPMS204-B_130924A : 127		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.024	mg/L		0.005		E200.8	09/24/13 23:38 / dck	09/23/13 08:15	ICPMS204-B_130924A : 134		21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 23:38 / dck	09/23/13 08:15	ICPMS204-B_130924A : 134		21775
Calcium	85	mg/L		1		E200.7	09/24/13 16:06 / sld	09/23/13 08:15	ICP2-HE_130924A : 91		21775
Copper	0.002	mg/L		0.001		E200.8	09/24/13 23:38 / dck	09/23/13 08:15	ICPMS204-B_130924A : 134		21775
Lead	ND	mg/L		0.0005		E200.8	09/24/13 23:38 / dck	09/23/13 08:15	ICPMS204-B_130924A : 134		21775
Magnesium	19	mg/L		1		E200.7	09/24/13 16:06 / sld	09/23/13 08:15	ICP2-HE_130924A : 91		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MWB-SBC
Lab ID: H13090377-015
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/18/13 15:45 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	09/24/13 23:38 / dck	09/23/13 08:15	ICPMS204-B_130924A : 134		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MCWC-MWB
Lab ID: H13090377-016
Matrix: Aqueous

Project: CFR OU Monitoring
Collection Date: 09/18/13 17:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	4	mg/L		1		A2540 D	09/20/13 12:54 / cmm	09/20/13 12:46	-124 (14410200)_130920A : 18		21763
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	09/20/13 21:49 / cmm		MAN-TECH_130920B : 99		R91461
Bicarbonate as HCO3	120	mg/L		4		A2320 B	09/20/13 21:49 / cmm		MAN-TECH_130920B : 99		R91461
Sulfate	32	mg/L		1		E300.0	09/30/13 17:42 / abb		IC102-H_130930A : 29		R91749
Hardness as CaCO3	120	mg/L		1		A2340 B	09/26/13 13:39 / sld		WATERCALC_130926A : 2		R91582
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	09/24/13 12:54 / reh		FIA203-HE_130924A : 33		R91528
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	09/20/13 13:38 / reh		FIA203-HE_130920C : 50		R91442
Nitrogen, Total	0.11	mg/L		0.05		A4500 N-C	09/26/13 14:31 / reh	09/26/13 10:04	FIA203-HE_130926B : 41		21847
Phosphorus, Total as P	0.017	mg/L		0.005		E365.1	09/23/13 15:47 / reh	09/23/13 10:53	FIA202-HE_130923A : 37		21785
METALS, DISSOLVED											
Arsenic	0.015	mg/L		0.005		E200.8	09/24/13 23:42 / dck		ICPMS204-B_130924A : 135		R91546
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 23:42 / dck		ICPMS204-B_130924A : 135		R91546
Copper	0.002	mg/L		0.001		E200.8	09/24/13 23:42 / dck		ICPMS204-B_130924A : 135		R91546
Lead	ND	mg/L		0.0005		E200.8	09/24/13 23:42 / dck		ICPMS204-B_130924A : 135		R91546
Zinc	ND	mg/L		0.01		E200.8	09/24/13 23:42 / dck		ICPMS204-B_130924A : 135		R91546
METALS, TOTAL RECOVERABLE											
Arsenic	0.016	mg/L		0.005		E200.8	09/24/13 23:47 / dck	09/23/13 08:15	ICPMS204-B_130924A : 136		21775
Cadmium	ND	mg/L		0.00008		E200.8	09/24/13 23:47 / dck	09/23/13 08:15	ICPMS204-B_130924A : 136		21775
Calcium	34	mg/L		1		E200.7	09/24/13 16:10 / sld	09/23/13 08:15	ICP2-HE_130924A : 92		21775
Copper	0.004	mg/L		0.001		E200.8	09/24/13 23:47 / dck	09/23/13 08:15	ICPMS204-B_130924A : 136		21775
Lead	0.0011	mg/L		0.0005		E200.8	09/24/13 23:47 / dck	09/23/13 08:15	ICPMS204-B_130924A : 136		21775
Magnesium	9	mg/L		1		E200.7	09/24/13 16:10 / sld	09/23/13 08:15	ICP2-HE_130924A : 92		21775
Zinc	ND	mg/L		0.01		E200.8	09/24/13 23:47 / dck	09/23/13 08:15	ICPMS204-B_130924A : 136		21775

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-116A Sediment Sieve <0.065mm
Lab ID: H13090377-017
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/17/13 09:00
DateReceived: 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	6.0	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A :	1	R91748
3050 EXTRACTABLE METALS											
Arsenic	7	mg/kg		1		SW6020	10/02/13 20:07 / dck	09/30/13 08:05	ICPMS204-B_130930C :	23	21876
Cadmium	0.9	mg/kg		0.2		SW6020	10/02/13 20:07 / dck	09/30/13 08:05	ICPMS204-B_130930C :	23	21876
Copper	92	mg/kg		5		SW6010B	10/01/13 23:55 / sld	09/30/13 08:05	ICP2-HE_131001B :	60	21876
Lead	28	mg/kg	D	6		SW6010B	10/01/13 23:55 / sld	09/30/13 08:05	ICP2-HE_131001B :	60	21876
Zinc	223	mg/kg		5		SW6010B	10/01/13 23:55 / sld	09/30/13 08:05	ICP2-HE_131001B :	60	21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID LBR-CFR Sediment Sieve <0.065mm
Lab ID: H13090377-018
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/17/13 13:45 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	9.5	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A : 2		R91748
3050 EXTRACTABLE METALS											
Arsenic	6	mg/kg		1		SW6020	10/02/13 20:14 / dck	09/30/13 08:05	ICPMS204-B_130930C : 24		21876
Cadmium	0.4	mg/kg		0.2		SW6020	10/02/13 20:14 / dck	09/30/13 08:05	ICPMS204-B_130930C : 24		21876
Copper	10	mg/kg		5		SW6010B	10/01/13 23:59 / sld	09/30/13 08:05	ICP2-HE_131001B : 61		21876
Lead	19	mg/kg	D	6		SW6010B	10/01/13 23:59 / sld	09/30/13 08:05	ICP2-HE_131001B : 61		21876
Zinc	39	mg/kg		5		SW6010B	10/01/13 23:59 / sld	09/30/13 08:05	ICP2-HE_131001B : 61		21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-27H Sediment Sieve <0.065mm
Lab ID: H13090377-019
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/17/13 15:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	5.2	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A : 3		R91748
3050 EXTRACTABLE METALS											
Arsenic	27	mg/kg	D	4		SW6010B	10/02/13 00:03 / sld	09/30/13 08:05	ICP2-HE_131001B : 62		21876
Cadmium	2.2	mg/kg		0.2		SW6010B	10/02/13 00:03 / sld	09/30/13 08:05	ICP2-HE_131001B : 62		21876
Copper	341	mg/kg		5		SW6010B	10/02/13 00:03 / sld	09/30/13 08:05	ICP2-HE_131001B : 62		21876
Lead	74	mg/kg	D	6		SW6010B	10/02/13 00:03 / sld	09/30/13 08:05	ICP2-HE_131001B : 62		21876
Zinc	322	mg/kg		5		SW6010B	10/02/13 00:03 / sld	09/30/13 08:05	ICP2-HE_131001B : 62		21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID RTC-1 Sediment Sieve <0.065mm
Lab ID: H13090377-020
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/17/13 16:15 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	1.9	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A : 4		R91748
3050 EXTRACTABLE METALS											
Arsenic	16	mg/kg	D	4		SW6010B	10/02/13 00:06 / sld	09/30/13 08:05	ICP2-HE_131001B : 63		21876
Cadmium	0.7	mg/kg		0.2		SW6020	10/02/13 20:27 / dck	09/30/13 08:05	ICPMS204-B_130930C : 26		21876
Copper	33	mg/kg		5		SW6010B	10/02/13 00:06 / sld	09/30/13 08:05	ICP2-HE_131001B : 63		21876
Lead	56	mg/kg	D	6		SW6010B	10/02/13 00:06 / sld	09/30/13 08:05	ICP2-HE_131001B : 63		21876
Zinc	45	mg/kg		5		SW6010B	10/02/13 00:06 / sld	09/30/13 08:05	ICP2-HE_131001B : 63		21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID LC-7 Sediment Sieve <0.065mm
Lab ID: H13090377-021
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/17/13 16:45
DateReceived: 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	28.2	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A : 5		R91748
3050 EXTRACTABLE METALS											
Arsenic	19	mg/kg	D	4		SW6010B	10/02/13 00:10 / sld	09/30/13 08:05	ICP2-HE_131001B : 64		21876
Cadmium	0.6	mg/kg		0.2		SW6020	10/02/13 20:33 / dck	09/30/13 08:05	ICPMS204-B_130930C : 27		21876
Copper	131	mg/kg		5		SW6010B	10/02/13 00:10 / sld	09/30/13 08:05	ICP2-HE_131001B : 64		21876
Lead	30	mg/kg	D	6		SW6010B	10/02/13 00:10 / sld	09/30/13 08:05	ICP2-HE_131001B : 64		21876
Zinc	82	mg/kg		5		SW6010B	10/02/13 00:10 / sld	09/30/13 08:05	ICP2-HE_131001B : 64		21876

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR OU Monitoring		
Client Sample ID	CFR-11F Sediment Sieve <0.065mm	**Collection Date:**	09/18/13 08:45	**DateReceived:**	09/19/13
Lab ID:	H13090377-022	**Report Date:**	10/24/13		
Matrix:	Sediment				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	3.8	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A : 6		R91748
3050 EXTRACTABLE METALS											
Arsenic	49	mg/kg	D	4		SW6010B	10/02/13 00:21 / sld	09/30/13 08:05	ICP2-HE_131001B : 67		21876
Cadmium	3.1	mg/kg		0.2		SW6010B	10/02/13 00:21 / sld	09/30/13 08:05	ICP2-HE_131001B : 67		21876
Copper	418	mg/kg		5		SW6010B	10/02/13 00:21 / sld	09/30/13 08:05	ICP2-HE_131001B : 67		21876
Lead	98	mg/kg	D	6		SW6010B	10/02/13 00:21 / sld	09/30/13 08:05	ICP2-HE_131001B : 67		21876
Zinc	481	mg/kg		5		SW6010B	10/02/13 00:21 / sld	09/30/13 08:05	ICP2-HE_131001B : 67		21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-07D Sediment Sieve <0.065mm
Lab ID: H13090377-023
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/18/13 10:15
DateReceived: 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	6.1	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A : 7		R91748
3050 EXTRACTABLE METALS											
Arsenic	61	mg/kg	D	4		SW6010B	10/02/13 00:24 / sld	09/30/13 08:05	ICP2-HE_131001B : 68		21876
Cadmium	2.1	mg/kg		0.2		SW6010B	10/02/13 00:24 / sld	09/30/13 08:05	ICP2-HE_131001B : 68		21876
Copper	547	mg/kg		5		SW6010B	10/02/13 00:24 / sld	09/30/13 08:05	ICP2-HE_131001B : 68		21876
Lead	101	mg/kg	D	6		SW6010B	10/02/13 00:24 / sld	09/30/13 08:05	ICP2-HE_131001B : 68		21876
Zinc	455	mg/kg		5		SW6010B	10/02/13 00:24 / sld	09/30/13 08:05	ICP2-HE_131001B : 68		21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-07D Duplicate Sediment Sieve <0.065mm
Lab ID: H13090377-024
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/18/13 10:15 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	5.7	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A :	8	R91748
3050 EXTRACTABLE METALS											
Arsenic	62	mg/kg	D	4		SW6010B	10/02/13 00:28 / sld	09/30/13 08:05	ICP2-HE_131001B :	69	21876
Cadmium	2.2	mg/kg		0.2		SW6010B	10/02/13 00:28 / sld	09/30/13 08:05	ICP2-HE_131001B :	69	21876
Copper	576	mg/kg		5		SW6010B	10/02/13 00:28 / sld	09/30/13 08:05	ICP2-HE_131001B :	69	21876
Lead	115	mg/kg	D	6		SW6010B	10/02/13 00:28 / sld	09/30/13 08:05	ICP2-HE_131001B :	69	21876
Zinc	530	mg/kg		5		SW6010B	10/02/13 00:28 / sld	09/30/13 08:05	ICP2-HE_131001B :	69	21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A Sediment Sieve <0.065mm
Lab ID: H13090377-025
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/18/13 11:30
DateReceived: 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	3.7	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A : 9		R91748
3050 EXTRACTABLE METALS											
Arsenic	46	mg/kg	D	4		SW6010B	10/02/13 00:32 / sld	09/30/13 08:05	ICP2-HE_131001B : 70		21876
Cadmium	2.4	mg/kg		0.2		SW6010B	10/02/13 00:32 / sld	09/30/13 08:05	ICP2-HE_131001B : 70		21876
Copper	421	mg/kg		5		SW6010B	10/02/13 00:32 / sld	09/30/13 08:05	ICP2-HE_131001B : 70		21876
Lead	73	mg/kg	D	6		SW6010B	10/02/13 00:32 / sld	09/30/13 08:05	ICP2-HE_131001B : 70		21876
Zinc	402	mg/kg		5		SW6010B	10/02/13 00:32 / sld	09/30/13 08:05	ICP2-HE_131001B : 70		21876

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID WSC-SBC Sediment Sieve <0.065mm
Lab ID: H13090377-026
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/18/13 12:30 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	9.4	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A :	10	R91748
3050 EXTRACTABLE METALS											
Arsenic	29	mg/kg	D	4		SW6010B	10/02/13 00:35 / sld	09/30/13 08:05	ICP2-HE_131001B :	71	21876
Cadmium	1.0	mg/kg		0.2		SW6010B	10/02/13 00:35 / sld	09/30/13 08:05	ICP2-HE_131001B :	71	21876
Copper	296	mg/kg		5		SW6010B	10/02/13 00:35 / sld	09/30/13 08:05	ICP2-HE_131001B :	71	21876
Lead	40	mg/kg	D	6		SW6010B	10/02/13 00:35 / sld	09/30/13 08:05	ICP2-HE_131001B :	71	21876
Zinc	121	mg/kg		5		SW6010B	10/02/13 00:35 / sld	09/30/13 08:05	ICP2-HE_131001B :	71	21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25 Sediment Sieve <0.065mm
Lab ID: H13090377-027
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/18/13 14:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	3.2	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A : 11		R91748
3050 EXTRACTABLE METALS											
Arsenic	26	mg/kg	D	4		SW6010B	10/02/13 00:39 / sld	09/30/13 08:05	ICP2-HE_131001B : 72		21876
Cadmium	1.3	mg/kg		0.2		SW6010B	10/02/13 00:39 / sld	09/30/13 08:05	ICP2-HE_131001B : 72		21876
Copper	99	mg/kg		5		SW6010B	10/02/13 00:39 / sld	09/30/13 08:05	ICP2-HE_131001B : 72		21876
Lead	40	mg/kg	D	6		SW6010B	10/02/13 00:39 / sld	09/30/13 08:05	ICP2-HE_131001B : 72		21876
Zinc	244	mg/kg		5		SW6010B	10/02/13 00:39 / sld	09/30/13 08:05	ICP2-HE_131001B : 72		21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25 Duplicate Sediment Sieve <0.065mm
Lab ID: H13090377-028
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/18/13 14:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	3.4	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A :	12	R91748
3050 EXTRACTABLE METALS											
Arsenic	21	mg/kg	D	4		SW6010B	10/02/13 00:43 / sld	09/30/13 08:05	ICP2-HE_131001B :	73	21876
Cadmium	1.1	mg/kg		0.2		SW6010B	10/02/13 00:43 / sld	09/30/13 08:05	ICP2-HE_131001B :	73	21876
Copper	75	mg/kg		5		SW6010B	10/02/13 00:43 / sld	09/30/13 08:05	ICP2-HE_131001B :	73	21876
Lead	33	mg/kg	D	6		SW6010B	10/02/13 00:43 / sld	09/30/13 08:05	ICP2-HE_131001B :	73	21876
Zinc	198	mg/kg		5		SW6010B	10/02/13 00:43 / sld	09/30/13 08:05	ICP2-HE_131001B :	73	21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MWB-SBC Sediment Sieve <0.065mm
Lab ID: H13090377-029
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/18/13 15:45 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	9.7	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A :	13	R91748
3050 EXTRACTABLE METALS											
Arsenic	38	mg/kg	D	4		SW6010B	10/02/13 00:46 / sld	09/30/13 08:05	ICP2-HE_131001B :	74	21876
Cadmium	1.0	mg/kg		0.2		SW6010B	10/02/13 00:46 / sld	09/30/13 08:05	ICP2-HE_131001B :	74	21876
Copper	58	mg/kg		5		SW6010B	10/02/13 00:46 / sld	09/30/13 08:05	ICP2-HE_131001B :	74	21876
Lead	31	mg/kg	D	6		SW6010B	10/02/13 00:46 / sld	09/30/13 08:05	ICP2-HE_131001B :	74	21876
Zinc	175	mg/kg		5		SW6010B	10/02/13 00:46 / sld	09/30/13 08:05	ICP2-HE_131001B :	74	21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MCWC-MWB Sediment Sieve <0.065mm
Lab ID: H13090377-030
Matrix: Sediment

Project: CFR OU Monitoring
Collection Date: 09/18/13 17:00 **DateReceived:** 09/19/13
Report Date: 10/24/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 230 Sieve	4.5	wt% Passed		0.1		ASA15-2	09/25/13 08:35 / raw		MISC SOILS_130925A :	14	R91748
3050 EXTRACTABLE METALS											
Arsenic	30	mg/kg	D	4		SW6010B	10/02/13 00:50 / sld	09/30/13 08:05	ICP2-HE_131001B :	75	21876
Cadmium	1.4	mg/kg		0.2		SW6010B	10/02/13 00:50 / sld	09/30/13 08:05	ICP2-HE_131001B :	75	21876
Copper	110	mg/kg		5		SW6010B	10/02/13 00:50 / sld	09/30/13 08:05	ICP2-HE_131001B :	75	21876
Lead	51	mg/kg	D	6		SW6010B	10/02/13 00:50 / sld	09/30/13 08:05	ICP2-HE_131001B :	75	21876
Zinc	160	mg/kg		5		SW6010B	10/02/13 00:50 / sld	09/30/13 08:05	ICP2-HE_131001B :	75	21876

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 130926wa

Date: *24-Oct-13*

Run ID :Run Order: **HGCV202-H_130926A: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E245.1**

Analysis Date: **09/26/13 12:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	0.00010	0.0002		**106**	90	110				

Associated samples: **H13090377-002A; H13090377-003A; H13090377-004A; H13090377-005A**

Run ID :Run Order: **HGCV202-H_130926A: 3** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV1** Method: **E245.1**

Analysis Date: **09/26/13 12:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00050	0.00010	0.0005		**101**	95	105				

Associated samples: **H13090377-002A; H13090377-003A; H13090377-004A; H13090377-005A**

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	N - Analyte concentration was not sufficiently high to calculate RPD
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21763

Date: *24-Oct-13*

Run ID :Run Order: **ACCU-124 (14410200)_130920A: 1** SampType: **Method Blank** Sample ID: **MB-21763** Method: **A2540 D**
Analysis Date: **09/20/13 12:50** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	1									

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A; H13090377-016A**

Run ID :Run Order: **ACCU-124 (14410200)_130920A: 2** SampType: **Laboratory Control Sample** Sample ID: **LCS-21763** Method: **A2540 D**
Analysis Date: **09/20/13 12:50** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	1880	10	2000		94	70	130				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A; H13090377-016A**

Run ID :Run Order: **ACCU-124 (14410200)_130920A: 15** SampType: **Sample Duplicate** Sample ID: **H13090377-013ADUP** Method: **A2540 D**
Analysis Date: **09/20/13 12:53** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2013** Prep Method: **A2540 D**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	8.00	10						6		5	

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A; H13090377-016A**

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21775

Date: *24-Oct-13*

Run ID :Run Order: **ICP2-HE_130924A: 65** SampType: **Method Blank** Sample ID: **MB-21775** Method: **E200.7**
Analysis Date: **09/24/13 14:30** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.06									
Magnesium	ND	0.006									

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 66** SampType: **Laboratory Control Sample** Sample ID: **LCS-21775** Method: **E200.7**
Analysis Date: **09/24/13 14:34** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.7	1.0	25		99	85	115				
Magnesium	25.4	1.0	25		102	85	115				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 77** SampType: **Serial Dilution** Sample ID: **H13090377-001CDIL** Method: **E200.7**
Analysis Date: **09/24/13 15:14** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	48.3	1.0				0	0	48.44	0.3	10	
Magnesium	13.4	1.0				0	0	13.34	0.8	10	

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 78** SampType: **Sample Matrix Spike** Sample ID: **H13090377-001CMS3** Method: **E200.7**
Analysis Date: **09/24/13 15:18** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	73.7	1.0	25	48.44	101	70	130				
Magnesium	38.1	1.0	25	13.34	99	70	130				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 79** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-001CMSD3** Method: **E200.7**
Analysis Date: **09/24/13 15:22** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	76.2	1.0	25	48.44	111	70	130	73.66	3.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21775

Date: *24-Oct-13*

Run ID :Run Order: **ICP2-HE_130924A: 79** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-001CMSD3** Method: **E200.7**
Analysis Date: **09/24/13 15:22** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	40.2	1.0	25	13.34	107	70	130	38.12	5.2	20	

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 95** SampType: **Sample Matrix Spike** Sample ID: **H13090378-001CMS3** Method: **E200.7**
Analysis Date: **09/24/13 16:21** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	173	1.0	25	145.2		70	130				A
Magnesium	104	1.0	25	75.99	113	70	130				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 96** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090378-001CMSD3** Method: **E200.7**
Analysis Date: **09/24/13 16:25** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	169	1.0	25	145.2		70	130	173	2.1	20	A
Magnesium	103	1.0	25	75.99	109	70	130	104.2	0.9	20	

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21775

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130924A: 94** SampType: **Method Blank** Sample ID: **MB-21775** Method: **E200.8**
Analysis Date: **09/24/13 20:39** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Cadmium	2E-05	2E-05									
Copper	0.0006	0.0002									
Lead	4E-05	3E-05									
Zinc	0.002	0.001									

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 95** SampType: **Laboratory Control Sample** Sample ID: **LCS-21775** Method: **E200.8**
Analysis Date: **09/24/13 20:44** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.473	0.0010	0.5		95	85	115				
Cadmium	0.248	0.0010	0.25	0.0000244	99	85	115				
Copper	0.438	0.0050	0.5	0.0006468	88	85	115				
Lead	0.472	0.0010	0.5	0.00004	94	85	115				
Zinc	0.484	0.010	0.5	0.002083	96	85	115				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 99** SampType: **Sample Matrix Spike** Sample ID: **H13090377-001CMS3** Method: **E200.8**
Analysis Date: **09/24/13 21:01** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.476	0.0010	0.5	0.005612	94	70	130				
Cadmium	0.238	0.0010	0.25	0.0000603	95	70	130				
Copper	0.440	0.0050	0.5	0.00467	87	70	130				
Lead	0.465	0.0010	0.5	0.0006587	93	70	130				
Zinc	0.476	0.010	0.5	0.00999	93	70	130				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21775

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130924A: 100** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-001CMSD3** Method: **E200.8**
Analysis Date: **09/24/13 21:05** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.482	0.0010	0.5	0.005612	**95**	70	130	0.4756	**1.4**	20	
Cadmium	0.240	0.0010	0.25	0.0000603	**96**	70	130	0.2377	**1.2**	20	
Copper	0.455	0.0050	0.5	0.00467	**90**	70	130	0.4397	**3.3**	20	
Lead	0.478	0.0010	0.5	0.0006587	**96**	70	130	0.4648	**2.8**	20	
Zinc	0.488	0.010	0.5	0.00999	**96**	70	130	0.4762	**2.5**	20	

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 139** SampType: **Sample Matrix Spike** Sample ID: **H13090378-001CMS3** Method: **E200.8**
Analysis Date: **09/25/13 00:00** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.482	0.0010	0.5	0.002286	**96**	70	130				
Cadmium	0.236	0.0010	0.25	0.0000652	**94**	70	130				
Copper	0.420	0.0050	0.5	0.004106	**83**	70	130				
Lead	0.473	0.0010	0.5	0.000696	**95**	70	130				
Zinc	0.465	0.010	0.5	0.01019	**91**	70	130				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 140** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090378-001CMSD3** Method: **E200.8**
Analysis Date: **09/25/13 00:04** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.473	0.0010	0.5	0.002286	**94**	70	130	0.4825	**2.1**	20	
Cadmium	0.235	0.0010	0.25	0.0000652	**94**	70	130	0.2357	**0.3**	20	
Copper	0.416	0.0050	0.5	0.004106	**82**	70	130	0.4202	**0.9**	20	
Lead	0.470	0.0010	0.5	0.000696	**94**	70	130	0.4733	**0.7**	20	
Zinc	0.458	0.010	0.5	0.01019	**90**	70	130	0.4646	**1.5**	20	

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21785

Date: *24-Oct-13*

Run ID :Run Order: **FIA202-HE_130923A: 11** SampType: **Method Blank** Sample ID: **MB-21785** Method: **E365.1**
Analysis Date: **09/23/13 15:20** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA202-HE_130923A: 12** SampType: **Laboratory Control Sample** Sample ID: **LCS-21785** Method: **E365.1**
Analysis Date: **09/23/13 15:21** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.398	0.010	0.4		100	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA202-HE_130923A: 16** SampType: **Sample Matrix Spike** Sample ID: **H13090349-001BMS** Method: **E365.1**
Analysis Date: **09/23/13 15:26** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.199	0.010	0.2	0.00247	98	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA202-HE_130923A: 17** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090349-001BMSD** Method: **E365.1**
Analysis Date: **09/23/13 15:27** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.200	0.010	0.2	0.00247	99	90	110	0.1986	0.9	20	

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA202-HE_130923A: 34** SampType: **Sample Matrix Spike** Sample ID: **H13090377-014DMS** Method: **E365.1**
Analysis Date: **09/23/13 15:44** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.197	0.010	0.2		99	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21785

Date: *24-Oct-13*

Run ID :Run Order: **FIA202-HE_130923A: 35** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-014DMSD** Method: **E365.1**

Analysis Date: **09/23/13 15:45** Units: **mg/L** **Prep Info:** Prep Date: **9/23/2013** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.198	0.010	0.2		**99**	90	110	0.1971	**0.5**	20	

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21831

Date: *24-Oct-13*

Run ID :Run Order: **HGCV202-H_130926A: 5** SampType: **Method Blank** Sample ID: **MB-21831** Method: **E245.1**
Analysis Date: **09/26/13 12:41** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9E-06	3E-06									

Associated samples: **H13090377-002A; H13090377-003A; H13090377-004A; H13090377-005A**

Run ID :Run Order: **HGCV202-H_130926A: 6** SampType: **Laboratory Control Sample** Sample ID: **LCS-21831** Method: **E245.1**
Analysis Date: **09/26/13 12:45** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00041	0.00010	0.0004	0.00000894	100	90	110				

Associated samples: **H13090377-002A; H13090377-003A; H13090377-004A; H13090377-005A**

Run ID :Run Order: **HGCV202-H_130926A: 13** SampType: **Sample Matrix Spike** Sample ID: **H13090377-002AMS** Method: **E245.1**
Analysis Date: **09/26/13 13:23** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00040	0.00010	0.0004	0.00002332	93	70	130				

Associated samples: **H13090377-002A; H13090377-003A; H13090377-004A; H13090377-005A**

Run ID :Run Order: **HGCV202-H_130926A: 14** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-002AMSD** Method: **E245.1**
Analysis Date: **09/26/13 13:27** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00040	0.00010	0.0004	0.00002332	94	70	130	0.0003959	0.6	20	

Associated samples: **H13090377-002A; H13090377-003A; H13090377-004A; H13090377-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21845

Date: *24-Oct-13*

Run ID :Run Order: **FIA203-HE_130926B: 11** SampType: **Method Blank** Sample ID: **MB-21845** Method: **A4500 N-C**
Analysis Date: **09/26/13 13:55** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.02									

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **FIA203-HE_130926B: 12** SampType: **Laboratory Control Sample** Sample ID: **LCS-21845** Method: **A4500 N-C**
Analysis Date: **09/26/13 13:56** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	17.6	0.10	18.7		**94**	90	110				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **FIA203-HE_130926B: 28** SampType: **Sample Matrix Spike** Sample ID: **H13090377-008AMS** Method: **A4500 N-C**
Analysis Date: **09/26/13 14:15** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.17	0.10	1	0.1995	**97**	90	110				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **FIA203-HE_130926B: 29** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-008AMSD** Method: **A4500 N-C**
Analysis Date: **09/26/13 14:16** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.19	0.10	1	0.1995	**99**	90	110	1.17	**1.7**	20	

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-13*

BatchID: 21847

Run ID :Run Order: **FIA203-HE_130926B: 37** SampType: **Method Blank** Sample ID: **MB-21847** Method: **A4500 N-C**
Analysis Date: **09/26/13 14:26** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.02									

Associated samples: **H13090377-016A**

Run ID :Run Order: **FIA203-HE_130926B: 38** SampType: **Laboratory Control Sample** Sample ID: **LCS-21847** Method: **A4500 N-C**
Analysis Date: **09/26/13 14:27** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	17.5	0.10	18.7		94	90	110				

Associated samples: **H13090377-016A**

Run ID :Run Order: **FIA203-HE_130926B: 43** SampType: **Sample Matrix Spike** Sample ID: **H13090387-001AMS** Method: **A4500 N-C**
Analysis Date: **09/26/13 14:33** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.10	0.10	1	0.1096	99	90	110				

Associated samples: **H13090377-016A**

Run ID :Run Order: **FIA203-HE_130926B: 44** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090387-001AMSD** Method: **A4500 N-C**
Analysis Date: **09/26/13 14:34** Units: **mg/L** **Prep Info:** Prep Date: **9/26/2013** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.11	0.10	1	0.1096	100	90	110	1.104	0.9	20	

Associated samples: **H13090377-016A**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21876

Date: *24-Oct-13*

Run ID :Run Order: **ICP2-HE_131001B: 55** SampType: **Method Blank** Sample ID: **MB-21876** Method: **SW6010B**
Analysis Date: **10/01/13 23:37** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.8									
Cadmium	ND	0.03									
Copper	ND	0.3									
Lead	ND	1									
Zinc	0.3	0.1									

Associated samples: **H13090377-017A; H13090377-018A; H13090377-019A; H13090377-020A; H13090377-021A; H13090377-022A; H13090377-023A; H13090377-024A; H13090377-025A; H13090377-026A; H13090377-027A; H13090377-028A; H13090377-029A; H13090377-030A**

Run ID :Run Order: **ICP2-HE_131001B: 56** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-21876** Method: **SW6010B**
Analysis Date: **10/01/13 23:41** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	45.6	1.0	50		91	80	120				
Cadmium	22.7	1.0	25		91	80	120				
Copper	48.4	1.0	50		97	80	120				
Lead	46.4	1.3	50		93	80	120				
Zinc	45.9	1.0	50	0.3025	91	80	120				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-019A; H13090377-020A; H13090377-021A; H13090377-022A; H13090377-023A; H13090377-024A; H13090377-025A; H13090377-026A; H13090377-027A; H13090377-028A; H13090377-029A; H13090377-030A**

Run ID :Run Order: **ICP2-HE_131001B: 57** SampType: **Laboratory Control Sample** Sample ID: **LCS-21876** Method: **SW6010B**
Analysis Date: **10/01/13 23:44** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	258	3.9	343		75	72.3	106.4				
Cadmium	111	1.0	137		81	73	105.1				
Copper	240	1.3	280		86	77.5	109.6				
Lead	163	6.3	187		87	75.9	108.6				
Zinc	176	1.0	213	0.3025	83	74.2	109.9				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-019A; H13090377-020A; H13090377-021A; H13090377-022A; H13090377-023A; H13090377-024A; H13090377-025A; H13090377-026A; H13090377-027A; H13090377-028A; H13090377-029A; H13090377-030A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21876

Date: *24-Oct-13*

Run ID :Run Order: **ICP2-HE_131001B: 80** SampType: **Sample Matrix Spike** Sample ID: **H13090377-030AMS** Method: **SW6010B**

Analysis Date: **10/02/13 01:08** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	75.4	3.9	50.51	29.54	91	75	125				
Cadmium	23.7	1.0	25.25	1.444	88	75	125				
Copper	173	1.3	50.51	110.3	123	75	125				
Lead	95.2	6.4	50.51	50.58	88	75	125				
Zinc	211	1.0	50.51	160.2	101	75	125				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-019A; H13090377-020A; H13090377-021A; H13090377-022A; H13090377-023A; H13090377-024A; H13090377-025A; H13090377-026A; H13090377-027A; H13090377-028A; H13090377-029A; H13090377-030A**

Run ID :Run Order: **ICP2-HE_131001B: 81** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-030AMSD** Method: **SW6010B**

Analysis Date: **10/02/13 01:12** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	74.0	3.9	50	29.54	89	75	125	75.42	2.0	20	
Cadmium	24.3	1.0	25	1.444	91	75	125	23.72	2.3	20	
Copper	157	1.3	50	110.3	93	75	125	172.7	9.7	20	
Lead	91.5	6.3	50	50.58	82	75	125	95.16	3.9	20	
Zinc	195	1.0	50	160.2	69	75	125	211	8.0	20	S

Associated samples: **H13090377-017A; H13090377-018A; H13090377-019A; H13090377-020A; H13090377-021A; H13090377-022A; H13090377-023A; H13090377-024A; H13090377-025A; H13090377-026A; H13090377-027A; H13090377-028A; H13090377-029A; H13090377-030A**

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21876

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130930C: 19** SampType: **Method Blank** Sample ID: **MB-21876** Method: **SW6020**
Analysis Date: **10/02/13 19:42** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.1									
Cadmium	ND	0.07									

Associated samples: **H13090377-017A; H13090377-018A; H13090377-020A; H13090377-021A**

Run ID :Run Order: **ICPMS204-B_130930C: 20** SampType: **Laboratory Control Sample** Sample ID: **LCS-21876** Method: **SW6020**
Analysis Date: **10/02/13 19:48** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	281	1.0	343		**82**	72.3	106.4				
Cadmium	116	1.0	137		**85**	73	105.1				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-020A; H13090377-021A**

Run ID :Run Order: **ICPMS204-B_130930C: 21** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-21876** Method: **SW6020**
Analysis Date: **10/02/13 19:54** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.2	1.0	50		**94**	80	120				
Cadmium	24.3	1.0	25		**97**	80	120				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-020A; H13090377-021A**

Run ID :Run Order: **ICPMS204-B_130930C: 33** SampType: **Sample Matrix Spike** Sample ID: **H13090377-030AMS** Method: **SW6020**
Analysis Date: **10/02/13 21:13** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	80.5	1.0	50.51	30.19	**100**	75	125				
Cadmium	26.5	1.0	25.25	1.989	**97**	75	125				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-020A; H13090377-021A**

Run ID :Run Order: **ICPMS204-B_130930C: 34** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-030AMSD** Method: **SW6020**
Analysis Date: **10/02/13 21:19** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	74.4	1.0	50	30.19	**88**	75	125	80.52	**7.9**	20	
Cadmium	26.0	1.0	25	1.989	**96**	75	125	26.55	**1.9**	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 21876

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130930C: 34** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-030AMSD** Method: **SW6020**

Analysis Date: **10/02/13 21:19** Units: **mg/kg** **Prep Info:** Prep Date: **9/30/2013** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13090377-017A; H13090377-018A; H13090377-020A; H13090377-021A**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_39108

Date: *24-Oct-13*

Run ID :Run Order: **SUB-C178617: 1** SampType: **Method Blank** Sample ID: **MB-39108** Method: **A5310 C**
Analysis Date: **09/20/13 19:56** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	0.05	0.04									

Associated samples: **H13090377-012E; H13090377-013E; H13090377-014E; H13090377-015E**

Run ID :Run Order: **SUB-C178617: 2** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV-39108** Method: **A5310 C**
Analysis Date: **09/20/13 20:08** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.3	0.50	10		**103**	90	110				

Associated samples: **H13090377-012E; H13090377-013E; H13090377-014E; H13090377-015E**

Run ID :Run Order: **SUB-C178617: 4** SampType: **Sample Matrix Spike** Sample ID: **C13090691-003DMS** Method: **A5310 C**
Analysis Date: **09/20/13 22:02** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	20.1	0.50	10	10.15	**99**	85	115				

Associated samples: **H13090377-012E; H13090377-013E; H13090377-014E; H13090377-015E**

Run ID :Run Order: **SUB-C178617: 5** SampType: **Sample Matrix Spike Duplicate** Sample ID: **C13090691-003DMSD** Method: **A5310 C**
Analysis Date: **09/20/13 22:13** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	20.3	0.50	10	10.15	**102**	85	115	20.08	**1.2**	10	

Associated samples: **H13090377-012E; H13090377-013E; H13090377-014E; H13090377-015E**

Run ID :Run Order: **SUB-C178617: 6** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV-39108** Method: **A5310 C**
Analysis Date: **09/20/13 22:25** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.1	0.50	10		**101**	90	110				

Associated samples: **H13090377-013E; H13090377-014E; H13090377-015E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: C_39108

Date: *24-Oct-13*

Run ID :Run Order: **SUB-C178617: 10** SampType: **Sample Matrix Spike** Sample ID: **H13090377-013E** Method: **A5310 C**
Analysis Date: **09/21/13 00:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.86	0.50	5	4.478	108	85	115				

Associated samples: **H13090377-012E; H13090377-013E; H13090377-014E; H13090377-015E**

Run ID :Run Order: **SUB-C178617: 11** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-013E** Method: **A5310 C**
Analysis Date: **09/21/13 00:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.83	0.50	5	4.478	107	85	115	9.859	0.3	10	

Associated samples: **H13090377-012E; H13090377-013E; H13090377-014E; H13090377-015E**

Run ID :Run Order: **SUB-C178617: 12** SampType: **Laboratory Control Sample** Sample ID: **LCS-39108** Method: **A5310 C**
Analysis Date: **09/21/13 01:01** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2013** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.3	0.50	10	0.04562	102	90	110				

Associated samples: **H13090377-012E; H13090377-013E; H13090377-014E; H13090377-015E**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R91442**

Date: *24-Oct-13*

Run ID :Run Order: **FIA203-HE_130920C: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E353.2**

Analysis Date: **09/20/13 12:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.010	1		103	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130920C: 9** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E353.2**

Analysis Date: **09/20/13 12:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.00	0.011	1		100	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130920C: 11** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E353.2**

Analysis Date: **09/20/13 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.00745	0.010				0	0				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130920C: 13** SampType: **Method Blank** Sample ID: **MBLK** Method: **E353.2**

Analysis Date: **09/20/13 12:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.001									

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130920C: 27** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**

Analysis Date: **09/20/13 13:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.474	0.010	0.5		95	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-13*

BatchID: R91442

Run ID :Run Order: **FIA203-HE_130920C: 30** SampType: **Sample Matrix Spike** Sample ID: **H13090356-001BMS** Method: **E353.2**
Analysis Date: **09/20/13 13:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.05	0.011	1	0.07315	98	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130920C: 31** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090356-001BMSD** Method: **E353.2**
Analysis Date: **09/20/13 13:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.07	0.011	1	0.07315	100	90	110	1.051	1.7	20	

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130920C: 41** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**
Analysis Date: **09/20/13 13:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.477	0.010	0.5		95	90	110				

Associated samples: **H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130920C: 43** SampType: **Sample Matrix Spike** Sample ID: **H13090377-010DMS** Method: **E353.2**
Analysis Date: **09/20/13 13:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.972	0.011	1	0.005407	97	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130920C: 44** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-010DMSD** Method: **E353.2**
Analysis Date: **09/20/13 13:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.978	0.011	1	0.005407	97	90	110	0.972	0.7	20	

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91461

Date: *24-Oct-13*

Run ID :Run Order: **MAN-TECH_130920B: 8** SampType: **Method Blank** Sample ID: **MBLK** Method: **A2320 B**
Analysis Date: **09/20/13 15:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A; H13090377-016A**

Run ID :Run Order: **MAN-TECH_130920B: 10** SampType: **Laboratory Control Sample** Sample ID: **LCS-09192013** Method: **A2320 B**
Analysis Date: **09/20/13 15:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	640	4.0	600		**107**	90	110				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A; H13090377-016A**

Run ID :Run Order: **MAN-TECH_130920B: 85** SampType: **Sample Duplicate** Sample ID: **H13090377-012ADUP** Method: **A2320 B**
Analysis Date: **09/20/13 20:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	110	4.0						112.9	**0.2**	10	
Bicarbonate as HCO3	100	4.0						101.4	**0.6**	10	

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A; H13090377-016A**

Run ID :Run Order: **MAN-TECH_130920B: 88** SampType: **Sample Matrix Spike** Sample ID: **H13090377-013AMS** Method: **A2320 B**
Analysis Date: **09/20/13 21:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	690	4.0	600	111.1	**96**	80	120				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A; H13090377-016A**

Run ID :Run Order: **MAN-TECH_130920B: 96** SampType: **Sample Duplicate** Sample ID: **H13090377-014ADUP** Method: **A2320 B**
Analysis Date: **09/20/13 21:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	4.0								10	
Bicarbonate as HCO3	ND	4.0								10	

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A; H13090377-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91476

Date: *24-Oct-13*

Run ID :Run Order: **IC102-H_130920A: 14** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E300.0**
Analysis Date: **09/20/13 10:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	410	1.0	400		103	90	110				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **IC102-H_130920A: 15** SampType: **Method Blank** Sample ID: **ICB** Method: **E300.0**
Analysis Date: **09/20/13 10:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.08									

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **IC102-H_130920A: 16** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E300.0**
Analysis Date: **09/20/13 11:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	200	1.0	200		102	90	110				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **IC102-H_130920A: 57** SampType: **Sample Matrix Spike** Sample ID: **H13090372-002AMS** Method: **E300.0**
Analysis Date: **09/20/13 19:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4100	2.3	4000	55.63	100	90	110				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **IC102-H_130920A: 58** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090372-002AMSD** Method: **E300.0**
Analysis Date: **09/20/13 19:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4000	2.3	4000	55.63	99	90	110	4073	1.5	20	

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91476

Date: *24-Oct-13*

Run ID :Run Order: **IC102-H_130920A: 59** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV092013-4** Method: **E300.0**
Analysis Date: **09/20/13 20:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	420	1.0	400		**104**	90	110				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A**

Run ID :Run Order: **IC102-H_130920A: 71** SampType: **Sample Matrix Spike** Sample ID: **H13090377-014AMS** Method: **E300.0**
Analysis Date: **09/20/13 22:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	200	1.0	200		**98**	90	110				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **IC102-H_130920A: 72** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-014AMSD** Method: **E300.0**
Analysis Date: **09/20/13 22:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	200	1.0	200		**99**	90	110	196.9	**0.6**	20	

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **IC102-H_130920A: 73** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV092013-5** Method: **E300.0**
Analysis Date: **09/20/13 23:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	420	1.0	400		**104**	90	110				

Associated samples: **H13090377-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91490

Date: *24-Oct-13*

Run ID :Run Order: **FIA202-HE_130923A: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E365.1**
Analysis Date: **09/23/13 15:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.250	0.010	0.25		**100**	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA202-HE_130923A: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**
Analysis Date: **09/23/13 15:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0925	0.010	0.1		**92**	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D**

Run ID :Run Order: **FIA202-HE_130923A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E365.1**
Analysis Date: **09/23/13 15:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00174	0.010				0	0				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA202-HE_130923A: 26** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**
Analysis Date: **09/23/13 15:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0917	0.010	0.1		**92**	90	110				

Associated samples: **H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91528

Date: *24-Oct-13*

Run ID :Run Order: **FIA203-HE_130924A: 7** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E350.1**
Analysis Date: **09/24/13 12:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	5.34	0.25	5.66		94	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130924A: 8** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E350.1**
Analysis Date: **09/24/13 12:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.974	0.055	1		97	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130924A: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **09/24/13 12:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.485	0.050	0.5		97	90	110				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D**

Run ID :Run Order: **FIA203-HE_130924A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E350.1**
Analysis Date: **09/24/13 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	-0.0418	0.050				0	0				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130924A: 17** SampType: **Sample Matrix Spike** Sample ID: **H13090377-001DMS** Method: **E350.1**
Analysis Date: **09/24/13 12:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.806	0.055	1		81	80	120				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91528

Date: *24-Oct-13*

Run ID :Run Order: **FIA203-HE_130924A: 18** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-001DMSD** Method: **E350.1**
Analysis Date: **09/24/13 12:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.808	0.055	1		**81**	80	120	0.8058	**0.3**	10	

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130924A: 24** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **09/24/13 12:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.478	0.050	0.5		**96**	90	110				

Associated samples:

Run ID :Run Order: **FIA203-HE_130924A: 30** SampType: **Sample Matrix Spike** Sample ID: **H13090377-014DMS** Method: **E350.1**
Analysis Date: **09/24/13 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.949	0.055	1		**95**	80	120				

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Run ID :Run Order: **FIA203-HE_130924A: 31** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-014DMSD** Method: **E350.1**
Analysis Date: **09/24/13 12:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.946	0.055	1		**95**	80	120	0.9491	**0.3**	10	

Associated samples: **H13090377-001D; H13090377-006D; H13090377-007D; H13090377-008D; H13090377-009D; H13090377-010D; H13090377-011D; H13090377-012D; H13090377-013D; H13090377-014D; H13090377-015D; H13090377-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91539

Date: *24-Oct-13*

Run ID :Run Order: **ICP2-HE_130924A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**

Analysis Date: **09/24/13 10:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	40.0	1.0	40		100	95	105				
Magnesium	39.5	1.0	40		99	95	105				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 7** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV-1** Method: **E200.7**

Analysis Date: **09/24/13 10:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.5	1.0	25		102	95	105				
Magnesium	25.4	1.0	25		101	95	105				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**

Analysis Date: **09/24/13 11:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	472	1.0	500		94	80	120				
Magnesium	510	1.0	500		102	80	120				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/24/13 11:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	474	1.0	500		95	80	120				
Magnesium	510	1.0	500		102	80	120				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C; H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Run ID :Run Order: **ICP2-HE_130924A: 74** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**

Analysis Date: **09/24/13 15:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.7	1.0	25		103	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91539

Date: *24-Oct-13*

Run ID :Run Order: **ICP2-HE_130924A: 74** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**

Analysis Date: **09/24/13 15:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	25.8	1.0	25		103	90	110				

Associated samples: **H13090377-001C; H13090377-006C; H13090377-007C; H13090377-008C; H13090377-009C; H13090377-010C; H13090377-011C**

Run ID :Run Order: **ICP2-HE_130924A: 86** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**

Analysis Date: **09/24/13 15:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.4	1.0	25		102	90	110				
Magnesium	24.8	1.0	25		99	90	110				

Associated samples: **H13090377-012C; H13090377-013C; H13090377-014C; H13090377-015C; H13090377-016C**

Qualifiers:
- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- N - Analyte concentration was not sufficiently high to calculate RPD
- A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91546

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130924A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/24/13 14:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0580	0.0050	0.06		97	90	110				
Cadmium	0.0306	0.0010	0.03		102	90	110				
Copper	0.0600	0.010	0.06		100	90	110				
Lead	0.0592	0.010	0.06		99	90	110				
Zinc	0.0584	0.010	0.06		97	90	110				

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **09/24/13 14:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	-7.90E-05	0.0050									
Cadmium	0.00106	0.0010									
Copper	0.000341	0.010									
Lead	0.000188	0.010									
Zinc	0.000970	0.010									

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/24/13 14:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.00944	0.0050	0.01		94	70	130				
Cadmium	0.0101	0.0010	0.01		101	70	130				
Copper	0.0184	0.010	0.02		92	70	130				
Lead	0.000189	0.010				0	0				
Zinc	0.0101	0.010	0.01		101	70	130				

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91546

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130924A: 55** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/24/13 17:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0580	0.0050	0.06		97	90	110				
Cadmium	0.0308	0.0010	0.03		103	90	110				
Copper	0.0607	0.010	0.06		101	90	110				
Lead	0.0595	0.010	0.06		99	90	110				
Zinc	0.0608	0.010	0.06		101	90	110				

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 56** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **09/24/13 17:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.30E-05	0.0050									
Cadmium	0.00102	0.0010									
Copper	0.000267	0.010									
Lead	0.000164	0.010									
Zinc	0.00108	0.010									

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 57** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/24/13 17:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0102	0.0050	0.01		102	70	130				
Cadmium	0.0104	0.0010	0.01		104	70	130				
Copper	0.0199	0.010	0.02		99	70	130				
Lead	0.000168	0.010				0	0				
Zinc	0.0110	0.010	0.01		110	70	130				

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- N - Analyte concentration was not sufficiently high to calculate RPD
- A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91546

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130924A: 63** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**
Analysis Date: **09/24/13 18:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Cadmium	1E-05	7E-06									
Copper	8E-05	3E-05									
Lead	8E-06	6E-06									
Zinc	0.0008	0.0003									

Associated samples: **H13090377-001B; H13090377-006B; H13090377-007B; H13090377-008B; H13090377-009B; H13090377-010B; H13090377-011B; H13090377-012B; H13090377-013B; H13090377-014B; H13090377-015B; H13090377-016B**

Run ID :Run Order: **ICPMS204-B_130924A: 64** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **09/24/13 18:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0482	0.0050	0.05		96	85	115				
Cadmium	0.0496	0.0010	0.05	0.0000122	99	85	115				
Copper	0.0494	0.010	0.05	0.0000798	99	85	115				
Lead	0.0491	0.010	0.05	0.0000078	98	85	115				
Zinc	0.0504	0.010	0.05	0.0007796	99	85	115				

Associated samples: **H13090377-001B; H13090377-006B; H13090377-007B; H13090377-008B; H13090377-009B; H13090377-010B; H13090377-011B; H13090377-012B; H13090377-013B; H13090377-014B; H13090377-015B; H13090377-016B**

Run ID :Run Order: **ICPMS204-B_130924A: 90** SampType: **Sample Matrix Spike** Sample ID: **H13090377-001BMS** Method: **E200.8**
Analysis Date: **09/24/13 20:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0551	0.0010	0.05	0.005326	100	70	130				
Cadmium	0.0520	0.0010	0.05	0.0000154	104	70	130				
Copper	0.0501	0.0050	0.05	0.001779	97	70	130				
Lead	0.0513	0.0010	0.05	0.0000704	102	70	130				
Zinc	0.0625	0.010	0.05	0.01262	100	70	130				

Associated samples: **H13090377-001B; H13090377-006B; H13090377-007B; H13090377-008B; H13090377-009B; H13090377-010B; H13090377-011B; H13090377-012B; H13090377-013B; H13090377-014B; H13090377-015B; H13090377-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91546

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130924A: 91** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-001BMSD** Method: **E200.8**
Analysis Date: **09/24/13 20:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0556	0.0010	0.05	0.005326	101	70	130	0.05514	0.8	20	
Cadmium	0.0515	0.0010	0.05	0.0000154	103	70	130	0.05198	1.0	20	
Copper	0.0500	0.0050	0.05	0.001779	97	70	130	0.05007	0.1	20	
Lead	0.0504	0.0010	0.05	0.0000704	101	70	130	0.05127	1.7	20	
Zinc	0.0630	0.010	0.05	0.01262	101	70	130	0.06247	0.8	20	

Associated samples: **H13090377-001B; H13090377-006B; H13090377-007B; H13090377-008B; H13090377-009B; H13090377-010B; H13090377-011B; H13090377-012B; H13090377-013B; H13090377-014B; H13090377-015B; H13090377-016B**

Run ID :Run Order: **ICPMS204-B_130924A: 128** SampType: **Sample Matrix Spike** Sample ID: **H13090377-015BMS** Method: **E200.8**
Analysis Date: **09/24/13 23:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0686	0.0010	0.05	0.02177	94	70	130				
Cadmium	0.0482	0.0010	0.05		96	70	130				
Copper	0.0456	0.0050	0.05	0.001149	89	70	130				
Lead	0.0478	0.0010	0.05	0.0000815	96	70	130				
Zinc	0.0508	0.010	0.05	0.007248	87	70	130				

Associated samples: **H13090377-001B; H13090377-006B; H13090377-007B; H13090377-008B; H13090377-009B; H13090377-010B; H13090377-011B; H13090377-012B; H13090377-013B; H13090377-014B; H13090377-015B; H13090377-016B**

Run ID :Run Order: **ICPMS204-B_130924A: 129** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090377-015BMSD** Method: **E200.8**
Analysis Date: **09/24/13 23:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0691	0.0010	0.05	0.02177	95	70	130	0.06865	0.7	20	
Cadmium	0.0487	0.0010	0.05		97	70	130	0.04819	1.0	20	
Copper	0.0460	0.0050	0.05	0.001149	90	70	130	0.04561	0.8	20	
Lead	0.0482	0.0010	0.05	0.0000815	96	70	130	0.04785	0.8	20	
Zinc	0.0516	0.010	0.05	0.007248	89	70	130	0.05082	1.6	20	

Associated samples: **H13090377-001B; H13090377-006B; H13090377-007B; H13090377-008B; H13090377-009B; H13090377-010B; H13090377-011B; H13090377-012B; H13090377-013B; H13090377-014B; H13090377-015B; H13090377-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91546

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130924A: 253** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **09/25/13 08:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000138	0.0050									
Cadmium	0.000995	0.0010									
Copper	0.000136	0.010									
Lead	0.000146	0.010									
Zinc	0.00108	0.010									

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 254** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/25/13 08:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0112	0.0050	0.01		113	70	130				
Cadmium	0.0112	0.0010	0.01		113	70	130				
Copper	0.0203	0.010	0.02		102	70	130				
Lead	0.000176	0.010				0	0				
Zinc	0.0114	0.010	0.01		114	70	130				

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 265** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **09/25/13 09:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0604	0.0050	0.06		101	90	110				
Cadmium	0.0305	0.0010	0.03		102	90	110				
Copper	0.0631	0.010	0.06		105	90	110				
Lead	0.0607	0.010	0.06		101	90	110				
Zinc	0.0616	0.010	0.06		103	90	110				

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91546

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130924A: 266** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **09/25/13 09:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000103	0.0050									
Cadmium	0.000949	0.0010									
Copper	0.000250	0.010									
Lead	0.000158	0.010									
Zinc	0.00113	0.010									

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 267** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/25/13 09:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0109	0.0050	0.01		**109**	70	130				
Cadmium	0.0104	0.0010	0.01		**104**	70	130				
Copper	0.0209	0.010	0.02		**104**	70	130				
Lead	0.000155	0.010				0	0				
Zinc	0.0120	0.010	0.01		**120**	70	130				

Associated samples: **H13090377-001B; H13090377-001C; H13090377-006B; H13090377-006C; H13090377-007B; H13090377-007C; H13090377-008B; H13090377-008C; H13090377-009B; H13090377-009C; H13090377-010B; H13090377-010C; H13090377-011B; H13090377-011C; H13090377-012B; H13090377-012C; H13090377-013B; H13090377-013C; H13090377-014B; H13090377-014C; H13090377-015B; H13090377-015C; H13090377-016B; H13090377-016C**

Run ID :Run Order: **ICPMS204-B_130924A: 298** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**

Analysis Date: **09/25/13 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0488	0.0050	0.05		**98**	85	115				
Cadmium	0.0473	0.0010	0.05	0.0000122	**95**	85	115				
Copper	0.0500	0.010	0.05	0.0000798	**100**	85	115				
Lead	0.0482	0.010	0.05	0.0000078	**96**	85	115				
Zinc	0.0492	0.010	0.05	0.0007796	**97**	85	115				

Associated samples: **H13090377-001B; H13090377-006B; H13090377-007B; H13090377-008B; H13090377-009B; H13090377-010B; H13090377-011B; H13090377-012B; H13090377-013B; H13090377-014B; H13090377-015B; H13090377-016B**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91590

Date: *24-Oct-13*

Run ID :Run Order: **FIA203-HE_130926B: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **09/26/13 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.515	0.10	0.5		103	90	110				

Associated samples: **H13090377-001A; H13090377-006A**

Run ID :Run Order: **FIA203-HE_130926B: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **A4500 N-C**
Analysis Date: **09/26/13 13:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.0117	0.10				0	0				

Associated samples: **H13090377-001A; H13090377-006A; H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A; H13090377-016A**

Run ID :Run Order: **FIA203-HE_130926B: 25** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **09/26/13 14:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.494	0.10	0.5		99	90	110				

Associated samples: **H13090377-007A; H13090377-008A; H13090377-009A; H13090377-010A; H13090377-011A; H13090377-012A; H13090377-013A; H13090377-014A; H13090377-015A**

Run ID :Run Order: **FIA203-HE_130926B: 40** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **09/26/13 14:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.497	0.10	0.5		99	90	110				

Associated samples: **H13090377-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-13*

BatchID: R91695

Run ID :Run Order: **ICP2-HE_131001B: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**
Analysis Date: **10/01/13 15:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.805	0.012	0.8		**101**	90	110				
Cadmium	0.393	0.0010	0.4		**98**	90	110				
Copper	0.796	0.010	0.8		**100**	90	110				
Lead	0.794	0.019	0.8		**99**	90	110				
Zinc	0.802	0.010	0.8		**100**	90	110				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-019A; H13090377-020A; H13090377-021A; H13090377-022A; H13090377-023A; H13090377-024A; H13090377-025A; H13090377-026A; H13090377-027A; H13090377-028A; H13090377-029A; H13090377-030A**

Run ID :Run Order: **ICP2-HE_131001B: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**
Analysis Date: **10/01/13 15:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	-0.00537	0.012				0	0				
Cadmium	-0.00466	0.0010				0	0				
Copper	0.00623	0.010				0	0				
Lead	-0.00132	0.019				0	0				
Zinc	0.0133	0.010				0	0				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-019A; H13090377-020A; H13090377-021A; H13090377-022A; H13090377-023A; H13090377-024A; H13090377-025A; H13090377-026A; H13090377-027A; H13090377-028A; H13090377-029A; H13090377-030A**

Run ID :Run Order: **ICP2-HE_131001B: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**
Analysis Date: **10/01/13 15:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.13	0.012	1		**113**	80	120				
Cadmium	0.923	0.0010	1		**92**	80	120				
Copper	0.515	0.010	0.5		**103**	80	120				
Lead	0.932	0.019	1		**93**	80	120				
Zinc	1.00	0.010	1		**100**	80	120				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-019A; H13090377-020A; H13090377-021A; H13090377-022A; H13090377-023A; H13090377-024A; H13090377-025A; H13090377-026A; H13090377-027A; H13090377-028A; H13090377-029A; H13090377-030A**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R91749

Date: *24-Oct-13*

Run ID :Run Order: **IC102-H_130930A: 16** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E300.0**
Analysis Date: **09/30/13 14:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	410	1.0	400		103	90	110				

Associated samples: **H13090377-016A**

Run ID :Run Order: **IC102-H_130930A: 17** SampType: **Method Blank** Sample ID: **ICB** Method: **E300.0**
Analysis Date: **09/30/13 14:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.1	0.08									

Associated samples: **H13090377-016A**

Run ID :Run Order: **IC102-H_130930A: 19** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV093013-1** Method: **E300.0**
Analysis Date: **09/30/13 15:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	420	1.0	400		104	90	110				

Associated samples: **H13090377-016A**

Run ID :Run Order: **IC102-H_130930A: 20** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E300.0**
Analysis Date: **09/30/13 15:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	200	1.0	200	0.137	101	90	110				

Associated samples: **H13090377-016A**

Run ID :Run Order: **IC102-H_130930A: 31** SampType: **Sample Matrix Spike** Sample ID: **H13090381-012AMS** Method: **E300.0**
Analysis Date: **09/30/13 18:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	260	1.0	200	49.38	105	90	110				

Associated samples: **H13090377-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R91749**

Date: *24-Oct-13*

Run ID :Run Order: **IC102-H_130930A: 32** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13090381-012AMSD** Method: **E300.0**

Analysis Date: **09/30/13 18:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	260	1.0	200	49.38	**105**	90	110	259.4	**0.0**	20	

Associated samples: **H13090377-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H13090377
Project: CFR OU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: **R91755**

Date: *24-Oct-13*

Run ID :Run Order: **ICPMS204-B_130930C: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **10/02/13 12:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0598	0.0010	0.06		100	90	110				
Cadmium	0.0314	0.0010	0.03		105	90	110				

Associated samples: **H13090377-017A; H13090377-018A; H13090377-020A; H13090377-021A**

BROOKS
RAND
LABS
MEANINGFUL METALS DATA®

October 23, 2013

Energy Laboratories, Inc.
ATTN: Jonathan Dee Hager
PO Box 5688
Helena MT 59604
jhager@energylab.com

RE: Project ENL-HL1201 Client Project: Silver Bow / Clark Fork

Dear Jonathan Dee Hager,

This report contains results for the 4 samples received by Brooks Rand Labs (BRL) on September 20, 2013. The samples were logged-in for the contracted analyses according to the chain-of-custody form(s). The samples were received, prepared, analyzed, and stored according to BRL SOPs and EPA methodology.

The results were method blank corrected as described in the calculations section of the relevant BRL SOP(s) and may have been evaluated using reporting limits that have been adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details. All data is reported without qualification (with the exception of concentration qualifiers), and all associated quality control sample results meet the acceptance criteria.

BRL, an accredited laboratory, certifies that the reported results of all analyses for which BRL is NELAP accredited meet all NELAP requirements. For more details, please see the *Report Information* page in your report. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Lydia Greaves

Lydia Greaves
Project Manager
Lydia@brooksrand.com

Report Information

Laboratory Accreditation

BRL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BRL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksrand.com/default.asp?contentID=586>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BLK	method blank	**MS**	matrix spike
BRL	Brooks Rand Labs	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
CRM	certified reference material	**RPD**	relative percent difference
D	dissolved fraction	**RSD**	relative standard deviation
DUP	duplicate	**SCV**	secondary calibration verification
ICV	initial calibration verification	**SOP**	standard operating procedure
MDL	method detection limit	**SRM**	standard reference material
MRL	method reporting limit	**T**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

B	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Rand Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BRL.

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
H13090377-002B	1338031-01	Water	Sample	09/17/2013	09/20/2013
H13090377-003B	1338031-02	Water	Sample	09/17/2013	09/20/2013
H13090377-004B	1338031-03	Water	Field Duplicate	09/17/2013	09/20/2013
H13090377-005B	1338031-04	DIW	Field Blank	09/17/2013	09/20/2013

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
MeHg	Water	EPA 1630	10/15/2013	10/16/2013	B131619	1300703

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
H13090377-002B										
1338031-01	MeHg	Water	T	0.700		0.020	0.050	ng/L	B131619	1300703
H13090377-003B										
1338031-02	MeHg	Water	T	0.791		0.020	0.051	ng/L	B131619	1300703
H13090377-004B										
1338031-03	MeHg	Water	T	0.810		0.020	0.051	ng/L	B131619	1300703
H13090377-005B										
1338031-04	MeHg	DIW	T	0.020	U	0.020	0.051	ng/L	B131619	1300703

Accuracy & Precision Summary

Batch: B131619
Lab Matrix: Water
Method: EPA 1630

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B131619-BS1	**Laboratory Fortified Blank (1341064)**						
	MeHg		1.009	1.065	ng/L	106% 67-133	
B131619-BS2	**Laboratory Fortified Blank (1341064)**						
	MeHg		0.9887	0.966	ng/L	98% 67-133	
B131619-MS1	**Matrix Spike (1338031-02)**						
	MeHg	0.791	5.320	5.963	ng/L	97% 65-135	
B131619-MSD1	**Matrix Spike Duplicate (1338031-02)**						
	MeHg	0.791	5.402	6.024	ng/L	97% 65-135	1% 35

Method Blanks & Reporting Limits

Batch: B131619
Matrix: Water
Method: EPA 1630
Analyte: MeHg

Sample	Result	Units
B131619-BLK1	0.0009	ng/L
B131619-BLK2	0.007	ng/L
B131619-BLK3	0.0009	ng/L
B131619-BLK4	0.003	ng/L

Average: 0.003 **Standard Deviation:** 0.003 **MDL:** 0.020
Limit: 0.045 **Limit:** 0.015 **MRL:** 0.051

Sample Containers

Lab ID: 1338031-01
Sample: H13090377-002B
Report Matrix: Water
Sample Type: Sample
Collected: 09/17/2013
Received: 09/20/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	250mL	13-0174	2mL 6N HCl (PP)	1334018	<2	Cooler

Lab ID: 1338031-02
Sample: H13090377-003B
Report Matrix: Water
Sample Type: Sample
Collected: 09/17/2013
Received: 09/20/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	250mL	13-0174	2mL 6N HCl (PP)	1334018	<2	Cooler

Lab ID: 1338031-03
Sample: H13090377-004B
Report Matrix: Water
Sample Type: Field Duplicate
Collected: 09/17/2013
Received: 09/20/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	250mL	13-0174	2mL 6N HCl (PP)	1334018	<2	Cooler

Lab ID: 1338031-04
Sample: H13090377-005B
Report Matrix: DIW
Sample Type: Field Blank
Collected: 09/17/2013
Received: 09/20/2013

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-SP	250mL	13-0174	2mL 6N HCl (PP)	1334018	<2	Cooler

Shipping Containers

Cooler

Received: September 20, 2013 9:00
Tracking No: 1Z37EW970151845079 via UPS
Coolant Type: Ice
Temperature: 0.3 °C

Description: Cooler
Damaged in transit? No
Returned to client? No

Custody seals present? Yes
Custody seals intact? Yes
COC present? Yes

Energy Laboratories Inc
3161 East Lyndale Avenue
Helena, MT 59601
(406) 442-0711

H13090377

133831

CHAIN-OF-CUSTODY RECORD

BRL Report 1338031
Page 1 of 1
19-Sep-13

Custody Seal: [✓ Y] N
Intacted: [✓ Y] N
Signature Match: Y N

Shipped By: UPS
Receipt Temp: 0.8°c

Subcontractor:

Brooks Rand Labs
3958 6th Ave NW
Seattle, WA 98106
TEL: (206) 632-6206 FAX: (206) 632-6017
Acct #:

Subcontractor's Client:

Requested Tests

Rush	Sample ID	Matrix	Collection Date	Bottle Type	SUB-BROOKSRAND
☐	H13090377-002B	Aqueous	09/17/13 11:00 A	1-CLIENT-SLD	1
☐	H13090377-003B	Aqueous	09/17/13 12:00 P	1-CLIENT-SLD	1
☐	H13090377-004B	Aqueous	09/17/13 12:00 P	1-CLIENT-SLD	1
☐	H13090377-005B	Aqueous	09/17/13 12:30 P	1-CLIENT-SLD	1

Earliest Due Date: 10/3/2013

Comments: Methyl Mercury analysis

QC Level:
STD

	Date/Time	
Relinquished by:		**Received by:**
Relinquished by:	9/19/13 16:19	**Received by:** Cori Wright 9/20/13 0900

Workorder Receipt Checklist

MT DEQ-Federal Superfund H13090377

Login completed by: Tracy L. Lorash
Date Received: 9/19/2013
Reviewed by: BL2000\jweidemoyer
Received by: TLL
Reviewed Date: 9/26/2013
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Sample ID on COC is Field Blank #1 - ID on Methyl Hg bottle is Field Blank. Logged in with ID from COC.
Sample ID on COC is CFR-07D - ID on bottles is CFR-7D. Logged in with ID from COC.
Sample ID on COC is SS-25 Duplicate - ID on bottles is SS-25 Dup. Logged in with ID from COC.
Sample ID on COC is Field Blank #2 - ID on DOC bottle is Field Blank. Logged in with ID from COC.
Sample ID on COC is CFR-07D Duplicate - ID on jar is CFR-7D-Dup. Logged in with ID from COC.
Total Recoverable Hg bottles for FC-CFR Duplicate and Field Blank #1 are marked filtered. Per Erich, this is an error - samples are not filtered.
Cooler 1 was received at 0.2°C, Cooler 2 at 3.3°C, Cooler 3 containing sediment samples at 8.1°C. Samples from Coolers 1 & 2 were received on wet ice. TI 9/20/13.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 1 of 4

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ (via Atkins)	Project Name, PWS, Permit, Etc. CFROU Monitoring	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address (Required): jgriffin@mt.gov erich.weber@atkinsglobal.com gary.ingman@atkinsglobal.com ☐ No Hard Copy Email:	Contact Name: Joe Griffin Phone/Fax: 560-6060 (MTDEQ) Erich Weber 437-9245	Cell: 439-0563	Sampler: (Please Print) E. Weber J. DeArment
	Invoice Contact & Phone: Joe Griffin (above)	Purchase Order:	Quote/Bottle Order: 624

Invoice Address (Required):
MT DEQ
P.O. Box 200901
Helena MT 59620-0901
☐ No Hard Copy Email:

Special Report/Formats:
☐ DW
☐ POTW/WWTP
☐ State: ______
☐ Other: ______
☐ EDD/EDT (Electronic Data)
Format: ______
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
all dissolved samples Field Filtered
Total Hg from TR metals sample

#	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO_{3+2}, TP	TSS	Tot Alk., SO_4	Hardness (TR Ca & Mg)	Total Hg (low level)	Methyl Hg (contract)	SEE ATTACHED	Comments	LABORATORY USE ONLY
1	CFR-116A	9-17-2013	09:00	5W	X	X	X	X	X	X	X				C1 = 0.2 TB	H3090377
2	CFR-84F	9-17-2013	11:00	2W								X	X		C2 = 3.5	
3	FC-CFR	9-17-2013	12:00	2W												
4	FC-CFR Duplicate	9-17-2013	12:00	2W												
5	Field Blank #1	9-17-2013	12:30	2W												
6	LBR-CFR	9-17-2013	13:45	5W	X	X	X	X	X	X	X					
7	CFR-27H	9-17-2013	15:00	5W												
8	CFR-11F	9-18-2013	08:45	5W												
9	CFR-07D	9-18-2013	10:15	5W												
10	CFR-03A	9-18-2013	11:30	5W												

C2

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: [✓ Y] N
Custody Seal On Bottle Y [✓ N]
On Cooler Y [✓ N]
Intact Y N
Signature Match Y N

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Erich Weber	9-19-2013 1335				
Sample Disposal: Return to Client: ______ Lab Disposal: ______			Received by Laboratory: Tracy Graul	9/19/13 13:35	Tracy Graul

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 2 of 4

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ (via Atkins)

Project Name, PWS, Permit, Etc.: CFR OU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required): please see page 1

☐ No Hard Copy Email:

Contact Name: please see page 1

Phone/Fax:

Cell:

Sampler: (Please Print) E. Weber J. DeArment

Invoice Contact & Phone: please see page 1

Purchase Order:

Quote/Bottle Order: 624

Invoice Address (Required): please see page 1

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State:
☐ Other:
☐ EDD/EDT (Electronic Data)
Format:
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: all dissolved sample field filtered

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TAN	NH3, NO3+2, TP	TSS	Tot Alk., SO4-	Hardness (TR Ca & Mg)	DOC		SEE ATTACHED	Comments	LABORATORY USE ONLY
C2	1 WSC-SBC	9-18-2013	12:30	5W	X	X	X	X	X	X	X				C1 = 0.2 } TB	H13090377
C1	2 SS-25	9-18-2013	14:00	6W								X			C2 = 3.3	
	3 SS-25 Duplicate	9-18-2013	14:00	6W								X				
	4 Field Blank #2	9-18-2013	15:00	6W								X				
	5 MWB-SBC	9-18-2013	15:45	6W								X				
C2	6 MCWC-MWB	9-18-2013	17:00	5W												
	7															
	8															
	9															
	10															

LABORATORY USE ONLY

Shipped by: Hand

Cooler ID(s): Y

Receipt Temp: See Comments

On Ice: [✓ Y] N

Custody Seal
On Bottle Y [✓ N]
On Cooler Y [✓ N]

Intact Y N

Signature Match Y N

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 9-19-2013 1335 Signature: E. Weber

Received by (print): Date/Time: Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Tracy Conrad Date/Time: 9/19/13 13:35 Signature: Tracy Conrad

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 3 of 4

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ (via Atkins)

Project Name, PWS, Permit, Etc.: CFROU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required): please see page 1

☐ No Hard Copy Email:

Contact Name: please see page 1

Phone/Fax:

Cell:

Sampler: (Please Print) E. Weber, J. DeArment

Invoice Contact & Phone: please see page 1

Purchase Order:

Quote/Bottle Order: 624

Invoice Address (Required): please see page 1

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW

☐ POTW/WWTP

☐ State:

☐ Other:

☐ EDD/EDT (Electronic Data)

Format:

☐ LEVEL IV

☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

R U S H → Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Sediment samples to be lab sieved to<0.063 mm fraction only

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Total As, Cd, Cu, Pb, Zn
1 CFR-116A	9-17-2013	09:00	1S	X
2 LBR-CFR	9-17-2013	13:45	1S	X
3 CFR-27H	9-17-2013	15:00	1S	X
4 RTC-1	9-17-2013	16:15	1S	X
5 LC-7	9-17-2013	16:45	1S	X
6 CFR-11F	9-18-2013	08:45	1S	X
7 CFR-07D	9-18-2013	10:15	1S	X
8 CFR-07D Duplicate	9-18-2013	10:15	1S	X
9 CFR-03A	9-18-2013	11:30	1S	X
10 WSC-SBC	9-18-2013	12:30	1S	X

LABORATORY USE ONLY

Shipped by: Hand

Cooler ID(s): Y

Receipt Temp 8.1 °C TB

On Ice: Y [✓ N]

Custody Seal On Bottle Y [✓ N]

On Cooler Y [✓ N]

Intact Y N

Signature Match Y N

H13090377

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 9-19-2013 1335 Signature:

Received by (print): Date/Time: Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Sample Disposal: Return to Client: Lab Disposal:

Received by Laboratory: Tracy Levasl Date/Time: 9/19/13 13:35 Signature: Tracy Levasl

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 4 of 4

PLEASE PRINT **(Provide as much information as possible.)**

Company Name: MTDEQ (via Atkins)

Project Name, PWS, Permit, Etc.: CFROU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required): please see page 1

Contact Name: please see page 1

Phone/Fax:

Cell:

Sampler: (Please Print) E. Weber J. Detarment H. McAdams

☐ No Hard Copy Email:

Invoice Contact & Phone: please see page 1

Purchase Order:

Quote/Bottle Order: 624

Invoice Address (Required): please see page 1

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State:
☐ Other:
☐ EDD/EDT (Electronic Data)
Format:
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Total As, Cd, Cu, Pb, Zn	SEE ATTACHED
1	SS-25	9-18-2013	14:00	IS	X	
2	SS-25 Duplicate	9-18-2013	14:00	IS		
3	MWB-SBC	9-18-2013	15:45	IS		
4	MCWC-MWB	9-18-2013	17:00	IS		
5						
6						
7						
8						
9						
10						

Standard Turnaround (TAT)

R U S H

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Sediment samples to be lab sieved to <0.063 mm fraction only

LABORATORY USE ONLY

Shipped by: Hand

Cooler ID(s): Y

Receipt Temp 8.1 °C TB

On Ice: Y [✓ N]

Custody Seal On Bottle Y [✓ N]

On Cooler Y [✓ N]

Intact Y N

Signature Match Y N

H13090377

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 9-19-2013 1335 Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Tracy Lerad Date/Time: 9/19/13 13:35 Signature: Tracy Lerad

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

APPENDIX B4

FOURTH QUARTER ANALYSIS RESULTS FOR SURFACE WATER SAMPLES

ENERGY LABORATORIES
www.energylab.com
Analytical Excellence Since 1952
Helena, MT 877-472-0711 • Billings, MT 800-735-4489 • Casper, WY 888-235-0515
Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

ANALYTICAL SUMMARY REPORT

January 08, 2014

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13110520 Quote ID: H624

Project Name: CFR Monitoring-474374

Energy Laboratories Inc Helena MT received the following 17 samples for MT DEQ-Federal Superfund on 11/27/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13110520-001	CFR-116A	11/25/13 9:00	11/27/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13110520-002	CFR-84F	11/25/13 10:30	11/27/13	Aqueous	Mercury, Total Digestion, Mercury by CVAA Subcontracted, Analytics
H13110520-003	FC-CFR	11/25/13 11:45	11/27/13	Aqueous	Same As Above
H13110520-004	FC-CFR Duplicate	11/25/13 11:45	11/27/13	Aqueous	Same As Above
H13110520-005	Field Blank #1	11/25/13 11:30	11/27/13	Aqueous	Same As Above
H13110520-006	LBR-CFR	11/25/13 13:15	11/27/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13110520-007	CFR-27H	11/25/13 14:30	11/27/13	Aqueous	Same As Above
H13110520-008	CFR-11F	11/25/13 15:30	11/27/13	Aqueous	Same As Above
H13110520-009	CFR-07D	11/25/13 16:30	11/27/13	Aqueous	Same As Above
H13110520-010	CFR-03A	11/26/13 9:30	11/27/13	Aqueous	Same As Above
H13110520-011	WSC-SBC	11/26/13 10:30	11/27/13	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H13110520-012	SS-25	11/26/13 11:30	11/27/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13110520-013	SS-25 Duplicate	11/26/13 11:30	11/27/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Cancelled Sample Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13110520-014	Field Blank #2	11/26/13 11:00	11/27/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Carbon, Dissolved Organic Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13110520-015	MWB-SBC	11/26/13 13:15	11/27/13	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H13110520-016	MCWC-MWB	11/26/13 14:15	11/27/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Hardness as CaCO3 Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Total P Water Nitrogen, Total Persulfate Preparation for TSS Phosphorus, Total Solids, Total Suspended
H13110520-017	TB Methyl Mercury	11/25/13 9:00	11/27/13	Trip Blank	Subcontracted, Analytics

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: CFR Monitoring-474374
Sample Delivery Group: H13110520

Revised Date: 01/08/14
Report Date: 01/08/14

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

Sample 014 was re-analyzed past the recommended analysis time for confirmation of Total Nitrogen (Persulfate). Samples for Methyl Mercury were submitted to BrooksRandLabs for analysis. Attached is the report. Wj 1/2/14

DOC sample for SS-25 Dup was received frozen & broke in transit to Casper Energy Laboratories. Attached is the revised report. Wj 1/8/14

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-116A
Lab ID: H13110520-001
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/25/13 09:00 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	11/27/13 16:09 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 10		22643
INORGANICS											
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	11/27/13 17:33 / jaw		MAN-TECH_131127A : 22		R93193
Bicarbonate as HCO3	190	mg/L		4		A2320 B	11/27/13 17:33 / jaw		MAN-TECH_131127A : 22		R93193
Sulfate	70	mg/L		1		E300.0	12/02/13 18:32 / JRS		IC102-H_131127A : 126		R93206
Hardness as CaCO3	197	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 1		R93267
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:29 / cmm		FIA203-HE_131205A : 18		R93310
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	12/02/13 17:03 / jdh		FIA203-HE_131202A : 85		R93221
Nitrogen, Total	0.24	mg/L		0.05		A4500 N-C	12/03/13 14:42 / cmm	12/03/13 12:42	FIA203-HE_131203C : 54		22690
Phosphorus, Total as P	0.010	mg/L		0.005		E365.1	12/02/13 14:36 / cmm	12/02/13 09:40	FIA202-HE_131202A : 50		22665
METALS, DISSOLVED											
Arsenic	0.005	mg/L		0.005		E200.8	12/03/13 12:14 / dck		ICPMS204-B_131203A : 29		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 12:14 / dck		ICPMS204-B_131203A : 29		R93249
Copper	0.002	mg/L		0.001		E200.8	12/03/13 12:14 / dck		ICPMS204-B_131203A : 29		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 12:14 / dck		ICPMS204-B_131203A : 29		R93249
Zinc	0.01	mg/L		0.01		E200.8	12/03/13 12:14 / dck		ICPMS204-B_131203A : 29		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	0.006	mg/L		0.005		E200.8	12/03/13 12:54 / dck	12/02/13 08:10	ICPMS204-B_131203A : 38		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 12:54 / dck	12/02/13 08:10	ICPMS204-B_131203A : 38		22659
Calcium	55	mg/L		1		E200.7	12/03/13 12:26 / sld	12/02/13 08:10	ICP2-HE_131203B : 24		22659
Copper	0.005	mg/L		0.001		E200.8	12/03/13 12:54 / dck	12/02/13 08:10	ICPMS204-B_131203A : 38		22659
Lead	0.0007	mg/L		0.0005		E200.8	12/03/13 12:54 / dck	12/02/13 08:10	ICPMS204-B_131203A : 38		22659
Magnesium	15	mg/L		1		E200.7	12/03/13 12:26 / sld	12/02/13 08:10	ICP2-HE_131203B : 24		22659
Zinc	0.01	mg/L		0.01		E200.8	12/03/13 12:54 / dck	12/02/13 08:10	ICPMS204-B_131203A : 38		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-84F
Lab ID: H13110520-002
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/25/13 10:30 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	0.000011	mg/L		0.000010		E245.1	12/05/13 17:08 / eli-b	12/04/13 16:21	SUB-B216096 : 5		B_76352

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR
Lab ID: H13110520-003
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/25/13 11:45 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	0.00011	mg/L		0.000010		E245.1	12/05/13 17:11 / eli-b	12/04/13 16:21	SUB-B216096 : 6		B_76352

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.	ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID FC-CFR Duplicate
Lab ID: H13110520-004
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/25/13 11:45
DateReceived: 11/27/13
Report Date: 01/08/14
Revised Date: 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	0.00012	mg/L		0.000010		E245.1	12/05/13 17:16 / eli-b	12/04/13 16:21	SUB-B216096 : 8		B_76352

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #1
Lab ID: H13110520-005
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/25/13 11:30 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Mercury	ND	mg/L		0.000010		E245.1	12/05/13 17:29 / eli-b	12/04/13 16:21	SUB-B216096 : 12		B_76352

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR Monitoring-474374		
Client Sample ID	LBR-CFR	**Collection Date:**	11/25/13 13:15	**DateReceived:**	11/27/13
Lab ID:	H13110520-006	**Report Date:**	01/08/14	**Revised Date:**	01/08/14
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	4	mg/L		1		A2540 D	11/27/13 16:09 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 11		22643
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	11/27/13 17:40 / jaw		MAN-TECH_131127A : 23		R93193
Bicarbonate as HCO3	160	mg/L		4		A2320 B	11/27/13 17:40 / jaw		MAN-TECH_131127A : 23		R93193
Sulfate	17	mg/L		1		E300.0	12/02/13 19:02 / JRS		IC102-H_131127A : 129		R93206
Hardness as CaCO3	129	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 2		R93267
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:32 / cmm		FIA203-HE_131205A : 21		R93310
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	12/02/13 17:04 / jdh		FIA203-HE_131202A : 86		R93221
Nitrogen, Total	0.22	mg/L		0.05		A4500 N-C	12/03/13 14:43 / cmm	12/03/13 12:42	FIA203-HE_131203C : 55		22690
Phosphorus, Total as P	0.013	mg/L		0.005		E365.1	12/02/13 14:06 / cmm	12/02/13 09:40	FIA202-HE_131202A : 20		22665
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	12/03/13 13:15 / dck		ICPMS204-B_131203A : 43		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 13:15 / dck		ICPMS204-B_131203A : 43		R93249
Copper	ND	mg/L		0.001		E200.8	12/03/13 13:15 / dck		ICPMS204-B_131203A : 43		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 13:15 / dck		ICPMS204-B_131203A : 43		R93249
Zinc	ND	mg/L		0.01		E200.8	12/03/13 13:15 / dck		ICPMS204-B_131203A : 43		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	12/03/13 13:19 / dck	12/02/13 08:10	ICPMS204-B_131203A : 44		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 13:19 / dck	12/02/13 08:10	ICPMS204-B_131203A : 44		22659
Calcium	37	mg/L		1		E200.7	12/03/13 12:41 / sld	12/02/13 08:10	ICP2-HE_131203B : 28		22659
Copper	0.001	mg/L		0.001		E200.8	12/03/13 13:19 / dck	12/02/13 08:10	ICPMS204-B_131203A : 44		22659
Lead	ND	mg/L		0.0005		E200.8	12/03/13 13:19 / dck	12/02/13 08:10	ICPMS204-B_131203A : 44		22659
Magnesium	9	mg/L		1		E200.7	12/03/13 12:41 / sld	12/02/13 08:10	ICP2-HE_131203B : 28		22659
Zinc	ND	mg/L		0.01		E200.8	12/03/13 13:19 / dck	12/02/13 08:10	ICPMS204-B_131203A : 44		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-27H
Lab ID: H13110520-007
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/25/13 14:30
DateReceived: 11/27/13
Report Date: 01/08/14
Revised Date: 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	43	mg/L		1		A2540 D	11/27/13 16:10 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 12		22643
INORGANICS											
Alkalinity, Total as CaCO3	170	mg/L		4		A2320 B	11/27/13 17:49 / jaw		MAN-TECH_131127A : 24		R93193
Bicarbonate as HCO3	200	mg/L		4		A2320 B	11/27/13 17:49 / jaw		MAN-TECH_131127A : 24		R93193
Sulfate	110	mg/L		1		E300.0	12/02/13 19:33 / JRS		IC102-H_131127A : 132		R93206
Hardness as CaCO3	244	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 3		R93267
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:33 / cmm		FIA203-HE_131205A : 22		R93310
Nitrogen, Nitrate+Nitrite as N	0.34	mg/L		0.05		E353.2	12/02/13 17:05 / jdh		FIA203-HE_131202A : 87		R93221
Nitrogen, Total	1.28	mg/L		0.05		A4500 N-C	12/03/13 14:45 / cmm	12/03/13 12:42	FIA203-HE_131203C : 56		22690
Phosphorus, Total as P	0.027	mg/L		0.005		E365.1	12/02/13 14:07 / cmm	12/02/13 09:40	FIA202-HE_131202A : 21		22665
METALS, DISSOLVED											
Arsenic	0.008	mg/L		0.005		E200.8	12/03/13 13:24 / dck		ICPMS204-B_131203A : 45		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 13:24 / dck		ICPMS204-B_131203A : 45		R93249
Copper	0.003	mg/L		0.001		E200.8	12/03/13 13:24 / dck		ICPMS204-B_131203A : 45		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 13:24 / dck		ICPMS204-B_131203A : 45		R93249
Zinc	0.01	mg/L		0.01		E200.8	12/03/13 13:24 / dck		ICPMS204-B_131203A : 45		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	0.012	mg/L		0.005		E200.8	12/03/13 13:28 / dck	12/02/13 08:10	ICPMS204-B_131203A : 46		22659
Cadmium	0.00023	mg/L		0.00008		E200.8	12/03/13 13:28 / dck	12/02/13 08:10	ICPMS204-B_131203A : 46		22659
Calcium	70	mg/L		1		E200.7	12/03/13 12:44 / sld	12/02/13 08:10	ICP2-HE_131203B : 29		22659
Copper	0.041	mg/L		0.001		E200.8	12/03/13 13:28 / dck	12/02/13 08:10	ICPMS204-B_131203A : 46		22659
Lead	0.0055	mg/L		0.0005		E200.8	12/03/13 13:28 / dck	12/02/13 08:10	ICPMS204-B_131203A : 46		22659
Magnesium	16	mg/L		1		E200.7	12/03/13 12:44 / sld	12/02/13 08:10	ICP2-HE_131203B : 29		22659
Zinc	0.04	mg/L		0.01		E200.8	12/03/13 13:28 / dck	12/02/13 08:10	ICPMS204-B_131203A : 46		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-11F
Lab ID: H13110520-008
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/25/13 15:30 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	7	mg/L		1		A2540 D	11/27/13 16:10 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 13		22643
INORGANICS											
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	11/27/13 17:56 / jaw		MAN-TECH_131127A : 25		R93193
Bicarbonate as HCO3	180	mg/L		4		A2320 B	11/27/13 17:56 / jaw		MAN-TECH_131127A : 25		R93193
Sulfate	120	mg/L		1		E300.0	12/02/13 19:43 / JRS		IC102-H_131127A : 133		R93206
Hardness as CaCO3	251	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 4		R93267
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:41 / cmm		FIA203-HE_131205A : 27		R93310
Nitrogen, Nitrate+Nitrite as N	0.14	mg/L		0.05		E353.2	12/02/13 17:06 / jdh		FIA203-HE_131202A : 88		R93221
Nitrogen, Total	0.40	mg/L		0.05		A4500 N-C	12/03/13 14:46 / cmm	12/03/13 12:42	FIA203-HE_131203C : 57		22690
Phosphorus, Total as P	0.011	mg/L		0.005		E365.1	12/02/13 14:08 / cmm	12/02/13 09:40	FIA202-HE_131202A : 22		22665
METALS, DISSOLVED											
Arsenic	0.009	mg/L		0.005		E200.8	12/03/13 13:46 / dck		ICPMS204-B_131203A : 50		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 13:46 / dck		ICPMS204-B_131203A : 50		R93249
Copper	0.003	mg/L		0.001		E200.8	12/03/13 13:46 / dck		ICPMS204-B_131203A : 50		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 13:46 / dck		ICPMS204-B_131203A : 50		R93249
Zinc	ND	mg/L		0.01		E200.8	12/03/13 13:46 / dck		ICPMS204-B_131203A : 50		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	0.010	mg/L		0.005		E200.8	12/03/13 13:50 / dck	12/02/13 08:10	ICPMS204-B_131203A : 51		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 13:50 / dck	12/02/13 08:10	ICPMS204-B_131203A : 51		22659
Calcium	71	mg/L		1		E200.7	12/03/13 12:48 / sld	12/02/13 08:10	ICP2-HE_131203B : 30		22659
Copper	0.009	mg/L		0.001		E200.8	12/03/13 13:50 / dck	12/02/13 08:10	ICPMS204-B_131203A : 51		22659
Lead	0.0009	mg/L		0.0005		E200.8	12/03/13 13:50 / dck	12/02/13 08:10	ICPMS204-B_131203A : 51		22659
Magnesium	18	mg/L		1		E200.7	12/03/13 12:48 / sld	12/02/13 08:10	ICP2-HE_131203B : 30		22659
Zinc	ND	mg/L		0.01		E200.8	12/03/13 13:50 / dck	12/02/13 08:10	ICPMS204-B_131203A : 51		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-07D
Lab ID: H13110520-009
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/25/13 16:30 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	5	mg/L		1		A2540 D	11/27/13 16:10 / jdh	11/27/13 15:49	·124 (14410200)_131127C	14	22643
INORGANICS											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	11/27/13 18:03 / jaw		MAN-TECH_131127A	26	R93193
Bicarbonate as HCO3	170	mg/L		4		A2320 B	11/27/13 18:03 / jaw		MAN-TECH_131127A	26	R93193
Sulfate	130	mg/L		1		E300.0	12/02/13 19:53 / JRS		IC102-H_131127A	134	R93206
Hardness as CaCO3	248	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A	5	R93267
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:44 / cmm		FIA203-HE_131205A	30	R93310
Nitrogen, Nitrate+Nitrite as N	0.19	mg/L		0.05		E353.2	12/02/13 17:07 / jdh		FIA203-HE_131202A	89	R93221
Nitrogen, Total	0.45	mg/L		0.05		A4500 N-C	12/03/13 14:47 / cmm	12/03/13 12:42	FIA203-HE_131203C	58	22690
Phosphorus, Total as P	0.014	mg/L		0.005		E365.1	12/02/13 14:09 / cmm	12/02/13 09:40	FIA202-HE_131202A	23	22665
METALS, DISSOLVED											
Arsenic	0.009	mg/L		0.005		E200.8	12/03/13 13:54 / dck		ICPMS204-B_131203A	52	R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 13:54 / dck		ICPMS204-B_131203A	52	R93249
Copper	0.003	mg/L		0.001		E200.8	12/03/13 13:54 / dck		ICPMS204-B_131203A	52	R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 13:54 / dck		ICPMS204-B_131203A	52	R93249
Zinc	ND	mg/L		0.01		E200.8	12/03/13 13:54 / dck		ICPMS204-B_131203A	52	R93249
METALS, TOTAL RECOVERABLE											
Arsenic	0.011	mg/L		0.005		E200.8	12/03/13 13:59 / dck	12/02/13 08:10	ICPMS204-B_131203A	53	22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 13:59 / dck	12/02/13 08:10	ICPMS204-B_131203A	53	22659
Calcium	71	mg/L		1		E200.7	12/03/13 12:59 / sld	12/02/13 08:10	ICP2-HE_131203B	33	22659
Copper	0.011	mg/L		0.001		E200.8	12/03/13 13:59 / dck	12/02/13 08:10	ICPMS204-B_131203A	53	22659
Lead	0.0014	mg/L		0.0005		E200.8	12/03/13 13:59 / dck	12/02/13 08:10	ICPMS204-B_131203A	53	22659
Magnesium	17	mg/L		1		E200.7	12/03/13 12:59 / sld	12/02/13 08:10	ICP2-HE_131203B	33	22659
Zinc	0.01	mg/L		0.01		E200.8	12/03/13 13:59 / dck	12/02/13 08:10	ICPMS204-B_131203A	53	22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID CFR-03A
Lab ID: H13110520-010
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/26/13 09:30 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	11/27/13 16:11 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 16		22643
INORGANICS											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	11/27/13 18:11 / jaw		MAN-TECH_131127A : 27		R93193
Bicarbonate as HCO3	160	mg/L		4		A2320 B	11/27/13 18:11 / jaw		MAN-TECH_131127A : 27		R93193
Sulfate	110	mg/L		1		E300.0	12/02/13 20:03 / JRS		IC102-H_131127A : 135		R93206
Hardness as CaCO3	220	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 6		R93267
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:45 / cmm		FIA203-HE_131205A : 31		R93310
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	12/02/13 17:09 / jdh		FIA203-HE_131202A : 90		R93221
Nitrogen, Total	0.30	mg/L		0.05		A4500 N-C	12/03/13 14:51 / cmm	12/03/13 12:42	FIA203-HE_131203C : 61		22690
Phosphorus, Total as P	0.012	mg/L		0.005		E365.1	12/02/13 14:10 / cmm	12/02/13 09:40	FIA202-HE_131202A : 24		22665
METALS, DISSOLVED											
Arsenic	0.009	mg/L		0.005		E200.8	12/03/13 14:03 / dck		ICPMS204-B_131203A : 54		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:03 / dck		ICPMS204-B_131203A : 54		R93249
Copper	0.003	mg/L		0.001		E200.8	12/03/13 14:03 / dck		ICPMS204-B_131203A : 54		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 14:03 / dck		ICPMS204-B_131203A : 54		R93249
Zinc	ND	mg/L		0.01		E200.8	12/03/13 14:03 / dck		ICPMS204-B_131203A : 54		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	0.010	mg/L		0.005		E200.8	12/03/13 14:07 / dck	12/02/13 08:10	ICPMS204-B_131203A : 55		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:07 / dck	12/02/13 08:10	ICPMS204-B_131203A : 55		22659
Calcium	62	mg/L		1		E200.7	12/03/13 13:03 / sld	12/02/13 08:10	ICP2-HE_131203B : 34		22659
Copper	0.008	mg/L		0.001		E200.8	12/03/13 14:07 / dck	12/02/13 08:10	ICPMS204-B_131203A : 55		22659
Lead	0.0009	mg/L		0.0005		E200.8	12/03/13 14:07 / dck	12/02/13 08:10	ICPMS204-B_131203A : 55		22659
Magnesium	16	mg/L		1		E200.7	12/03/13 13:03 / sld	12/02/13 08:10	ICP2-HE_131203B : 34		22659
Zinc	0.01	mg/L		0.01		E200.8	12/03/13 14:07 / dck	12/02/13 08:10	ICPMS204-B_131203A : 55		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID WSC-SBC
Lab ID: H13110520-011
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/26/13 10:30 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	2	mg/L		1		A2540 D	11/27/13 16:11 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 17		22643
INORGANICS											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	11/27/13 18:18 / jaw		MAN-TECH_131127A : 28		R93193
Bicarbonate as HCO3	180	mg/L		4		A2320 B	11/27/13 18:18 / jaw		MAN-TECH_131127A : 28		R93193
Sulfate	59	mg/L		1		E300.0	12/02/13 20:13 / JRS		IC102-H_131127A : 136		R93206
Hardness as CaCO3	194	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 7		R93267
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:47 / cmm		FIA203-HE_131205A : 32		R93310
Nitrogen, Nitrate+Nitrite as N	0.11	mg/L		0.05		E353.2	12/02/13 17:10 / jdh		FIA203-HE_131202A : 91		R93221
Nitrogen, Total	0.31	mg/L		0.05		A4500 N-C	12/03/13 14:54 / cmm	12/03/13 12:42	FIA203-HE_131203C : 64		22690
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	12/02/13 14:11 / cmm	12/02/13 09:40	FIA202-HE_131202A : 25		22665
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	12/03/13 14:12 / dck		ICPMS204-B_131203A : 56		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:12 / dck		ICPMS204-B_131203A : 56		R93249
Copper	0.002	mg/L		0.001		E200.8	12/03/13 14:12 / dck		ICPMS204-B_131203A : 56		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 14:12 / dck		ICPMS204-B_131203A : 56		R93249
Zinc	ND	mg/L		0.01		E200.8	12/03/13 14:12 / dck		ICPMS204-B_131203A : 56		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	12/03/13 14:16 / dck	12/02/13 08:10	ICPMS204-B_131203A : 57		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:16 / dck	12/02/13 08:10	ICPMS204-B_131203A : 57		22659
Calcium	58	mg/L		1		E200.7	12/03/13 13:07 / sld	12/02/13 08:10	ICP2-HE_131203B : 35		22659
Copper	0.008	mg/L		0.001		E200.8	12/03/13 14:16 / dck	12/02/13 08:10	ICPMS204-B_131203A : 57		22659
Lead	0.0005	mg/L		0.0005		E200.8	12/03/13 14:16 / dck	12/02/13 08:10	ICPMS204-B_131203A : 57		22659
Magnesium	12	mg/L		1		E200.7	12/03/13 13:07 / sld	12/02/13 08:10	ICP2-HE_131203B : 35		22659
Zinc	ND	mg/L		0.01		E200.8	12/03/13 14:16 / dck	12/02/13 08:10	ICPMS204-B_131203A : 57		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR Monitoring-474374		
Client Sample ID	SS-25	**Collection Date:**	11/26/13 11:30	**DateReceived:**	11/27/13
Lab ID:	H13110520-012	**Report Date:**	01/08/14	**Revised Date:**	01/08/14
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	11/27/13 16:11 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 18		22643
INORGANICS											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	11/27/13 18:25 / jaw		MAN-TECH_131127A : 29		R93193
Bicarbonate as HCO3	130	mg/L		4		A2320 B	11/27/13 18:25 / jaw		MAN-TECH_131127A : 29		R93193
Sulfate	140	mg/L		1		E300.0	12/02/13 20:23 / JRS		IC102-H_131127A : 137		R93206
Hardness as CaCO3	224	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 8		R93267
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	3.9	mg/L		0.5		A5310 C	12/04/13 16:38 / eli-c		SUB-C181451 : 3		C_39953
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:48 / cmm		FIA203-HE_131205A : 33		R93310
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	12/02/13 17:11 / jdh		FIA203-HE_131202A : 92		R93221
Nitrogen, Total	0.61	mg/L		0.05		A4500 N-C	12/03/13 14:55 / cmm	12/03/13 12:42	FIA203-HE_131203C : 65		22690
Phosphorus, Total as P	0.019	mg/L		0.005		E365.1	12/02/13 14:12 / cmm	12/02/13 09:40	FIA202-HE_131202A : 26		22665
METALS, DISSOLVED											
Arsenic	0.010	mg/L		0.005		E200.8	12/03/13 14:20 / dck		ICPMS204-B_131203A : 58		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:20 / dck		ICPMS204-B_131203A : 58		R93249
Copper	0.003	mg/L		0.001		E200.8	12/03/13 14:20 / dck		ICPMS204-B_131203A : 58		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 14:20 / dck		ICPMS204-B_131203A : 58		R93249
Zinc	0.02	mg/L		0.01		E200.8	12/03/13 14:20 / dck		ICPMS204-B_131203A : 58		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	0.012	mg/L		0.005		E200.8	12/03/13 14:25 / dck	12/02/13 08:10	ICPMS204-B_131203A : 59		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:25 / dck	12/02/13 08:10	ICPMS204-B_131203A : 59		22659
Calcium	62	mg/L		1		E200.7	12/03/13 13:10 / sld	12/02/13 08:10	ICP2-HE_131203B : 36		22659
Copper	0.005	mg/L		0.001		E200.8	12/03/13 14:25 / dck	12/02/13 08:10	ICPMS204-B_131203A : 59		22659
Lead	0.0009	mg/L		0.0005		E200.8	12/03/13 14:25 / dck	12/02/13 08:10	ICPMS204-B_131203A : 59		22659
Magnesium	17	mg/L		1		E200.7	12/03/13 13:10 / sld	12/02/13 08:10	ICP2-HE_131203B : 36		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25
Lab ID: H13110520-012
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/26/13 11:30 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	0.01	mg/L		0.01		E200.8	12/03/13 14:25 / dck	12/02/13 08:10	ICPMS204-B_131203A : 59		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID SS-25 Duplicate
Lab ID: H13110520-013
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/26/13 11:30 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	8	mg/L		1		A2540 D	11/27/13 16:12 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 19		22643
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	11/27/13 18:32 / jaw		MAN-TECH_131127A : 30		R93193
Bicarbonate as HCO3	130	mg/L		4		A2320 B	11/27/13 18:32 / jaw		MAN-TECH_131127A : 30		R93193
Sulfate	140	mg/L		1		E300.0	12/02/13 20:33 / JRS		IC102-H_131127A : 138		R93206
Hardness as CaCO3	220	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 9		R93267
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:49 / cmm		FIA203-HE_131205A : 34		R93310
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	12/02/13 17:17 / jdh		FIA203-HE_131202A : 97		R93221
Nitrogen, Total	0.41	mg/L		0.05		A4500 N-C	12/03/13 14:57 / cmm	12/03/13 12:42	FIA203-HE_131203C : 66		22690
Phosphorus, Total as P	0.019	mg/L		0.005		E365.1	12/02/13 14:13 / cmm	12/02/13 09:40	FIA202-HE_131202A : 27		22665
METALS, DISSOLVED											
Arsenic	0.010	mg/L		0.005		E200.8	12/03/13 14:42 / dck		ICPMS204-B_131203A : 63		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:42 / dck		ICPMS204-B_131203A : 63		R93249
Copper	0.003	mg/L		0.001		E200.8	12/03/13 14:42 / dck		ICPMS204-B_131203A : 63		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 14:42 / dck		ICPMS204-B_131203A : 63		R93249
Zinc	ND	mg/L		0.01		E200.8	12/03/13 14:42 / dck		ICPMS204-B_131203A : 63		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	0.012	mg/L		0.005		E200.8	12/03/13 14:47 / dck	12/02/13 08:10	ICPMS204-B_131203A : 64		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:47 / dck	12/02/13 08:10	ICPMS204-B_131203A : 64		22659
Calcium	60	mg/L		1		E200.7	12/03/13 13:14 / sld	12/02/13 08:10	ICP2-HE_131203B : 37		22659
Copper	0.005	mg/L		0.001		E200.8	12/03/13 14:47 / dck	12/02/13 08:10	ICPMS204-B_131203A : 64		22659
Lead	0.0009	mg/L		0.0005		E200.8	12/03/13 14:47 / dck	12/02/13 08:10	ICPMS204-B_131203A : 64		22659
Magnesium	17	mg/L		1		E200.7	12/03/13 13:14 / sld	12/02/13 08:10	ICP2-HE_131203B : 37		22659
Zinc	0.01	mg/L		0.01		E200.8	12/03/13 14:47 / dck	12/02/13 08:10	ICPMS204-B_131203A : 64		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #2
Lab ID: H13110520-014
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/26/13 11:00 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1		A2540 D	11/27/13 16:12 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 20		22643
INORGANICS											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/27/13 18:36 / jaw		MAN-TECH_131127A : 31		R93193
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/27/13 18:36 / jaw		MAN-TECH_131127A : 31		R93193
Sulfate	ND	mg/L		1		E300.0	12/02/13 20:43 / JRS		IC102-H_131127A : 139		R93206
Hardness as CaCO3	ND	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 10		R93267
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	12/04/13 16:47 / eli-c		SUB-C181451 : 4		C_39953
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:50 / cmm		FIA203-HE_131205A : 35		R93310
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	12/02/13 17:18 / jdh		FIA203-HE_131202A : 98		R93221
Nitrogen, Total	ND	mg/L	H	0.05		A4500 N-C	01/03/14 12:35 / cmm	12/03/13 12:42	FIA203-HE_140103A : 16		22690
Phosphorus, Total as P	ND	mg/L		0.005		E365.1	12/02/13 14:16 / cmm	12/02/13 09:40	FIA202-HE_131202A : 30		22665
METALS, DISSOLVED											
Arsenic	ND	mg/L		0.005		E200.8	12/03/13 14:51 / dck		ICPMS204-B_131203A : 65		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:51 / dck		ICPMS204-B_131203A : 65		R93249
Copper	ND	mg/L		0.001		E200.8	12/03/13 14:51 / dck		ICPMS204-B_131203A : 65		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 14:51 / dck		ICPMS204-B_131203A : 65		R93249
Zinc	ND	mg/L		0.01		E200.8	12/03/13 14:51 / dck		ICPMS204-B_131203A : 65		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	ND	mg/L		0.005		E200.8	12/03/13 14:56 / dck	12/02/13 08:10	ICPMS204-B_131203A : 66		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 14:56 / dck	12/02/13 08:10	ICPMS204-B_131203A : 66		22659
Calcium	ND	mg/L		1		E200.7	12/03/13 13:18 / sld	12/02/13 08:10	ICP2-HE_131203B : 38		22659
Copper	ND	mg/L		0.001		E200.8	12/03/13 14:56 / dck	12/02/13 08:10	ICPMS204-B_131203A : 66		22659
Lead	ND	mg/L		0.0005		E200.8	12/03/13 14:56 / dck	12/02/13 08:10	ICPMS204-B_131203A : 66		22659
Magnesium	ND	mg/L		1		E200.7	12/03/13 13:18 / sld	12/02/13 08:10	ICP2-HE_131203B : 38		22659

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID Field Blank #2
Lab ID: H13110520-014
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/26/13 11:00 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	12/03/13 14:56 / dck	12/02/13 08:10	ICPMS204-B_131203A : 66		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR Monitoring-474374		
Client Sample ID	MWB-SBC	**Collection Date:**	11/26/13 13:15	**DateReceived:**	11/27/13
Lab ID:	H13110520-015	**Report Date:**	01/08/14	**Revised Date:**	01/08/14
Matrix:	Aqueous				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	9	mg/L		1		A2540 D	11/27/13 16:12 / jdh	11/27/13 15:49	·124 (14410200)_131127C : 21		22643
INORGANICS											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	11/27/13 18:44 / jaw		MAN-TECH_131127A : 32		R93193
Bicarbonate as HCO3	140	mg/L		4		A2320 B	11/27/13 18:44 / jaw		MAN-TECH_131127A : 32		R93193
Sulfate	150	mg/L		1		E300.0	12/02/13 20:53 / JRS		IC102-H_131127A : 140		R93206
Hardness as CaCO3	239	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 11		R93267
AGGREGATE ORGANICS											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	12/04/13 16:57 / eli-c		SUB-C181451 : 5		C_39953
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:51 / cmm		FIA203-HE_131205A : 36		R93310
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	12/02/13 17:19 / jdh		FIA203-HE_131202A : 99		R93221
Nitrogen, Total	0.32	mg/L		0.05		A4500 N-C	12/03/13 14:59 / cmm	12/03/13 12:42	FIA203-HE_131203C : 68		22690
Phosphorus, Total as P	0.009	mg/L		0.005		E365.1	12/02/13 14:19 / cmm	12/02/13 09:40	FIA202-HE_131202A : 33		22665
METALS, DISSOLVED											
Arsenic	0.011	mg/L		0.005		E200.8	12/03/13 15:00 / dck		ICPMS204-B_131203A : 67		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 15:00 / dck		ICPMS204-B_131203A : 67		R93249
Copper	0.001	mg/L		0.001		E200.8	12/03/13 15:00 / dck		ICPMS204-B_131203A : 67		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 15:00 / dck		ICPMS204-B_131203A : 67		R93249
Zinc	ND	mg/L		0.01		E200.8	12/03/13 15:00 / dck		ICPMS204-B_131203A : 67		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	0.013	mg/L		0.005		E200.8	12/03/13 15:18 / dck	12/02/13 08:10	ICPMS204-B_131203A : 71		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 15:18 / dck	12/02/13 08:10	ICPMS204-B_131203A : 71		22659
Calcium	69	mg/L		1		E200.7	12/03/13 13:22 / sld	12/02/13 08:10	ICP2-HE_131203B : 39		22659
Copper	0.004	mg/L		0.001		E200.8	12/03/13 15:18 / dck	12/02/13 08:10	ICPMS204-B_131203A : 71		22659
Lead	0.0010	mg/L		0.0005		E200.8	12/03/13 15:18 / dck	12/02/13 08:10	ICPMS204-B_131203A : 71		22659
Magnesium	16	mg/L		1		E200.7	12/03/13 13:22 / sld	12/02/13 08:10	ICP2-HE_131203B : 39		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MWB-SBC
Lab ID: H13110520-015
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/26/13 13:15 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL RECOVERABLE											
Zinc	ND	mg/L		0.01		E200.8	12/03/13 15:18 / dck	12/02/13 08:10	ICPMS204-B_131203A : 71		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID MCWC-MWB
Lab ID: H13110520-016
Matrix: Aqueous

Project: CFR Monitoring-474374
Collection Date: 11/26/13 14:15 **DateReceived:** 11/27/13
Report Date: 01/08/14 **Revised Date:** 01/08/14

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL PROPERTIES											
Solids, Total Suspended TSS @ 105 C	6	mg/L		1		A2540 D	11/27/13 16:13 / jdh	11/27/13 15:49	124 (14410200)_131127C : 22		22643
INORGANICS											
Alkalinity, Total as CaCO3	93	mg/L		4		A2320 B	11/27/13 18:58 / jaw		MAN-TECH_131127A : 35		R93193
Bicarbonate as HCO3	110	mg/L		4		A2320 B	11/27/13 18:58 / jaw		MAN-TECH_131127A : 35		R93193
Sulfate	30	mg/L		1		E300.0	12/02/13 21:24 / JRS		IC102-H_131127A : 143		R93206
Hardness as CaCO3	106	mg/L		1		A2340 B	12/04/13 08:33 / sld		WATERCALC_131204A : 12		R93267
NUTRIENTS											
Nitrogen, Ammonia as N	ND	mg/L		0.05		E350.1	12/05/13 11:52 / cmm		FIA203-HE_131205A : 37		R93310
Nitrogen, Nitrate+Nitrite as N	0.07	mg/L		0.05		E353.2	12/02/13 17:21 / jdh		FIA203-HE_131202A : 100		R93221
Nitrogen, Total	0.25	mg/L		0.05		A4500 N-C	12/03/13 15:00 / cmm	12/03/13 12:42	FIA203-HE_131203C : 69		22690
Phosphorus, Total as P	0.009	mg/L		0.005		E365.1	12/02/13 14:20 / cmm	12/02/13 09:40	FIA202-HE_131202A : 34		22665
METALS, DISSOLVED											
Arsenic	0.009	mg/L		0.005		E200.8	12/03/13 15:22 / dck		ICPMS204-B_131203A : 72		R93249
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 15:22 / dck		ICPMS204-B_131203A : 72		R93249
Copper	0.001	mg/L		0.001		E200.8	12/03/13 15:22 / dck		ICPMS204-B_131203A : 72		R93249
Lead	ND	mg/L		0.0005		E200.8	12/03/13 15:22 / dck		ICPMS204-B_131203A : 72		R93249
Zinc	ND	mg/L		0.01		E200.8	12/03/13 15:22 / dck		ICPMS204-B_131203A : 72		R93249
METALS, TOTAL RECOVERABLE											
Arsenic	0.010	mg/L		0.005		E200.8	12/03/13 15:26 / dck	12/02/13 08:10	ICPMS204-B_131203A : 73		22659
Cadmium	ND	mg/L		0.00008		E200.8	12/03/13 15:26 / dck	12/02/13 08:10	ICPMS204-B_131203A : 73		22659
Calcium	30	mg/L		1		E200.7	12/03/13 13:26 / sld	12/02/13 08:10	ICP2-HE_131203B : 40		22659
Copper	0.005	mg/L		0.001		E200.8	12/03/13 15:26 / dck	12/02/13 08:10	ICPMS204-B_131203A : 73		22659
Lead	0.0016	mg/L		0.0005		E200.8	12/03/13 15:26 / dck	12/02/13 08:10	ICPMS204-B_131203A : 73		22659
Magnesium	8	mg/L		1		E200.7	12/03/13 13:26 / sld	12/02/13 08:10	ICP2-HE_131203B : 40		22659
Zinc	0.01	mg/L		0.01		E200.8	12/03/13 15:26 / dck	12/02/13 08:10	ICPMS204-B_131203A : 73		22659

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client:	MT DEQ-Federal Superfund	**Project:**	CFR Monitoring-474374		
Client Sample ID	TB Methyl Mercury	**Collection Date:**	11/25/13 09:00	**DateReceived:**	11/27/13
Lab ID:	H13110520-017	**Report Date:**	01/08/14	**Revised Date:**	01/08/14
Matrix:	Trip Blank				

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID

Report Definitions:	RL - Analyte reporting limit.	MCL - Maximum contaminant level.	ND - Not detected at the reporting limit.

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: 200.7.8-W-D

Run ID :Run Order: **ICPMS204-B_131203A: 30** SampType: **Sample Matrix Spike** Sample ID: **H13110520-001BMS** Method: **E200.8**
Analysis Date: **12/03/13 12:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0549	0.0010	0.05	0.005459	99	70	130				
Cadmium	0.0498	0.0010	0.05	0.0000115	100	70	130				
Copper	0.0493	0.0050	0.05	0.001572	95	70	130				
Lead	0.0504	0.0010	0.05	0.0000981	101	70	130				
Zinc	0.0606	0.010	0.05	0.0132	95	70	130				

Associated samples: **H13110520-001B; H13110520-006B; H13110520-007B; H13110520-008B; H13110520-009B; H13110520-010B; H13110520-011B; H13110520-012B; H13110520-013B; H13110520-014B; H13110520-015B; H13110520-016B**

Run ID :Run Order: **ICPMS204-B_131203A: 31** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-001BMSD** Method: **E200.8**
Analysis Date: **12/03/13 12:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0563	0.0010	0.05	0.005459	102	70	130	0.0549	2.4	20	
Cadmium	0.0498	0.0010	0.05	0.0000115	100	70	130	0.0498	0.1	20	
Copper	0.0504	0.0050	0.05	0.001572	98	70	130	0.04928	2.3	20	
Lead	0.0502	0.0010	0.05	0.0000981	100	70	130	0.05043	0.4	20	
Zinc	0.0620	0.010	0.05	0.0132	98	70	130	0.06064	2.2	20	

Associated samples: **H13110520-001B; H13110520-006B; H13110520-007B; H13110520-008B; H13110520-009B; H13110520-010B; H13110520-011B; H13110520-012B; H13110520-013B; H13110520-014B; H13110520-015B; H13110520-016B**

Run ID :Run Order: **ICPMS204-B_131203A: 68** SampType: **Sample Matrix Spike** Sample ID: **H13110520-015BMS** Method: **E200.8**
Analysis Date: **12/03/13 15:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0603	0.0010	0.05	0.01109	98	70	130				
Cadmium	0.0485	0.0010	0.05	0.0000202	97	70	130				
Copper	0.0489	0.0050	0.05	0.001206	95	70	130				
Lead	0.0498	0.0010	0.05	0.0001818	99	70	130				
Zinc	0.0574	0.010	0.05	0.009307	96	70	130				

Associated samples: **H13110520-001B; H13110520-006B; H13110520-007B; H13110520-008B; H13110520-009B; H13110520-010B; H13110520-011B; H13110520-012B; H13110520-013B; H13110520-014B; H13110520-015B; H13110520-016B**

Run ID :Run Order: **ICPMS204-B_131203A: 69** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-015BMSD** Method: **E200.8**
Analysis Date: **12/03/13 15:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0633	0.0010	0.05	0.01109	104	70	130	0.0603	4.8	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: 200.7.8-W-D

Run ID :Run Order: **ICPMS204-B_131203A: 69** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-015BMSD** Method: **E200.8**

Analysis Date: **12/03/13 15:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0492	0.0010	0.05	0.0000202	98	70	130	0.04854	1.3	20	
Copper	0.0506	0.0050	0.05	0.001206	99	70	130	0.04888	3.5	20	
Lead	0.0508	0.0010	0.05	0.0001818	101	70	130	0.04983	1.9	20	
Zinc	0.0603	0.010	0.05	0.009307	102	70	130	0.05735	5.0	20	

Associated samples: **H13110520-001B; H13110520-006B; H13110520-007B; H13110520-008B; H13110520-009B; H13110520-010B; H13110520-011B; H13110520-012B; H13110520-013B; H13110520-014B; H13110520-015B; H13110520-016B**

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: 200.7.8-W-TR

Run ID :Run Order: **ICP2-HE_131203B: 22** SampType: **Method Blank** Sample ID: **MB-22659** Method: **E200.7**
Analysis Date: **12/03/13 12:18** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.06									
Magnesium	ND	0.006									

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 23** SampType: **Laboratory Control Sample** Sample ID: **LCS-22659** Method: **E200.7**
Analysis Date: **12/03/13 12:22** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	23.6	1.0	25		95	85	115				
Magnesium	25.0	1.0	25		100	85	115				

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 25** SampType: **Serial Dilution** Sample ID: **H13110520-001CDIL** Method: **E200.7**
Analysis Date: **12/03/13 12:30** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	56.4	1.0				0	0	54.82	2.8	10	
Magnesium	14.8	1.0				0	0	14.52	1.8	10	

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 26** SampType: **Sample Matrix Spike** Sample ID: **H13110520-001CMS3** Method: **E200.7**
Analysis Date: **12/03/13 12:33** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	79.8	1.0	25	54.82	100	70	130				
Magnesium	40.0	1.0	25	14.52	102	70	130				

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 27** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-001CMSD3** Method: **E200.7**
Analysis Date: **12/03/13 12:37** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	80.5	1.0	25	54.82	103	70	130	79.77	0.9	20	
Magnesium	40.0	1.0	25	14.52	102	70	130	39.97	0.1	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **200.7.8-W-TR**

Run ID :Run Order: **ICP2-HE_131203B: 27** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-001CMSD3** Method: **E200.7**
Analysis Date: **12/03/13 12:37** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 45** SampType: **Sample Matrix Spike** Sample ID: **H13110521-001BMS3** Method: **E200.7**
Analysis Date: **12/03/13 13:44** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	187	1.0	125		150	70	130				S
Magnesium	171	1.0	125		137	70	130				S

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 46** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110521-001BMSD3** Method: **E200.7**
Analysis Date: **12/03/13 13:48** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	185	1.0	125		148	70	130	187.4	1.2	20	S
Magnesium	171	1.0	125		136	70	130	170.8	0.1	20	S

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICPMS204-B_131203A: 34** SampType: **Method Blank** Sample ID: **MB-22659** Method: **E200.8**
Analysis Date: **12/03/13 12:36** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Cadmium	ND	2E-05									
Copper	0.0004	0.0002									
Lead	9E-05	3E-05									
Zinc	0.001	0.001									

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICPMS204-B_131203A: 35** SampType: **Laboratory Control Sample** Sample ID: **LCS-22659** Method: **E200.8**
Analysis Date: **12/03/13 12:41** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.469	0.0010	0.5		94	85	115				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: 200.7.8-W-TR

Run ID :Run Order: **ICPMS204-B_131203A: 35** SampType: **Laboratory Control Sample** Sample ID: **LCS-22659** Method: **E200.8**
Analysis Date: **12/03/13 12:41** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.231	0.0010	0.25		93	85	115				
Copper	0.436	0.0050	0.5	0.0003514	87	85	115				
Lead	0.464	0.0010	0.5	0.0000887	93	85	115				
Zinc	0.468	0.010	0.5	0.001292	93	85	115				

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICPMS204-B_131203A: 39** SampType: **Sample Matrix Spike** Sample ID: **H13110520-001CMS3** Method: **E200.8**
Analysis Date: **12/03/13 12:58** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.477	0.0010	0.5	0.00577	94	70	130				
Cadmium	0.230	0.0010	0.25	0.0000503	92	70	130				
Copper	0.440	0.0050	0.5	0.005014	87	70	130				
Lead	0.468	0.0010	0.5	0.0007196	93	70	130				
Zinc	0.468	0.010	0.5	0.01033	91	70	130				

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICPMS204-B_131203A: 40** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-001CMSD3** Method: **E200.8**
Analysis Date: **12/03/13 13:02** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.482	0.0010	0.5	0.00577	95	70	130	0.4766	1.0	20	
Cadmium	0.236	0.0010	0.25	0.0000503	94	70	130	0.2304	2.2	20	
Copper	0.443	0.0050	0.5	0.005014	88	70	130	0.4398	0.7	20	
Lead	0.477	0.0010	0.5	0.0007196	95	70	130	0.4678	1.9	20	
Zinc	0.467	0.010	0.5	0.01033	91	70	130	0.4675	0.1	20	

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICPMS204-B_131203A: 78** SampType: **Sample Matrix Spike** Sample ID: **H13110521-001BMS3** Method: **E200.8**
Analysis Date: **12/03/13 15:48** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	2.32	0.0010	2.5	0.00262	93	70	130				
Cadmium	1.15	0.0010	1.25	0.000186	92	70	130				

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: 200.7.8-W-TR

Run ID :Run Order: **ICPMS204-B_131203A: 78** SampType: **Sample Matrix Spike** Sample ID: **H13110521-001BMS3** Method: **E200.8**
Analysis Date: **12/03/13 15:48** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	2.19	0.0050	2.5	0.03999	86	70	130				
Lead	2.38	0.0010	2.5	0.0004035	95	70	130				
Zinc	2.37	0.010	2.5	0.115	90	70	130				

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICPMS204-B_131203A: 79** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110521-001BMSD3** Method: **E200.8**
Analysis Date: **12/03/13 15:52** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E200.2**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	2.36	0.0010	2.5	0.00262	94	70	130	2.323	1.7	20	
Cadmium	1.17	0.0010	1.25	0.000186	93	70	130	1.154	1.0	20	
Copper	2.24	0.0050	2.5	0.03999	88	70	130	2.188	2.4	20	
Lead	2.36	0.0010	2.5	0.0004035	94	70	130	2.378	1.0	20	
Zinc	2.46	0.010	2.5	0.115	94	70	130	2.368	3.7	20	

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: ALK-W

Run ID :Run Order: **MAN-TECH_131127A: 8** SampType: **Method Blank** Sample ID: **MBLK** Method: **A2320 B**
Analysis Date: **11/27/13 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **MAN-TECH_131127A: 10** SampType: **Laboratory Control Sample** Sample ID: **LCS-11142013** Method: **A2320 B**
Analysis Date: **11/27/13 17:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	620	4.0	600		103	90	110				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **MAN-TECH_131127A: 14** SampType: **Sample Duplicate** Sample ID: **H13110331-027ADUP** Method: **A2320 B**
Analysis Date: **11/27/13 17:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	4.0								10	
Bicarbonate as HCO3	ND	4.0								10	

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **MAN-TECH_131127A: 33** SampType: **Sample Duplicate** Sample ID: **H13110520-015ADUP** Method: **A2320 B**
Analysis Date: **11/27/13 18:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	120	4.0						120.7	0.8	10	
Bicarbonate as HCO3	140	4.0						141.8	1.2	10	

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **MAN-TECH_131127A: 36** SampType: **Sample Matrix Spike** Sample ID: **H13110520-016AMS** Method: **A2320 B**
Analysis Date: **11/27/13 19:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	760	4.0	600	92.79	112	80	120				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **C-DOC-DW**

Run ID :Run Order: **SUB-C181451: 1** SampType: **Method Blank** Sample ID: **MB-39953** Method: **A5310 C**
Analysis Date: **12/04/13 15:08** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	0.1	0.04									

Associated samples: **H13110520-012E; H13110520-014E; H13110520-015E**

Run ID :Run Order: **SUB-C181451: 2** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV-39953** Method: **A5310 C**
Analysis Date: **12/04/13 15:27** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.2	0.50	10		102	90	110				

Associated samples: **H13110520-012E; H13110520-014E; H13110520-015E**

Run ID :Run Order: **SUB-C181451: 8** SampType: **Laboratory Control Sample** Sample ID: **LCS-39953** Method: **A5310 C**
Analysis Date: **12/04/13 17:29** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.2	0.50	10	0.1131	101	90	110				

Associated samples: **H13110520-012E; H13110520-014E; H13110520-015E**

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **C-DOC-W**

Run ID :Run Order: **SUB-C181451 : 6** SampType: **Sample Matrix Spike** Sample ID: **C13120037-003EMS** Method: **A5310 C**

Analysis Date: **12/04/13 17:08** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.07	0.50	5	0.9126	103	85	115				

Associated samples: **H13110520-012E; H13110520-014E; H13110520-015E**

Run ID :Run Order: **SUB-C181451 : 7** SampType: **Sample Matrix Spike Duplicate** Sample ID: **C13120037-003EMSD** Method: **A5310 C**

Analysis Date: **12/04/13 17:18** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.17	0.50	5	0.9126	105	85	115	6.073	1.7	10	

Associated samples: **H13110520-012E; H13110520-014E; H13110520-015E**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: CVAA-HG-245-W-D-LL

Run ID :Run Order: **SUB-B216096: 16** SampType: **Sample Matrix Spike** Sample ID: **B13120196-004BMS** Method: **E245.1**
Analysis Date: **12/05/13 17:51** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00044	1.0E-05	0.0002	0.000247	95	70	130				

Associated samples: **H13110520-002A; H13110520-003A; H13110520-004A; H13110520-005A**

Run ID :Run Order: **SUB-B216096: 17** SampType: **Sample Matrix Spike Duplicate** Sample ID: **B13120196-004BMSD** Method: **E245.1**
Analysis Date: **12/05/13 17:53** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00044	1.0E-05	0.0002	0.000247	95	70	130	0.000437	0.0	30	

Associated samples: **H13110520-002A; H13110520-003A; H13110520-004A; H13110520-005A**

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **CVAA-HG-245-W-T-LL**

Run ID :Run Order: **SUB-B216096: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **QCS** Method: **E245.1**
Analysis Date: **12/05/13 16:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	1.0E-05	0.0002		96	90	110				

Associated samples: **H13110520-002A; H13110520-003A; H13110520-004A; H13110520-005A**

Run ID :Run Order: **SUB-B216096: 2** SampType: **Method Blank** Sample ID: **MB-76352** Method: **E245.1**
Analysis Date: **12/05/13 17:00** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	3E-06									

Associated samples: **H13110520-002A; H13110520-003A; H13110520-004A; H13110520-005A**

Run ID :Run Order: **SUB-B216096: 3** SampType: **Laboratory Control Sample** Sample ID: **LCS-76352** Method: **E245.1**
Analysis Date: **12/05/13 17:03** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00021	1.0E-05	0.0002		104	85	115				

Associated samples: **H13110520-002A; H13110520-003A; H13110520-004A; H13110520-005A**

Run ID :Run Order: **SUB-B216096: 10** SampType: **Sample Matrix Spike** Sample ID: **H13110520-004A** Method: **E245.1**
Analysis Date: **12/05/13 17:22** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00036	1.0E-05	0.0002	0.000116	123	70	130				

Associated samples: **H13110520-002A; H13110520-003A; H13110520-004A; H13110520-005A**

Run ID :Run Order: **SUB-B216096: 11** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-004A** Method: **E245.1**
Analysis Date: **12/05/13 17:25** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00037	1.0E-05	0.0002	0.000116	128	70	130	0.000362	2.7	30	

Associated samples: **H13110520-002A; H13110520-003A; H13110520-004A; H13110520-005A**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: CVAA-HG-245-W-T-LL

Run ID :Run Order: **SUB-B216096: 14** SampType: **Sample Matrix Spike** Sample ID: **H13110520-005A** Method: **E245.1**
Analysis Date: **12/05/13 17:34** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00023	1.0E-05	0.0002		114	70	130				

Associated samples: **H13110520-002A; H13110520-003A; H13110520-004A; H13110520-005A**

Run ID :Run Order: **SUB-B216096: 15** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-005A** Method: **E245.1**
Analysis Date: **12/05/13 17:37** Units: **mg/L** **Prep Info:** Prep Date: **12/4/2013** Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00023	1.0E-05	0.0002		115	70	130	0.000227	1.3	30	

Associated samples: **H13110520-002A; H13110520-003A; H13110520-004A; H13110520-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **IC-300.0-SEL-W**

Run ID :Run Order: **IC102-H_131127A: 12** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E300.0**
Analysis Date: **11/27/13 10:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	400	1.0	400		100	90	110				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **IC102-H_131127A: 13** SampType: **Method Blank** Sample ID: **ICB** Method: **E300.0**
Analysis Date: **11/27/13 10:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.08									

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **IC102-H_131127A: 14** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E300.0**
Analysis Date: **11/27/13 10:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	210	1.0	200		103	90	110				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **IC102-H_131127A: 113** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV120213-1** Method: **E300.0**
Analysis Date: **12/02/13 16:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	420	1.0	400		106	90	110				

Associated samples: **H13110520-001A**

Run ID :Run Order: **IC102-H_131127A: 127** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV120213-2** Method: **E300.0**
Analysis Date: **12/02/13 18:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	430	1.0	400		107	90	110				

Associated samples: **H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: IC-300.0-SEL-W

Run ID :Run Order: **IC102-H_131127A: 130** SampType: **Sample Matrix Spike** Sample ID: **H13110520-006AMS** Method: **E300.0**
Analysis Date: **12/02/13 19:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	240	1.0	200	16.68	110	90	110				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **IC102-H_131127A: 131** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-006AMSD** Method: **E300.0**
Analysis Date: **12/02/13 19:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	240	1.0	200	16.68	111	90	110	236.7	0.7	20	S

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **IC102-H_131127A: 141** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV120213-3** Method: **E300.0**
Analysis Date: **12/02/13 21:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	430	1.0	400		107	90	110				

Associated samples: **H13110520-016A**

Run ID :Run Order: **IC102-H_131127A: 144** SampType: **Sample Matrix Spike** Sample ID: **H13110520-016AMS** Method: **E300.0**
Analysis Date: **12/02/13 21:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	250	1.0	200	29.7	110	90	110				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **IC102-H_131127A: 145** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-016AMSD** Method: **E300.0**
Analysis Date: **12/02/13 21:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	250	1.0	200	29.7	110	90	110	249.3	0.1	20	

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Qualifiers:			
	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: ICP-200.7-W-D

Run ID :Run Order: **ICP2-HE_131203B: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**
Analysis Date: **12/03/13 11:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	40.1	1.0	40		100	95	105				
Magnesium	40.4	1.0	40		101	95	105				

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 7** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV-1** Method: **E200.7**
Analysis Date: **12/03/13 11:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.6	1.0	25		98	95	105				
Magnesium	25.0	1.0	25		100	95	105				

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**
Analysis Date: **12/03/13 11:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	454	1.0	500		91	80	120				
Magnesium	500	1.0	500		100	80	120				

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**
Analysis Date: **12/03/13 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	451	1.0	500		90	80	120				
Magnesium	492	1.0	500		98	80	120				

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C; H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

Run ID :Run Order: **ICP2-HE_131203B: 19** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **12/03/13 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.2	1.0	25		97	90	110				
Magnesium	25.1	1.0	25		100	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **ICP-200.7-W-D**

Run ID :Run Order: **ICP2-HE_131203B: 19** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **12/03/13 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13110520-001C; H13110520-006C; H13110520-007C; H13110520-008C**

Run ID :Run Order: **ICP2-HE_131203B: 31** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E200.7**
Analysis Date: **12/03/13 12:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.9	1.0	25		100	90	110				
Magnesium	25.2	1.0	25		101	90	110				

Associated samples: **H13110520-009C; H13110520-010C; H13110520-011C; H13110520-012C; H13110520-013C; H13110520-014C; H13110520-015C; H13110520-016C**

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: ICPMS-200.8-W-D

Run ID :Run Order: **ICPMS204-B_131203A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **12/03/13 10:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0588	0.0050	0.06		98	90	110				
Cadmium	0.0314	0.0010	0.03		105	90	110				
Copper	0.0607	0.010	0.06		101	90	110				
Lead	0.0587	0.010	0.06		98	90	110				
Zinc	0.0592	0.010	0.06		99	90	110				

Associated samples: **H13110520-001B; H13110520-001C; H13110520-006B; H13110520-006C; H13110520-007B; H13110520-007C; H13110520-008B; H13110520-008C; H13110520-009B; H13110520-009C; H13110520-010B; H13110520-010C; H13110520-011B; H13110520-011C; H13110520-012B; H13110520-012C; H13110520-013B; H13110520-013C; H13110520-014B; H13110520-014C; H13110520-015B; H13110520-015C; H13110520-016B; H13110520-016C**

Run ID :Run Order: **ICPMS204-B_131203A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **12/03/13 10:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000336	0.0050									
Cadmium	0.000624	0.0010									
Copper	0.000576	0.010									
Lead	0.000287	0.010									
Zinc	0.00150	0.010									

Associated samples: **H13110520-001B; H13110520-001C; H13110520-006B; H13110520-006C; H13110520-007B; H13110520-007C; H13110520-008B; H13110520-008C; H13110520-009B; H13110520-009C; H13110520-010B; H13110520-010C; H13110520-011B; H13110520-011C; H13110520-012B; H13110520-012C; H13110520-013B; H13110520-013C; H13110520-014B; H13110520-014C; H13110520-015B; H13110520-015C; H13110520-016B; H13110520-016C**

Run ID :Run Order: **ICPMS204-B_131203A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **12/03/13 10:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0102	0.0050	0.01		102	70	130				
Cadmium	0.0101	0.0010	0.01		101	70	130				
Copper	0.0201	0.010	0.02		101	70	130				
Lead	0.000253	0.010				0	0				
Zinc	0.0111	0.010	0.01		111	70	130				

Associated samples: **H13110520-001B; H13110520-001C; H13110520-006B; H13110520-006C; H13110520-007B; H13110520-007C; H13110520-008B; H13110520-008C; H13110520-009B; H13110520-009C; H13110520-010B; H13110520-010C; H13110520-011B; H13110520-011C; H13110520-012B; H13110520-012C; H13110520-013B; H13110520-013C; H13110520-014B; H13110520-014C; H13110520-015B; H13110520-015C; H13110520-016B; H13110520-016C**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: ICPMS-200.8-W-D

Run ID :Run Order: **ICPMS204-B_131203A: 18** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**

Analysis Date: **12/03/13 10:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Cadmium	ND	7E-06									
Copper	ND	3E-05									
Lead	ND	6E-06									
Zinc	ND	0.0003									

Associated samples: **H13110520-001B; H13110520-006B; H13110520-007B; H13110520-008B; H13110520-009B; H13110520-010B; H13110520-011B; H13110520-012B; H13110520-013B; H13110520-014B; H13110520-015B; H13110520-016B**

Run ID :Run Order: **ICPMS204-B_131203A: 19** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**

Analysis Date: **12/03/13 10:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0470	0.0050	0.05		94	85	115				
Cadmium	0.0495	0.0010	0.05		99	85	115				
Copper	0.0486	0.010	0.05		97	85	115				
Lead	0.0492	0.010	0.05		98	85	115				
Zinc	0.0475	0.010	0.05		95	85	115				

Associated samples: **H13110520-001B; H13110520-006B; H13110520-007B; H13110520-008B; H13110520-009B; H13110520-010B; H13110520-011B; H13110520-012B; H13110520-013B; H13110520-014B; H13110520-015B; H13110520-016B**

Qualifiers:

- ND - Not Detected at the Reporting Limit
- S - Spike Recovery outside accepted recovery limits
- B - Analyte detected in the associated Method Blank
- J - Analyte detected below quantitation limits
- R - RPD outside accepted recovery limits
- A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: N-NH3-W

Run ID :Run Order: **FIA203-HE_131205A: 7** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E350.1**
Analysis Date: **12/05/13 11:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	5.76	0.25	5.66		102	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131205A: 8** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E350.1**
Analysis Date: **12/05/13 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.961	0.050	1		96	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131205A: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **12/05/13 11:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.484	0.050	0.5		97	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D**

Run ID :Run Order: **FIA203-HE_131205A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E350.1**
Analysis Date: **12/05/13 11:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	-0.0363	0.050				0	0				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131205A: 19** SampType: **Sample Matrix Spike** Sample ID: **H13110520-001DMS** Method: **E350.1**
Analysis Date: **12/05/13 11:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.825	0.050	1		83	80	120				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: N-NH3-W

Run ID :Run Order: **FIA203-HE_131205A: 20** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-001DMSD** Method: **E350.1**
Analysis Date: **12/05/13 11:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.825	0.050	1		83	80	120	0.825	0.0	10	

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131205A: 26** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E350.1**
Analysis Date: **12/05/13 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.486	0.050	0.5		97	90	110				

Associated samples:

Run ID :Run Order: **FIA203-HE_131205A: 28** SampType: **Sample Matrix Spike** Sample ID: **H13110520-008DMS** Method: **E350.1**
Analysis Date: **12/05/13 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.783	0.050	1		78	80	120				S

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131205A: 29** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-008DMSD** Method: **E350.1**
Analysis Date: **12/05/13 11:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.804	0.050	1		80	80	120	0.7827	2.7	10	

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131205A: 83** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E350.1**
Analysis Date: **12/05/13 12:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	5.76	0.25	5.66		102	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **N-NH3-W**

Run ID :Run Order: **FIA203-HE_131205A: 86** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E350.1**

Analysis Date: **12/05/13 13:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	-0.0376	0.050				0	0				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **N-NO3+NO2-W**

Run ID :Run Order: **FIA203-HE_131202A: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E353.2**
Analysis Date: **12/02/13 15:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.010	1		102	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131202A: 9** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E353.2**
Analysis Date: **12/02/13 15:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.05	0.011	1		105	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131202A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E353.2**
Analysis Date: **12/02/13 15:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	-0.000610	0.010				0	0				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131202A: 79** SampType: **Sample Matrix Spike** Sample ID: **H13110517-003BMS** Method: **E353.2**
Analysis Date: **12/02/13 16:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.95	0.011	1	0.9334	102	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131202A: 80** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110517-003BMSD** Method: **E353.2**
Analysis Date: **12/02/13 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.97	0.011	1	0.9334	104	90	110	1.951	1.2	20	

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **N-NO3+NO2-W**

Run ID :Run Order: **FIA203-HE_131202A: 82** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**
Analysis Date: **12/02/13 16:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.500	0.010	0.5		100	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D**

Run ID :Run Order: **FIA203-HE_131202A: 93** SampType: **Sample Matrix Spike** Sample ID: **H13110520-012DMS** Method: **E353.2**
Analysis Date: **12/02/13 17:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.11	0.011	1	0.008515	110	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131202A: 94** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-012DMSD** Method: **E353.2**
Analysis Date: **12/02/13 17:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.008515	109	90	110	1.108	1.0	20	

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131202A: 96** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E353.2**
Analysis Date: **12/02/13 17:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.501	0.010	0.5		100	90	110				

Associated samples: **H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA203-HE_131202A: 107** SampType: **Sample Matrix Spike** Sample ID: **H13110530-006BMS** Method: **E353.2**
Analysis Date: **12/02/13 17:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	12.5	0.055	5	7.2	106	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **N-NO3+NO2-W**

Run ID :Run Order: **FIA203-HE_131202A: 108** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110530-006BMSD** Method: **E353.2**

Analysis Date: **12/02/13 17:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	12.4	0.055	5	7.2	104	90	110	12.52	0.8	20	

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Qualifiers:

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **N-TOTAL-W**

Run ID :Run Order: **FIA203-HE_131203C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **A4500 N-C**
Analysis Date: **12/03/13 13:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.0297	0.10				0	0				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **FIA203-HE_131203C: 43** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **12/03/13 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.485	0.10	0.5		97	90	110				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A**

Run ID :Run Order: **FIA203-HE_131203C: 45** SampType: **Laboratory Control Sample** Sample ID: **LCS-22690** Method: **A4500 N-C**
Analysis Date: **12/03/13 14:31** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2013** Prep Method: **A4500 N-C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	19.0	0.30	18.7		101	90	110				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **FIA203-HE_131203C: 46** SampType: **Method Blank** Sample ID: **MB-22690** Method: **A4500 N-C**
Analysis Date: **12/03/13 14:33** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2013** Prep Method: **A4500 N-C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.02									

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **FIA203-HE_131203C: 48** SampType: **Sample Matrix Spike** Sample ID: **H13110506-004EMS** Method: **A4500 N-C**
Analysis Date: **12/03/13 14:35** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2013** Prep Method: **A4500 N-C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.14	0.10	1	0.04588	110	90	110				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **N-TOTAL-W**

Run ID :Run Order: **FIA203-HE_131203C: 49** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110506-004EMSD** Method: **A4500 N-C**
Analysis Date: **12/03/13 14:36** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2013** Prep Method: **A4500 N-C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.15	0.10	1	0.04588	111	90	110	1.144	0.9	20	S

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **FIA203-HE_131203C: 59** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **12/03/13 14:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.494	0.10	0.5		99	90	110				

Associated samples: **H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **FIA203-HE_131203C: 62** SampType: **Sample Matrix Spike** Sample ID: **H13110520-010AMS** Method: **A4500 N-C**
Analysis Date: **12/03/13 14:52** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2013** Prep Method: **A4500 N-C**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.40	0.10	1	0.3008	109	90	110				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **FIA203-HE_131203C: 70** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-001AMSD** Method: **A4500 N-C**
Analysis Date: **12/03/13 15:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.38	0.10	1	0.2428	113	90	110				S

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **FIA203-HE_140103A: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **A4500 N-C**
Analysis Date: **01/03/14 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.513	0.10	0.5		103	90	110				

Associated samples: **H13110520-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: P-W-T

Run ID :Run Order: **FIA202-HE_131202A: 9** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**
Analysis Date: **12/02/13 13:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.103	0.010	0.1		103	90	110				

Associated samples: **H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D**

Run ID :Run Order: **FIA202-HE_131202A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Sample ID: **ICB** Method: **E365.1**
Analysis Date: **12/02/13 13:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00160	0.010				0	0				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA202-HE_131202A: 12** SampType: **Method Blank** Sample ID: **MB-22665** Method: **E365.1**
Analysis Date: **12/02/13 13:57** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E365.1**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.001									

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA202-HE_131202A: 14** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E365.1**
Analysis Date: **12/02/13 13:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.250	0.010	0.25		100	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA202-HE_131202A: 16** SampType: **Laboratory Control Sample** Sample ID: **LCS-22665** Method: **E365.1**
Analysis Date: **12/02/13 14:01** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E365.1**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.383	0.010	0.4		96	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: P-W-T

Run ID :Run Order: **FIA202-HE_131202A: 29** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**
Analysis Date: **12/02/13 14:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0979	0.010	0.1		98	90	110				

Associated samples: **H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA202-HE_131202A: 31** SampType: **Sample Matrix Spike** Sample ID: **H13110520-014DMS** Method: **E365.1**
Analysis Date: **12/02/13 14:17** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E365.1**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.176	0.010	0.2		88	90	110				S

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA202-HE_131202A: 32** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-014DMSD** Method: **E365.1**
Analysis Date: **12/02/13 14:18** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E365.1**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.180	0.010	0.2		90	90	110	0.1765	2.1	20	

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Run ID :Run Order: **FIA202-HE_131202A: 43** SampType: **Continuing Calibration Verification Standard** Sample ID: **CCV** Method: **E365.1**
Analysis Date: **12/02/13 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0965	0.010	0.1		97	90	110				

Associated samples: **H13110520-001D**

Run ID :Run Order: **FIA202-HE_131202A: 51** SampType: **Sample Matrix Spike** Sample ID: **H13110520-001DMS** Method: **E365.1**
Analysis Date: **12/02/13 14:37** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E365.1**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.203	0.010	0.2	0.01015	96	90	110				

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: P-W-T

Run ID :Run Order: **FIA202-HE_131202A: 52** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13110520-001DMSD** Method: **E365.1**

Analysis Date: **12/02/13 14:38** Units: **mg/L** **Prep Info:** Prep Date: **12/2/2013** Prep Method: **E365.1**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.203	0.010	0.2	0.01015	96	90	110	0.2028	0.1	20	

Associated samples: **H13110520-001D; H13110520-006D; H13110520-007D; H13110520-008D; H13110520-009D; H13110520-010D; H13110520-011D; H13110520-012D; H13110520-013D; H13110520-014D; H13110520-015D; H13110520-016D**

CLIENT: MT DEQ-Federal Superfund
Work Order: H13110520
Project: CFR Monitoring-474374

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *08-Jan-14*

TestCode: **SLDS-TSS-W**

Run ID :Run Order: **ACCU-124 (14410200)_131127C: 1** SampType: **Method Blank** Sample ID: **MBLK** Method: **A2540 D**
Analysis Date: **11/27/13 16:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	1									

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **ACCU-124 (14410200)_131127C: 2** SampType: **Laboratory Control Sample** Sample ID: **LCS** Method: **A2540 D**
Analysis Date: **11/27/13 16:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	2030	10	2000		101	70	130				

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **ACCU-124 (14410200)_131127C: 4** SampType: **Sample Duplicate** Sample ID: **H13110508-002BDUP** Method: **A2540 D**
Analysis Date: **11/27/13 16:07** Units: **mg/L** **Prep Info:** Prep Date: **11/27/2013** Prep Method: **A2540 D**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	10						3		5	

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Run ID :Run Order: **ACCU-124 (14410200)_131127C: 15** SampType: **Sample Duplicate** Sample ID: **H13110520-009ADUP** Method: **A2540 D**
Analysis Date: **11/27/13 16:11** Units: **mg/L** **Prep Info:** Prep Date: **11/27/2013** Prep Method: **A2540 D**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	8.00	10						5		5	

Associated samples: **H13110520-001A; H13110520-006A; H13110520-007A; H13110520-008A; H13110520-009A; H13110520-010A; H13110520-011A; H13110520-012A; H13110520-013A; H13110520-014A; H13110520-015A; H13110520-016A**

Qualifiers: ND - Not Detected at the Reporting Limit
S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits
A - Analyte concentration greater than four times the spike amount

Workorder Receipt Checklist

MT DEQ-Federal Superfund H13110520

Login completed by:	Wanda Johnson	Date Received:	11/27/2013
Reviewed by:	BL2000\sdull	Received by:	SRW
Reviewed Date:	12/3/2013	Carrier name:	Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	2.6°C No Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

None

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 1 of 2

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ (via ATKINS)

Project Name, PWS, Permit, Etc.: CFROU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required):
jgriffin@mt.gov
erich.weber@atkinsglobal.com
gary.ingman@atkinsglobal.com
☐ No Hard Copy Email:

Contact Name: Joe Griffin Phone/Fax: 560-6060 (MTDEQ)
Erich Weber 437-9245 Cell: 439-0563

Sampler: (Please Print)
E. Weber
J. Naughton

Invoice Contact & Phone: Joe Griffin (above)

Purchase Order:

Quote/Bottle Order: 624/ 13479

Invoice Address (Required):
MTDEQ
P.O. Box 200901
Helena, MT 59620-0901
☐ No Hard Copy Email:

Special Report/Formats:
☐ DW
☐ POTW/WWTP
☐ State: ______
☐ Other: ______
☐ EDD/EDT (Electronic Data)
Format: ______
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

Standard Turnaround (TAT)

RUSH — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: all dissolved sample field filtered

Shipped by: Hand del

Cooler ID(s): Y

Receipt Temp: 2.6 °C TB

On Ice: Y [✓ N]

Custody Seal On Bottle Y [✓ N]

On Cooler Y [✓ N]

Intact Y [✓ N]

Signature Match Y [✓ N]

LABORATORY USE ONLY H13110520

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TR As, Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO3+2, TP	TSS	Tot. Alk., SO4	Hardness (TR Ca+Mg)	Total Hg (low level)	Methyl Hg (contract)	SEE ATTACHED
1	CFR-116A	11-25-2013	09:00	5W	X	X	X	X	X	X	X			
2	CFR-84F	11-25-2013	10:30	2W								X	X	
3	FC-CFR	11-25-2013	11:45	2W										
4	FC-CFR Duplicate	11-25-2013	11:45	2W										
5	Field Blank #1	11-25-2013	11:30	2W										
6	LBR-CFR	11-25-2013	13:15	5W	X	X	X	X	X	X	X			
7	CFR-27H	11-25-2013	14:30	5W										
8	CFR-11F	11-25-2013	15:30	5W										
9	CFR-07D	11-25-2013	16:30	5W										
10	CFR-03A	11-26-2013	09:30	5W										

Custody Record MUST be Signed

Relinquished by (print): Erich Weber	Date/Time: 11-27-13 11:30	Signature:	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: ______		Lab Disposal: ______	Received by Laboratory: Scott Wunderlich	Date/Time: 11/27/13 11:30	Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 2 of 2

PLEASE PRINT (Provide as much information as possible.)

Company Name: MT DEQ (via ATKINS)

Report Mail Address (Required): please see page 1

❑ No Hard Copy Email:

Invoice Address (Required): please see page 1

❑ No Hard Copy Email:

Project Name, PWS, Permit, Etc.: CFROU Monitoring

Sample Origin State: MT

EPA/State Compliance: Yes ☐ No ☐

Contact Name: please see page 1

Phone/Fax:

Cell:

Sampler: (Please Print) E. Weber J. Naughton

Invoice Contact & Phone: please see page 1

Purchase Order:

Quote/Bottle Order: 624/13479

Special Report/Formats:

☐ DW
☐ POTW/WWTP
☐ State: ______
☐ Other: ______
☐ EDD/EDT (Electronic Data)
Format: ______
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	TRAs Cd, Cu, Pb, Zn	Diss As, Cd, Cu, Pb, Zn	TPN	NH3, NO3+2, TP	TSS	Tot. Alk., SO4	Hardness (TR Ca & Mg)	DOC		SEE ATTACHED
1	WSC-SBC	11-26-2013	10:30	5W	X	X	X	X	X	X	X			
2	SS-25	11-26-2013	11:30	6W										
3	SS-25 Duplicate	11-26-2013	11:30	6W								X		
4	Field Blank #2	11-26-2013	11:00	6W										
5	MWB-SBC	11-26-2013	13:15	6W										
6	MCWC-MWB	11-26-2013	14:15	5W										
7														
8														
9														
10														

Standard Turnaround (TAT)

R U S H

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: all dissolved samples Field Filtered

LABORATORY USE ONLY

Shipped by: Hand del

Cooler ID(s): Y

Receipt Temp 2.6 TB °C

On Ice: Sw ~~Y~~ [✓ N]

Custody Seal
On Bottle Y [✓ N]
On Cooler Y [✓ N]
Intact Y [✓ N]
Signature Match Y [✓ N]

#B13110520

Custody Record MUST be Signed

Relinquished by (print): Erich Weber Date/Time: 11-27-13 11:30 Signature: EW

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Scott Wunderlich Date/Time: 11/27/13 11:30 Signature:

Sample Disposal: Return to Client: ______ Lab Disposal: ______

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

APPENDIX C

SURFACE WATER DATA

Table C1. Surface water data from the Clark Fork River Operable Unit, 2013.

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Alkalinity, Total as CaCO3	79	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Alkalinity, Total as CaCO3	77	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Alkalinity, Total as CaCO3	96	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Alkalinity, Total as CaCO3	91	4	mg/L	A2320 B
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Alkalinity, Total as CaCO3	98	4	mg/L	A2320 B
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Alkalinity, Total as CaCO3	79	4	mg/L	A2320 B
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Alkalinity, Total as CaCO3	76	4	mg/L	A2320 B
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Alkalinity, Total as CaCO3	99	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Alkalinity, Total as CaCO3	140	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Alkalinity, Total as CaCO3	92	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Alkalinity, Total as CaCO3	87	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Alkalinity, Total as CaCO3	150	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Alkalinity, Total as CaCO3	150	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Alkalinity, Total as CaCO3	47	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Alkalinity, Total as CaCO3	97	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Alkalinity, Total as CaCO3	140	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Alkalinity, Total as CaCO3	160	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Alkalinity, Total as CaCO3	150	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Alkalinity, Total as CaCO3	96	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Alkalinity, Total as CaCO3	99	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Alkalinity, Total as CaCO3	160	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Alkalinity, Total as CaCO3	160	4	mg/L	A2320 B
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Alkalinity, Total as CaCO3	150	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Alkalinity, Total as CaCO3	150	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Alkalinity, Total as CaCO3	140	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Alkalinity, Total as CaCO3	180	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Alkalinity, Total as CaCO3	170	4	mg/L	A2320 B
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Alkalinity, Total as CaCO3	140	4	mg/L	A2320 B
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Alkalinity, Total as CaCO3	150	4	mg/L	A2320 B
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Alkalinity, Total as CaCO3	170	4	mg/L	A2320 B
CSC	Natural Sample	H13050302-002	5/14/2013	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
CSC	Natural Sample	H13060239-002	6/11/2013	Alkalinity, Total as CaCO3	140	4	mg/L	A2320 B
CSC	Natural Sample	H13060510-002	6/25/2013	Alkalinity, Total as CaCO3	140	4	mg/L	A2320 B
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Alkalinity, Total as CaCO3	76	4	mg/L	A2320 B

FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Alkalinity, Total as CaCO3	190	4	mg/L	A2320 B
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Alkalinity, Total as CaCO3	190	4	mg/L	A2320 B
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Alkalinity, Total as CaCO3	210	4	mg/L	A2320 B
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Alkalinity, Total as CaCO3	210	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Alkalinity, Total as CaCO3	88	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Alkalinity, Total as CaCO3	88	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Alkalinity, Total as CaCO3	190	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Alkalinity, Total as CaCO3	100	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Alkalinity, Total as CaCO3	45	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Alkalinity, Total as CaCO3	52	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Alkalinity, Total as CaCO3	84	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Alkalinity, Total as CaCO3	93	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Alkalinity, Total as CaCO3	61	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Alkalinity, Total as CaCO3	63	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Alkalinity, Total as CaCO3	93	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Alkalinity, Total as CaCO3	130	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Alkalinity, Total as CaCO3	64	4	mg/L	A2320 B
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Alkalinity, Total as CaCO3	91	4	mg/L	A2320 B
SS-25	Natural Sample	H13030312-010	3/20/2013	Alkalinity, Total as CaCO3	94	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Alkalinity, Total as CaCO3	76	4	mg/L	A2320 B
SS-25	Natural Sample	H13050302-017	5/16/2013	Alkalinity, Total as CaCO3	74	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Alkalinity, Total as CaCO3	64	4	mg/L	A2320 B
SS-25	Natural Sample	H13060239-017	6/13/2013	Alkalinity, Total as CaCO3	65	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Alkalinity, Total as CaCO3	97	4	mg/L	A2320 B
SS-25	Natural Sample	H13060510-017	6/27/2013	Alkalinity, Total as CaCO3	97	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-25	Natural Sample	H13090377-012	9/18/2013	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Alkalinity, Total as CaCO3	120	4	mg/L	A2320 B
SS-25	Natural Sample	H13110520-012	11/26/2013	Alkalinity, Total as CaCO3	110	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Alkalinity, Total as CaCO3	140	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Alkalinity, Total as CaCO3	85	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Alkalinity, Total as CaCO3	88	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Alkalinity, Total as CaCO3	91	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Alkalinity, Total as CaCO3	140	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Alkalinity, Total as CaCO3	150	4	mg/L	A2320 B
	Field Blank 2	H13030312-005	3/19/2013	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
	Field Blank 1	H13050302-006	5/15/2013	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B

	Field Blank 2	H13050302-016	5/16/2013	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
	Field Blank 1	H13060239-004	6/11/2013	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
	Field Blank 2	H13060239-016	6/13/2013	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
	Field Blank 1	H13060510-004	6/25/2013	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
	Field Blank 2	H13060510-016	6/27/2013	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
	Field Blank 2	H13090377-014	9/18/2013	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
	Field Blank 2	H13110520-014	11/26/2013	Alkalinity, Total as CaCO3	ND	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Arsenic, Dissolved	0.008	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Arsenic, Dissolved	0.012	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Arsenic, Dissolved	0.016	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Arsenic, Dissolved	0.022	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Arsenic, Dissolved	0.019	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Arsenic, Dissolved	0.009	0.005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Arsenic, Dissolved	0.015	0.005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Arsenic, Dissolved	0.033	0.005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Arsenic, Dissolved	0.032	0.005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Arsenic, Dissolved	0.012	0.005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Arsenic, Dissolved	0.013	0.005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Arsenic, Dissolved	0.02	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Arsenic, Dissolved	0.009	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Arsenic, Dissolved	0.013	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Arsenic, Dissolved	0.015	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Arsenic, Dissolved	0.022	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Arsenic, Dissolved	0.016	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Arsenic, Dissolved	0.009	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Arsenic, Dissolved	0.005	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Arsenic, Dissolved	0.006	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Arsenic, Dissolved	0.006	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Arsenic, Dissolved	0.005	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Arsenic, Dissolved	0.005	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Arsenic, Dissolved	0.009	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Arsenic, Dissolved	0.014	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Arsenic, Dissolved	0.014	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Arsenic, Dissolved	0.023	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Arsenic, Dissolved	0.016	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Arsenic, Dissolved	0.009	0.005	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Arsenic, Dissolved	0.009	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Arsenic, Dissolved	0.009	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Arsenic, Dissolved	0.015	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Arsenic, Dissolved	0.016	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Arsenic, Dissolved	0.019	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Arsenic, Dissolved	0.012	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Arsenic, Dissolved	0.008	0.005	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Arsenic, Dissolved	0.018	0.005	mg/L	E200.8
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Arsenic, Dissolved	0.019	0.005	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Arsenic, Dissolved	0.018	0.005	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8

CSC	Natural Sample	H13060239-002	6/11/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Arsenic, Dissolved	0.007	0.005	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Arsenic, Dissolved	0.01	0.005	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Arsenic, Dissolved	0.01	0.005	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Arsenic, Dissolved	0.01	0.005	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Arsenic, Dissolved	0.011	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Arsenic, Dissolved	0.005	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Arsenic, Dissolved	0.005	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Arsenic, Dissolved	0.011	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Arsenic, Dissolved	0.016	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Arsenic, Dissolved	0.024	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Arsenic, Dissolved	0.043	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Arsenic, Dissolved	0.015	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Arsenic, Dissolved	0.009	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Arsenic, Dissolved	0.011	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Arsenic, Dissolved	0.019	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Arsenic, Dissolved	0.024	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Arsenic, Dissolved	0.037	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Arsenic, Dissolved	0.022	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Arsenic, Dissolved	0.011	0.005	mg/L	E200.8
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Arsenic, Dissolved	0.016	0.005	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Arsenic, Dissolved	0.022	0.005	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Arsenic, Dissolved	0.034	0.005	mg/L	E200.8
SS-25	Natural Sample	H13030312-010	3/20/2013	Arsenic, Dissolved	0.01	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Arsenic, Dissolved	0.016	0.005	mg/L	E200.8
SS-25	Natural Sample	H13050302-017	5/16/2013	Arsenic, Dissolved	0.017	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Arsenic, Dissolved	0.022	0.005	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Arsenic, Dissolved	0.023	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Arsenic, Dissolved	0.035	0.005	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Arsenic, Dissolved	0.035	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Arsenic, Dissolved	0.033	0.005	mg/L	E200.8
SS-25	Natural Sample	H13090377-012	9/18/2013	Arsenic, Dissolved	0.033	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Arsenic, Dissolved	0.01	0.005	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Arsenic, Dissolved	0.01	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Arsenic, Dissolved	0.005	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Arsenic, Dissolved	0.006	0.005	mg/L	E200.8

WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Arsenic, Dissolved	ND	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Arsenic, Total Recoverable	0.01	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Arsenic, Total Recoverable	0.016	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Arsenic, Total Recoverable	0.017	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Arsenic, Total Recoverable	0.022	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Arsenic, Total Recoverable	0.019	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Arsenic, Total Recoverable	0.01	0.005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Arsenic, Total Recoverable	0.018	0.005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Arsenic, Total Recoverable	0.031	0.005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Arsenic, Total Recoverable	0.034	0.005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Arsenic, Total Recoverable	0.016	0.005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Arsenic, Total Recoverable	0.015	0.005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Arsenic, Total Recoverable	0.021	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Arsenic, Total Recoverable	0.01	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Arsenic, Total Recoverable	0.019	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Arsenic, Total Recoverable	0.016	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Arsenic, Total Recoverable	0.024	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Arsenic, Total Recoverable	0.017	0.005	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Arsenic, Total Recoverable	0.011	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Arsenic, Total Recoverable	0.007	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Arsenic, Total Recoverable	0.011	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Arsenic, Total Recoverable	0.02	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Arsenic, Total Recoverable	0.017	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Arsenic, Total Recoverable	0.025	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Arsenic, Total Recoverable	0.016	0.005	mg/L	E200.8
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Arsenic, Total Recoverable	0.01	0.005	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Arsenic, Total Recoverable	0.012	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Arsenic, Total Recoverable	0.012	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Arsenic, Total Recoverable	0.019	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Arsenic, Total Recoverable	0.018	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Arsenic, Total Recoverable	0.02	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Arsenic, Total Recoverable	0.014	0.005	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Arsenic, Total Recoverable	0.012	0.005	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Arsenic, Total Recoverable	0.02	0.005	mg/L	E200.8

CFR-42G	Natural Sample	H13060239-007	6/11/2013	Arsenic, Total Recoverable	0.02	0.005	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Arsenic, Total Recoverable	0.019	0.005	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
CSC	Natural Sample	H13060239-002	6/11/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Arsenic, Total Recoverable	0.013	0.005	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Arsenic, Total Recoverable	0.011	0.005	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Arsenic, Total Recoverable	0.011	0.005	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Arsenic, Total Recoverable	0.012	0.005	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Arsenic, Total Recoverable	0.012	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Arsenic, Total Recoverable	0.005	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Arsenic, Total Recoverable	0.005	0.005	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Arsenic, Total Recoverable	0.012	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Arsenic, Total Recoverable	0.018	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Arsenic, Total Recoverable	0.026	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Arsenic, Total Recoverable	0.045	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Arsenic, Total Recoverable	0.016	0.005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Arsenic, Total Recoverable	0.01	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Arsenic, Total Recoverable	0.011	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Arsenic, Total Recoverable	0.019	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Arsenic, Total Recoverable	0.025	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Arsenic, Total Recoverable	0.038	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Arsenic, Total Recoverable	0.024	0.005	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Arsenic, Total Recoverable	0.013	0.005	mg/L	E200.8
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Arsenic, Total Recoverable	0.017	0.005	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Arsenic, Total Recoverable	0.022	0.005	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Arsenic, Total Recoverable	0.035	0.005	mg/L	E200.8
SS-25	Natural Sample	H13030312-010	3/20/2013	Arsenic, Total Recoverable	0.011	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Arsenic, Total Recoverable	0.019	0.005	mg/L	E200.8
SS-25	Natural Sample	H13050302-017	5/16/2013	Arsenic, Total Recoverable	0.019	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Arsenic, Total Recoverable	0.025	0.005	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Arsenic, Total Recoverable	0.024	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Arsenic, Total Recoverable	0.037	0.005	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Arsenic, Total Recoverable	0.037	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Arsenic, Total Recoverable	0.034	0.005	mg/L	E200.8
SS-25	Natural Sample	H13090377-012	9/18/2013	Arsenic, Total Recoverable	0.034	0.005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Arsenic, Total Recoverable	0.012	0.005	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Arsenic, Total Recoverable	0.012	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8

WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Arsenic, Total Recoverable	0.005	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Arsenic, Total Recoverable	0.006	0.005	mg/L	E200.8
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Arsenic, Total Recoverable	ND	0.005	mg/L	E200.8
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Bicarbonate Alkalinity as HCO3	96	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Bicarbonate Alkalinity as HCO3	90	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Bicarbonate Alkalinity as HCO3	160	4	mg/L	A2320 B
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Bicarbonate Alkalinity as HCO3	96	4	mg/L	A2320 B
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Bicarbonate Alkalinity as HCO3	87	4	mg/L	A2320 B
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Bicarbonate Alkalinity as HCO3	170	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Bicarbonate Alkalinity as HCO3	170	4	mg/L	A2320 B
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Bicarbonate Alkalinity as HCO3	170	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Bicarbonate Alkalinity as HCO3	160	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Bicarbonate Alkalinity as HCO3	57	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Bicarbonate Alkalinity as HCO3	170	4	mg/L	A2320 B
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Bicarbonate Alkalinity as HCO3	190	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Bicarbonate Alkalinity as HCO3	170	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Bicarbonate Alkalinity as HCO3	180	4	mg/L	A2320 B
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Bicarbonate Alkalinity as HCO3	180	4	mg/L	A2320 B
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Bicarbonate Alkalinity as HCO3	170	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Bicarbonate Alkalinity as HCO3	170	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Bicarbonate Alkalinity as HCO3	170	4	mg/L	A2320 B

CFR-27H	Natural Sample	H13090377-007	9/17/2013	Bicarbonate Alkalinity as HCO3	210	4	mg/L	A2320 B
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Bicarbonate Alkalinity as HCO3	200	4	mg/L	A2320 B
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Bicarbonate Alkalinity as HCO3	160	4	mg/L	A2320 B
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Bicarbonate Alkalinity as HCO3	190	4	mg/L	A2320 B
CSC	Natural Sample	H13050302-002	5/14/2013	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
CSC	Natural Sample	H13060239-002	6/11/2013	Bicarbonate Alkalinity as HCO3	160	4	mg/L	A2320 B
CSC	Natural Sample	H13060510-002	6/25/2013	Bicarbonate Alkalinity as HCO3	160	4	mg/L	A2320 B
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Bicarbonate Alkalinity as HCO3	89	4	mg/L	A2320 B
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Bicarbonate Alkalinity as HCO3	200	4	mg/L	A2320 B
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Bicarbonate Alkalinity as HCO3	210	4	mg/L	A2320 B
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Bicarbonate Alkalinity as HCO3	230	4	mg/L	A2320 B
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Bicarbonate Alkalinity as HCO3	240	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Bicarbonate Alkalinity as HCO3	150	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Bicarbonate Alkalinity as HCO3	210	4	mg/L	A2320 B
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Bicarbonate Alkalinity as HCO3	160	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Bicarbonate Alkalinity as HCO3	55	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Bicarbonate Alkalinity as HCO3	64	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Bicarbonate Alkalinity as HCO3	120	4	mg/L	A2320 B
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Bicarbonate Alkalinity as HCO3	74	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Bicarbonate Alkalinity as HCO3	76	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Bicarbonate Alkalinity as HCO3	140	4	mg/L	A2320 B
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Bicarbonate Alkalinity as HCO3	58	4	mg/L	A2320 B
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Bicarbonate Alkalinity as HCO3	77	4	mg/L	A2320 B
SS-25	Natural Sample	H13030312-010	3/20/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Bicarbonate Alkalinity as HCO3	93	4	mg/L	A2320 B
SS-25	Natural Sample	H13050302-017	5/16/2013	Bicarbonate Alkalinity as HCO3	91	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Bicarbonate Alkalinity as HCO3	78	4	mg/L	A2320 B
SS-25	Natural Sample	H13060239-017	6/13/2013	Bicarbonate Alkalinity as HCO3	77	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
SS-25	Natural Sample	H13060510-017	6/27/2013	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
SS-25	Natural Sample	H13090377-012	9/18/2013	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B

SS-25	Natural Sample	H13110520-012	11/26/2013	Bicarbonate Alkalinity as HCO3	130	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Bicarbonate Alkalinity as HCO3	170	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Bicarbonate Alkalinity as HCO3	100	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Bicarbonate Alkalinity as HCO3	110	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Bicarbonate Alkalinity as HCO3	160	4	mg/L	A2320 B
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Bicarbonate Alkalinity as HCO3	180	4	mg/L	A2320 B
	Field Blank 2	H13030312-005	3/19/2013	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
	Field Blank 1	H13050302-006	5/15/2013	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
	Field Blank 2	H13050302-016	5/16/2013	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
	Field Blank 1	H13060239-004	6/11/2013	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
	Field Blank 2	H13060239-016	6/13/2013	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
	Field Blank 1	H13060510-004	6/25/2013	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
	Field Blank 2	H13060510-016	6/27/2013	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
	Field Blank 2	H13090377-014	9/18/2013	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
	Field Blank 2	H13110520-014	11/26/2013	Bicarbonate Alkalinity as HCO3	ND	4	mg/L	A2320 B
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8

CFR-27H	Natural Sample	H13050302-009	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CSC	Natural Sample	H13060239-002	6/11/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13030312-010	3/20/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13050302-017	5/16/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Duplicate	H13090377-013	9/18/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8

	Sample #2							
SS-25	Natural Sample	H13090377-012	9/18/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Cadmium, Dissolved	ND	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Cadmium, Total Recoverable	0.00011	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Cadmium, Total Recoverable	0.00018	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Cadmium, Total Recoverable	0.00009	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Cadmium, Total Recoverable	0.00014	0.00008	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Cadmium, Total Recoverable	0.00012	0.00008	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Cadmium, Total Recoverable	0.00015	0.00008	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Cadmium, Total Recoverable	0.00009	0.00008	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Cadmium, Total Recoverable	0.00012	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Cadmium, Total Recoverable	0.00025	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Cadmium, Total Recoverable	0.00012	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Cadmium, Total Recoverable	0.00008	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Cadmium, Total Recoverable	0.00009	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Cadmium, Total Recoverable	0.00012	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Cadmium, Total Recoverable	0.00014	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Cadmium, Total Recoverable	0.00024	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Cadmium, Total Recoverable	0.00014	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8

CFR-11F	Natural Sample	H13110520-008	11/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Cadmium, Total Recoverable	0.00017	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Cadmium, Total Recoverable	0.00016	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Cadmium, Total Recoverable	0.00021	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Cadmium, Total Recoverable	0.00015	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Cadmium, Total Recoverable	0.00011	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Cadmium, Total Recoverable	0.00009	0.00008	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Cadmium, Total Recoverable	0.00023	0.00008	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Cadmium, Total Recoverable	0.00014	0.00008	mg/L	E200.8
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Cadmium, Total Recoverable	0.00015	0.00008	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Cadmium, Total Recoverable	0.00013	0.00008	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CSC	Natural Sample	H13060239-002	6/11/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Cadmium, Total Recoverable	0.00015	0.00008	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Cadmium, Total Recoverable	0.00009	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Cadmium, Total Recoverable	0.00012	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Cadmium, Total Recoverable	0.00008	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Cadmium, Total Recoverable	0.00011	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13030312-010	3/20/2013	Cadmium, Total Recoverable	0.00013	0.00008	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Cadmium, Total Recoverable	0.00008	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13050302-017	5/16/2013	Cadmium, Total Recoverable	0.00009	0.00008	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8

SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13090377-012	9/18/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Cadmium, Total Recoverable	0.00009	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Cadmium, Total Recoverable	ND	0.00008	mg/L	E200.8
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Calcium, Total Recoverable	54	1	mg/L	E200.7
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Calcium, Total Recoverable	34	1	mg/L	E200.7
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Calcium, Total Recoverable	33	1	mg/L	E200.7
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Calcium, Total Recoverable	42	1	mg/L	E200.7
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Calcium, Total Recoverable	62	1	mg/L	E200.7
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Calcium, Total Recoverable	62	1	mg/L	E200.7
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Calcium, Total Recoverable	38	1	mg/L	E200.7
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Calcium, Total Recoverable	53	1	mg/L	E200.7
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Calcium, Total Recoverable	60	1	mg/L	E200.7
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Calcium, Total Recoverable	33	1	mg/L	E200.7
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Calcium, Total Recoverable	31	1	mg/L	E200.7
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Calcium, Total Recoverable	40	1	mg/L	E200.7
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Calcium, Total Recoverable	63	1	mg/L	E200.7
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Calcium, Total Recoverable	43	1	mg/L	E200.7
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Calcium, Total Recoverable	40	1	mg/L	E200.7
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Calcium, Total Recoverable	47	1	mg/L	E200.7
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Calcium, Total Recoverable	71	1	mg/L	E200.7
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Calcium, Total Recoverable	71	1	mg/L	E200.7
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Calcium, Total Recoverable	44	1	mg/L	E200.7
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Calcium, Total Recoverable	18	1	mg/L	E200.7
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Calcium, Total Recoverable	30	1	mg/L	E200.7
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Calcium, Total Recoverable	36	1	mg/L	E200.7
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Calcium, Total Recoverable	48	1	mg/L	E200.7
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Calcium, Total Recoverable	55	1	mg/L	E200.7
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Calcium, Total Recoverable	64	1	mg/L	E200.7
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Calcium, Total Recoverable	43	1	mg/L	E200.7

CFR-11F	Natural Sample	H13060239-010	6/12/2013	Calcium, Total Recoverable	44	1	mg/L	E200.7
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Calcium, Total Recoverable	51	1	mg/L	E200.7
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Calcium, Total Recoverable	71	1	mg/L	E200.7
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Calcium, Total Recoverable	71	1	mg/L	E200.7
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Calcium, Total Recoverable	61	1	mg/L	E200.7
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Calcium, Total Recoverable	61	1	mg/L	E200.7
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Calcium, Total Recoverable	50	1	mg/L	E200.7
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Calcium, Total Recoverable	47	1	mg/L	E200.7
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Calcium, Total Recoverable	56	1	mg/L	E200.7
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Calcium, Total Recoverable	68	1	mg/L	E200.7
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Calcium, Total Recoverable	70	1	mg/L	E200.7
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Calcium, Total Recoverable	63	1	mg/L	E200.7
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Calcium, Total Recoverable	54	1	mg/L	E200.7
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Calcium, Total Recoverable	58	1	mg/L	E200.7
CSC	Natural Sample	H13050302-002	5/14/2013	Calcium, Total Recoverable	47	1	mg/L	E200.7
CSC	Natural Sample	H13060239-002	6/11/2013	Calcium, Total Recoverable	42	1	mg/L	E200.7
CSC	Natural Sample	H13060510-002	6/25/2013	Calcium, Total Recoverable	44	1	mg/L	E200.7
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Calcium, Total Recoverable	25	1	mg/L	E200.7
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Calcium, Total Recoverable	52	1	mg/L	E200.7
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Calcium, Total Recoverable	47	1	mg/L	E200.7
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Calcium, Total Recoverable	55	1	mg/L	E200.7
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Calcium, Total Recoverable	54	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Calcium, Total Recoverable	35	1	mg/L	E200.7
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Calcium, Total Recoverable	26	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Calcium, Total Recoverable	27	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Calcium, Total Recoverable	29	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Calcium, Total Recoverable	35	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Calcium, Total Recoverable	53	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Calcium, Total Recoverable	37	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Calcium, Total Recoverable	32	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Calcium, Total Recoverable	15	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Calcium, Total Recoverable	15	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Calcium, Total Recoverable	24	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Calcium, Total Recoverable	34	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Calcium, Total Recoverable	30	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Calcium, Total Recoverable	66	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Calcium, Total Recoverable	31	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Calcium, Total Recoverable	28	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Calcium, Total Recoverable	44	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Calcium, Total Recoverable	85	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Calcium, Total Recoverable	69	1	mg/L	E200.7
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Calcium, Total Recoverable	57	1	mg/L	E200.7
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Calcium, Total Recoverable	37	1	mg/L	E200.7
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Calcium, Total Recoverable	47	1	mg/L	E200.7
SS-25	Natural Sample	H13030312-010	3/20/2013	Calcium, Total Recoverable	51	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Calcium, Total Recoverable	38	1	mg/L	E200.7

SS-25	Natural Sample	H13050302-017	5/16/2013	Calcium, Total Recoverable	38	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Calcium, Total Recoverable	29	1	mg/L	E200.7
SS-25	Natural Sample	H13060239-017	6/13/2013	Calcium, Total Recoverable	29	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Calcium, Total Recoverable	44	1	mg/L	E200.7
SS-25	Natural Sample	H13060510-017	6/27/2013	Calcium, Total Recoverable	43	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Calcium, Total Recoverable	66	1	mg/L	E200.7
SS-25	Natural Sample	H13090377-012	9/18/2013	Calcium, Total Recoverable	66	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Calcium, Total Recoverable	60	1	mg/L	E200.7
SS-25	Natural Sample	H13110520-012	11/26/2013	Calcium, Total Recoverable	62	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Calcium, Total Recoverable	52	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Calcium, Total Recoverable	33	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Calcium, Total Recoverable	32	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Calcium, Total Recoverable	34	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Calcium, Total Recoverable	54	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Calcium, Total Recoverable	58	1	mg/L	E200.7
	Field Blank 2	H13030312-005	3/19/2013	Calcium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 1	H13050302-006	5/15/2013	Calcium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13050302-016	5/16/2013	Calcium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 1	H13060239-004	6/11/2013	Calcium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13060239-016	6/13/2013	Calcium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 1	H13060510-004	6/25/2013	Calcium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13060510-016	6/27/2013	Calcium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13090377-014	9/18/2013	Calcium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13110520-014	11/26/2013	Calcium, Total Recoverable	ND	1	mg/L	E200.7
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Copper, Dissolved	0.004	0.001	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Copper, Dissolved	0.006	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Copper, Dissolved	0.006	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Copper, Dissolved	0.006	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8

CFR-116A	Natural Sample	H13110520-001	11/25/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Copper, Dissolved	0.004	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Copper, Dissolved	0.007	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Copper, Dissolved	0.006	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Copper, Dissolved	0.007	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Copper, Dissolved	0.006	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Copper, Dissolved	0.009	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Copper, Dissolved	0.009	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Copper, Dissolved	0.008	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Copper, Dissolved	0.008	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Copper, Dissolved	0.006	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Copper, Dissolved	0.011	0.001	mg/L	E200.8
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Copper, Dissolved	0.009	0.001	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Copper, Dissolved	0.01	0.001	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
CSC	Natural Sample	H13060239-002	6/11/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Copper, Dissolved	0.004	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Copper, Dissolved	0.004	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Copper, Dissolved	0.001	0.001	mg/L	E200.8
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Copper, Dissolved	0.007	0.001	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8

SS-25	Natural Sample	H13030312-010	3/20/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
SS-25	Natural Sample	H13050302-017	5/16/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Copper, Dissolved	0.005	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
SS-25	Natural Sample	H13090377-012	9/18/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Copper, Dissolved	0.004	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Copper, Dissolved	0.004	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Copper, Dissolved	0.003	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Copper, Dissolved	0.002	0.001	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Copper, Dissolved	ND	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Copper, Total Recoverable	0.01	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Copper, Total Recoverable	0.026	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Copper, Total Recoverable	0.015	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Copper, Total Recoverable	0.01	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Copper, Total Recoverable	0.023	0.001	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Copper, Total Recoverable	0.012	0.001	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Copper, Total Recoverable	0.007	0.001	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Copper, Total Recoverable	0.025	0.001	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Copper, Total Recoverable	0.014	0.001	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Copper, Total Recoverable	0.01	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Copper, Total Recoverable	0.013	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Copper, Total Recoverable	0.04	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Copper, Total Recoverable	0.019	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Copper, Total Recoverable	0.011	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Copper, Total Recoverable	0.007	0.001	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Copper, Total Recoverable	0.011	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Copper, Total Recoverable	0.012	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Copper, Total Recoverable	0.012	0.001	mg/L	E200.8

CFR-116A	Natural Sample	H13060239-001	6/11/2013	Copper, Total Recoverable	0.014	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Copper, Total Recoverable	0.017	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Copper, Total Recoverable	0.044	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Copper, Total Recoverable	0.023	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Copper, Total Recoverable	0.013	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Copper, Total Recoverable	0.012	0.001	mg/L	E200.8
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Copper, Total Recoverable	0.009	0.001	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Copper, Total Recoverable	0.031	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Copper, Total Recoverable	0.03	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Copper, Total Recoverable	0.043	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Copper, Total Recoverable	0.03	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Copper, Total Recoverable	0.021	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Copper, Total Recoverable	0.017	0.001	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Copper, Total Recoverable	0.041	0.001	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Copper, Total Recoverable	0.025	0.001	mg/L	E200.8
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Copper, Total Recoverable	0.023	0.001	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Copper, Total Recoverable	0.024	0.001	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Copper, Total Recoverable	0.001	0.001	mg/L	E200.8
CSC	Natural Sample	H13060239-002	6/11/2013	Copper, Total Recoverable	0.001	0.001	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Copper, Total Recoverable	0.003	0.001	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Copper, Total Recoverable	0.003	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Copper, Total Recoverable	0.003	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Copper, Total Recoverable	0.001	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Copper, Total Recoverable	0.001	0.001	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Copper, Total Recoverable	0.001	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Copper, Total Recoverable	0.007	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Copper, Total Recoverable	0.004	0.001	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Copper, Total Recoverable	0.007	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Copper, Total Recoverable	0.002	0.001	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Copper, Total Recoverable	0.004	0.001	mg/L	E200.8

SBC-P2	Natural Sample	H13050302-020	5/16/2013	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-25	Natural Sample	H13030312-010	3/20/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Copper, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-25	Natural Sample	H13050302-017	5/16/2013	Copper, Total Recoverable	0.007	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Copper, Total Recoverable	0.006	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Copper, Total Recoverable	0.003	0.001	mg/L	E200.8
SS-25	Natural Sample	H13090377-012	9/18/2013	Copper, Total Recoverable	0.003	0.001	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Copper, Total Recoverable	0.005	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Copper, Total Recoverable	0.004	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Copper, Total Recoverable	0.018	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Copper, Total Recoverable	0.012	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Copper, Total Recoverable	0.007	0.001	mg/L	E200.8
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Copper, Total Recoverable	0.008	0.001	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Copper, Total Recoverable	ND	0.001	mg/L	E200.8
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Hardness as CaCO3	190	1	mg/L	A2340 B
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Hardness as CaCO3	116	1	mg/L	A2340 B
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Hardness as CaCO3	115	1	mg/L	A2340 B
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Hardness as CaCO3	145	1	mg/L	A2340 B
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Hardness as CaCO3	216	1	mg/L	A2340 B
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Hardness as CaCO3	220	1	mg/L	A2340 B
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Hardness as CaCO3	136	1	mg/L	A2340 B
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Hardness as CaCO3	221	1	mg/L	A2340 B
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Hardness as CaCO3	228	1	mg/L	A2340 B
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Hardness as CaCO3	114	1	mg/L	A2340 B
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Hardness as CaCO3	106	1	mg/L	A2340 B
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Hardness as CaCO3	137	1	mg/L	A2340 B
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Hardness as CaCO3	218	1	mg/L	A2340 B
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Hardness as CaCO3	146	1	mg/L	A2340 B
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Hardness as CaCO3	133	1	mg/L	A2340 B
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Hardness as CaCO3	161	1	mg/L	A2340 B
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Hardness as CaCO3	243	1	mg/L	A2340 B

CFR-07D	Natural Sample	H13110520-009	11/25/2013	Hardness as CaCO3	248	1	mg/L	A2340 B
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Hardness as CaCO3	154	1	mg/L	A2340 B
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Hardness as CaCO3	65	1	mg/L	A2340 B
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Hardness as CaCO3	106	1	mg/L	A2340 B
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Hardness as CaCO3	130	1	mg/L	A2340 B
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Hardness as CaCO3	176	1	mg/L	A2340 B
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Hardness as CaCO3	197	1	mg/L	A2340 B
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Hardness as CaCO3	223	1	mg/L	A2340 B
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Hardness as CaCO3	148	1	mg/L	A2340 B
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Hardness as CaCO3	150	1	mg/L	A2340 B
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Hardness as CaCO3	177	1	mg/L	A2340 B
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Hardness as CaCO3	245	1	mg/L	A2340 B
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Hardness as CaCO3	251	1	mg/L	A2340 B
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Hardness as CaCO3	211	1	mg/L	A2340 B
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Hardness as CaCO3	211	1	mg/L	A2340 B
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Hardness as CaCO3	168	1	mg/L	A2340 B
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Hardness as CaCO3	167	1	mg/L	A2340 B
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Hardness as CaCO3	192	1	mg/L	A2340 B
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Hardness as CaCO3	230	1	mg/L	A2340 B
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Hardness as CaCO3	244	1	mg/L	A2340 B
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Hardness as CaCO3	217	1	mg/L	A2340 B
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Hardness as CaCO3	180	1	mg/L	A2340 B
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Hardness as CaCO3	202	1	mg/L	A2340 B
CSC	Natural Sample	H13050302-002	5/14/2013	Hardness as CaCO3	162	1	mg/L	A2340 B
CSC	Natural Sample	H13060239-002	6/11/2013	Hardness as CaCO3	148	1	mg/L	A2340 B
CSC	Natural Sample	H13060510-002	6/25/2013	Hardness as CaCO3	151	1	mg/L	A2340 B
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Hardness as CaCO3	92	1	mg/L	A2340 B
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Hardness as CaCO3	180	1	mg/L	A2340 B
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Hardness as CaCO3	177	1	mg/L	A2340 B
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Hardness as CaCO3	201	1	mg/L	A2340 B
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Hardness as CaCO3	199	1	mg/L	A2340 B
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Hardness as CaCO3	122	1	mg/L	A2340 B
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Hardness as CaCO3	91	1	mg/L	A2340 B
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Hardness as CaCO3	93	1	mg/L	A2340 B
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Hardness as CaCO3	99	1	mg/L	A2340 B
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Hardness as CaCO3	119	1	mg/L	A2340 B
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Hardness as CaCO3	182	1	mg/L	A2340 B
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Hardness as CaCO3	129	1	mg/L	A2340 B
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Hardness as CaCO3	112	1	mg/L	A2340 B
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Hardness as CaCO3	53	1	mg/L	A2340 B
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Hardness as CaCO3	51	1	mg/L	A2340 B
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Hardness as CaCO3	83	1	mg/L	A2340 B
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Hardness as CaCO3	120	1	mg/L	A2340 B
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Hardness as CaCO3	106	1	mg/L	A2340 B
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Hardness as CaCO3	230	1	mg/L	A2340 B
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Hardness as CaCO3	108	1	mg/L	A2340 B
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Hardness as CaCO3	92	1	mg/L	A2340 B

MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Hardness as CaCO3	151	1	mg/L	A2340 B
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Hardness as CaCO3	292	1	mg/L	A2340 B
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Hardness as CaCO3	239	1	mg/L	A2340 B
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Hardness as CaCO3	206	1	mg/L	A2340 B
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Hardness as CaCO3	145	1	mg/L	A2340 B
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Hardness as CaCO3	172	1	mg/L	A2340 B
SS-25	Natural Sample	H13030312-010	3/20/2013	Hardness as CaCO3	185	1	mg/L	A2340 B
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Hardness as CaCO3	135	1	mg/L	A2340 B
SS-25	Natural Sample	H13050302-017	5/16/2013	Hardness as CaCO3	133	1	mg/L	A2340 B
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Hardness as CaCO3	104	1	mg/L	A2340 B
SS-25	Natural Sample	H13060239-017	6/13/2013	Hardness as CaCO3	103	1	mg/L	A2340 B
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Hardness as CaCO3	154	1	mg/L	A2340 B
SS-25	Natural Sample	H13060510-017	6/27/2013	Hardness as CaCO3	151	1	mg/L	A2340 B
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Hardness as CaCO3	233	1	mg/L	A2340 B
SS-25	Natural Sample	H13090377-012	9/18/2013	Hardness as CaCO3	235	1	mg/L	A2340 B
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Hardness as CaCO3	220	1	mg/L	A2340 B
SS-25	Natural Sample	H13110520-012	11/26/2013	Hardness as CaCO3	224	1	mg/L	A2340 B
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Hardness as CaCO3	175	1	mg/L	A2340 B
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Hardness as CaCO3	108	1	mg/L	A2340 B
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Hardness as CaCO3	109	1	mg/L	A2340 B
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Hardness as CaCO3	112	1	mg/L	A2340 B
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Hardness as CaCO3	179	1	mg/L	A2340 B
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Hardness as CaCO3	194	1	mg/L	A2340 B
	Field Blank 2	H13030312-005	3/19/2013	Hardness as CaCO3	ND	1	mg/L	A2340 B
	Field Blank 1	H13050302-006	5/15/2013	Hardness as CaCO3	ND	1	mg/L	A2340 B
	Field Blank 2	H13050302-016	5/16/2013	Hardness as CaCO3	ND	1	mg/L	A2340 B
	Field Blank 1	H13060239-004	6/11/2013	Hardness as CaCO3	ND	1	mg/L	A2340 B
	Field Blank 2	H13060239-016	6/13/2013	Hardness as CaCO3	ND	1	mg/L	A2340 B
	Field Blank 1	H13060510-004	6/25/2013	Hardness as CaCO3	ND	1	mg/L	A2340 B
	Field Blank 2	H13060510-016	6/27/2013	Hardness as CaCO3	ND	1	mg/L	A2340 B
	Field Blank 2	H13110520-014	11/26/2013	Hardness as CaCO3	ND	1	mg/L	A2340 B
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8

CFR-07D	Natural Sample	H13060510-011	6/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Lead, Dissolved	0.0006	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CSC	Natural Sample	H13060239-002	6/11/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8

MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Lead, Dissolved	0.0012	0.0005	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Lead, Dissolved	0.0005	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13030312-010	3/20/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13050302-017	5/16/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13090377-012	9/18/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Lead, Dissolved	ND	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Lead, Total Recoverable	0.0016	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Lead, Total Recoverable	0.0038	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Lead, Total Recoverable	0.0016	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Lead, Total Recoverable	0.0009	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Lead, Total Recoverable	0.0009	0.0005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Lead, Total Recoverable	0.0033	0.0005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Lead, Total Recoverable	0.0012	0.0005	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Lead, Total Recoverable	0.0006	0.0005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Lead, Total Recoverable	0.0035	0.0005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Lead, Total Recoverable	0.0014	0.0005	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Lead, Total Recoverable	0.0009	0.0005	mg/L	E200.8

CFR-07D	Natural Sample	H13030312-007	3/20/2013	Lead, Total Recoverable	0.0018	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Lead, Total Recoverable	0.0056	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Lead, Total Recoverable	0.0024	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Lead, Total Recoverable	0.0009	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Lead, Total Recoverable	0.0014	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Lead, Total Recoverable	0.0018	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Lead, Total Recoverable	0.0023	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Lead, Total Recoverable	0.0021	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Lead, Total Recoverable	0.0007	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Lead, Total Recoverable	0.0007	0.0005	mg/L	E200.8
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Lead, Total Recoverable	0.0007	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Lead, Total Recoverable	0.0024	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Lead, Total Recoverable	0.006	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Lead, Total Recoverable	0.0024	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Lead, Total Recoverable	0.0011	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Lead, Total Recoverable	0.0009	0.0005	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Lead, Total Recoverable	0.004	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Lead, Total Recoverable	0.0037	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Lead, Total Recoverable	0.0056	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Lead, Total Recoverable	0.0034	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Lead, Total Recoverable	0.0021	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Lead, Total Recoverable	0.0016	0.0005	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Lead, Total Recoverable	0.0055	0.0005	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Lead, Total Recoverable	0.0024	0.0005	mg/L	E200.8
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Lead, Total Recoverable	0.0025	0.0005	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Lead, Total Recoverable	0.0026	0.0005	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
CSC	Natural Sample	H13060239-002	6/11/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Lead, Total Recoverable	0.0129	0.0005	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Lead, Total Recoverable	0.0015	0.0005	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Lead, Total Recoverable	0.0014	0.0005	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Lead, Total Recoverable	0.0016	0.0005	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Lead, Total Recoverable	0.0015	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Lead, Total Recoverable	0.002	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Lead, Total Recoverable	0.002	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Lead, Total Recoverable	0.0018	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Lead, Total Recoverable	0.0014	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Lead, Total Recoverable	0.0011	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Lead, Total Recoverable	0.0012	0.0005	mg/L	E200.8

MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Lead, Total Recoverable	0.0011	0.0005	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Lead, Total Recoverable	0.0016	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Lead, Total Recoverable	0.0018	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Lead, Total Recoverable	0.0011	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Lead, Total Recoverable	0.0007	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Lead, Total Recoverable	0.001	0.0005	mg/L	E200.8
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Lead, Total Recoverable	0.0022	0.0005	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Lead, Total Recoverable	0.0007	0.0005	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Lead, Total Recoverable	0.0008	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13030312-010	3/20/2013	Lead, Total Recoverable	0.0022	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Lead, Total Recoverable	0.0016	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13050302-017	5/16/2013	Lead, Total Recoverable	0.0016	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Lead, Total Recoverable	0.001	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Lead, Total Recoverable	0.001	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Lead, Total Recoverable	0.0007	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Lead, Total Recoverable	0.0007	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Lead, Total Recoverable	0.0005	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13090377-012	9/18/2013	Lead, Total Recoverable	0.0006	0.0005	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Lead, Total Recoverable	0.0009	0.0005	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Lead, Total Recoverable	0.0009	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Lead, Total Recoverable	0.002	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Lead, Total Recoverable	0.0009	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Lead, Total Recoverable	0.0006	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Lead, Total Recoverable	0.0005	0.0005	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Lead, Total Recoverable	ND	0.0005	mg/L	E200.8
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Magnesium, Total Recoverable	13	1	mg/L	E200.7
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Magnesium, Total Recoverable	8	1	mg/L	E200.7
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Magnesium, Total Recoverable	8	1	mg/L	E200.7
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Magnesium, Total Recoverable	10	1	mg/L	E200.7
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Magnesium, Total Recoverable	15	1	mg/L	E200.7
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Magnesium, Total Recoverable	16	1	mg/L	E200.7
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Magnesium, Total Recoverable	10	1	mg/L	E200.7
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Magnesium, Total Recoverable	17	1	mg/L	E200.7
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Magnesium, Total Recoverable	19	1	mg/L	E200.7

CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Magnesium, Total Recoverable	7	1	mg/L	E200.7
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Magnesium, Total Recoverable	7	1	mg/L	E200.7
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Magnesium, Total Recoverable	9	1	mg/L	E200.7
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Magnesium, Total Recoverable	15	1	mg/L	E200.7
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Magnesium, Total Recoverable	10	1	mg/L	E200.7
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Magnesium, Total Recoverable	9	1	mg/L	E200.7
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Magnesium, Total Recoverable	11	1	mg/L	E200.7
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Magnesium, Total Recoverable	16	1	mg/L	E200.7
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Magnesium, Total Recoverable	17	1	mg/L	E200.7
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Magnesium, Total Recoverable	11	1	mg/L	E200.7
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Magnesium, Total Recoverable	5	1	mg/L	E200.7
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Magnesium, Total Recoverable	8	1	mg/L	E200.7
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Magnesium, Total Recoverable	9	1	mg/L	E200.7
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Magnesium, Total Recoverable	13	1	mg/L	E200.7
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Magnesium, Total Recoverable	15	1	mg/L	E200.7
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Magnesium, Total Recoverable	15	1	mg/L	E200.7
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Magnesium, Total Recoverable	10	1	mg/L	E200.7
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Magnesium, Total Recoverable	10	1	mg/L	E200.7
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Magnesium, Total Recoverable	12	1	mg/L	E200.7
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Magnesium, Total Recoverable	16	1	mg/L	E200.7
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Magnesium, Total Recoverable	18	1	mg/L	E200.7
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Magnesium, Total Recoverable	14	1	mg/L	E200.7
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Magnesium, Total Recoverable	14	1	mg/L	E200.7
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Magnesium, Total Recoverable	11	1	mg/L	E200.7
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Magnesium, Total Recoverable	10	1	mg/L	E200.7
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Magnesium, Total Recoverable	13	1	mg/L	E200.7
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Magnesium, Total Recoverable	15	1	mg/L	E200.7
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Magnesium, Total Recoverable	16	1	mg/L	E200.7
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Magnesium, Total Recoverable	14	1	mg/L	E200.7
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Magnesium, Total Recoverable	12	1	mg/L	E200.7
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Magnesium, Total Recoverable	14	1	mg/L	E200.7
CSC	Natural Sample	H13050302-002	5/14/2013	Magnesium, Total Recoverable	11	1	mg/L	E200.7
CSC	Natural Sample	H13060239-002	6/11/2013	Magnesium, Total Recoverable	9	1	mg/L	E200.7
CSC	Natural Sample	H13060510-002	6/25/2013	Magnesium, Total Recoverable	10	1	mg/L	E200.7
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Magnesium, Total Recoverable	7	1	mg/L	E200.7
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Magnesium, Total Recoverable	13	1	mg/L	E200.7
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Magnesium, Total Recoverable	13	1	mg/L	E200.7
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Magnesium, Total Recoverable	15	1	mg/L	E200.7
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Magnesium, Total Recoverable	15	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Magnesium, Total Recoverable	8	1	mg/L	E200.7
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Magnesium, Total Recoverable	6	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Magnesium, Total Recoverable	6	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Magnesium, Total Recoverable	6	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Magnesium, Total Recoverable	8	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Magnesium, Total Recoverable	12	1	mg/L	E200.7
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Magnesium, Total Recoverable	9	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Magnesium, Total Recoverable	8	1	mg/L	E200.7

MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Magnesium, Total Recoverable	4	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Magnesium, Total Recoverable	3	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Magnesium, Total Recoverable	6	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Magnesium, Total Recoverable	9	1	mg/L	E200.7
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Magnesium, Total Recoverable	8	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Magnesium, Total Recoverable	15	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Magnesium, Total Recoverable	7	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Magnesium, Total Recoverable	6	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Magnesium, Total Recoverable	10	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Magnesium, Total Recoverable	19	1	mg/L	E200.7
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Magnesium, Total Recoverable	16	1	mg/L	E200.7
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Magnesium, Total Recoverable	15	1	mg/L	E200.7
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Magnesium, Total Recoverable	13	1	mg/L	E200.7
SS-25	Natural Sample	H13030312-010	3/20/2013	Magnesium, Total Recoverable	14	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Magnesium, Total Recoverable	10	1	mg/L	E200.7
SS-25	Natural Sample	H13050302-017	5/16/2013	Magnesium, Total Recoverable	9	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Magnesium, Total Recoverable	8	1	mg/L	E200.7
SS-25	Natural Sample	H13060239-017	6/13/2013	Magnesium, Total Recoverable	8	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Magnesium, Total Recoverable	11	1	mg/L	E200.7
SS-25	Natural Sample	H13060510-017	6/27/2013	Magnesium, Total Recoverable	11	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Magnesium, Total Recoverable	17	1	mg/L	E200.7
SS-25	Natural Sample	H13090377-012	9/18/2013	Magnesium, Total Recoverable	17	1	mg/L	E200.7
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Magnesium, Total Recoverable	17	1	mg/L	E200.7
SS-25	Natural Sample	H13110520-012	11/26/2013	Magnesium, Total Recoverable	17	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Magnesium, Total Recoverable	11	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Magnesium, Total Recoverable	7	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Magnesium, Total Recoverable	6	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Magnesium, Total Recoverable	6	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Magnesium, Total Recoverable	11	1	mg/L	E200.7
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Magnesium, Total Recoverable	12	1	mg/L	E200.7
	Field Blank 2	H13030312-005	3/19/2013	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 1	H13050302-006	5/15/2013	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13050302-016	5/16/2013	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 1	H13060239-004	6/11/2013	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13060239-016	6/13/2013	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 1	H13060510-004	6/25/2013	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13060510-016	6/27/2013	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13090377-014	9/18/2013	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
	Field Blank 2	H13110520-014	11/26/2013	Magnesium, Total Recoverable	ND	1	mg/L	E200.7
CFR-84F	Natural Sample	H13030312-015B	3/19/2013	Mercury, Methyl	0.291	0.05	ng/L	E1630
CFR-84F	Natural Sample	H13050302-004	5/14/2013	Mercury, Methyl	0.420	0.05	ng/L	E1630
CFR-84F	Natural Sample	H13060239-003	6/11/2013	Mercury, Methyl	0.623	0.05	ng/L	E1630
CFR-84F	Natural Sample	H13060510-003	6/25/2013	Mercury, Methyl	0.327	0.05	ng/L	E1630
CFR-84F	Natural Sample	H13090377-002	9/17/2013	Mercury, Methyl	0.700	0.05	ng/L	E1630
CFR-84F	Natural Sample	H13110520-002	11/25/2013	Mercury, Methyl	0.239	0.05	ng/L	E1630

FC-CFR	Duplicate Sample #1	H13030312-017B	3/19/2013	Mercury, Methyl	0.831	0.05	ng/L	E1630
FC-CFR	Natural Sample	H13030312-016B	3/19/2013	Mercury, Methyl	0.884	0.05	ng/L	E1630
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Mercury, Methyl	2.55	0.05	ng/L	E1630
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Mercury, Methyl	1.16	0.05	ng/L	E1630
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Mercury, Methyl	1.02	0.05	ng/L	E1630
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Mercury, Methyl	1.33	0.05	ng/L	E1630
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Mercury, Methyl	1.26	0.05	ng/L	E1630
FC-CFR	Duplicate Sample #1	H13090377-004	9/17/2013	Mercury, Methyl	0.810	0.05	ng/L	E1630
FC-CFR	Natural Sample	H13090377-003	9/17/2013	Mercury, Methyl	0.791	0.05	ng/L	E1630
FC-CFR	Duplicate Sample #1	H13110520-004	11/25/2013	Mercury, Methyl	1.07	0.05	ng/L	E1630
FC-CFR	Natural Sample	H13110520-003	11/25/2013	Mercury, Methyl	1.05	0.05	ng/L	E1630
	Field Blank 1	H13030312-018B	3/19/2013	Mercury, Methyl	0.02	0.05	ng/L	E1630
	Field Blank 1	H13050302-006	5/15/2013	Mercury, Methyl	0.020	0.05	ng/L	E1630
	Field Blank 1	H13060239-004	6/11/2013	Mercury, Methyl	0.023	0.05	ng/L	E1630
	Field Blank 1	H13060510-004	6/25/2013	Mercury, Methyl	0.020	0.05	ng/L	E1630
	Field Blank 1	H13090377-005	9/17/2013	Mercury, Methyl	0.020	0.05	ng/L	E1630
	Field Blank 1	H13110520-005	11/25/2013	Mercury, Methyl	0.020	0.05	ng/L	E1630
CFR-84F	Natural Sample	H13030312-015	3/19/2013	Mercury, Total	0.000043	0.00001	mg/L	E245.1
CFR-84F	Natural Sample	H13050302-004	5/14/2013	Mercury, Total	0.000012	0.00001	mg/L	E245.1
CFR-84F	Natural Sample	H13060239-003	6/11/2013	Mercury, Total	0.000011	0.00001	mg/L	E245.1
CFR-84F	Natural Sample	H13060510-003	6/25/2013	Mercury, Total	ND	0.00001	mg/L	E245.1
CFR-84F	Natural Sample	H13090377-002	9/17/2013	Mercury, Total	0.00002	0.00001	mg/L	E245.1
CFR-84F	Natural Sample	H13110520-002	11/25/2013	Mercury, Total	0.000011	0.00001	mg/L	E245.1
FC-CFR	Duplicate Sample #1	H13030312-017	3/19/2013	Mercury, Total	0.00020	0.00001	mg/L	E245.1
FC-CFR	Natural Sample	H13030312-016	3/19/2013	Mercury, Total	0.00018	0.00001	mg/L	E245.1
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Mercury, Total	0.00041	0.00001	mg/L	E245.1
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Mercury, Total	0.00002	0.00001	mg/L	E245.1
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Mercury, Total	0.000018	0.00001	mg/L	E245.1
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Mercury, Total	0.000058	0.00001	mg/L	E245.1
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Mercury, Total	0.000056	0.00001	mg/L	E245.1
FC-CFR	Duplicate Sample #1	H13090377-004	9/17/2013	Mercury, Total	0.00003	0.00001	mg/L	E245.1
FC-CFR	Natural Sample	H13090377-003	9/17/2013	Mercury, Total	0.00003	0.00001	mg/L	E245.1
FC-CFR	Duplicate Sample #1	H13110520-004	11/25/2013	Mercury, Total	0.00012	0.00001	mg/L	E245.1
FC-CFR	Natural Sample	H13110520-003	11/25/2013	Mercury, Total	0.00011	0.00001	mg/L	E245.1
	Field Blank 1	H13030312-018	3/19/2013	Mercury, Total	ND	0.00001	mg/L	E245.1
	Field Blank 1	H13060239-004	6/11/2013	Mercury, Total	ND	0.00001	mg/L	E245.1
	Field Blank 1	H13060510-004	6/25/2013	Mercury, Total	ND	0.00001	mg/L	E245.1
	Field Blank 1	H13090377-005	9/17/2013	Mercury, Total	ND	0.00001	mg/L	E245.1
	Field Blank 1	H13110520-005	11/25/2013	Mercury, Total	ND	0.00001	mg/L	E245.1
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1

CFR-03A	Natural Sample	H13060239-012	6/12/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CSC	Natural Sample	H13050302-002	5/14/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CSC	Natural Sample	H13060239-002	6/11/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CSC	Natural Sample	H13060510-002	6/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1

LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Nitrogen, Ammonia as N, mg/L	0.15	0.05	mg/L	E350.1
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Natural Sample	H13030312-010	3/20/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Natural Sample	H13050302-017	5/16/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Natural Sample	H13060239-017	6/13/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Natural Sample	H13060510-017	6/27/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Natural Sample	H13090377-012	9/18/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
SS-25	Natural Sample	H13110520-012	11/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
	Field Blank 2	H13030312-005	3/19/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
	Field Blank 1	H13050302-006	5/15/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
	Field Blank 2	H13050302-016	5/16/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
	Field Blank 1	H13060239-004	6/11/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
	Field Blank 2	H13060239-016	6/13/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
	Field Blank 1	H13060510-004	6/25/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
	Field Blank 2	H13060510-016	6/27/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
	Field Blank 2	H13090377-014	9/18/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1

	Field Blank 2	H13110520-014	11/26/2013	Nitrogen, Ammonia as N, mg/L	ND	0.05	mg/L	E350.1
CFR-03A	Natural Sample	H13030312-008	3/20/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A	Natural Sample	H13050302-012	5/15/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A	Natural Sample	H13060239-012	6/12/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A	Natural Sample	H13060510-012	6/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A	Natural Sample	H13090377-010	9/18/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A	Natural Sample	H13110520-010	11/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-07D	Natural Sample	H13030312-007	3/20/2013	NO3+NO2 as N, mg/L	0.17	0.05	mg/L	E353.2
CFR-07D	Natural Sample	H13050302-011	5/15/2013	NO3+NO2 as N, mg/L	0.06	0.05	mg/L	E353.2
CFR-07D	Natural Sample	H13060239-011	6/12/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-07D	Natural Sample	H13060510-011	6/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-07D	Natural Sample	H13090377-009	9/18/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-07D	Natural Sample	H13110520-009	11/25/2013	NO3+NO2 as N, mg/L	0.19	0.05	mg/L	E353.2
CFR-116A	Natural Sample	H13030312-001	3/19/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-116A	Natural Sample	H13050302-001	5/14/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-116A	Natural Sample	H13060239-001	6/11/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-116A	Natural Sample	H13060510-001	6/25/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-116A	Natural Sample	H13090377-001	9/17/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-116A	Natural Sample	H13110520-001	11/25/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-11F	Natural Sample	H13030312-006	3/20/2013	NO3+NO2 as N, mg/L	0.18	0.05	mg/L	E353.2
CFR-11F	Natural Sample	H13050302-010	5/15/2013	NO3+NO2 as N, mg/L	0.05	0.05	mg/L	E353.2
CFR-11F	Natural Sample	H13060239-010	6/12/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-11F	Natural Sample	H13060510-010	6/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-11F	Natural Sample	H13090377-008	9/18/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-11F	Natural Sample	H13110520-008	11/25/2013	NO3+NO2 as N, mg/L	0.14	0.05	mg/L	E353.2
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	NO3+NO2 as N, mg/L	0.22	0.05	mg/L	E353.2
CFR-27H	Natural Sample	H13030312-003	3/19/2013	NO3+NO2 as N, mg/L	0.22	0.05	mg/L	E353.2
CFR-27H	Natural Sample	H13050302-009	5/15/2013	NO3+NO2 as N, mg/L	0.06	0.05	mg/L	E353.2
CFR-27H	Natural Sample	H13060239-009	6/12/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-27H	Natural Sample	H13060510-009	6/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-27H	Natural Sample	H13090377-007	9/17/2013	NO3+NO2 as N, mg/L	0.12	0.05	mg/L	E353.2
CFR-27H	Natural Sample	H13110520-007	11/25/2013	NO3+NO2 as N, mg/L	0.34	0.05	mg/L	E353.2
CFR-42G	Natural Sample	H13050302-005	5/14/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-42G	Natural Sample	H13060239-007	6/11/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-42G	Natural Sample	H13060510-007	6/25/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CSC	Natural Sample	H13050302-002	5/14/2013	NO3+NO2 as N, mg/L	0.28	0.05	mg/L	E353.2
CSC	Natural Sample	H13060239-002	6/11/2013	NO3+NO2 as N, mg/L	0.23	0.05	mg/L	E353.2
CSC	Natural Sample	H13060510-002	6/25/2013	NO3+NO2 as N, mg/L	0.16	0.05	mg/L	E353.2
FC-CFR	Natural Sample	H13050302-003	5/14/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
FC-CFR	Natural Sample	H13060239-005	6/11/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
FC-CFR	Duplicate	H13060510-006	6/25/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2

	Sample #1							
FC-CFR	Natural Sample	H13060510-005	6/25/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	NO3+NO2 as N, mg/L	0.07	0.05	mg/L	E353.2
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SBC-P2	Natural Sample	H13050302-020	5/16/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SBC-P2	Natural Sample	H13060239-020	6/13/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SBC-P2	Natural Sample	H13060510-020	6/27/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Natural Sample	H13030312-010	3/20/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Natural Sample	H13050302-017	5/16/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Natural Sample	H13060239-017	6/13/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Natural Sample	H13060510-017	6/27/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Natural Sample	H13090377-012	9/18/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
SS-25	Natural Sample	H13110520-012	11/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	NO3+NO2 as N, mg/L	0.06	0.05	mg/L	E353.2
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	NO3+NO2 as N, mg/L	0.11	0.05	mg/L	E353.2
	Field Blank 2	H13030312-005	3/19/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
	Field Blank 1	H13050302-006	5/15/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
	Field Blank 2	H13050302-016	5/16/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
	Field Blank 1	H13060239-004	6/11/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
	Field Blank 2	H13060239-016	6/13/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2

	Field Blank 1	H13060510-004	6/25/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
	Field Blank 2	H13060510-016	6/27/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
	Field Blank 2	H13090377-014	9/18/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
	Field Blank 2	H13110520-014	11/26/2013	NO3+NO2 as N, mg/L	ND	0.05	mg/L	E353.2
CFR-03A	Natural Sample	H13030312-008	3/20/2013	N-Total, mg/L	0.24	0.05	mg/L	A4500 N-C
CFR-03A	Natural Sample	H13050302-012	5/15/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
CFR-03A	Natural Sample	H13060239-012	6/12/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
CFR-03A	Natural Sample	H13060510-012	6/26/2013	N-Total, mg/L	0.19	0.05	mg/L	A4500 N-C
CFR-03A	Natural Sample	H13090377-010	9/18/2013	N-Total, mg/L	0.27	0.05	mg/L	A4500 N-C
CFR-03A	Natural Sample	H13110520-010	11/26/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	N-Total, mg/L	0.35	0.05	mg/L	A4500 N-C
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	N-Total, mg/L	0.31	0.05	mg/L	A4500 N-C
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	N-Total, mg/L	0.18	0.05	mg/L	A4500 N-C
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
CFR-07D	Natural Sample	H13030312-007	3/20/2013	N-Total, mg/L	0.35	0.05	mg/L	A4500 N-C
CFR-07D	Natural Sample	H13050302-011	5/15/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
CFR-07D	Natural Sample	H13060239-011	6/12/2013	N-Total, mg/L	0.22	0.05	mg/L	A4500 N-C
CFR-07D	Natural Sample	H13060510-011	6/26/2013	N-Total, mg/L	0.17	0.05	mg/L	A4500 N-C
CFR-07D	Natural Sample	H13090377-009	9/18/2013	N-Total, mg/L	0.23	0.05	mg/L	A4500 N-C
CFR-07D	Natural Sample	H13110520-009	11/25/2013	N-Total, mg/L	0.45	0.05	mg/L	A4500 N-C
CFR-116A	Natural Sample	H13030312-001	3/19/2013	N-Total, mg/L	0.17	0.05	mg/L	A4500 N-C
CFR-116A	Natural Sample	H13050302-001	5/14/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
CFR-116A	Natural Sample	H13060239-001	6/11/2013	N-Total, mg/L	0.19	0.05	mg/L	A4500 N-C
CFR-116A	Natural Sample	H13060510-001	6/25/2013	N-Total, mg/L	0.16	0.05	mg/L	A4500 N-C
CFR-116A	Natural Sample	H13090377-001	9/17/2013	N-Total, mg/L	0.13	0.05	mg/L	A4500 N-C
CFR-116A	Natural Sample	H13110520-001	11/25/2013	N-Total, mg/L	0.24	0.05	mg/L	A4500 N-C
CFR-11F	Natural Sample	H13030312-006	3/20/2013	N-Total, mg/L	0.36	0.05	mg/L	A4500 N-C
CFR-11F	Natural Sample	H13050302-010	5/15/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
CFR-11F	Natural Sample	H13060239-010	6/12/2013	N-Total, mg/L	0.22	0.05	mg/L	A4500 N-C
CFR-11F	Natural Sample	H13060510-010	6/26/2013	N-Total, mg/L	0.23	0.05	mg/L	A4500 N-C
CFR-11F	Natural Sample	H13090377-008	9/18/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
CFR-11F	Natural Sample	H13110520-008	11/25/2013	N-Total, mg/L	0.4	0.05	mg/L	A4500 N-C
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	N-Total, mg/L	0.37	0.05	mg/L	A4500 N-C

CFR-27H	Natural Sample	H13030312-003	3/19/2013	N-Total, mg/L	0.38	0.05	mg/L	A4500 N-C
CFR-27H	Natural Sample	H13050302-009	5/15/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
CFR-27H	Natural Sample	H13060239-009	6/12/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
CFR-27H	Natural Sample	H13060510-009	6/26/2013	N-Total, mg/L	0.22	0.05	mg/L	A4500 N-C
CFR-27H	Natural Sample	H13090377-007	9/17/2013	N-Total, mg/L	0.34	0.05	mg/L	A4500 N-C
CFR-27H	Natural Sample	H13110520-007	11/25/2013	N-Total, mg/L	1.28	0.05	mg/L	A4500 N-C
CFR-42G	Natural Sample	H13050302-005	5/14/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
CFR-42G	Natural Sample	H13060239-007	6/11/2013	N-Total, mg/L	0.27	0.05	mg/L	A4500 N-C
CFR-42G	Natural Sample	H13060510-007	6/25/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
CSC	Natural Sample	H13050302-002	5/14/2013	N-Total, mg/L	0.4	0.05	mg/L	A4500 N-C
CSC	Natural Sample	H13060239-002	6/11/2013	N-Total, mg/L	0.27	0.05	mg/L	A4500 N-C
CSC	Natural Sample	H13060510-002	6/25/2013	N-Total, mg/L	0.23	0.05	mg/L	A4500 N-C
FC-CFR	Natural Sample	H13050302-003	5/14/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
FC-CFR	Natural Sample	H13060239-005	6/11/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	N-Total, mg/L	0.32	0.05	mg/L	A4500 N-C
FC-CFR	Natural Sample	H13060510-005	6/25/2013	N-Total, mg/L	0.35	0.05	mg/L	A4500 N-C
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	N-Total, mg/L	0.09	0.05	mg/L	A4500 N-C
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	N-Total, mg/L	0.16	0.05	mg/L	A4500 N-C
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	N-Total, mg/L	0.17	0.05	mg/L	A4500 N-C
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	N-Total, mg/L	0.15	0.05	mg/L	A4500 N-C
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	N-Total, mg/L	0.22	0.05	mg/L	A4500 N-C
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	N-Total, mg/L	0.19	0.05	mg/L	A4500 N-C
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	N-Total, mg/L	0.16	0.05	mg/L	A4500 N-C
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	N-Total, mg/L	0.21	0.05	mg/L	A4500 N-C
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	N-Total, mg/L	0.11	0.05	mg/L	A4500 N-C
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	N-Total, mg/L	0.25	0.05	mg/L	A4500 N-C
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	N-Total, mg/L	0.13	0.05	mg/L	A4500 N-C
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	N-Total, mg/L	0.2	0.05	mg/L	A4500 N-C
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	N-Total, mg/L	0.22	0.05	mg/L	A4500 N-C
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	N-Total, mg/L	0.21	0.05	mg/L	A4500 N-C

MWB-SBC	Natural Sample	H13090377-015	9/18/2013	N-Total, mg/L	0.17	0.05	mg/L	A4500 N-C
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	N-Total, mg/L	0.32	0.05	mg/L	A4500 N-C
SBC-P2	Natural Sample	H13050302-020	5/16/2013	N-Total, mg/L	0.8	0.05	mg/L	A4500 N-C
SBC-P2	Natural Sample	H13060239-020	6/13/2013	N-Total, mg/L	0.51	0.05	mg/L	A4500 N-C
SBC-P2	Natural Sample	H13060510-020	6/27/2013	N-Total, mg/L	0.52	0.05	mg/L	A4500 N-C
SS-25	Natural Sample	H13030312-010	3/20/2013	N-Total, mg/L	0.31	0.05	mg/L	A4500 N-C
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
SS-25	Natural Sample	H13050302-017	5/16/2013	N-Total, mg/L	0.3	0.05	mg/L	A4500 N-C
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	N-Total, mg/L	0.29	0.05	mg/L	A4500 N-C
SS-25	Natural Sample	H13060239-017	6/13/2013	N-Total, mg/L	0.31	0.05	mg/L	A4500 N-C
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	N-Total, mg/L	0.31	0.05	mg/L	A4500 N-C
SS-25	Natural Sample	H13060510-017	6/27/2013	N-Total, mg/L	0.28	0.05	mg/L	A4500 N-C
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	N-Total, mg/L	0.58	0.05	mg/L	A4500 N-C
SS-25	Natural Sample	H13090377-012	9/18/2013	N-Total, mg/L	0.57	0.05	mg/L	A4500 N-C
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	N-Total, mg/L	0.41	0.05	mg/L	A4500 N-C
SS-25	Natural Sample	H13110520-012	11/26/2013	N-Total, mg/L	0.61	0.05	mg/L	A4500 N-C
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	N-Total, mg/L	0.11	0.05	mg/L	A4500 N-C
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	N-Total, mg/L	0.1	0.05	mg/L	A4500 N-C
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	N-Total, mg/L	0.1	0.05	mg/L	A4500 N-C
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	N-Total, mg/L	0.07	0.05	mg/L	A4500 N-C
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	N-Total, mg/L	0.06	0.05	mg/L	A4500 N-C
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	N-Total, mg/L	0.31	0.05	mg/L	A4500 N-C
	Field Blank 2	H13030312-005	3/19/2013	N-Total, mg/L	ND	0.05	mg/L	A4500 N-C
	Field Blank 1	H13050302-006	5/15/2013	N-Total, mg/L	ND	0.05	mg/L	A4500 N-C
	Field Blank 2	H13050302-016	5/16/2013	N-Total, mg/L	ND	0.05	mg/L	A4500 N-C
	Field Blank 1	H13060239-004	6/11/2013	N-Total, mg/L	ND	0.05	mg/L	A4500 N-C
	Field Blank 2	H13060239-016	6/13/2013	N-Total, mg/L	ND	0.05	mg/L	A4500 N-C
	Field Blank 1	H13060510-004	6/25/2013	N-Total, mg/L	ND	0.05	mg/L	A4500 N-C
	Field Blank 2	H13060510-016	6/27/2013	N-Total, mg/L	ND	0.05	mg/L	A4500 N-C
	Field Blank 2	H13090377-014	9/18/2013	N-Total, mg/L	ND	0.05	mg/L	A4500 N-C
	Field Blank 2	H13110520-014	11/26/2013	N-Total, mg/L	ND	0.05	mg/L	A4500 N-C
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Organic Carbon, Dissolved	1.5	0.1	mg/L	A53310 C
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Organic Carbon, Dissolved	3	0.1	mg/L	A53310 C
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Organic Carbon, Dissolved	3.5	0.1	mg/L	A53310 C
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Organic Carbon, Dissolved	3.7	0.1	mg/L	A53310 C

MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Organic Carbon, Dissolved	2.3	0.1	mg/L	A53310 C
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Organic Carbon, Dissolved	1.7	0.1	mg/L	A53310 C
SS-25	Duplicate Sample #3	H13030312-013	3/20/2013	Organic Carbon, Dissolved	2.7	0.1	mg/L	A53310 C
SS-25	Natural Sample	H13030312-010	3/20/2013	Organic Carbon, Dissolved	2.7	0.1	mg/L	A53310 C
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Organic Carbon, Dissolved	3.6	0.1	mg/L	A53310 C
SS-25	Natural Sample	H13050302-017	5/16/2013	Organic Carbon, Dissolved	3.6	0.1	mg/L	A53310 C
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Organic Carbon, Dissolved	3.8	0.1	mg/L	A53310 C
SS-25	Natural Sample	H13060239-017	6/13/2013	Organic Carbon, Dissolved	3.9	0.1	mg/L	A53310 C
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Organic Carbon, Dissolved	4.7	0.1	mg/L	A53310 C
SS-25	Natural Sample	H13060510-017	6/27/2013	Organic Carbon, Dissolved	4.7	0.1	mg/L	A53310 C
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Organic Carbon, Dissolved	4.5	0.1	mg/L	A53310 C
SS-25	Natural Sample	H13090377-012	9/18/2013	Organic Carbon, Dissolved	4.7	0.1	mg/L	A53310 C
SS-25	Natural Sample	H13110520-012	11/26/2013	Organic Carbon, Dissolved	3.9	0.1	mg/L	A53310 C
	Field Blank 3	H13030312-014	3/20/2013	Organic Carbon, Dissolved	0.2	0.1	mg/L	A53310 C
	Field Blank 2	H13050302-016	5/16/2013	Organic Carbon, Dissolved	0.2	0.1	mg/L	A53310 C
	Field Blank 2	H13060239-016	6/13/2013	Organic Carbon, Dissolved	0.1	0.1	mg/L	A53310 C
	Field Blank 2	H13060510-016	6/27/2013	Organic Carbon, Dissolved	0.1	0.1	mg/L	A53310 C
	Field Blank 2	H13090377-014	9/18/2013	Organic Carbon, Dissolved	0.7	0.1	mg/L	A53310 C
	Field Blank 2	H13110520-014	11/26/2013	Organic Carbon, Dissolved	ND	0.1	mg/L	A53310 C
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Phosphorus, Total as P, mg/L	0.022	0.005	mg/L	E365.1
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Phosphorus, Total as P, mg/L	0.038	0.005	mg/L	E365.1
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Phosphorus, Total as P, mg/L	0.025	0.005	mg/L	E365.1
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Phosphorus, Total as P, mg/L	0.041	0.005	mg/L	E365.1
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Phosphorus, Total as P, mg/L	0.038	0.005	mg/L	E365.1
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Phosphorus, Total as P, mg/L	0.012	0.005	mg/L	E365.1
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Phosphorus, Total as P, mg/L	0.035	0.005	mg/L	E365.1
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Phosphorus, Total as P, mg/L	0.024	0.005	mg/L	E365.1
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Phosphorus, Total as P, mg/L	0.029	0.005	mg/L	E365.1
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Phosphorus, Total as P, mg/L	0.037	0.005	mg/L	E365.1
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Phosphorus, Total as P, mg/L	0.024	0.005	mg/L	E365.1
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Phosphorus, Total as P, mg/L	0.043	0.005	mg/L	E365.1
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Phosphorus, Total as P, mg/L	0.02	0.005	mg/L	E365.1
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Phosphorus, Total as P, mg/L	0.04	0.005	mg/L	E365.1
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Phosphorus, Total as P, mg/L	0.023	0.005	mg/L	E365.1
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Phosphorus, Total as P, mg/L	0.038	0.005	mg/L	E365.1
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Phosphorus, Total as P, mg/L	0.023	0.005	mg/L	E365.1
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Phosphorus, Total as P, mg/L	0.014	0.005	mg/L	E365.1
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Phosphorus, Total as P, mg/L	0.023	0.005	mg/L	E365.1
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Phosphorus, Total as P, mg/L	0.046	0.005	mg/L	E365.1
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Phosphorus, Total as P, mg/L	0.031	0.005	mg/L	E365.1
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Phosphorus, Total as P, mg/L	0.013	0.005	mg/L	E365.1
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Phosphorus, Total as P, mg/L	0.008	0.005	mg/L	E365.1
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Phosphorus, Total as P, mg/L	0.01	0.005	mg/L	E365.1
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Phosphorus, Total as P, mg/L	0.023	0.005	mg/L	E365.1
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Phosphorus, Total as P, mg/L	0.042	0.005	mg/L	E365.1
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Phosphorus, Total as P, mg/L	0.025	0.005	mg/L	E365.1

CFR-11F	Natural Sample	H13060510-010	6/26/2013	Phosphorus, Total as P, mg/L	0.047	0.005	mg/L	E365.1
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Phosphorus, Total as P, mg/L	0.018	0.005	mg/L	E365.1
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Phosphorus, Total as P, mg/L	0.011	0.005	mg/L	E365.1
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Phosphorus, Total as P, mg/L	0.024	0.005	mg/L	E365.1
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Phosphorus, Total as P, mg/L	0.029	0.005	mg/L	E365.1
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Phosphorus, Total as P, mg/L	0.033	0.005	mg/L	E365.1
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Phosphorus, Total as P, mg/L	0.023	0.005	mg/L	E365.1
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Phosphorus, Total as P, mg/L	0.02	0.005	mg/L	E365.1
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Phosphorus, Total as P, mg/L	0.013	0.005	mg/L	E365.1
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Phosphorus, Total as P, mg/L	0.027	0.005	mg/L	E365.1
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Phosphorus, Total as P, mg/L	0.048	0.005	mg/L	E365.1
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Phosphorus, Total as P, mg/L	0.04	0.005	mg/L	E365.1
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Phosphorus, Total as P, mg/L	0.053	0.005	mg/L	E365.1
CSC	Natural Sample	H13050302-002	5/14/2013	Phosphorus, Total as P, mg/L	0.091	0.005	mg/L	E365.1
CSC	Natural Sample	H13060239-002	6/11/2013	Phosphorus, Total as P, mg/L	0.011	0.005	mg/L	E365.1
CSC	Natural Sample	H13060510-002	6/25/2013	Phosphorus, Total as P, mg/L	0.008	0.005	mg/L	E365.1
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Phosphorus, Total as P, mg/L	0.057	0.005	mg/L	E365.1
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Phosphorus, Total as P, mg/L	0.06	0.005	mg/L	E365.1
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Phosphorus, Total as P, mg/L	0.059	0.005	mg/L	E365.1
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Phosphorus, Total as P, mg/L	0.058	0.005	mg/L	E365.1
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Phosphorus, Total as P, mg/L	0.058	0.005	mg/L	E365.1
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Phosphorus, Total as P, mg/L	0.021	0.005	mg/L	E365.1
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Phosphorus, Total as P, mg/L	0.061	0.005	mg/L	E365.1
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Phosphorus, Total as P, mg/L	0.06	0.005	mg/L	E365.1
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Phosphorus, Total as P, mg/L	0.032	0.005	mg/L	E365.1
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Phosphorus, Total as P, mg/L	0.028	0.005	mg/L	E365.1
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Phosphorus, Total as P, mg/L	0.027	0.005	mg/L	E365.1
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Phosphorus, Total as P, mg/L	0.013	0.005	mg/L	E365.1
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Phosphorus, Total as P, mg/L	0.02	0.005	mg/L	E365.1
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Phosphorus, Total as P, mg/L	0.023	0.005	mg/L	E365.1
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Phosphorus, Total as P, mg/L	0.026	0.005	mg/L	E365.1
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Phosphorus, Total as P, mg/L	0.028	0.005	mg/L	E365.1
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Phosphorus, Total as P, mg/L	0.017	0.005	mg/L	E365.1
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Phosphorus, Total as P, mg/L	0.009	0.005	mg/L	E365.1
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Phosphorus, Total as P, mg/L	0.011	0.005	mg/L	E365.1
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Phosphorus, Total as P, mg/L	0.024	0.005	mg/L	E365.1
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Phosphorus, Total as P, mg/L	0.026	0.005	mg/L	E365.1
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Phosphorus, Total as P, mg/L	0.026	0.005	mg/L	E365.1
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Phosphorus, Total as P, mg/L	0.014	0.005	mg/L	E365.1
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Phosphorus, Total as P, mg/L	0.009	0.005	mg/L	E365.1
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Phosphorus, Total as P, mg/L	0.095	0.005	mg/L	E365.1
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Phosphorus, Total as P, mg/L	0.057	0.005	mg/L	E365.1
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Phosphorus, Total as P, mg/L	0.196	0.005	mg/L	E365.1
SS-25	Natural Sample	H13030312-010	3/20/2013	Phosphorus, Total as P, mg/L	0.034	0.005	mg/L	E365.1
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Phosphorus, Total as P, mg/L	0.041	0.005	mg/L	E365.1
SS-25	Natural Sample	H13050302-017	5/16/2013	Phosphorus, Total as P, mg/L	0.039	0.005	mg/L	E365.1

SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Phosphorus, Total as P, mg/L	0.033	0.005	mg/L	E365.1
SS-25	Natural Sample	H13060239-017	6/13/2013	Phosphorus, Total as P, mg/L	0.031	0.005	mg/L	E365.1
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Phosphorus, Total as P, mg/L	0.083	0.005	mg/L	E365.1
SS-25	Natural Sample	H13060510-017	6/27/2013	Phosphorus, Total as P, mg/L	0.086	0.005	mg/L	E365.1
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Phosphorus, Total as P, mg/L	0.095	0.005	mg/L	E365.1
SS-25	Natural Sample	H13090377-012	9/18/2013	Phosphorus, Total as P, mg/L	0.096	0.005	mg/L	E365.1
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Phosphorus, Total as P, mg/L	0.019	0.005	mg/L	E365.1
SS-25	Natural Sample	H13110520-012	11/26/2013	Phosphorus, Total as P, mg/L	0.019	0.005	mg/L	E365.1
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Phosphorus, Total as P, mg/L	0.006	0.005	mg/L	E365.1
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Phosphorus, Total as P, mg/L	0.016	0.005	mg/L	E365.1
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Phosphorus, Total as P, mg/L	0.008	0.005	mg/L	E365.1
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Phosphorus, Total as P, mg/L	0.006	0.005	mg/L	E365.1
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Phosphorus, Total as P, mg/L	0.005	0.005	mg/L	E365.1
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
	Field Blank 2	H13030312-005	3/19/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
	Field Blank 1	H13050302-006	5/15/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
	Field Blank 2	H13050302-016	5/16/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
	Field Blank 1	H13060239-004	6/11/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
	Field Blank 2	H13060239-016	6/13/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
	Field Blank 1	H13060510-004	6/25/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
	Field Blank 2	H13060510-016	6/27/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
	Field Blank 2	H13090377-014	9/18/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
	Field Blank 2	H13110520-014	11/26/2013	Phosphorus, Total as P, mg/L	ND	0.005	mg/L	E365.1
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Solids, Total Suspended TSS @ 105 C	22	1	mg/L	A2540 D
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Solids, Total Suspended TSS @ 105 C	9	1	mg/L	A2540 D
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Solids, Total Suspended TSS @ 105 C	3	1	mg/L	A2540 D
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Solids, Total Suspended TSS @ 105 C	18	1	mg/L	A2540 D
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Solids, Total Suspended TSS @ 105 C	22	1	mg/L	A2540 D
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Solids, Total Suspended TSS @ 105 C	21	1	mg/L	A2540 D
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Solids, Total Suspended TSS @ 105 C	28	1	mg/L	A2540 D
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Solids, Total Suspended TSS @ 105 C	13	1	mg/L	A2540 D
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Solids, Total Suspended TSS @	ND	1	mg/L	A2540 D

				105 C				
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Solids, Total Suspended TSS @ 105 C	15	1	mg/L	A2540 D
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Solids, Total Suspended TSS @ 105 C	44	1	mg/L	A2540 D
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Solids, Total Suspended TSS @ 105 C	19	1	mg/L	A2540 D
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Solids, Total Suspended TSS @ 105 C	14	1	mg/L	A2540 D
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Solids, Total Suspended TSS @ 105 C	12	1	mg/L	A2540 D
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Solids, Total Suspended TSS @ 105 C	27	1	mg/L	A2540 D
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Solids, Total Suspended TSS @ 105 C	10	1	mg/L	A2540 D
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Solids, Total Suspended TSS @ 105 C	2	1	mg/L	A2540 D
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Solids, Total Suspended TSS @ 105 C	18	1	mg/L	A2540 D
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Solids, Total Suspended TSS @ 105 C	19	1	mg/L	A2540 D
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Solids, Total Suspended TSS @ 105 C	26	1	mg/L	A2540 D
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Solids, Total Suspended TSS @ 105 C	23	1	mg/L	A2540 D
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Solids, Total Suspended TSS @ 105 C	14	1	mg/L	A2540 D
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Solids, Total Suspended TSS @ 105 C	13	1	mg/L	A2540 D
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Solids, Total Suspended TSS @ 105 C	43	1	mg/L	A2540 D
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Solids, Total Suspended TSS @ 105 C	16	1	mg/L	A2540 D
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Solids, Total Suspended TSS @ 105 C	24	1	mg/L	A2540 D
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Solids, Total Suspended TSS @ 105 C	18	1	mg/L	A2540 D
CSC	Natural Sample	H13050302-002	5/14/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
CSC	Natural Sample	H13060239-002	6/11/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
CSC	Natural Sample	H13060510-002	6/25/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Solids, Total Suspended TSS @ 105 C	47	1	mg/L	A2540 D
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Solids, Total Suspended TSS @ 105 C	4	1	mg/L	A2540 D
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Solids, Total Suspended TSS @ 105 C	4	1	mg/L	A2540 D
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Solids, Total Suspended TSS @ 105 C	12	1	mg/L	A2540 D
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Solids, Total Suspended TSS @ 105 C	4	1	mg/L	A2540 D
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Solids, Total Suspended TSS @ 105 C	36	1	mg/L	A2540 D

LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Solids, Total Suspended TSS @ 105 C	34	1	mg/L	A2540 D
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Solids, Total Suspended TSS @ 105 C	4	1	mg/L	A2540 D
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Solids, Total Suspended TSS @ 105 C	4	1	mg/L	A2540 D
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Solids, Total Suspended TSS @ 105 C	7	1	mg/L	A2540 D
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Solids, Total Suspended TSS @ 105 C	4	1	mg/L	A2540 D
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Solids, Total Suspended TSS @ 105 C	2	1	mg/L	A2540 D
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Solids, Total Suspended TSS @ 105 C	9	1	mg/L	A2540 D
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Solids, Total Suspended TSS @ 105 C	2	1	mg/L	A2540 D
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Solids, Total Suspended TSS @ 105 C	4	1	mg/L	A2540 D
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Solids, Total Suspended TSS @ 105 C	3	1	mg/L	A2540 D
SS-25	Natural Sample	H13030312-010	3/20/2013	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-25	Natural Sample	H13050302-017	5/16/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Solids, Total Suspended TSS @ 105 C	9	1	mg/L	A2540 D
SS-25	Natural Sample	H13060239-017	6/13/2013	Solids, Total Suspended TSS @ 105 C	10	1	mg/L	A2540 D
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
SS-25	Natural Sample	H13060510-017	6/27/2013	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
SS-25	Natural Sample	H13090377-012	9/18/2013	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Solids, Total Suspended TSS @ 105 C	8	1	mg/L	A2540 D
SS-25	Natural Sample	H13110520-012	11/26/2013	Solids, Total Suspended TSS @ 105 C	6	1	mg/L	A2540 D
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Solids, Total Suspended TSS @ 105 C	2	1	mg/L	A2540 D
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Solids, Total Suspended TSS @ 105 C	14	1	mg/L	A2540 D
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Solids, Total Suspended TSS @ 105 C	14	1	mg/L	A2540 D

WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Solids, Total Suspended TSS @ 105 C	4	1	mg/L	A2540 D
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Solids, Total Suspended TSS @ 105 C	3	1	mg/L	A2540 D
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Solids, Total Suspended TSS @ 105 C	2	1	mg/L	A2540 D
	Field Blank 2	H13030312-005	3/19/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
	Field Blank 1	H13050302-006	5/15/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
	Field Blank 2	H13050302-016	5/16/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
	Field Blank 1	H13060239-004	6/11/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
	Field Blank 2	H13060239-016	6/13/2013	Solids, Total Suspended TSS @ 105 C	5	1	mg/L	A2540 D
	Field Blank 1	H13060510-004	6/25/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
	Field Blank 2	H13060510-016	6/27/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
	Field Blank 2	H13090377-014	9/18/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
	Field Blank 2	H13110520-014	11/26/2013	Solids, Total Suspended TSS @ 105 C	ND	1	mg/L	A2540 D
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Sulfate	98	1	mg/L	E300.0
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Sulfate	48	1	mg/L	E300.0
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Sulfate	58	1	mg/L	E300.0
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Sulfate	65	1	mg/L	E300.0
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Sulfate	100	1	mg/L	E300.0
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Sulfate	110	1	mg/L	E300.0
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Sulfate	72	1	mg/L	E300.0
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Sulfate	160	1	mg/L	E300.0
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Sulfate	150	1	mg/L	E300.0
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Sulfate	47	1	mg/L	E300.0
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Sulfate	47	1	mg/L	E300.0
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Sulfate	55	1	mg/L	E300.0
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Sulfate	110	1	mg/L	E300.0
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Sulfate	61	1	mg/L	E300.0
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Sulfate	65	1	mg/L	E300.0
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Sulfate	72	1	mg/L	E300.0
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Sulfate	110	1	mg/L	E300.0
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Sulfate	130	1	mg/L	E300.0
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Sulfate	51	1	mg/L	E300.0
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Sulfate	16	1	mg/L	E300.0
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Sulfate	30	1	mg/L	E300.0
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Sulfate	32	1	mg/L	E300.0
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Sulfate	61	1	mg/L	E300.0
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Sulfate	70	1	mg/L	E300.0
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Sulfate	110	1	mg/L	E300.0
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Sulfate	64	1	mg/L	E300.0
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Sulfate	73	1	mg/L	E300.0
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Sulfate	76	1	mg/L	E300.0
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Sulfate	110	1	mg/L	E300.0
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Sulfate	120	1	mg/L	E300.0
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Sulfate	88	1	mg/L	E300.0

CFR-27H	Natural Sample	H13030312-003	3/19/2013	Sulfate	88	1	mg/L	E300.0
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Sulfate	62	1	mg/L	E300.0
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Sulfate	72	1	mg/L	E300.0
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Sulfate	71	1	mg/L	E300.0
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Sulfate	87	1	mg/L	E300.0
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Sulfate	110	1	mg/L	E300.0
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Sulfate	81	1	mg/L	E300.0
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Sulfate	71	1	mg/L	E300.0
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Sulfate	62	1	mg/L	E300.0
CSC	Natural Sample	H13050302-002	5/14/2013	Sulfate	40	1	mg/L	E300.0
CSC	Natural Sample	H13060239-002	6/11/2013	Sulfate	39	1	mg/L	E300.0
CSC	Natural Sample	H13060510-002	6/25/2013	Sulfate	36	1	mg/L	E300.0
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Sulfate	11	1	mg/L	E300.0
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Sulfate	21	1	mg/L	E300.0
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Sulfate	21	1	mg/L	E300.0
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Sulfate	17	1	mg/L	E300.0
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Sulfate	17	1	mg/L	E300.0
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Sulfate	17	1	mg/L	E300.0
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Sulfate	14	1	mg/L	E300.0
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Sulfate	14	1	mg/L	E300.0
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Sulfate	12	1	mg/L	E300.0
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Sulfate	13	1	mg/L	E300.0
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Sulfate	17	1	mg/L	E300.0
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Sulfate	17	1	mg/L	E300.0
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Sulfate	34	1	mg/L	E300.0
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Sulfate	13	1	mg/L	E300.0
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Sulfate	10	1	mg/L	E300.0
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Sulfate	14	1	mg/L	E300.0
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Sulfate	32	1	mg/L	E300.0
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Sulfate	30	1	mg/L	E300.0
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Sulfate	150	1	mg/L	E300.0
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Sulfate	58	1	mg/L	E300.0
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Sulfate	44	1	mg/L	E300.0
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Sulfate	63	1	mg/L	E300.0
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Sulfate	180	1	mg/L	E300.0
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Sulfate	150	1	mg/L	E300.0
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Sulfate	130	1	mg/L	E300.0
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Sulfate	110	1	mg/L	E300.0
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Sulfate	93	1	mg/L	E300.0
SS-25	Natural Sample	H13030312-010	3/20/2013	Sulfate	120	1	mg/L	E300.0
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Sulfate	75	1	mg/L	E300.0
SS-25	Natural Sample	H13050302-017	5/16/2013	Sulfate	75	1	mg/L	E300.0
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Sulfate	59	1	mg/L	E300.0
SS-25	Natural Sample	H13060239-017	6/13/2013	Sulfate	56	1	mg/L	E300.0
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Sulfate	74	1	mg/L	E300.0
SS-25	Natural Sample	H13060510-017	6/27/2013	Sulfate	74	1	mg/L	E300.0

SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Sulfate	140	1	mg/L	E300.0
SS-25	Natural Sample	H13090377-012	9/18/2013	Sulfate	140	1	mg/L	E300.0
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Sulfate	140	1	mg/L	E300.0
SS-25	Natural Sample	H13110520-012	11/26/2013	Sulfate	140	1	mg/L	E300.0
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Sulfate	51	1	mg/L	E300.0
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Sulfate	27	1	mg/L	E300.0
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Sulfate	30	1	mg/L	E300.0
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Sulfate	28	1	mg/L	E300.0
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Sulfate	54	1	mg/L	E300.0
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Sulfate	59	1	mg/L	E300.0
	Field Blank 2	H13030312-005	3/19/2013	Sulfate	ND	1	mg/L	E300.0
	Field Blank 1	H13050302-006	5/15/2013	Sulfate	ND	1	mg/L	E300.0
	Field Blank 2	H13050302-016	5/16/2013	Sulfate	ND	1	mg/L	E300.0
	Field Blank 1	H13060239-004	6/11/2013	Sulfate	ND	1	mg/L	E300.0
	Field Blank 2	H13060239-016	6/13/2013	Sulfate	ND	1	mg/L	E300.0
	Field Blank 1	H13060510-004	6/25/2013	Sulfate	ND	1	mg/L	E300.0
	Field Blank 2	H13060510-016	6/27/2013	Sulfate	ND	1	mg/L	E300.0
	Field Blank 2	H13090377-014	9/18/2013	Sulfate	ND	1	mg/L	E300.0
	Field Blank 2	H13110520-014	11/26/2013	Sulfate	ND	1	mg/L	E300.0
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13060239-010	6/12/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8

CFR-11F	Natural Sample	H13110520-008	11/25/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Zinc, Dissolved	0.03	0.01	mg/L	E200.8
CSC	Natural Sample	H13060239-002	6/11/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
SS-25	Natural Sample	H13030312-010	3/20/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
SS-25	Natural Sample	H13050302-017	5/16/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8

SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
SS-25	Natural Sample	H13090377-012	9/18/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Zinc, Dissolved	0.02	0.01	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Zinc, Dissolved	0.01	0.01	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Zinc, Dissolved	ND	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13030312-008	3/20/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13050302-012	5/15/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13060239-012	6/12/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13060510-012	6/26/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13090377-010	9/18/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-03A	Natural Sample	H13110520-010	11/26/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13050302-013	5/15/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060239-013	6/12/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CFR-03A LBG	Natural Sample	H13060510-014	6/26/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13050302-014	5/15/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060239-014	6/12/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CFR-03A RBG	Natural Sample	H13060510-013	6/26/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13030312-007	3/20/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13050302-011	5/15/2013	Zinc, Total Recoverable	0.03	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13060239-011	6/12/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13060510-011	6/26/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13090377-009	9/18/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-07D	Natural Sample	H13110520-009	11/25/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13030312-001	3/19/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13050302-001	5/14/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13060239-001	6/11/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13060510-001	6/25/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13090377-001	9/17/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-116A	Natural Sample	H13110520-001	11/25/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13030312-006	3/20/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13050302-010	5/15/2013	Zinc, Total Recoverable	0.04	0.01	mg/L	E200.8

CFR-11F	Natural Sample	H13060239-010	6/12/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13060510-010	6/26/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13090377-008	9/18/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-11F	Natural Sample	H13110520-008	11/25/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
CFR-27H	Duplicate Sample #2	H13030312-004	3/19/2013	Zinc, Total Recoverable	0.03	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13030312-003	3/19/2013	Zinc, Total Recoverable	0.03	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13050302-009	5/15/2013	Zinc, Total Recoverable	0.04	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13060239-009	6/12/2013	Zinc, Total Recoverable	0.03	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13060510-009	6/26/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13090377-007	9/17/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-27H	Natural Sample	H13110520-007	11/25/2013	Zinc, Total Recoverable	0.04	0.01	mg/L	E200.8
CFR-42G	Natural Sample	H13050302-005	5/14/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-42G	Natural Sample	H13060239-007	6/11/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CFR-42G	Natural Sample	H13060510-007	6/25/2013	Zinc, Total Recoverable	0.02	0.01	mg/L	E200.8
CSC	Natural Sample	H13050302-002	5/14/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CSC	Natural Sample	H13060239-002	6/11/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
CSC	Natural Sample	H13060510-002	6/25/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
FC-CFR	Natural Sample	H13050302-003	5/14/2013	Zinc, Total Recoverable	0.04	0.01	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060239-006	6/11/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
FC-CFR	Natural Sample	H13060239-005	6/11/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
FC-CFR	Duplicate Sample #1	H13060510-006	6/25/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
FC-CFR	Natural Sample	H13060510-005	6/25/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13030312-002	3/19/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
LBR-CFR	Duplicate Sample #1	H13050302-008	5/15/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13050302-007	5/15/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13060239-008	6/11/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13060510-008	6/25/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13090377-006	9/17/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
LBR-CFR	Natural Sample	H13110520-006	11/25/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13030312-012	3/20/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13050302-021	5/16/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060239-021	6/13/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13060510-021	6/27/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13090377-016	9/18/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MCWC-MWB	Natural Sample	H13110520-016	11/26/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13030312-011	3/20/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13050302-019	5/16/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13060239-019	6/13/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13060510-019	6/27/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13090377-015	9/18/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
MWB-SBC	Natural Sample	H13110520-015	11/26/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SBC-P2	Natural Sample	H13050302-020	5/16/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SBC-P2	Natural Sample	H13060239-020	6/13/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SBC-P2	Natural Sample	H13060510-020	6/27/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SS-25	Natural Sample	H13030312-010	3/20/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
SS-25	Duplicate Sample #2	H13050302-018	5/16/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8

SS-25	Natural Sample	H13050302-017	5/16/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060239-018	6/13/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SS-25	Natural Sample	H13060239-017	6/13/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SS-25	Duplicate Sample #2	H13060510-018	6/27/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SS-25	Natural Sample	H13060510-017	6/27/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SS-25	Duplicate Sample #2	H13090377-013	9/18/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SS-25	Natural Sample	H13090377-012	9/18/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
SS-25	Duplicate Sample #2	H13110520-013	11/26/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
SS-25	Natural Sample	H13110520-012	11/26/2013	Zinc, Total Recoverable	0.01	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13030312-009	3/20/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13050302-015	5/15/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13060239-015	6/12/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13060510-015	6/26/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13090377-011	9/18/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
WSC-SBC	Natural Sample	H13110520-011	11/26/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
	Field Blank 2	H13030312-005	3/19/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
	Field Blank 1	H13050302-006	5/15/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
	Field Blank 2	H13050302-016	5/16/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
	Field Blank 1	H13060239-004	6/11/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
	Field Blank 2	H13060239-016	6/13/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
	Field Blank 1	H13060510-004	6/25/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
	Field Blank 2	H13060510-016	6/27/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
	Field Blank 2	H13090377-014	9/18/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8
	Field Blank 2	H13110520-014	11/26/2013	Zinc, Total Recoverable	ND	0.01	mg/L	E200.8

Table C2. Surface water field parameters from the Clark Fork River Operable Unit, 2013.

Site	Date	Time	Weather	Air temp (F)	pH	Water Temp (C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% Sat)	EC (uS/cm)	Turbidity (NTU)	Flow (CFS, gauged)	Field Observations
CFR-116A	3/19/2013	1000	Sunny and clear. Precip last night.	35(E)	8.28	2.61	11.52	84.8	324	7.45		Fine algal particulate in water column. Greenish, slightly turbid appearance.
CFR-84F	3/19/2013	1200	Sunny and calm.	35(E)	8.34	4.22	11.45	87.9	418	7.14		Fine VSS present, slight turbidity. No shoreline ice but some snow in floodplain.
FC-CFR	3/19/2013	1300	Clear, near calm, warming up slowly.	38(E)	8.55	2.93	12.14	90.1	293	9.50		No bank ice, slightly turbid, 1-2" of snow.
LBR-CFR	3/19/2013	1430	Light haze, mostly sunny, light breeze.	38(E)	8.36	4.88	11.12	86.9	245	2.31		Low and very clear. Some shelf ice present along river left.
CFR-27H	3/19/2013	1530	Hazy thin clouds, breezy, cool.	35(E)	8.47	5.20	11.88	93.7	436	6.51		Banks are ice free. Moderate flow, slight turbidity with noticeable fine, largely organic particulate.
CFR-11F	3/20/2013	1000	Cloudy, windy, cool.	35(E)	8.28	2.36	10.2	74.6	469	5.9	175.72	Moderate flow, likely a falling hydrograph. Floodplain ice and snow free. Slight turbidity.
CFR-07D	3/20/2013	1100	Mostly cloudy, cool, breezy.	40(E)	8.31	2.41	10.5	76.9	463	4.63	157.75	Banks ice free. Moderate flow, slight turbidity. Fine algal particulate in water column.
CFR-03A	3/20/2013	1200	Cloudy, windy, cool.	40(E)	8.39	2.58	10.48	77.1	415	3.84		Only slightly turbid.
WSC-SBC	3/20/2013	1245	Cloudy, windy, cool.	40(E)	8.42	3.30	10.5	78.7	334	1.45		Moderate flow, very clear. Some shelf ice along banks.
SS-25	3/20/2013	1345	Clearing skies, windy, cool.	40(E)	8.86	2.85	10.8	79.9	450	4.91		Slightly turbid. Ice chunks coming downstream.
MWB-SBC	3/20/2013	1430	Windy, sunny.	45(E)	8.38	6.04	10.38	83.7	478	1.29	20.59	Low flow and very clear.
MCWC-MWB	3/20/2013	1600	Partly cloudy, mild.	45(E)	8.34	7.05	10.04	82.9	201	4.11	14.47	Lots of sand and fines on bottom. Slight hint of turbidity.
LC-7.5	3/20/2013	1730										

RTC-1.5	3/20/2013	1745										
CFR-116A	5/14/2013	945	Partly cloudy, light breeze.	47(E)	7.84	10.6	10.20	91.7	129.4	16.70		Rising hydrograph. Strong brown color and lots of fine TSS in water column.
CSC	5/14/2013	1045	Mostly sunny, breezy, mild.	55(E)	7.66	10.1	8.44	75.1	324.2	0.35		Low and clear. Minimal current velocity at fish cages.
FC-CFR	5/14/2013	1315	Mostly clear skies, windy.	60(E)	8.45	13.9	10.13	98.1	181.3	26.00		Low flow. Water very turbid and brown colored. Filamentous algae present.
CFR-84F	5/14/2013	1445	Sunny, mild, breezy.	62(E)	8.52	17.8	11.28	118.9	417.1	6.73		Bottom blanketed with Cladophora. Most flow here coming from Rock Creek, which is high and dirty. Slight turbidity at this site.
LBR-CFR	5/15/2013	945	Thin clouds, mild, calm.	50(E)	7.98	8.5	9.53	81.6	190.3	14.80		Moderately high flow and off color, brownish color.
CFR-27H	5/15/2013	1045	Hazy, calm, mild.	58(E)	8.26	12.0	10.80	100.2	353.8	13.20		Flow rising slowly. Moderately turbid water. Fine VSS in water column.
CFR-11F	5/15/2013	1145	Hazy, light breeze, warm.	60(E)	8.16	12.2	9.87	92.0	312.0	15.30	152.32	Moderately low flow, moderate turbidity.
CFR-07D	5/15/2013	1300	Sunny, warm.	62(E)	8.23	12.0	10.11	93.9	298.0	12.10	190.10	Fairly low flow. Wadeable in hipboots above bridge. Moderate turbidity.
CFR-03A	5/15/2013	1415	Thin clouds, sunny, warm.	65(E)	8.27	12.2	10.28	95.9	247	9.50		Moderately low flow, moderate turbidity.
CFR-03 LBG	5/15/2013	1430	Sunny, warm.	65)(E)	8.26	12.9	9.86	93.5	295.8	8.02		
CFR-03A RBG	5/15/2013	1440	Clear, sunny.	65(E)	8.26	12.2	10.23	95.5	247.3	9.08		
WSC-SBC	5/15/2013	1515	Hazy, warm, light breeze.	66(E)	8.17	12.2	9.51	88.8	213.7	6.82		Moderately low flow, slightly turbid.
CFR-42G	5/15/2013	1600	Sunny, mild, breezy.	64(E)	8.66	17.2	10.74	111.8	451.4	7.42		Low flow, heavy periphyton growth, moderate turbidity.
SS-25	5/16/2013	1100	Partly cloudy, light breeze. Rain showers last night.	58(E)	8.05	11.1	9.97	90.8	275.3	4.19		Moderately low flow, fairly clear water.

MWB-SBC	5/16/2013	1200	Cloudy, breezy, mild.	60(E)	7.91	11.0	9.88	89.6	225.6	5.31		Moderately low flow. Very slight hint of turbidity.
SBC-P2	5/16/2013	1245	Cludy, breezy.	60(E)	8.13	15.7	7.98	80	519.4	2.36		Low flow, quite clear water. Heavy filamentous algae growth present.
MCWC-MWB	5/16/2013	1400	Rain showers.	60(E)	7.87	11.3	9.85	89.9	114.4	4.20	57.02	Mostly clear water, slightest hint of turbidity. Low flow, easily wadeable.
CFR-116A	6/11/2013	945	Partly cloudy, mild.	60(E)	7.81	14.6	11.61	114.2	229.6	9.11		Falling hydrograph. Slightly turbid water.
CSC	6/11/2013	1115	Mostly clear, sunny, warm.	65(E)	8.08	10.6	11.54	103.9	305.3	0.45		Low and crystal clear. Sampled just upstream of fish cages.
CFR-84F	6/11/2013	1300	Mostly clear, sunny, warm.	70(E)	8.22	18.3	11.24	119.4	388.8	8.91		Moderate flow, falling hydrograph. Slight to mderate turbidity. Heavy Cladophora.
FC-CFR	6/11/2013	1345	Partly cloudy, warm.	75(E)	8.49	18.4	12.95	137.5	352.5	3.32		Streamflow very low, likely diverted for irrigation. Very slightly turbid. Heavy attached algae growth in slower water areas.
CFR-42G	6/11/2013	1500	Rain showers subsiding now. Mostly cloudy.	65(E)	8.72	19.0	12.25	132.6	377.9	5.15		Cladophora blooming, as well as aquatic grasses. Slight turbidity, moderate flow.
LBR-CFR	6/11/2013	1630	Sunny again, warm.	70(E)	7.96	15.9	10.42	105.0	204.0	3.46		Hint of turbidity, receding hydropgraph.
CFR-27H	6/12/2013	930	Partly cloudy, mild.	50(E)	8.25	14.0	12.36	120.0	361.8	6.69		Slight to moderate turbidity.
CFR-11F	6/12/2013	1030	Sunny and warm.	60(E)	8.18	13.9	11.62	112.6	313.5	6.24	168.88	Less turbidity than at the Deer Lodge site. Moderate flow.
CFR-07D	6/12/2013	1130	Clear, sunny, warm.	70(E)	8.28	14.0	12.11	117.5	276.2	4.81	202.11	Moderate flow, very slightly turbid.
CFR-03A	6/12/2013	1300	Clear and sunny.	70(E)	8.57	14.1	12.49	121.4	229.9	4.29		Moderate flow, slightly turbid.
CFR-03 LBG	6/12/2013	1315		70(E)	8.43	16.8	11.01	113.4	449.7	3.11		Sampled just upstrream of caged fish.
CFR-03A RBG	6/12/2013	1330		70(E)	8.59	14.1	12.05	117.0	230.1	4.63		Slightly turbid, moderate flow. Sampled just upstream of caged fish.

WSC-SBC	6/12/2013	1400	Thunderheads building.	70(F)	8.19	13.7	11.40	110.0	206.8	3.30		Moderate flow, slight hint of turbidity.
SS-25	6/13/2013	1100	Light rain, cool.	40(E)	8.40	12.2	9.23	86.2	241.7	2.96		Not completely mixed at sample location based on meter readings.
MWB-SBC	6/13/2013	1200	Cloudy, breezy, cool. Rain showers.	50(E)	7.90	10.6	9.44	85.0	197.5	3.56	90.54	Moderately high flow with just a hint of turbidity.
SBC-P2	6/13/2013	1230	Cloudy, breezy, cool. Raining.	50(E)	9.69	18.0	8.26	87.5	394.2	1.47		Moderate flow, clear water. pH may exceed permit limit.
MCWC-MWB	6/13/2013	1400	Cloudy, rain, cool.	50(E)	7.93	9.4	9.56	86.2	111.4	3.34	77.66	Rain showers. Hint of turbidity.
CFR-116A	6/25/2013	930	Partly cloudy, rain showers.	50(E)	8.23	15.0	9.63	95.2	263.0	3.66		Receding hydrograph, dropping and clearing. Sloughing Cladophora in water column.
CSC	6/25/2013	1045	Partly cloudy, warm.	70(E)	7.87	11.2	9.47	85.5	307.9	0.41		Crystal clear, moderate flow stage.
CFR-84F	6/25/2013	1200	Mostly cloudy, cooler here.	65(E)	8.40	17.4	10.16	105.8	408.7	3.07		Moderate stage, declining hydrograph. Only slightly turbid and clearing. Lots of Cladophora present.
FC-CFR	6/25/2013	1330	Partly cloudy, pleasant.	70(E)	8.39	16.5	10.35	106.1	385.9	3.67		Moderately heavy diatom and some filamentous algae present. Only slightly turbid.
CFR-42G	6/25/2013	1430	Partly cloudy, warm, calm.	75(E)	8.51	18.7	10.51	112.8	398.3	6.05		River flow moderate. Very heavy aquatic grasses and Cladophora growth present, with large quantities of sloughing Cladophora. Slight turbidity. Heavy caddis hatch and trout rising.
LBR-CFR	6/25/2013	1545	Calm, warm, mostly sunny.	75(E)	8.16	17.4	8.65	90.3	243.5	1.86		Moderately low and clear.
CFR-27H	6/26/2013	1000	Cloudy, light breeze.	60(E)	8.23	15.2	9.27	92.6	400.4	4.05		Heavy algae growth present (diatoms and filamentous). Sloughing algal filaments in water column. Caddisflies hatching and trout rising.

CFR-11F	6/26/2013	1100	Cloudy, breezy, a few drops of rain.	60(E)	8.31	14.5	9.52	93.4	371.2	2.67	137.98	Moderate flow, pretty clear. Moderately heavy periphyton growth.
CFR-07D	6/26/2013	1200	Cloudy, windy, cool.	60(E)	8.47	13.8	9.61	93.0	346.9	2.03	154.57	Moderate flow, quite clear water. Less periphyton growth at this site.
CFR-03A	6/26/2013	1230	Cloudy, cool.	60(E)	8.73	13.5	9.92	95.3	291.8	2.51		
CFR-03A RBG	6/26/2013	1245	Cloudy, windy, cool.	60(E)	8.75	13.5	9.68	93.0	291.4	2.28		
CFR-03 LBG	6/26/2013	1300	Cloudy, cool.	60(E)	8.53	14.8	8.53	84.7	443.5	2.09		
WSC-SBC	6/26/2013	1400	Decreasing clouds, warming up.	70(E)	8.25	12.3	9.37	87.6	218.8	2.21		Moderate streamflow, pretty clear.
SS-25	6/27/2013	1045	Clear, sunny, warm.	65(E)	8.74	14.9	8.69	86.2	345.0	2.06		Moderately low flow, clear water.
MWB-SBC	6/27/2013	1130	Sunny and hot.	75(E)	8.20	15.2	9.12	91.0	309.4	2.10	51.98	Clear and moderately low flow.
SBC-P2	6/27/2013	1230	Sunny and hot.	78(E)	9.59	17.3	7.84	81.8	438.2	1.57		Moderately low flow, very clear water.
MCWC-MWB	6/27/2013	1330	Sunny and hot.	80(E)	8.26	16.4	8.56	87.3	181.2	2.61	42.73	Moderately low and clear. Receding limb.
CFR-116A	9/17/2013	900	Partly cloudy, calm; major storm in forecast for p.m.	60(E)	7.96	14.4	8.45	82.7	346.6	4.27		Sampled sediment and periphyton in 50 m reach below bridge. Good algal layer.
CFR-84F	9/17/2013	1100	Cloudy, front approaching.	60(E)	8.17	15.7	9.39	94.6	486.9	4.37		Sampled upstream of bridge. Heavy periphyton layer. Heavy summer growths seen in June largely gone now.
FC-CFR	9/17/2013	1200	Overcast, sprinkle of rain.	55(E)	8.25	12.1	9.97	92.8	440.3	2.30		
LBR-CFR	9/17/2013	1345		50(E)	7.90	13.3	9.62	92.0	339.4	1.18		Red bottle caps have liners that are suspect.
CFR-27H	9/17/2013	1500	Rain as of last hour, calm.	50(E)	8.07	12.9	8.67	82.2	476.4	4.67		Sampled adjacent to USGS station as usual.

RTC-1	9/17/2013	1615		55(E)	7.55	9.3	4.99	43.6	271.1	0.64		Flow reasonably low and clear. Good periphyton layer.
LC-7	9/17/2013	1645	Rain showers, calm, clearing to west.	50(E)	8.00	11.3	8.20	75.0	566.4	1.01		Heavy macrophytes. Sediment scarce.
CFR-11F	9/18/2013	845	Overcast, showers; heavy rain last 12 hours.	45(E)	7.95	11.1	8.87	80.7	482.7	1.31	50.94	Moderately heavy periphyton.
CFR-07D	9/18/2013	1015	Mostly cloudy, break in showers last 2 hours.	50(E)	8.18	11.3	9.84	89.9	475.5	1.25	70.31	Good flow, clear and cool. Moderately heavy periphyton.
CFR-03A	9/18/2013	1130	Overcast, wind picking up, rain showers.	50(E)	8.41	11.6	9.72	89.5	422.3	1.67		Heavy periphyton on cobble substrate.
WSC-SBC	9/18/2013	1230	Mostly loudy, some sun, breezy.	55(E)	8.31	10.1	10.20	90.6	323.9	1.40		Good flow, cold and clear. Relatively sparse periphyton.
SS-25	9/18/2013	1400	Partly cloudy, sunny periods; warming up, rain over.	60(E)	9.20	15.3	11.67	116.7	497.2	3.72		Heavy periphyton.
MWB-SBC	9/18/2013	1545	Partly cloudy, breezy.	60(E)	8.59	14.2	10.20	99.4	560.4	2.30	12.08	Good flow, clear and fairly cool. Heavy periphyton growth.
MCWC-MWB	9/18/2013	1700	Mostly cloudy, breezy.	55(E)	8.63	13.2	9.62	91.8	245.6	2.34	8.10	Stream low and clear. Moderate periphyton growth in pools/runs, less in riffles.
CFR-116A	11/25/2013	900	Clear, calm, cold.	20(E)	7.86	0.0	13.50	92.5	390.9	3.04		2-4 inches of shelf ice, 1-4 feet wide on margins; moderate slush ice; some particulate visible, but fairly clear; some ice scour of periphtyon possible.

CFR-84F	11/25/2013	1030	Clear, calm, sunny.	25(E)	8.09	1.2	12.76	90.4	482.5	4.67		Floating ice chunks from degrading shelf ice, almost no shore ice in swifter run at USGS station above bridge; some particulate present due to scour; heavy, green Cladophora growth over much of substrate.
FC-CFR	11/25/2013	1145	Clear, calm, sunny.	25(E)	8.32	0.0	14.12	96.6	325.3	10.7		Considerable shelf ice along shore, somewhat slushy, 2-10' wide; slush ice in patches on bottom (<10% of substrate); water noticeably turbid due to ice scour (?); good flow volume.
LBR-CFR	11/25/2013	1315	Clear, calm, cool, sunny.	30(E)	8.02	0.1	13.06	89.6	246.0	3.03		Moderate shelf ice, 3-5' wide on both banks; good flow, very clear.
CFR-27H	11/25/2013	1430	Clear, calm, cool, sunny.	30(E)	8.15	1.1	13.27	93.7	490.6	16.6		Relatively little shelf ice, 1-3' band on shore, appears to be degrading and breaking free. Considerable turbidity from suspended particulate caused by ice scour and sloughing; good seasonable flow.
CFR-11F	11/25/2013	1530	Calm, clear, cool, sunny.	30(E)	8.50	0.5	15.20	105.6	499.0	2.99	125.27	Moderate shelf ice, especially in shallows. Good seasonal flow, much clearer than downstream; no slush ice like below.
CFR-07D	11/25/2013	1630	Clear, calm, setting sun.	25(E)	8.38	1.3	13.33	94.5	495.6	3.13	131.32	3-5' of shelf ice on both banks, no slush ice; flow seasonably high, moderately clear.
CFR-03A	11/26/2013	930	Clear, calm, cold.	20(E)	7.92	0.3	12.73	87.8	453.6	2.63		Shelf ice in backwater areas only, none in swifter run. Good seasonal flow, quite clear; heavy periphyton growth present.
WSC-SBC	11/26/2013	1030	Clear, cold, calm.	20(E)	8.05	0.2	12.64	87.0	347.2	2.12		3-4' wide shelf ice on both banks; flow seasonably low, very clear.
SS-25	11/26/2013	1130	Clear, calm, cool.	25(E)	8.55	2.5	13.30	97.6	506.2	2.64		No shelf or shore ice; good flow, very clear, some particulate and zooplankton in jar.

MWB-SBC	11/26/2013	1315	Breezy, sunny, cool.	30(E)	8.31	1.6	13.56	97.2	469.1	2.11	17.09	Almost no ice in channel; flow seasonably low and clear. Very heavy periphyton/diatom layer on entire substrate.
MCWC-MWB	11/26/2013	1415	Breezy, partly cloudy, cool.	30(E)	8.24	2.1	13.16	95.5	220.8	3.22	11.00	1-2' of shelf ice on shady right bank, clear of ice elsewhere. Flow seasonably low and clear.

APPENDIX D

INSTREAM SEDIMENT DATA

Table D1. Instream sediment (<0.065 mm) data from the Clark Fork River Operable Unit, 2013.

Site	Type	Lab ID	Collected Date	Parameter	Results	Reporting Limit	Units	Method
CFR-03	Natural Sample	H13030312-025	3/20/2013	Arsenic, Total	64	5	mg/kg-WW	SW6010B
CFR-03	Natural Sample	H13090377-025	9/18/2013	Arsenic, Total	46	5	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13030312-024	3/20/2013	Arsenic, Total	67	5	mg/kg-WW	SW6010B
CFR-07D	Duplicate Sample	H13090377-024	9/18/2013	Arsenic, Total	62	5	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13090377-023	9/18/2013	Arsenic, Total	61	5	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13030312-019	3/19/2013	Arsenic, Total	11	5	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13090377-017	9/17/2013	Arsenic, Total	7	5	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13030312-023	3/20/2013	Arsenic, Total	54	5	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13090377-022	9/18/2013	Arsenic, Total	49	5	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13030312-021	3/19/2013	Arsenic, Total	43	5	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13090377-019	9/17/2013	Arsenic, Total	27	5	mg/kg-WW	SW6010B
CFR-27H	Duplicate Sample	H13030312-022	3/19/2013	Arsenic, Total	43	5	mg/kg-WW	SW6010B
LBR-CFR	Natural Sample	H13030312-020	3/19/2013	Arsenic, Total	8	5	mg/kg-WW	SW6010B
LBR-CFR	Natural Sample	H13090377-018	9/17/2013	Arsenic, Total	6	5	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13030312-030	3/20/2013	Arsenic, Total	26	5	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13090377-021	9/17/2013	Arsenic, Total	19	5	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13030312-029	3/20/2013	Arsenic, Total	62	5	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13090377-030	9/18/2013	Arsenic, Total	30	5	mg/kg-WW	SW6010B
MWB-SBC	Natural Sample	H13030312-028	3/20/2013	Arsenic, Total	87	5	mg/kg-WW	SW6010B
MWB-SBC	Natural Sample	H13090377-029	9/18/2013	Arsenic, Total	38	5	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13030312-031	3/20/2013	Arsenic, Total	18	5	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13090377-020	9/17/2013	Arsenic, Total	16	5	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13030312-027	3/20/2013	Arsenic, Total	55	5	mg/kg-WW	SW6010B
SS-25	Duplicate Sample	H13090377-028	9/18/2013	Arsenic, Total	21	5	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13090377-027	9/18/2013	Arsenic, Total	26	5	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13030312-026	3/20/2013	Arsenic, Total	35	5	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13090377-026	9/18/2013	Arsenic, Total	29	5	mg/kg-WW	SW6010B
CFR-03	Natural Sample	H13030312-025	3/20/2013	Cadmium, Total	2.3	0.2	mg/kg-WW	SW6010B
CFR-03	Natural Sample	H13090377-025	9/18/2013	Cadmium, Total	2.4	0.2	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13030312-024	3/20/2013	Cadmium, Total	2.3	0.2	mg/kg-WW	SW6010B
CFR-07D	Duplicate Sample	H13090377-024	9/18/2013	Cadmium, Total	2.2	0.2	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13090377-023	9/18/2013	Cadmium, Total	2.1	0.2	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13030312-019	3/19/2013	Cadmium, Total	0.8	0.2	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13090377-017	9/17/2013	Cadmium, Total	0.9	0.2	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13030312-023	3/20/2013	Cadmium, Total	2.2	0.2	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13090377-022	9/18/2013	Cadmium, Total	3.1	0.2	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13030312-021	3/19/2013	Cadmium, Total	1.9	0.2	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13090377-019	9/17/2013	Cadmium, Total	2.2	0.2	mg/kg-WW	SW6010B
CFR-27H	Duplicate Sample	H13030312-022	3/19/2013	Cadmium, Total	1.8	0.2	mg/kg-WW	SW6010B
LBR-CFR	Natural Sample	H13030312-020	3/19/2013	Cadmium, Total	0.3	0.2	mg/kg-WW	SW6010B
LBR-CFR	Natural Sample	H13090377-018	9/17/2013	Cadmium, Total	0.4	0.2	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13030312-030	3/20/2013	Cadmium, Total	1	0.2	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13090377-021	9/17/2013	Cadmium, Total	0.6	0.2	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13030312-029	3/20/2013	Cadmium, Total	1.9	0.2	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13090377-030	9/18/2013	Cadmium, Total	1.4	0.2	mg/kg-WW	SW6010B

MWB-SBC	Natural Sample	H13030312-028	3/20/2013	Cadmium, Total	1.3	0.2	mg/kg-WW	SW6010B
MWB-SBC	Natural Sample	H13090377-029	9/18/2013	Cadmium, Total	1	0.2	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13030312-031	3/20/2013	Cadmium, Total	0.7	0.2	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13090377-020	9/17/2013	Cadmium, Total	0.7	0.2	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13030312-027	3/20/2013	Cadmium, Total	2.2	0.2	mg/kg-WW	SW6010B
SS-25	Duplicate Sample	H13090377-028	9/18/2013	Cadmium, Total	1.1	0.2	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13090377-027	9/18/2013	Cadmium, Total	1.3	0.2	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13030312-026	3/20/2013	Cadmium, Total	1.6	0.2	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13090377-026	9/18/2013	Cadmium, Total	1	0.2	mg/kg-WW	SW6010B
CFR-03	Natural Sample	H13030312-025	3/20/2013	Copper, Total	460	5	mg/kg-WW	SW6010B
CFR-03	Natural Sample	H13090377-025	9/18/2013	Copper, Total	421	5	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13030312-024	3/20/2013	Copper, Total	596	5	mg/kg-WW	SW6010B
CFR-07D	Duplicate Sample	H13090377-024	9/18/2013	Copper, Total	576	5	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13090377-023	9/18/2013	Copper, Total	547	5	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13030312-019	3/19/2013	Copper, Total	113	5	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13090377-017	9/17/2013	Copper, Total	92	5	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13030312-023	3/20/2013	Copper, Total	477	5	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13090377-022	9/18/2013	Copper, Total	418	5	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13030312-021	3/19/2013	Copper, Total	473	5	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13090377-019	9/17/2013	Copper, Total	341	5	mg/kg-WW	SW6010B
CFR-27H	Duplicate Sample	H13030312-022	3/19/2013	Copper, Total	451	5	mg/kg-WW	SW6010B
LBR-CFR	Natural Sample	H13030312-020	3/19/2013	Copper, Total	11	5	mg/kg-WW	SW6010B
LBR-CFR	Natural Sample	H13090377-018	9/17/2013	Copper, Total	10	5	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13030312-030	3/20/2013	Copper, Total	176	5	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13090377-021	9/17/2013	Copper, Total	131	5	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13030312-029	3/20/2013	Copper, Total	172	5	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13090377-030	9/18/2013	Copper, Total	110	5	mg/kg-WW	SW6010B
MWB-SBC	Natural Sample	H13030312-028	3/20/2013	Copper, Total	62	5	mg/kg-WW	SW6010B
MWB-SBC	Natural Sample	H13090377-029	9/18/2013	Copper, Total	58	5	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13030312-031	3/20/2013	Copper, Total	42	5	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13090377-020	9/17/2013	Copper, Total	33	5	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13030312-027	3/20/2013	Copper, Total	105	5	mg/kg-WW	SW6010B
SS-25	Duplicate Sample	H13090377-028	9/18/2013	Copper, Total	75	5	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13090377-027	9/18/2013	Copper, Total	99	5	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13030312-026	3/20/2013	Copper, Total	374	5	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13090377-026	9/18/2013	Copper, Total	296	5	mg/kg-WW	SW6010B
CFR-03	Natural Sample	H13030312-025	3/20/2013	Lead, Total	76	10	mg/kg-WW	SW6010B
CFR-03	Natural Sample	H13090377-025	9/18/2013	Lead, Total	73	10	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13030312-024	3/20/2013	Lead, Total	87	10	mg/kg-WW	SW6010B
CFR-07D	Duplicate Sample	H13090377-024	9/18/2013	Lead, Total	115	10	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13090377-023	9/18/2013	Lead, Total	101	10	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13030312-019	3/19/2013	Lead, Total	36	10	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13090377-017	9/17/2013	Lead, Total	28	10	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13030312-023	3/20/2013	Lead, Total	87	10	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13090377-022	9/18/2013	Lead, Total	98	10	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13030312-021	3/19/2013	Lead, Total	82	10	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13090377-019	9/17/2013	Lead, Total	74	10	mg/kg-WW	SW6010B
CFR-27H	Duplicate Sample	H13030312-022	3/19/2013	Lead, Total	71	10	mg/kg-WW	SW6010B

LBR-CFR	Natural Sample	H13030312-020	3/19/2013	Lead, Total	22	10	mg/kg-WW	SW6010B
LBR-CFR	Natural Sample	H13090377-018	9/17/2013	Lead, Total	19	10	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13030312-030	3/20/2013	Lead, Total	44	10	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13090377-021	9/17/2013	Lead, Total	30	10	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13030312-029	3/20/2013	Lead, Total	73	10	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13090377-030	9/18/2013	Lead, Total	51	10	mg/kg-WW	SW6010B
MWB-SBC	Natural Sample	H13030312-028	3/20/2013	Lead, Total	43	10	mg/kg-WW	SW6010B
MWB-SBC	Natural Sample	H13090377-029	9/18/2013	Lead, Total	31	10	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13030312-031	3/20/2013	Lead, Total	57	10	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13090377-020	9/17/2013	Lead, Total	56	10	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13030312-027	3/20/2013	Lead, Total	62	10	mg/kg-WW	SW6010B
SS-25	Duplicate Sample	H13090377-028	9/18/2013	Lead, Total	33	10	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13090377-027	9/18/2013	Lead, Total	40	10	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13030312-026	3/20/2013	Lead, Total	46	10	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13090377-026	9/18/2013	Lead, Total	40	10	mg/kg-WW	SW6010B
CFR-03	Natural Sample	H13030312-025	3/20/2013	Zinc, Total	433	5	mg/kg-WW	SW6010B
CFR-03	Natural Sample	H13090377-025	9/18/2013	Zinc, Total	402	5	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13030312-024	3/20/2013	Zinc, Total	448	5	mg/kg-WW	SW6010B
CFR-07D	Duplicate Sample	H13090377-024	9/18/2013	Zinc, Total	530	5	mg/kg-WW	SW6010B
CFR-07D	Natural Sample	H13090377-023	9/18/2013	Zinc, Total	455	5	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13030312-019	3/19/2013	Zinc, Total	200	5	mg/kg-WW	SW6010B
CFR-116A	Natural Sample	H13090377-017	9/17/2013	Zinc, Total	223	5	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13030312-023	3/20/2013	Zinc, Total	434	5	mg/kg-WW	SW6010B
CFR-11F	Natural Sample	H13090377-022	9/17/2013	Zinc, Total	481	5	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13030312-021	3/19/2013	Zinc, Total	395	5	mg/kg-WW	SW6010B
CFR-27H	Natural Sample	H13090377-019	9/17/2013	Zinc, Total	322	5	mg/kg-WW	SW6010B
CFR-27H	Duplicate Sample	H13030312-022	3/19/2013	Zinc, Total	376	5	mg/kg-WW	SW6010B
LBR-CFR	Natural Sample	H13030312-020	3/19/2013	Zinc, Total	39	5	mg/kg-WW	SW6010B
LBR-CFR	Natural Sample	H13090377-018	9/17/2013	Zinc, Total	39	5	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13030312-030	3/20/2013	Zinc, Total	132	5	mg/kg-WW	SW6010B
LC-7.5	Natural Sample	H13090377-021	9/17/2013	Zinc, Total	82	5	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13030312-029	3/20/2013	Zinc, Total	253	5	mg/kg-WW	SW6010B
MCWC-MWB	Natural Sample	H13090377-030	9/18/2013	Zinc, Total	160	5	mg/kg-WW	SW6010B
MWB-SBC	Natural Sample	H13030312-028	3/20/2013	Zinc, Total	176	5	mg/kg-WW	SW6010B
MWB-SBC	Natural Sample	H13090377-029	9/18/2013	Zinc, Total	175	5	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13030312-031	3/20/2013	Zinc, Total	75	5	mg/kg-WW	SW6010B
RTC-1.5	Natural Sample	H13090377-020	9/17/2013	Zinc, Total	45	5	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13030312-027	3/20/2013	Zinc, Total	337	5	mg/kg-WW	SW6010B
SS-25	Duplicate Sample	H13090377-028	9/18/2013	Zinc, Total	198	5	mg/kg-WW	SW6010B
SS-25	Natural Sample	H13090377-027	9/18/2013	Zinc, Total	244	5	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13030312-026	3/20/2013	Zinc, Total	149	5	mg/kg-WW	SW6010B
WSC-SBC	Natural Sample	H13090377-026	9/18/2013	Zinc, Total	121	5	mg/kg-WW	SW6010B

APPENDIX E

MACROINVERTEBRATE DATA

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC001

RAI No.: PBSJ13CFRC001
Sta. Name: Silver Bow Creek at Warms Springs - Composite
Client ID: SS-25
Date Coll.: 8/13/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata	0	0.00%	Yes	Unknown		5	UN
Turbellaria	945	11.18%	Yes	Unknown		5	PR
Asellidae							
Caecidotea sp.	15	0.18%	Yes	Unknown		8	CG
Erpobdellidae							
Erpobdellidae	1	0.01%	Yes	Unknown		8	PR
Gammaridae							
Gammarus sp.	4	0.05%	Yes	Unknown		4	SH
Hyalellidae							
Hyalella sp.	203	2.40%	Yes	Unknown		8	CG
Physidae							
Physa sp.	4	0.05%	Yes	Unknown		8	SC
Sphaeriidae							
Pisidium sp.	95	1.12%	Yes	Unknown		8	CF
Oligochaeta							
Enchytraeidae							
Enchytraeidae	7	0.08%	Yes	Unknown		4	CG
Naididae							
Rhyacodrilinae	9	0.11%	Yes	Unknown		10	CG
Tubificinae	127	1.50%	Yes	Unknown		10	CG
Odonata							
Gomphidae							
Gomphidae	1	0.01%	Yes	Larva	Damaged	11	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus	73	0.86%	Yes	Larva		4	CG
Ephemerellidae							
Ephemerella sp.	3	0.04%	Yes	Larva	Early Instar	11	SC
Leptohyphidae							
Tricorythodes sp.	18	0.21%	Yes	Larva		4	CG

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC001

RAI No.: PBSJ13CFRC001
Sta. Name: Silver Bow Creek at Warms Springs - Composite
Client ID: SS-25
Date Coll.: 8/13/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	2	0.02%	Yes	Larva		2	CF
Hydropsychidae							
Ceratopsyche sp.	427	5.05%	Yes	Larva	Damaged	5	CF
Cheumatopsyche sp.	651	7.70%	Yes	Larva		5	CF
Hydropsyche sp.	112	1.32%	No	Larva	Damaged	5	CF
Hydropsyche occidentalis	216	2.56%	Yes	Larva		5	CF
Hydropsychidae	2	0.02%	No	Pupa		11	CF
Hydropsychidae	884	10.46%	No	Larva	Damaged	11	CF
Hydroptilidae							
Hydroptila sp.	170	2.01%	Yes	Larva		6	PH
Hydroptilidae	107	1.27%	No	Pupa		11	PH
Ochrotrichia sp.	151	1.79%	Yes	Larva		4	PH
Leptoceridae							
Nectopsyche sp.	52	0.62%	Yes	Larva		3	SH
Oecetis sp.	593	7.02%	Yes	Larva		8	PR
Uenoidae							
Neophylax rickeri	1	0.01%	Yes	Larva		3	SC
Lepidoptera							
Crambidae							
Petrophila sp.	16	0.19%	Yes	Larva		5	SC
Coleoptera							
Elmidae							
Cleptelmis addenda	1	0.01%	Yes	Adult		4	CG
Cleptelmis addenda	4	0.05%	No	Larva		4	CG
Optioservus sp.	10	0.12%	Yes	Adult		5	SC
Optioservus sp.	663	7.84%	No	Larva		5	SC
Zaitzevia sp.	25	0.30%	Yes	Adult		4	CG
Zaitzevia sp.	1641	19.41%	No	Larva		4	CG
Diptera							
Empididae							
Chelifera / Metachela sp.	1	0.01%	Yes	Larva		5	PR
Empididae	1	0.01%	No	Pupa		11	PR
Hemerodromia sp.	6	0.07%	Yes	Larva		6	PR
Psychodidae							
Pericoma / Telmatoscopus	1	0.01%	Yes	Larva		4	CG
Simuliidae							
Simulium sp.	13	0.15%	Yes	Larva		6	CF
Simulium sp.	2	0.02%	No	Pupa		6	CF
Tipulidae							
Hexatoma sp.	1	0.01%	Yes	Larva		2	PR
Limnophila sp.	1	0.01%	Yes	Larva		3	PR

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC001

RAI No.: PBSJ13CFRC001
Sta. Name: Silver Bow Creek at Warms Springs - Composite
Client ID: SS-25
Date Coll.: 8/13/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironomidae							
Chaetocladius sp.	1	0.01%	Yes	Larva		11	CG
Cricotopus sp.	149	1.76%	Yes	Larva		7	SH
Cricotopus sp.	8	0.09%	No	Pupa		7	SH
Cricotopus (Nostococladius) sp.	6	0.07%	Yes	Larva		6	SH
Cryptochironomus sp.	1	0.01%	Yes	Larva		8	PR
Eukiefferiella sp.	13	0.15%	Yes	Larva		8	CG
Eukiefferiella sp.	2	0.02%	No	Pupa		8	CG
Microtendipes sp.	525	6.21%	Yes	Larva		6	CF
Nanocladius sp.	3	0.04%	Yes	Larva		3	CG
Nanocladius sp.	5	0.06%	No	Pupa		3	CG
Parametriocnemus sp.	1	0.01%	No	Pupa		5	CG
Parametriocnemus sp.	59	0.70%	Yes	Larva		5	CG
Pentaneura sp.	1	0.01%	Yes	Larva		6	PR
Polypedilum sp.	25	0.30%	Yes	Larva		6	SH
Potthastia Gaedii Gr.	1	0.01%	Yes	Larva		2	CG
Potthastia Longimana Gr.	44	0.52%	Yes	Larva		2	CG
Tanytarsus sp.	5	0.06%	Yes	Larva		11	CF
Thienemanniella sp.	1	0.01%	No	Pupa		6	CG
Thienemanniella sp.	3	0.04%	Yes	Larva		6	CG
Thienemannimyia Gr.	125	1.48%	Yes	Larva		11	PR
Tribelos sp.	7	0.08%	Yes	Larva		10	CG
Tvetenia sp.	209	2.47%	Yes	Larva		5	CG
Sample Count	8453						

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC002

RAI No.: PBSJ13CFRC002
Client ID: CFR-03A
Date Coll.: 8/13/2013
No. Jars: 1
Sta. Name: Clark Fork near Galen at Perkins Lane - Composite
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata	0	0.00%	Yes	Unknown		5	UN
Turbellaria	43	0.51%	Yes	Unknown		5	PR
Planorbidae							
Planorbidae	1	0.01%	Yes	Immature		8	SC
Sphaeriidae							
Pisidium sp.	1	0.01%	Yes	Unknown		8	CF
Oligochaeta							
Enchytraeidae							
Enchytraeidae	6	0.07%	Yes	Unknown		4	CG
Naididae							
Naidinae	25	0.30%	Yes	Unknown		8	CG
Odonata							
Gomphidae							
Gomphidae	1	0.01%	Yes	Larva	Early Instar	11	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus	88	1.05%	Yes	Larva		4	CG
Iswaeon sp.	13	0.15%	Yes	Larva		6	UN
Ephemerellidae							
Attenella margarita	15	0.18%	Yes	Larva		3	CG
Drunella sp.	10	0.12%	Yes	Larva	Early Instar	11	SC
Ephemerella sp.	2	0.02%	Yes	Larva	Early Instar	11	SC
Heptageniidae							
Ecdyonurus criddlei	1	0.01%	Yes	Larva		4	SH
Heptagenia sp.	1	0.01%	Yes	Larva		4	SC
Leptohyphidae							
Tricorythodes sp.	4	0.05%	Yes	Larva		4	CG
Leptophlebiidae							
Paraleptophlebia sp.	1	0.01%	Yes	Larva		1	CG
Plecoptera							
Perlidae							
Hesperoperla pacifica	2	0.02%	Yes	Larva		11	PR
Perlodidae							
Skwala sp.	90	1.07%	Yes	Larva		3	PR
Pteronarcyidae							
Pteronarcella sp.	19	0.23%	Yes	Larva		3	SH

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC002

RAI No.:	PBSJ13CFRC002	**Sta. Name:**	Clark Fork near Galen at Perkins Lane - Composite
Client ID:	CFR-03A		
Date Coll.:	8/13/2013	**No. Jars:** 1	**STORET ID:**

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	293	3.48%	Yes	Larva		2	CF
Glossosomatidae							
Glossosoma sp.	81	0.96%	Yes	Larva		0	SC
Glossosomatidae	3	0.04%	No	Pupa		11	SC
Protoptila sp.	208	2.47%	Yes	Larva		1	SC
Helicopsychidae							
Helicopsyche sp.	20	0.24%	Yes	Larva		3	SC
Hydropsychidae							
Ceratopsyche cockerelli	1108	13.18%	Yes	Larva		4	CF
Ceratopsyche slossonae	36	0.43%	Yes	Larva		4	CF
Hydropsyche occidentalis	87	1.03%	Yes	Larva		5	CF
Hydropsychidae	2	0.02%	No	Pupa		11	CF
Hydroptilidae							
Hydroptilidae	5	0.06%	No	Pupa		11	PH
Ochrotrichia sp.	9	0.11%	Yes	Larva		4	PH
Lepidostomatidae							
Lepidostoma sp.	4	0.05%	Yes	Larva		1	SH
Leptoceridae							
Oecetis sp.	4	0.05%	Yes	Larva		8	PR
Psychomyiidae							
Psychomyia sp.	1	0.01%	Yes	Larva		2	CG
Rhyacophilidae							
Rhyacophila sp.	2	0.02%	No	Larva	Early Instar	11	PR
Rhyacophila sp.	2	0.02%	No	Pupa		11	PR
Rhyacophila Brunnea/Vemna Gr.	7	0.08%	Yes	Larva		2	PR
Coleoptera							
Elmidae							
Cleptelmis addenda	6	0.07%	No	Larva		4	CG
Cleptelmis addenda	13	0.15%	Yes	Adult		4	CG
Optioservus sp.	176	2.09%	Yes	Adult		5	SC
Optioservus sp.	747	8.88%	No	Larva		5	SC
Zaitzevia sp.	415	4.94%	No	Larva		4	CG
Zaitzevia sp.	64	0.76%	Yes	Adult		4	CG
Diptera							
Athericidae							
Atherix sp.	394	4.69%	Yes	Larva		4	PR
Empididae							
Chelifera / Metachela sp.	2	0.02%	Yes	Larva		5	PR
Empididae	10	0.12%	No	Pupa		11	PR
Neoplasta sp.	1	0.01%	Yes	Larva		5	PR
Simuliidae							
Simulium sp.	2	0.02%	Yes	Larva		6	CF
Tipulidae							
Antocha monticola	14	0.17%	No	Pupa		3	CG
Antocha monticola	256	3.04%	Yes	Larva		3	CG

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC002

RAI No.:	PBSJ13CFRC002			**Sta. Name:**	Clark Fork near Galen at Perkins Lane - Composite
Client ID:	CFR-03A				
Date Coll.:	8/13/2013	**No. Jars:**	1	**STORET ID:**	

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironomidae							
Cricotopus sp.	40	0.48%	No	Pupa		7	SH
Cricotopus sp.	468	5.57%	Yes	Larva		7	SH
Cricotopus (Nostococladius) sp.	2928	34.82%	Yes	Larva		6	SH
Eukiefferiella sp.	32	0.38%	Yes	Larva		8	CG
Eukiefferiella sp.	5	0.06%	No	Pupa		8	CG
Microtendipes sp.	84	1.00%	Yes	Larva		6	CF
Orthocladiinae	41	0.49%	No	Larva	Damaged	11	CG
Orthocladiinae	6	0.07%	No	Pupa	Damaged	11	CG
Orthocladius sp.	34	0.40%	Yes	Larva		6	CG
Pagastia sp.	19	0.23%	Yes	Larva		1	CG
Parametriocnemus sp.	6	0.07%	Yes	Larva		5	CG
Polypedilum sp.	17	0.20%	Yes	Larva		6	SH
Polypedilum sp.	2	0.02%	No	Pupa		6	SH
Rheocricotopus sp.	1	0.01%	Yes	Larva		4	CG
Rheotanytarsus sp.	4	0.05%	Yes	Larva		11	CF
Tanytarsus sp.	2	0.02%	Yes	Larva		11	CF
Thienemannimyia Gr.	1	0.01%	Yes	Larva		11	PR
Tribelos sp.	2	0.02%	Yes	Larva		10	CG
Tvetenia sp.	421	5.01%	Yes	Larva		5	CG
Sample Count	8408						

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC003

RAI No.:	PBSJ13CFRC003	**Sta. Name:**	Clark Fork at Galen Road - Composite
Client ID:	CFR-7D		
Date Coll.:	8/12/2013	**No. Jars:** 1	**STORET ID:**

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata	0	0.00%	Yes	Unknown		5	UN
Turbellaria	61	0.75%	Yes	Unknown		5	PR
Planorbidae							
Gyraulus sp.	4	0.05%	Yes	Unknown		8	SC
Sphaeriidae							
Pisidium sp.	2	0.02%	Yes	Unknown		8	CF
Oligochaeta							
Enchytraeidae							
Enchytraeidae	5	0.06%	Yes	Unknown		4	CG
Naididae							
Naidinae	1	0.01%	Yes	Unknown		8	CG
Tubificinae	1	0.01%	Yes	Unknown		10	CG
Odonata							
Gomphidae							
Gomphidae	7	0.09%	Yes	Larva	Early Instar	11	PR
Ephemeroptera							
Baetidae							
Acentrella sp.	1	0.01%	No	Larva	Damaged	4	CG
Acentrella insignificans	3	0.04%	Yes	Larva		4	CG
Baetis tricaudatus	102	1.26%	Yes	Larva		4	CG
Diphetor hageni	3	0.04%	Yes	Larva		5	CG
Iswaeon sp.	6	0.07%	Yes	Larva		6	UN
Ephemerellidae							
Attenella margarita	5	0.06%	Yes	Larva		3	CG
Drunella sp.	6	0.07%	No	Larva	Early Instar	11	SC
Drunella spinifera	1	0.01%	Yes	Larva		2	PR
Ephemerellidae	5	0.06%	No	Larva	Damaged	11	CG
Leptohyphidae							
Tricorythodes sp.	2	0.02%	Yes	Larva		4	CG
Plecoptera							
Perlodidae							
Skwala sp.	60	0.74%	Yes	Larva		3	PR
Pteronarcyidae							
Pteronarcella sp.	10	0.12%	Yes	Larva		3	SH

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC003

RAI No.: PBSJ13CFRC003
Sta. Name: Clark Fork at Galen Road - Composite
Client ID: CFR-7D
Date Coll.: 8/12/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Trichoptera							
Trichoptera	1	0.01%	No	Pupa	Damaged	11	UN
Brachycentridae							
Brachycentridae	25	0.31%	No	Pupa		11	CF
Brachycentrus americanus	3	0.04%	Yes	Larva		1	CF
Brachycentrus occidentalis	1192	14.75%	Yes	Larva		2	CF
Glossosomatidae							
Glossosoma sp.	66	0.82%	Yes	Larva		0	SC
Glossosomatidae	37	0.46%	No	Pupa		11	SC
Protoptila sp.	422	5.22%	Yes	Larva		1	SC
Helicopsychidae							
Helicopsyche sp.	52	0.64%	Yes	Larva		3	SC
Helicopsyche sp.	1	0.01%	No	Pupa		3	SC
Hydropsychidae							
Ceratopsyche sp.	1103	13.65%	No	Larva	Early Instar	5	CF
Ceratopsyche cockerelli	396	4.90%	Yes	Larva		4	CF
Hydropsyche sp.	304	3.76%	No	Larva	Early Instar	5	CF
Hydropsyche occidentalis	119	1.47%	Yes	Larva		5	CF
Hydropsychidae	13	0.16%	No	Larva	Early Instar	11	CF
Hydropsychidae	4	0.05%	No	Pupa		11	CF
Hydroptilidae							
Hydroptilidae	5	0.06%	Yes	Pupa		11	PH
Lepidostomatidae							
Lepidostoma sp.	12	0.15%	Yes	Larva		1	SH
Leptoceridae							
Oecetis sp.	6	0.07%	Yes	Larva		8	PR
Rhyacophilidae							
Rhyacophila sp.	3	0.04%	No	Pupa		11	PR
Rhyacophila Brunnea/Vemna Gr.	8	0.10%	Yes	Larva		2	PR
Coleoptera							
Elmidae							
Cleptelmis addenda	38	0.47%	No	Larva		4	CG
Cleptelmis addenda	4	0.05%	Yes	Adult		4	CG
Optioservus sp.	215	2.66%	Yes	Adult		5	SC
Optioservus sp.	1307	16.17%	No	Larva		5	SC
Zaitzevia sp.	54	0.67%	Yes	Adult		4	CG
Zaitzevia sp.	230	2.85%	No	Larva		4	CG

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC003

RAI No.:	PBSJ13CFRC003			Sta. Name:	Clark Fork at Galen Road - Composite
Client ID:	CFR-7D				
Date Coll.:	8/12/2013	No. Jars:	1	STORET ID:	

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Athericidae							
Atherix sp.	224	2.77%	Yes	Larva		4	PR
Empididae							
Chelifera / Metachela sp.	5	0.06%	Yes	Larva		5	PR
Empididae	15	0.19%	No	Pupa		11	PR
Simuliidae							
Simulium sp.	42	0.52%	Yes	Larva		6	CF
Tipulidae							
Antocha monticola	17	0.21%	No	Pupa		3	CG
Antocha monticola	238	2.94%	Yes	Larva		3	CG
Dicranota sp.	39	0.48%	Yes	Larva		3	PR
Hexatoma sp.	10	0.12%	Yes	Larva		2	PR
Chironomidae							
Chironomidae							
Cardiocladius sp.	1	0.01%	Yes	Larva		5	PR
Cricotopus sp.	5	0.06%	No	Pupa		7	SH
Cricotopus sp.	255	3.15%	Yes	Larva		7	SH
Cricotopus (Nostococladius) sp.	559	6.92%	Yes	Larva		6	SH
Eukiefferiella sp.	98	1.21%	Yes	Larva		8	CG
Eukiefferiella sp.	5	0.06%	No	Pupa		8	CG
Microtendipes sp.	51	0.63%	Yes	Larva		6	CF
Orthocladiinae	3	0.04%	No	Pupa	Damaged	11	CG
Orthocladiinae	62	0.77%	No	Larva	Early Instar	11	CG
Orthocladius sp.	16	0.20%	Yes	Larva		6	CG
Pagastia sp.	40	0.49%	Yes	Larva		1	CG
Parametriocnemus sp.	6	0.07%	Yes	Larva		5	CG
Pentaneura sp.	2	0.02%	Yes	Larva		6	PR
Polypedilum sp.	2	0.02%	No	Pupa		6	SH
Polypedilum sp.	26	0.32%	Yes	Larva		6	SH
Potthastia Gaedii Gr.	1	0.01%	Yes	Larva		2	CG
Rheocricotopus sp.	2	0.02%	Yes	Larva		4	CG
Thienemannimyia Gr.	4	0.05%	Yes	Larva		11	PR
Tvetenia sp.	450	5.57%	Yes	Larva		5	CG
Sample Count	8083						

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC004

RAI No.: PBSJ13CFRC004
Sta. Name: Clark Fork at Gem Back Road - Composite
Client ID: CFR-11F
Date Coll.: 8/12/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata	0	0.00%	Yes	Unknown		5	UN
Turbellaria	30	0.50%	Yes	Unknown		5	PR
Lymnaeidae							
Fossaria sp.	2	0.03%	Yes	Unknown		6	SC
Physidae							
Physa sp.	4	0.07%	Yes	Unknown		8	SC
Sphaeriidae							
Pisidium sp.	2	0.03%	Yes	Unknown		8	CF
Oligochaeta							
Enchytraeidae							
Enchytraeidae	1	0.02%	Yes	Unknown		4	CG
Naididae							
Tubificinae	7	0.12%	Yes	Unknown		10	CG
Odonata							
Gomphidae							
Gomphidae	6	0.10%	No	Larva	Damaged	11	PR
Ophiogomphus sp.	1	0.02%	Yes	Larva		5	PR
Ephemeroptera							
Baetidae							
Acentrella sp.	1	0.02%	Yes	Larva	Damaged	4	CG
Baetidae	2	0.03%	No	Larva	Early Instar	11	CG
Baetis tricaudatus	4	0.07%	Yes	Larva		4	CG
Iswaeon sp.	63	1.05%	Yes	Larva		6	UN
Ephemerellidae							
Attenella margarita	58	0.96%	Yes	Larva		3	CG
Drunella sp.	4	0.07%	Yes	Larva	Early Instar	11	SC
Ephemerellidae	3	0.05%	No	Larva	Early Instar	11	CG
Heptageniidae							
Cinygmula sp.	1	0.02%	Yes	Larva		0	SC
Leptohyphidae							
Tricorythodes sp.	92	1.53%	Yes	Larva		4	CG
Plecoptera							
Plecoptera	7	0.12%	No	Larva	Early Instar	11	PR
Chloroperlidae							
Chloroperlidae	1	0.02%	Yes	Larva	Early Instar	1	PR
Perlodidae							
Isogenoides sp.	3	0.05%	Yes	Larva		11	PR
Perlodidae	1	0.02%	No	Larva	Early Instar	11	PR
Skwala sp.	39	0.65%	Yes	Larva		3	PR
Pteronarcyidae							
Pteronarcella sp.	1	0.02%	Yes	Larva		3	SH
Pteronarcys sp.	1	0.02%	Yes	Larva	Early Instar	2	SH

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC004

RAI No.: PBSJ13CFRC004
Sta. Name: Clark Fork at Gem Back Road - Composite
Client ID: CFR-11F
Date Coll.: 8/12/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	1	0.02%	Yes	Larva		3	CG
Brachycentridae	2	0.03%	No	Pupa		11	CF
Brachycentrus occidentalis	115	1.91%	Yes	Larva		2	CF
Glossosomatidae							
Glossosoma sp.	8	0.13%	Yes	Larva		0	SC
Glossosomatidae	4	0.07%	No	Pupa		11	SC
Protoptila sp.	912	15.16%	Yes	Larva		1	SC
Helicopsychidae							
Helicopsyche sp.	876	14.57%	Yes	Larva		3	SC
Helicopsyche sp.	2	0.03%	No	Pupa		3	SC
Hydropsychidae							
Arctopsyche grandis	2	0.03%	Yes	Larva		2	PR
Ceratopsyche sp.	223	3.71%	No	Larva	Early Instar	5	CF
Ceratopsyche cockerelli	89	1.48%	Yes	Larva		4	CF
Cheumatopsyche sp.	23	0.38%	Yes	Larva		5	CF
Hydropsyche sp.	663	11.02%	No	Larva	Early Instar	5	CF
Hydropsyche occidentalis	59	0.98%	Yes	Larva		5	CF
Hydropsychidae	74	1.23%	No	Larva	Early Instar	11	CF
Hydropsychidae	1	0.02%	No	Pupa		11	CF
Hydroptilidae							
Hydroptila sp.	94	1.56%	Yes	Larva		6	PH
Hydroptilidae	53	0.88%	No	Pupa		11	PH
Hydroptilidae	5	0.08%	No	Larva	Early Instar	11	PH
Ochrotrichia sp.	12	0.20%	Yes	Larva		4	PH
Lepidostomatidae							
Lepidostoma sp.	40	0.67%	Yes	Larva		1	SH
Leptoceridae							
Oecetis sp.	152	2.53%	Yes	Larva		8	PR
Rhyacophilidae							
Rhyacophila sp.	5	0.08%	No	Larva	Early Instar	11	PR
Rhyacophila Brunnea/Vemna Gr.	1	0.02%	Yes	Larva		2	PR
Lepidoptera							
Crambidae							
Petrophila sp.	16	0.27%	Yes	Larva		5	SC
Coleoptera							
Elmidae							
Cleptelmis addenda	3	0.05%	Yes	Adult		4	CG
Cleptelmis addenda	18	0.30%	No	Larva		4	CG
Optioservus sp.	169	2.81%	Yes	Adult		5	SC
Optioservus sp.	862	14.33%	No	Larva		5	SC
Zaitzevia sp.	234	3.89%	No	Larva		4	CG
Zaitzevia sp.	39	0.65%	Yes	Adult		4	CG

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC004

RAI No.: PBSJ13CFRC004
Sta. Name: Clark Fork at Gem Back Road - Composite
Client ID: CFR-11F
Date Coll.: 8/12/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Athericidae							
Atherix sp.	210	3.49%	Yes	Larva		4	PR
Empididae							
Chelifera / Metachela sp.	2	0.03%	Yes	Larva		5	PR
Empididae	1	0.02%	No	Pupa		11	PR
Hemerodromia sp.	2	0.03%	Yes	Larva		6	PR
Muscidae							
Muscidae	1	0.02%	Yes	Larva		6	PR
Tipulidae							
Antocha monticola	1	0.02%	No	Pupa		3	CG
Antocha monticola	76	1.26%	Yes	Larva		3	CG
Hexatoma sp.	12	0.20%	Yes	Larva		2	PR
Tipulidae	1	0.02%	No	Larva	Damaged	11	SH
Chironomidae							
Chironomidae							
Chironomini	1	0.02%	No	Larva	Early Instar	6	CG
Conchapelopia sp.	1	0.02%	No	Pupa		11	PR
Conchapelopia sp.	1	0.02%	Yes	Larva		11	PR
Cricotopus sp.	2	0.03%	No	Pupa		7	SH
Cricotopus (Nostococladius) sp.	96	1.60%	Yes	Larva		6	SH
Cryptochironomus sp.	1	0.02%	Yes	Larva		8	PR
Cryptochironomus sp.	1	0.02%	No	Pupa		8	PR
Eukiefferiella sp.	10	0.17%	Yes	Larva		8	CG
Micropsectra sp.	71	1.18%	Yes	Larva		11	CG
Microtendipes sp.	101	1.68%	Yes	Larva		6	CF
Orthocladiinae	1	0.02%	No	Pupa	Damaged	11	CG
Orthocladiinae	3	0.05%	No	Larva	Early Instar	11	CG
Orthocladius sp.	25	0.42%	Yes	Larva		6	CG
Pagastia sp.	23	0.38%	Yes	Larva		1	CG
Parametriocnemus sp.	7	0.12%	Yes	Larva		5	CG
Pentaneura sp.	2	0.03%	Yes	Larva		6	PR
Polypedilum sp.	75	1.25%	Yes	Larva		6	SH
Polypedilum sp.	4	0.07%	No	Pupa		6	SH
Tanytarsus sp.	1	0.02%	Yes	Larva		11	CF
Thienemanniella sp.	1	0.02%	Yes	Larva		6	CG
Thienemannimyia Gr.	13	0.22%	No	Larva		11	PR
Tvetenia sp.	176	2.93%	Yes	Larva		5	CG
Tvetenia sp.	1	0.02%	No	Pupa		5	CG
Sample Count	6014						

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC005

RAI No.:	PBSJ13CFRC005			**Sta. Name:**	Mill Cr. - Willow Creek at Frontage Road - Composite
Client ID:	MCWC-MWB				
Date Coll.:	8/13/2013	**No. Jars:**	1	**STORET ID:**	

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Turbellaria	5	0.11%	Yes	Unknown		5	PR
Lymnaeidae							
Fossaria sp.	1	0.02%	Yes	Unknown		6	SC
Physidae							
Physa sp.	1	0.02%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	14	0.32%	Yes	Unknown		8	SC
Sphaeriidae							
Pisidium sp.	2	0.05%	Yes	Unknown		8	CF
Oligochaeta							
Enchytraeidae							
Enchytraeidae	4	0.09%	Yes	Unknown		4	CG
Naididae							
Naidinae	22	0.50%	Yes	Unknown		8	CG
Rhyacodrilinae	1	0.02%	Yes	Unknown		10	CG
Odonata							
Gomphidae							
Gomphidae	1	0.02%	Yes	Larva	Early Instar	11	PR
Ephemeroptera							
Baetidae							
Baetis tricaudatus	92	2.09%	Yes	Larva		4	CG
Diphetor hageni	27	0.61%	Yes	Larva		5	CG
Ephemerellidae							
Attenella margarita	6	0.14%	Yes	Larva		3	CG
Caudatella sp.	1	0.02%	Yes	Larva	Early Instar	0	CG
Drunella sp.	7	0.16%	Yes	Larva	Early Instar	11	SC
Heptageniidae							
Ecdyonurus criddlei	5	0.11%	Yes	Larva		4	SH
Leptohyphidae							
Tricorythodes sp.	57	1.30%	Yes	Larva		4	CG
Leptophlebiidae							
Paraleptophlebia sp.	11	0.25%	Yes	Larva		1	CG

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC005

RAI No.: PBSJ13CFRC005
Client ID: MCWC-MWB
Date Coll.: 8/13/2013
No. Jars: 1
Sta. Name: Mill Cr. - Willow Creek at Frontage Road - Composite
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Plecoptera							
Chloroperlidae							
Chloroperlidae	4	0.09%	Yes	Larva	Early Instar	1	PR
Nemouridae							
Malenka sp.	3	0.07%	Yes	Larva		2	SH
Zapada cinctipes	1	0.02%	Yes	Larva		2	SH
Perlidae							
Hesperoperla pacifica	14	0.32%	Yes	Larva		11	PR
Perlodidae							
Kogotus sp.	1	0.02%	Yes	Larva		11	PR
Perlodidae	4	0.09%	Yes	Larva	Early Instar	11	PR
Skwala sp.	12	0.27%	Yes	Larva		3	PR
Pteronarcyidae							
Pteronarcella sp.	36	0.82%	Yes	Larva		3	SH
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	2	0.05%	Yes	Larva		3	CG
Brachycentrus sp.	28	0.64%	No	Larva	Early Instar	11	CF
Brachycentrus americanus	2	0.05%	Yes	Larva		1	CF
Brachycentrus occidentalis	345	7.84%	Yes	Larva		2	CF
Micrasema sp.	1	0.02%	Yes	Larva		1	SH
Glossosomatidae							
Glossosoma sp.	37	0.84%	Yes	Larva		0	SC
Glossosomatidae	23	0.52%	No	Pupa		11	SC
Protoptila sp.	25	0.57%	Yes	Larva		1	SC
Helicopsychidae							
Helicopsyche sp.	3	0.07%	No	Pupa		3	SC
Helicopsyche sp.	41	0.93%	Yes	Larva		3	SC
Hydropsychidae							
Arctopsyche grandis	50	1.14%	Yes	Larva		2	PR
Ceratopsyche sp.	95	2.16%	Yes	Larva	Early Instar	5	CF
Hydropsyche sp.	19	0.43%	Yes	Larva	Early Instar	5	CF
Hydropsychidae	443	10.07%	No	Larva	Early Instar	11	CF
Hydroptilidae							
Hydroptila sp.	48	1.09%	Yes	Larva		6	PH
Hydroptilidae	1	0.02%	No	Pupa		11	PH
Lepidostomatidae							
Lepidostoma sp.	142	3.23%	Yes	Larva		1	SH
Leptoceridae							
Oecetis sp.	14	0.32%	Yes	Larva		8	PR
Rhyacophilidae							
Rhyacophila sp.	60	1.36%	No	Larva	Early Instar	11	PR
Rhyacophila Brunnea/Vemna Gr.	119	2.71%	Yes	Larva		2	PR

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC005

RAI No.:	PBSJ13CFRC005	**Sta. Name:**	Mill Cr. - Willow Creek at Frontage Road - Composite
Client ID:	MCWC-MWB		
Date Coll.:	8/13/2013	**No. Jars:** 1	**STORET ID:**

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Coleoptera							
Elmidae							
Cleptelmis addenda	34	0.77%	No	Larva		4	CG
Cleptelmis addenda	4	0.09%	Yes	Adult		4	CG
Lara avara	1	0.02%	Yes	Larva		1	SH
Narpus concolor	1	0.02%	Yes	Adult		2	CG
Narpus concolor	1	0.02%	No	Larva		2	CG
Optioservus sp.	704	16.00%	No	Larva		5	SC
Optioservus sp.	253	5.75%	Yes	Adult		5	SC
Zaitzevia sp.	36	0.82%	No	Larva		4	CG
Zaitzevia sp.	15	0.34%	Yes	Adult		4	CG
Diptera							
Empididae							
Chelifera / Metachela sp.	5	0.11%	Yes	Larva		5	PR
Empididae	3	0.07%	No	Pupa		11	PR
Neoplasta sp.	1	0.02%	Yes	Larva		5	PR
Ephydridae							
Ephydridae	1	0.02%	Yes	Larva		11	CG
Simuliidae							
Simulium sp.	16	0.36%	No	Pupa		6	CF
Simulium sp.	116	2.64%	Yes	Larva		6	CF
Tipulidae							
Antocha monticola	5	0.11%	No	Pupa		3	CG
Antocha monticola	33	0.75%	Yes	Larva		3	CG
Hexatoma sp.	27	0.61%	Yes	Larva		2	PR

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC005

RAI No.: PBSJ13CFRC005
Client ID: MCWC-MWB
Date Coll.: 8/13/2013
No. Jars: 1
Sta. Name: Mill Cr. - Willow Creek at Frontage Road - Composite
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironomidae							
Cardiocladius sp.	1	0.02%	Yes	Larva		5	PR
Chironomidae	1	0.02%	No	Pupa	Damaged	11	CG
Conchapelopia sp.	2	0.05%	No	Pupa		11	PR
Conchapelopia sp.	1	0.02%	Yes	Larva		11	PR
Cricotopus sp.	42	0.95%	Yes	Larva		7	SH
Cricotopus sp.	2	0.05%	No	Pupa		7	SH
Cricotopus (Nostococladius) sp.	537	12.21%	Yes	Larva		6	SH
Eukiefferiella sp.	1	0.02%	No	Pupa		8	CG
Eukiefferiella sp.	83	1.89%	Yes	Larva		8	CG
Micropsectra sp.	19	0.43%	Yes	Larva		11	CG
Orthocladius sp.	129	2.93%	Yes	Larva		6	CG
Pagastia sp.	113	2.57%	Yes	Larva		1	CG
Parametriocnemus sp.	55	1.25%	Yes	Larva		5	CG
Pentaneura sp.	6	0.14%	Yes	Larva		6	PR
Polypedilum sp.	8	0.18%	Yes	Larva		6	SH
Potthastia Gaedii Gr.	1	0.02%	Yes	Larva		2	CG
Rheocricotopus sp.	1	0.02%	Yes	Larva		4	CG
Rheotanytarsus sp.	13	0.30%	No	Pupa		11	CF
Rheotanytarsus sp.	138	3.14%	Yes	Larva		11	CF
Stempellinella sp.	1	0.02%	Yes	Larva		11	CG
Tanytarsus sp.	5	0.11%	Yes	Larva		11	CF
Thienemanniella sp.	2	0.05%	Yes	Larva		6	CG
Thienemanniella sp.	1	0.02%	No	Pupa		6	CG
Thienemannimyia Gr.	11	0.25%	No	Larva		11	PR
Tribelos sp.	11	0.25%	Yes	Larva		10	CG
Tvetenia sp.	129	2.93%	Yes	Larva		5	CG
Sample Count	4399						

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC006

RAI No.:	PBSJ13CFRC006			**Sta. Name:**	Warms Springs Creek near mouth - Composite
Client ID:	WSC-SBC				
Date Coll.:	8/13/2013	**No. Jars:**	1	**STORET ID:**	

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Physidae							
Physa sp.	1	0.03%	Yes	Unknown		8	SC
Sphaeriidae							
Pisidium sp.	1	0.03%	Yes	Unknown		8	CF
Oligochaeta							
Naididae							
Naidinae	91	2.66%	Yes	Unknown		8	CG
Ephemeroptera							
Baetidae							
Baetis tricaudatus	101	2.95%	Yes	Larva		4	CG
Diphetor hageni	1	0.03%	Yes	Larva		5	CG
Ephemerellidae							
Attenella margarita	1	0.03%	Yes	Larva		3	CG
Drunella sp.	15	0.44%	Yes	Larva	Early Instar	11	SC
Ephemerella tibialis	2	0.06%	Yes	Larva		2	CG
Heptageniidae							
Cinygmula sp.	1	0.03%	Yes	Larva		0	SC
Epeorus sp.	1	0.03%	Yes	Larva	Damaged	2	CG
Plecoptera							
Nemouridae							
Malenka sp.	6	0.18%	Yes	Larva		2	SH
Perlidae							
Hesperoperla pacifica	46	1.35%	Yes	Larva		11	PR
Perlodidae							
Skwala sp.	20	0.58%	Yes	Larva		3	PR
Pteronarcyidae							
Pteronarcella sp.	53	1.55%	Yes	Larva		3	SH

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC006

RAI No.: PBSJ13CFRC006
Sta. Name: Warms Springs Creek near mouth - Composite
Client ID: WSC-SBC
Date Coll.: 8/13/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Trichoptera							
Brachycentridae							
Brachycentridae	5	0.15%	No	Pupa		11	CF
Brachycentrus sp.	52	1.52%	No	Larva	Early Instar	11	CF
Brachycentrus americanus	1	0.03%	Yes	Larva		1	CF
Brachycentrus occidentalis	50	1.46%	Yes	Larva		2	CF
Micrasema sp.	43	1.26%	Yes	Larva		1	SH
Glossosomatidae							
Agapetus sp.	3	0.09%	Yes	Larva		0	SC
Glossosoma sp.	140	4.09%	Yes	Larva		0	SC
Glossosomatidae	13	0.38%	No	Pupa		11	SC
Helicopsychidae							
Helicopsyche sp.	1	0.03%	No	Pupa		3	SC
Helicopsyche sp.	1	0.03%	Yes	Larva		3	SC
Hydropsychidae							
Arctopsyche grandis	405	11.84%	Yes	Larva		2	PR
Ceratopsyche sp.	16	0.47%	Yes	Larva	Early Instar	5	CF
Cheumatopsyche sp.	5	0.15%	Yes	Larva		5	CF
Hydropsyche sp.	93	2.72%	Yes	Larva	Early Instar	5	CF
Hydropsychidae	130	3.80%	No	Larva	Early Instar	11	CF
Hydroptilidae							
Hydroptila sp.	9	0.26%	Yes	Larva		6	PH
Hydroptilidae	76	2.22%	No	Pupa		11	PH
Ochrotrichia sp.	6	0.18%	Yes	Larva		4	PH
Leptoceridae							
Oecetis sp.	1	0.03%	Yes	Larva		8	PR
Limnephilidae							
Limnephilidae	1	0.03%	Yes	Larva	Early Instar	11	SH
Rhyacophilidae							
Rhyacophila sp.	2	0.06%	No	Pupa		11	PR
Rhyacophila sp.	15	0.44%	Yes	Larva	Early Instar	11	PR
Rhyacophila Brunnea/Vemna Gr.	10	0.29%	Yes	Larva		2	PR
Uenoidae							
Neophylax rickeri	1	0.03%	Yes	Larva		3	SC
Coleoptera							
Elmidae							
Cleptelmis addenda	6	0.18%	Yes	Adult		4	CG
Cleptelmis addenda	66	1.93%	No	Larva		4	CG
Narpus concolor	1	0.03%	Yes	Larva		2	CG
Optioservus sp.	568	16.61%	No	Larva		5	SC
Optioservus sp.	143	4.18%	Yes	Adult		5	SC
Zaitzevia sp.	1	0.03%	Yes	Larva		4	CG
Haliplidae							
Brychius sp.	1	0.03%	Yes	Larva		11	SC

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC006

RAI No.:	PBSJ13CFRC006	Sta. Name:	Warms Springs Creek near mouth - Composite
Client ID:	WSC-SBC		
Date Coll.:	8/13/2013 No. Jars: 1	STORET ID:	

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Empididae							
Chelifera / Metachela sp.	34	0.99%	Yes	Larva		5	PR
Empididae	32	0.94%	No	Pupa		11	PR
Empididae	2	0.06%	No	Larva	Early Instar	11	PR
Ephydridae							
Ephydridae	1	0.03%	Yes	Larva		11	CG
Simuliidae							
Simulium sp.	1	0.03%	No	Pupa		6	CF
Simulium sp.	4	0.12%	Yes	Larva		6	CF
Tipulidae							
Antocha monticola	3	0.09%	No	Pupa		3	CG
Antocha monticola	20	0.58%	Yes	Larva		3	CG
Hexatoma sp.	12	0.35%	Yes	Larva		2	PR
Chironomidae							
Chironomidae							
Brillia sp.	1	0.03%	Yes	Larva		4	SH
Conchapelopia sp.	1	0.03%	Yes	Pupa		11	PR
Corynoneura sp.	2	0.06%	Yes	Larva		7	CG
Cricotopus sp.	2	0.06%	No	Pupa		7	SH
Cricotopus sp.	38	1.11%	Yes	Larva		7	SH
Cricotopus (Nostococladius) sp.	93	2.72%	Yes	Larva		6	SH
Eukiefferiella sp.	223	6.52%	Yes	Larva		8	CG
Micropsectra sp.	37	1.08%	Yes	Larva		11	CG
Orthocladius sp.	1	0.03%	No	Pupa		6	CG
Orthocladius sp.	140	4.09%	Yes	Larva		6	CG
Pagastia sp.	283	8.27%	Yes	Larva		1	CG
Parametriocnemus sp.	1	0.03%	No	Pupa		5	CG
Parametriocnemus sp.	9	0.26%	Yes	Larva		5	CG
Pentaneura sp.	2	0.06%	Yes	Larva		6	PR
Rheotanytarsus sp.	42	1.23%	No	Pupa		11	CF
Rheotanytarsus sp.	185	5.41%	Yes	Larva		11	CF
Thienemannimyia Gr.	2	0.06%	No	Larva		11	PR
Tvetenia sp.	1	0.03%	No	Pupa		5	CG
Tvetenia sp.	43	1.26%	Yes	Larva		5	CG
Sample Count	3420						

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC007

RAI No.: PBSJ13CFRC007
Sta. Name: Lost Creek at Frontage Road - Composite
Client ID: LC-7.5
Date Coll.: 8/13/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata	0	0.00%	Yes	Unknown		5	UN
Turbellaria	101	1.62%	Yes	Unknown		5	PR
Erpobdellidae							
Erpobdellidae	4	0.06%	Yes	Unknown		8	PR
Gammaridae							
Gammarus sp.	26	0.42%	Yes	Unknown		4	SH
Glossiphoniidae							
Helobdella stagnalis	4	0.06%	Yes	Unknown		10	PR
Hyalellidae							
Hyalella sp.	26	0.42%	Yes	Unknown		8	CG
Lymnaeidae							
Fossaria sp.	1	0.02%	Yes	Unknown		6	SC
Physidae							
Physa sp.	35	0.56%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	162	2.60%	Yes	Unknown		8	SC
Sphaeriidae							
Pisidium sp.	64	1.03%	Yes	Unknown		8	CF
Oligochaeta							
Naididae							
Naidinae	21	0.34%	Yes	Unknown		8	CG
Tubificinae	30	0.48%	Yes	Unknown		10	CG
Ephemeroptera							
Baetidae							
Baetis sp.	17	0.27%	No	Larva	Damaged	11	CG
Baetis tricaudatus	70	1.12%	Yes	Larva		4	CG
Diphetor hageni	46	0.74%	Yes	Larva		5	CG
Ephemerellidae							
Ephemerella sp.	3	0.05%	Yes	Larva	Damaged	11	SC
Leptohyphidae							
Tricorythodes sp.	50	0.80%	Yes	Larva		4	CG
Leptophlebiidae							
Leptophlebiidae	13	0.21%	No	Larva	Damaged	11	CG
Paraleptophlebia sp.	9	0.14%	Yes	Larva		1	CG
Plecoptera							
Nemouridae							
Malenka sp.	3	0.05%	Yes	Larva		2	SH
Perlodidae							
Skwala sp.	165	2.65%	Yes	Larva		3	PR

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC007

RAI No.: PBSJ13CFRC007
Sta. Name: Lost Creek at Frontage Road - Composite
Client ID: LC-7.5
Date Coll.: 8/13/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Trichoptera							
Trichoptera	1	0.02%	No	Pupa	Damaged	11	UN
Brachycentridae							
Brachycentrus americanus	2	0.03%	Yes	Larva		1	CF
Brachycentrus occidentalis	24	0.39%	Yes	Larva		2	CF
Helicopsychidae							
Helicopsyche sp.	1	0.02%	No	Pupa		3	SC
Helicopsyche sp.	2237	35.92%	Yes	Larva		3	SC
Hydropsychidae							
Ceratopsyche sp.	2	0.03%	No	Larva	Damaged	5	CF
Ceratopsyche cockerelli	5	0.08%	Yes	Larva		4	CF
Ceratopsyche slossonae	115	1.85%	Yes	Larva		4	CF
Cheumatopsyche sp.	19	0.31%	Yes	Larva		5	CF
Hydropsyche sp.	25	0.40%	Yes	Larva	Early Instar	5	CF
Hydropsychidae	1	0.02%	No	Pupa		11	CF
Hydropsychidae	32	0.51%	No	Larva	Early Instar	11	CF
Hydroptilidae							
Hydroptila sp.	187	3.00%	Yes	Larva		6	PH
Hydroptilidae	322	5.17%	No	Pupa		11	PH
Ochrotrichia sp.	17	0.27%	Yes	Larva		4	PH
Lepidostomatidae							
Lepidostoma sp.	9	0.14%	Yes	Larva		1	SH
Lepidostoma sp.	2	0.03%	No	Pupa		1	SH
Leptoceridae							
Oecetis sp.	564	9.06%	Yes	Larva		8	PR
Uenoidae							
Neophylax rickeri	1	0.02%	Yes	Larva		3	SC
Coleoptera							
Dytiscidae							
Dytiscidae	1	0.02%	Yes	Adult	Damaged	11	PR
Elmidae							
Cleptelmis addenda	45	0.72%	Yes	Adult		4	CG
Cleptelmis addenda	26	0.42%	No	Larva		4	CG
Optioservus sp.	334	5.36%	No	Larva		5	SC
Optioservus sp.	594	9.54%	Yes	Adult		5	SC
Zaitzevia sp.	37	0.59%	Yes	Adult		4	CG
Zaitzevia sp.	62	1.00%	No	Larva		4	CG

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC007

RAI No.: PBSJ13CFRC007
Sta. Name: Lost Creek at Frontage Road - Composite
Client ID: LC-7.5
Date Coll.: 8/13/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Empididae							
Empididae	7	0.11%	No	Pupa		11	PR
Neoplasta sp.	2	0.03%	Yes	Larva		5	PR
Trichoclinocera sp.	15	0.24%	Yes	Larva		11	PR
Psychodidae							
Pericoma / Telmatoscopus	43	0.69%	Yes	Larva		4	CG
Simuliidae							
Simuliidae	2	0.03%	No	Pupa	Damaged	11	CF
Simulium sp.	1	0.02%	Yes	Larva		6	CF
Stratiomyidae							
Caloparyphus sp.	13	0.21%	Yes	Larva		11	CG
Tipulidae							
Antocha monticola	1	0.02%	No	Pupa		3	CG
Antocha monticola	16	0.26%	Yes	Larva		3	CG
Dicranota sp.	40	0.64%	Yes	Larva		3	PR
Erioptera sp.	1	0.02%	Yes	Larva		11	CG
Pilaria sp.	2	0.03%	Yes	Larva		11	PR
Tipula sp.	1	0.02%	Yes	Larva		4	SH
Chironomidae							
Chironomidae							
Corynoneura sp.	1	0.02%	Yes	Larva		7	CG
Cricotopus (Nostococladius) sp.	1	0.02%	Yes	Larva		6	SH
Eukiefferiella sp.	39	0.63%	Yes	Larva		8	CG
Micropsectra sp.	16	0.26%	Yes	Larva		11	CG
Micropsectra sp.	1	0.02%	No	Pupa		11	CG
Microtendipes sp.	17	0.27%	Yes	Larva		6	CF
Orthocladius sp.	55	0.88%	Yes	Larva		6	CG
Orthocladius sp.	1	0.02%	No	Pupa		6	CG
Pagastia sp.	370	5.94%	Yes	Larva		1	CG
Parametriocnemus sp.	2	0.03%	Yes	Larva		5	CG
Pentaneura sp.	1	0.02%	Yes	Larva		6	PR
Pseudochironomus sp.	3	0.05%	Yes	Larva		11	CG
Rheotanytarsus sp.	15	0.24%	Yes	Larva		11	CF
Rheotanytarsus sp.	4	0.06%	No	Pupa		11	CF
Tanytarsini	1	0.02%	No	Pupa	Damaged	11	CF
Thienemanniella sp.	1	0.02%	Yes	Larva		6	CG
Thienemannimyia Gr.	16	0.26%	Yes	Larva		11	PR
Tvetenia sp.	1	0.02%	No	Pupa		5	CG
Tvetenia sp.	23	0.37%	Yes	Larva		5	CG
Sample Count	6227						

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC008

RAI No.: PBSJ13CFRC008
Sta. Name: Racetrack Creek at Frontage Road - Composite
Client ID: RTC-1.5
Date Coll.: 8/12/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata	0	0.00%	Yes	Unknown		5	UN
Turbellaria	3	0.18%	Yes	Unknown		5	PR
Gammaridae							
Gammarus sp.	1	0.06%	Yes	Unknown		4	SH
Glossiphoniidae							
Helobdella stagnalis	1	0.06%	Yes	Unknown		10	PR
Physidae							
Physa sp.	2	0.12%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	1	0.06%	Yes	Unknown		8	SC
Sphaeriidae							
Pisidium sp.	3	0.18%	Yes	Unknown		8	CF
Oligochaeta							
Naididae							
Naidinae	14	0.85%	Yes	Unknown		8	CG
Tubificinae	3	0.18%	Yes	Unknown		10	CG
Ephemeroptera							
Baetidae							
Baetis tricaudatus	312	19.00%	Yes	Larva		4	CG
Centroptilum sp.	2	0.12%	Yes	Larva		2	CG
Diphetor hageni	89	5.42%	Yes	Larva		5	CG
Ephemerellidae							
Ephemerella excrucians	4	0.24%	Yes	Larva		4	SH
Heptageniidae							
Ecdyonurus criddlei	12	0.73%	Yes	Larva		4	SH
Heptageniidae	2	0.12%	No	Larva	Early Instar	11	SC
Leptophlebiidae							
Paraleptophlebia sp.	98	5.97%	Yes	Larva		1	CG
Plecoptera							
Chloroperlidae							
Suwallia sp.	6	0.37%	Yes	Larva		1	PR
Nemouridae							
Malenka sp.	6	0.37%	Yes	Larva		2	SH
Zapada cinctipes	1	0.06%	Yes	Larva		2	SH
Perlodidae							
Skwala sp.	8	0.49%	Yes	Larva		3	PR
Pteronarcyidae							
Pteronarcella sp.	3	0.18%	Yes	Larva		3	SH
Megaloptera							
Sialidae							
Sialis sp.	2	0.12%	Yes	Larva		4	PR

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC008

RAI No.: PBSJ13CFRC008
Sta. Name: Racetrack Creek at Frontage Road - Composite
Client ID: RTC-1.5
Date Coll.: 8/12/2013
No. Jars: 1
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	1	0.06%	Yes	Larva		2	CF
Glossosomatidae							
Agapetus sp.	2	0.12%	Yes	Larva		0	SC
Hydropsychidae							
Hydropsyche sp.	1	0.06%	Yes	Larva	Damaged	5	CF
Hydroptilidae							
Hydroptila sp.	9	0.55%	Yes	Larva		6	PH
Hydroptilidae	7	0.43%	No	Pupa		11	PH
Ochrotrichia sp.	3	0.18%	Yes	Larva		4	PH
Lepidostomatidae							
Lepidostoma sp.	1	0.06%	Yes	Larva		1	SH
Lepidostoma sp.	1	0.06%	No	Pupa		1	SH
Coleoptera							
Dytiscidae							
Dytiscidae	1	0.06%	No	Larva		11	PR
Oreodytes sp.	1	0.06%	Yes	Adult		11	PR
Stictotarsus sp.	1	0.06%	Yes	Adult		11	PR
Elmidae							
Cleptelmis addenda	1	0.06%	Yes	Adult		4	CG
Optioservus sp.	24	1.46%	Yes	Adult		5	SC
Optioservus sp.	3	0.18%	No	Larva		5	SC
Zaitzevia sp.	6	0.37%	Yes	Adult		4	CG
Haliplidae							
Brychius sp.	1	0.06%	Yes	Adult		11	SC
Diptera							
Athericidae							
Atherix sp.	1	0.06%	Yes	Larva		4	PR
Empididae							
Trichoclinocera sp.	1	0.06%	Yes	Larva		11	PR
Muscidae							
Muscidae	25	1.52%	Yes	Larva		6	PR
Simuliidae							
Simulium sp.	4	0.24%	Yes	Larva		6	CF
Tipulidae							
Antocha monticola	3	0.18%	Yes	Larva		3	CG
Dicranota sp.	20	1.22%	Yes	Larva		3	PR
Hexatoma sp.	7	0.43%	Yes	Larva		2	PR
Tipula sp.	33	2.01%	Yes	Larva		4	SH
Tipulidae	2	0.12%	No	Larva	Damaged	11	SH

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC008

RAI No.: PBSJ13CFRC008
Client ID: RTC-1.5
Date Coll.: 8/12/2013
No. Jars: 1
Sta. Name: Racetrack Creek at Frontage Road - Composite
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironomidae							
Brillia sp.	2	0.12%	Yes	Larva		4	SH
Corynoneura sp.	1	0.06%	Yes	Pupa		7	CG
Cricotopus sp.	3	0.18%	No	Pupa		7	SH
Cricotopus sp.	15	0.91%	Yes	Larva		7	SH
Dicrotendipes sp.	2	0.12%	Yes	Larva		8	CG
Eukiefferiella sp.	46	2.80%	Yes	Larva		8	CG
Eukiefferiella sp.	2	0.12%	No	Pupa		8	CG
Limnophyes sp.	1	0.06%	Yes	Larva		11	CG
Micropsectra sp.	332	20.22%	Yes	Larva		11	CG
Micropsectra sp.	4	0.24%	No	Pupa		11	CG
Orthocladiinae	2	0.12%	No	Pupa	Damaged	11	CG
Orthocladius sp.	28	1.71%	No	Pupa		6	CG
Orthocladius sp.	250	15.23%	Yes	Larva		6	CG
Pagastia sp.	213	12.97%	Yes	Larva		1	CG
Tanytarsini	2	0.12%	No	Pupa	Damaged	11	CF
Thienemannimyia Gr.	1	0.06%	Yes	Larva		11	PR
Tvetenia sp.	6	0.37%	Yes	Larva		5	CG
Sample Count	1642						

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC009

RAI No.: PBSJ13CFRC009
Client ID: LBR-CFR
Date Coll.: 8/12/2013
No. Jars: 1
Sta. Name: Little Blackfoot River near mouth near Garrison - Composite
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata	0	0.00%	Yes	Unknown		5	UN
Hyalellidae							
Hyalella sp.	1	0.01%	Yes	Unknown		8	CG
Lymnaeidae							
Fossaria sp.	26	0.30%	Yes	Unknown		6	SC
Physidae							
Physa sp.	118	1.38%	Yes	Unknown		8	SC
Planorbidae							
Gyraulus sp.	14	0.16%	Yes	Unknown		8	SC
Sphaeriidae							
Pisidium sp.	1	0.01%	Yes	Unknown		8	CF
Oligochaeta							
Enchytraeidae							
Enchytraeidae	28	0.33%	Yes	Unknown		4	CG
Naididae							
Naididae	2	0.02%	No	Immature		8	CG
Naidinae	25	0.29%	Yes	Unknown		8	CG
Rhyacodrilinae	10	0.12%	Yes	Unknown		10	CG
Tubificinae	7	0.08%	Yes	Unknown		10	CG
Ephemeroptera							
Baetidae							
Acentrella sp.	1	0.01%	Yes	Larva	Early Instar	4	CG
Baetis tricaudatus	44	0.51%	Yes	Larva		4	CG
Diphetor hageni	3	0.04%	Yes	Larva		5	CG
Iswaeon sp.	1	0.01%	Yes	Larva		6	UN
Ephemerellidae							
Attenella margarita	60	0.70%	Yes	Larva		3	CG
Drunella sp.	101	1.18%	Yes	Larva	Early Instar	11	SC
Ephemerella excrucians	1	0.01%	Yes	Larva		4	SH
Ephemerella tibialis	2	0.02%	Yes	Larva		2	CG
Ephemerellidae	12	0.14%	No	Larva	Damaged	11	CG
Heptageniidae							
Ecdyonurus criddlei	4	0.05%	Yes	Larva		4	SH
Rhithrogena sp.	11	0.13%	Yes	Larva		0	SC
Leptohyphidae							
Tricorythodes sp.	20	0.23%	Yes	Larva		4	CG
Leptophlebiidae							
Paraleptophlebia sp.	1	0.01%	Yes	Larva		1	CG
Paraleptophlebia bicornuta	1	0.01%	Yes	Larva		2	CG

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC009

RAI No.:	PBSJ13CFRC009	Sta. Name:	Little Blackfoot River near mouth near Garrison - Composite
Client ID:	LBR-CFR		
Date Coll.:	8/12/2013	No. Jars: 1	STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Plecoptera							
Chloroperlidae							
Alloperla sp.	7	0.08%	Yes	Larva		1	PR
Sweltsa sp.	6	0.07%	Yes	Larva		1	PR
Perlidae							
Claassenia sabulosa	24	0.28%	Yes	Larva		11	PR
Hesperoperla pacifica	27	0.32%	Yes	Larva		11	PR
Perlidae	4	0.05%	No	Larva	Early Instar	11	PR
Perlodidae							
Perlodidae	3	0.04%	No	Larva	Early Instar	11	PR
Skwala sp.	15	0.18%	Yes	Larva		3	PR
Pteronarcyidae							
Pteronarcella sp.	8	0.09%	Yes	Larva		3	SH
Pteronarcys sp.	1	0.01%	No	Larva	Early Instar	2	SH
Pteronarcys californica	2	0.02%	Yes	Larva		2	SH
Trichoptera							
Brachycentridae							
Brachycentridae	31	0.36%	No	Pupa		11	CF
Brachycentrus occidentalis	148	1.73%	Yes	Larva		2	CF
Glossosomatidae							
Glossosoma sp.	38	0.44%	Yes	Larva		0	SC
Glossosomatidae	7	0.08%	No	Pupa		11	SC
Protoptila sp.	52	0.61%	Yes	Larva		1	SC
Helicopsychidae							
Helicopsyche sp.	67	0.78%	Yes	Larva		3	SC
Hydropsychidae							
Arctopsyche grandis	136	1.59%	Yes	Larva		2	PR
Ceratopsyche sp.	134	1.57%	No	Larva	Damaged	5	CF
Ceratopsyche cockerelli	104	1.22%	Yes	Larva		4	CF
Hydropsyche sp.	2141	25.01%	No	Larva	Early Instar	5	CF
Hydropsyche occidentalis	8	0.09%	Yes	Larva		5	CF
Hydropsychidae	1	0.01%	No	Pupa		11	CF
Hydropsychidae	37	0.43%	No	Larva	Early Instar	11	CF
Hydroptilidae							
Hydroptila sp.	22	0.26%	Yes	Larva		6	PH
Hydroptilidae	37	0.43%	No	Pupa		11	PH
Lepidostomatidae							
Lepidostoma sp.	14	0.16%	Yes	Larva		1	SH
Leptoceridae							
Ceraclea sp.	2	0.02%	Yes	Larva		3	CG
Oecetis sp.	46	0.54%	Yes	Larva		8	PR
Lepidoptera							
Crambidae							
Petrophila sp.	4	0.05%	Yes	Larva		5	SC

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC009

RAI No.: PBSJ13CFRC009
Client ID: LBR-CFR
Date Coll.: 8/12/2013
No. Jars: 1

Sta. Name: Little Blackfoot River near mouth near Garrison - Composite
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Coleoptera							
Elmidae							
Cleptelmis addenda	3	0.04%	No	Larva		4	CG
Cleptelmis addenda	1	0.01%	Yes	Adult		4	CG
Optioservus sp.	93	1.09%	Yes	Adult		5	SC
Optioservus sp.	331	3.87%	No	Larva		5	SC
Zaitzevia sp.	145	1.69%	No	Larva		4	CG
Zaitzevia sp.	35	0.41%	Yes	Adult		4	CG
Diptera							
Athericidae							
Atherix sp.	128	1.50%	Yes	Larva		4	PR
Empididae							
Empididae	3	0.04%	No	Pupa		11	PR
Hemerodromia sp.	2	0.02%	Yes	Larva		6	PR
Simuliidae							
Simulium sp.	33	0.39%	Yes	Larva		6	CF
Simulium sp.	43	0.50%	No	Pupa		6	CF
Tipulidae							
Antocha monticola	20	0.23%	No	Pupa		3	CG
Antocha monticola	303	3.54%	Yes	Larva		3	CG
Hexatoma sp.	13	0.15%	Yes	Larva		2	PR
Tipulidae	6	0.07%	No	Larva	Damaged	11	SH

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC009

RAI No.:	PBSJ13CFRC009			Sta. Name:	Little Blackfoot River near mouth near Garrison - Composite
Client ID:	LBR-CFR				
Date Coll.:	8/12/2013	No. Jars:	1	STORET ID:	

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironomidae							
Chironomini	1	0.01%	No	Pupa	Damaged	6	CG
Conchapelopia sp.	2	0.02%	Yes	Pupa		11	PR
Cricotopus sp.	44	0.51%	Yes	Larva		7	SH
Cricotopus sp.	36	0.42%	No	Pupa		7	SH
Cricotopus (Nostococladius) sp.	1752	20.47%	Yes	Larva		6	SH
Cryptochironomus sp.	1	0.01%	Yes	Pupa		8	PR
Eukiefferiella sp.	623	7.28%	Yes	Larva		8	CG
Eukiefferiella sp.	8	0.09%	No	Pupa		8	CG
Micropsectra sp.	254	2.97%	Yes	Larva		11	CG
Micropsectra sp.	1	0.01%	No	Pupa		11	CG
Microtendipes sp.	5	0.06%	Yes	Larva		6	CF
Orthocladiinae	3	0.04%	No	Pupa	Damaged	11	CG
Orthocladius sp.	458	5.35%	Yes	Larva		6	CG
Orthocladius sp.	7	0.08%	No	Pupa		6	CG
Pagastia sp.	13	0.15%	Yes	Larva		1	CG
Parametriocnemus sp.	4	0.05%	Yes	Larva		5	CG
Pentaneura sp.	1	0.01%	No	Pupa		6	PR
Pentaneura sp.	3	0.04%	Yes	Larva		6	PR
Polypedilum sp.	45	0.53%	Yes	Larva		6	SH
Polypedilum sp.	5	0.06%	No	Pupa		6	SH
Potthastia Longimana Gr.	1	0.01%	Yes	Larva		2	CG
Rheocricotopus sp.	66	0.77%	Yes	Larva		4	CG
Rheotanytarsus sp.	74	0.86%	Yes	Larva		11	CF
Rheotanytarsus sp.	8	0.09%	No	Pupa		11	CF
Synorthocladius sp.	1	0.01%	Yes	Larva		2	CG
Tanytarsini	1	0.01%	No	Pupa	Damaged	11	CF
Tanytarsus sp.	22	0.26%	Yes	Larva		11	CF
Thienemannimyia Gr.	13	0.15%	No	Larva		11	PR
Tvetenia sp.	326	3.81%	Yes	Larva		5	CG
Tvetenia sp.	2	0.02%	No	Pupa		5	CG
Sample Count	8559						

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC010

RAI No.: PBSJ13CFRC010 **Sta. Name:** Silver Bow Creek at Opportunity - Composite
Client ID: SS-17
Date Coll.: 8/20/2013 **No. Jars:** 1 **STORET ID:**

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata	0	0.00%	Yes	Unknown		5	UN
Glossiphoniidae							
Helobdella stagnalis	1	0.03%	Yes	Unknown		10	PR
Physidae							
Physa sp.	2	0.06%	Yes	Unknown		8	SC
Oligochaeta							
Enchytraeidae							
Enchytraeidae	1	0.03%	Yes	Unknown		4	CG
Naididae							
Naididae	4	0.12%	No	Immature		8	CG
Naidinae	1	0.03%	Yes	Unknown		8	CG
Rhyacodrilinae	1	0.03%	Yes	Unknown		10	CG
Tubificinae	7	0.21%	Yes	Unknown		10	CG
Ephemeroptera							
Baetidae							
Baetis tricaudatus	25	0.74%	Yes	Larva		4	CG
Leptohyphidae							
Tricorythodes sp.	2	0.06%	Yes	Larva		4	CG
Plecoptera							
Perlodidae							
Skwala sp.	5	0.15%	Yes	Larva		3	PR
Trichoptera							
Trichoptera	3	0.09%	No	Pupa	Damaged	11	UN
Brachycentridae							
Brachycentrus occidentalis	694	20.67%	Yes	Larva		2	CF
Glossosomatidae							
Glossosoma sp.	6	0.18%	Yes	Larva		0	SC
Glossosomatidae	18	0.54%	No	Pupa		11	SC
Protoptila sp.	21	0.63%	Yes	Larva		1	SC
Helicopsychidae							
Helicopsyche sp.	5	0.15%	No	Pupa		3	SC
Helicopsyche sp.	66	1.97%	Yes	Larva		3	SC
Hydropsychidae							
Ceratopsyche cockerelli	24	0.71%	Yes	Larva		4	CF
Cheumatopsyche sp.	4	0.12%	Yes	Larva		5	CF
Hydropsyche occidentalis	1904	56.70%	Yes	Larva		5	CF
Hydropsychidae	1	0.03%	No	Pupa		11	CF
Lepidostomatidae							
Lepidostoma sp.	1	0.03%	Yes	Larva		1	SH
Leptoceridae							
Oecetis sp.	1	0.03%	Yes	Larva		8	PR
Lepidoptera							
Crambidae							
Petrophila sp.	7	0.21%	Yes	Larva		5	SC

Taxa Listing

Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC010

RAI No.:	PBSJ13CFRC010			**Sta. Name:**	Silver Bow Creek at Opportunity - Composite
Client ID:	SS-17				
Date Coll.:	8/20/2013	**No. Jars:**	1	**STORET ID:**	

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Coleoptera							
Dytiscidae							
Dytiscidae	1	0.03%	Yes	Larva		11	PR
Elmidae							
Optioservus sp.	5	0.15%	Yes	Adult		5	SC
Optioservus sp.	26	0.77%	No	Larva		5	SC
Zaitzevia sp.	3	0.09%	Yes	Larva		4	CG
Diptera							
Simuliidae							
Simulium sp.	10	0.30%	No	Pupa		6	CF
Simulium sp.	75	2.23%	Yes	Larva		6	CF
Tipulidae							
Antocha monticola	5	0.15%	No	Pupa		3	CG
Antocha monticola	15	0.45%	Yes	Larva		3	CG
Chironomidae							
Chironomidae							
Cardiocladius sp.	40	1.19%	Yes	Larva		5	PR
Cardiocladius sp.	3	0.09%	No	Pupa		5	PR
Conchapelopia sp.	5	0.15%	No	Pupa		11	PR
Conchapelopia sp.	2	0.06%	Yes	Larva		11	PR
Cricotopus sp.	57	1.70%	No	Pupa		7	SH
Cricotopus sp.	96	2.86%	Yes	Larva		7	SH
Eukiefferiella sp.	28	0.83%	Yes	Larva		8	CG
Eukiefferiella sp.	7	0.21%	No	Pupa		8	CG
Micropsectra sp.	27	0.80%	Yes	Larva		11	CG
Microtendipes sp.	1	0.03%	Yes	Larva		6	CF
Orthocladiinae	4	0.12%	No	Larva	Early Instar	11	CG
Pagastia sp.	88	2.62%	Yes	Larva		1	CG
Parametriocnemus sp.	8	0.24%	No	Pupa		5	CG
Parametriocnemus sp.	10	0.30%	Yes	Larva		5	CG
Polypedilum sp.	1	0.03%	Yes	Larva		6	SH
Rheotanytarsus sp.	1	0.03%	No	Pupa		11	CF
Rheotanytarsus sp.	2	0.06%	Yes	Larva		11	CF
Tanytarsini	1	0.03%	No	Larva	Damaged	11	CF
Tanytarsus sp.	1	0.03%	Yes	Pupa		11	CF
Tvetenia sp.	29	0.86%	Yes	Larva		5	CG
Tvetenia sp.	3	0.09%	No	Pupa		5	CG
Sample Count	3358						

Metrics Report

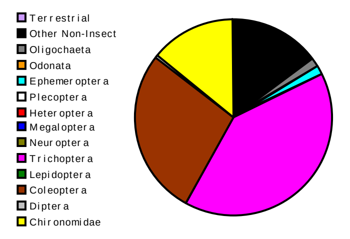
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC001
Sta. Name: Silver Bow Creek at Warms Springs - Composite
Client ID: SS-25
STORET ID
Coll. Date: 8/13/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count: 8453
Sample Abundance: 8,453.00 100.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	7	1267	14.99%
Oligochaeta	3	143	1.69%
Odonata	1	1	0.01%
Ephemeroptera	3	94	1.11%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	9	3368	39.84%
Lepidoptera	1	16	0.19%
Coleoptera	3	2344	27.73%
Diptera	6	26	0.31%
Chironomidae	17	1194	14.13%

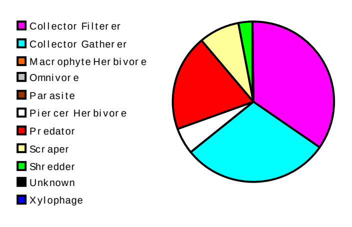


Dominant Taxa

Category	A	PRA
Zaitzevia	1666	19.71%
Turbellaria	945	11.18%
Hydropsychidae	886	10.48%
Optioservus	673	7.96%
Cheumatopsyche	651	7.70%
Oecetis	593	7.02%
Microtendipes	525	6.21%
Ceratopsyche	427	5.05%
Hydropsyche occidentalis	216	2.56%
Tvetenia	209	2.47%
Hyalella	203	2.40%
Hydroptila	170	2.01%
Cricotopus	157	1.86%
Ochrotrichia	151	1.79%
Tubificinae	127	1.50%

Functional Composition

Category	R	A	PRA
Predator	11	1677	19.84%
Parasite			
Collector Gatherer	19	2473	29.26%
Collector Filterer	8	2934	34.71%
Macrophyte Herbivore			
Piercer Herbivore	2	428	5.06%
Xylophage			
Scraper	5	697	8.25%
Shredder	5	244	2.89%
Omnivore			
Unknown			



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	50
E Richness	3
P Richness	0
P Percent	0.00%
T Richness	9
EPT Richness	12
EPT Percent	40.96%
All Non-Insect Abundance	1410
Diptera and Non-Insect Percent	31.11%
All Non-Insect Richness	10
All Non-Insect Percent	16.68%
Oligochaeta+Hirudinea Percent	1.70%
Baetidae/Ephemeroptera	0.777
E (no Baetids) Percent	0.25%
Hydropsychidae/Trichoptera	0.681
T (no Hydropsychids) Percent	12.73%
Diversity	
Shannon H (loge)	2.715
Shannon H (log10)	
Shannon H (log2)	3.916
Margalef D	5.750
Simpson D	0.095
Evenness	0.052
Function	
Predator Richness	11
Predator Percent	19.84%
Filterer Richness	8
Filterer Percent	34.71%
Collector Percent	63.97%
Scraper Percent	8.25%
Scraper+Shredder Percent	11.13%
Scraper/Filterer	0.238
Scraper/Scraper+Filterer	0.192
Habit	
Burrower Richness	6
Burrower Percent	0.20%
Swimmer Richness	2
Swimmer Percent	1.48%
Clinger Richness	15
Clinger Percent	72.87%
Characteristics	
Cold Stenotherm Richness	1
Cold Stenotherm Percent	0.07%
Hemoglobin Bearer Richness	4
Hemoglobin Bearer Percent	6.60%
Air Breather Richness	2
Air Breather Percent	0.02%
Voltinism	
Univoltine Richness	18
Semivoltine Richness	5
Multivoltine Percent	31.23%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	0.24%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.07%
Metals Tolerance Index	4.206
Pollution Sensitive Richness	3
Pollution Tolerant Percent	47.49%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	5.323
Intolerant Percent	0.57%
Supertolerant Percent	12.66%
CTQa	104.000

Metrics Report

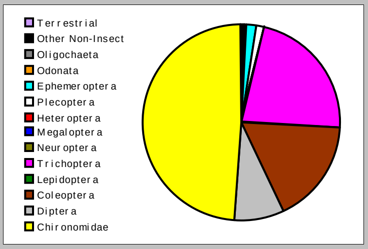
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC002
Sta. Name: Clark Fork near Galen at Perkins Lane - Composite
Client ID: CFR-03A
STORET ID
Coll. Date: 8/13/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count: 8408
Sample Abundance: 8,408.00 100.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	3	45	0.54%
Oligochaeta	2	31	0.37%
Odonata	1	1	0.01%
Ephemeroptera	9	135	1.61%
Plecoptera	3	111	1.32%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	12	1872	22.26%
Lepidoptera			
Coleoptera	3	1421	16.90%
Diptera	5	679	8.08%
Chironomidae	14	4113	48.92%

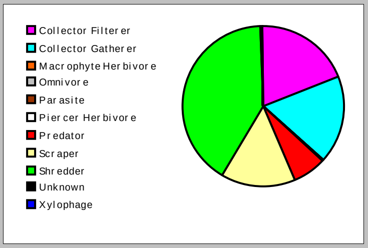


Dominant Taxa

Category	A	PRA
Cricotopus (Nostococladius)	2928	34.82%
Ceratopsyche cockerelli	1108	13.18%
Optioservus	923	10.98%
Cricotopus	508	6.04%
Zaitzevia	479	5.70%
Tvetenia	421	5.01%
Atherix	394	4.69%
Brachycentrus occidentalis	293	3.48%
Antocha monticola	270	3.21%
Protoptila	208	2.47%
Skwala	90	1.07%
Baetis tricaudatus	88	1.05%
Hydropsyche occidentalis	87	1.03%
Microtendipes	84	1.00%
Glossosoma	81	0.96%

Functional Composition

Category	R	A	PRA
Predator	10	559	6.65%
Parasite			
Collector Gatherer	17	1475	17.54%
Collector Filterer	9	1619	19.26%
Macrophyte Herbivore			
Piercer Herbivore	1	14	0.17%
Xylophage			
Scraper	8	1249	14.85%
Shredder	6	3479	41.38%
Omnivore			
Unknown	1	13	0.15%



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	52
E Richness	9
P Richness	3
P Percent	1.32%
T Richness	12
EPT Richness	24
EPT Percent	25.19%
All Non-Insect Abundance	76
Diptera and Non-Insect Percent	57.90%
All Non-Insect Richness	5
All Non-Insect Percent	0.90%
Oligochaeta+Hirudinea Percent	0.37%
Baetidae/Ephemeroptera	0.748
E (no Baetids) Percent	0.40%
Hydropsychidae/Trichoptera	0.659
T (no Hydropsychids) Percent	7.60%
Diversity	
Shannon H (loge)	2.223
Shannon H (log10)	
Shannon H (log2)	3.207
Margalef D	5.750
Simpson D	0.210
Evenness	0.062
Function	
Predator Richness	10
Predator Percent	6.65%
Filterer Richness	9
Filterer Percent	19.26%
Collector Percent	36.80%
Scraper Percent	14.85%
Scraper+Shredder Percent	56.23%
Scraper/Filterer	0.771
Scraper/Scraper+Filterer	0.435
Habit	
Burrower Richness	4
Burrower Percent	34.87%
Swimmer Richness	2
Swimmer Percent	1.06%
Clinger Richness	22
Clinger Percent	36.44%
Characteristics	
Cold Stenotherm Richness	1
Cold Stenotherm Percent	34.82%
Hemoglobin Bearer Richness	4
Hemoglobin Bearer Percent	1.26%
Air Breather Richness	1
Air Breather Percent	3.21%
Voltinism	
Univoltine Richness	20
Semivoltine Richness	7
Multivoltine Percent	50.80%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	3.27%
Sediment Sensitive Richness	3
Sediment Sensitive Percent	35.80%
Metals Tolerance Index	4.653
Pollution Sensitive Richness	1
Pollution Tolerant Percent	21.81%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	4.892
Intolerant Percent	7.30%
Supertolerant Percent	0.83%
CTQa	104.000

Metrics Report

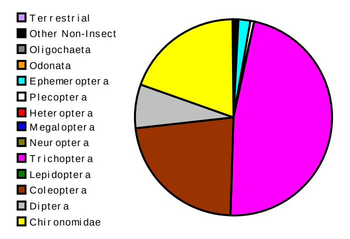
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC003
Sta. Name: Clark Fork at Galen Road - Composite
Client ID: CFR-7D
STORET ID
Coll. Date: 8/12/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count:	8083		
Sample Abundance:	8,083.00	100.00%	of sample used
Coll. Procedure:			
Sample Notes:			

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	3	67	0.83%
Oligochaeta	3	7	0.09%
Odonata	1	7	0.09%
Ephemeroptera	7	134	1.66%
Plecoptera	2	70	0.87%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	11	3772	46.67%
Lepidoptera			
Coleoptera	3	1848	22.86%
Diptera	6	590	7.30%
Chironomidae	14	1588	19.65%

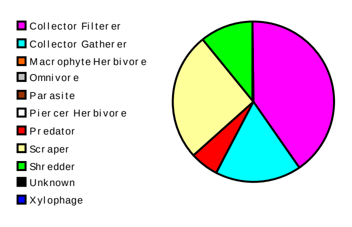


Dominant Taxa

Category	A	PRA
Optioservus	1522	18.83%
Brachycentrus occidentalis	1192	14.75%
Ceratopsyche	1103	13.65%
Cricotopus (Nostococladius)	559	6.92%
Tvetenia	450	5.57%
Protoptila	422	5.22%
Ceratopsyche cockerelli	396	4.90%
Hydropsyche	304	3.76%
Zaitzevia	284	3.51%
Cricotopus	260	3.22%
Antocha monticola	255	3.15%
Atherix	224	2.77%
Hydropsyche occidentalis	119	1.47%
Eukiefferiella	103	1.27%
Baetis tricaudatus	102	1.26%

Functional Composition

Category	R	A	PRA
Predator	13	446	5.52%
Parasite			
Collector Gatherer	18	1392	17.22%
Collector Filterer	7	3254	40.26%
Macrophyte Herbivore			
Piercer Herbivore	1	5	0.06%
Xylophage			
Scraper	5	2110	26.10%
Shredder	5	869	10.75%
Omnivore			
Unknown	1	7	0.09%



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	50
E Richness	7
P Richness	2
P Percent	0.87%
T Richness	11
EPT Richness	20
EPT Percent	49.19%
All Non-Insect Abundance	74
Diptera and Non-Insect Percent	27.86%
All Non-Insect Richness	6
All Non-Insect Percent	0.92%
Oligochaeta+Hirudinea Percent	0.09%
Baetidae/Ephemeroptera	0.858
E (no Baetids) Percent	0.24%
Hydropsychidae/Trichoptera	0.514
T (no Hydropsychids) Percent	22.68%
Diversity	
Shannon H (loge)	2.697
Shannon H (log10)	
Shannon H (log2)	3.891
Margalef D	5.767
Simpson D	0.106
Evenness	0.052
Function	
Predator Richness	13
Predator Percent	5.52%
Filterer Richness	7
Filterer Percent	40.26%
Collector Percent	57.48%
Scraper Percent	26.10%
Scraper+Shredder Percent	36.86%
Scraper/Filterer	0.648
Scraper/Scraper+Filterer	0.393
Habit	
Burrower Richness	4
Burrower Percent	7.14%
Swimmer Richness	3
Swimmer Percent	1.35%
Clinger Richness	19
Clinger Percent	71.59%
Characteristics	
Cold Stenotherm Richness	2
Cold Stenotherm Percent	6.93%
Hemoglobin Bearer Richness	3
Hemoglobin Bearer Percent	1.03%
Air Breather Richness	3
Air Breather Percent	3.76%
Voltinism	
Univoltine Richness	17
Semivoltine Richness	7
Multivoltine Percent	21.89%
Tolerance	
Sediment Tolerant Richness	5
Sediment Tolerant Percent	3.84%
Sediment Sensitive Richness	2
Sediment Sensitive Percent	7.73%
Metals Tolerance Index	4.394
Pollution Sensitive Richness	3
Pollution Tolerant Percent	25.92%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	4.214
Intolerant Percent	21.71%
Supertolerant Percent	1.45%
CTQa	104.000

Metrics Report

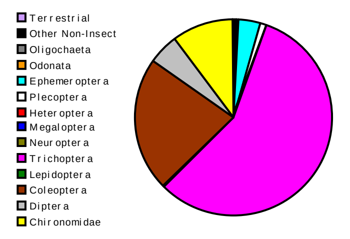
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC004
Sta. Name: Clark Fork at Gem Back Road - Composite
Client ID: CFR-11F
STORET ID
Coll. Date: 8/12/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count: 6014
Sample Abundance: 6,014.00 100.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	4	38	0.63%
Oligochaeta	2	8	0.13%
Odonata	1	7	0.12%
Ephemeroptera	7	228	3.79%
Plecoptera	5	53	0.88%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	14	3416	56.80%
Lepidoptera	1	16	0.27%
Coleoptera	3	1325	22.03%
Diptera	6	306	5.09%
Chironomidae	14	617	10.26%

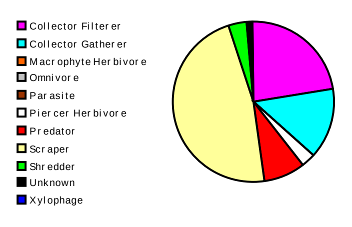


Dominant Taxa

Category	A	PRA
Optioservus	1031	17.14%
Protoptila	912	15.16%
Helicopsyche	878	14.60%
Hydropsyche	663	11.02%
Zaitzevia	273	4.54%
Ceratopsyche	223	3.71%
Atherix	210	3.49%
Tvetenia	177	2.94%
Oecetis	152	2.53%
Brachycentrus occidentalis	115	1.91%
Microtendipes	101	1.68%
Cricotopus (Nostococladius)	96	1.60%
Hydroptila	94	1.56%
Tricorythodes	92	1.53%
Ceratopsyche cockerelli	89	1.48%

Functional Composition

Category	R	A	PRA
Predator	16	495	8.23%
Parasite			
Collector Gatherer	17	859	14.28%
Collector Filterer	7	1353	22.50%
Macrophyte Herbivore			
Piercer Herbivore	2	164	2.73%
Xylophage			
Scraper	9	2860	47.56%
Shredder	5	220	3.66%
Omnivore			
Unknown	1	63	1.05%



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	57
E Richness	7
P Richness	5
P Percent	0.88%
T Richness	14
EPT Richness	26
EPT Percent	61.47%
All Non-Insect Abundance	46
Diptera and Non-Insect Percent	16.11%
All Non-Insect Richness	6
All Non-Insect Percent	0.76%
Oligochaeta+Hirudinea Percent	0.13%
Baetidae/Ephemeroptera	0.307
E (no Baetids) Percent	2.63%
Hydropsychidae/Trichoptera	0.332
T (no Hydropsychids) Percent	37.94%
Diversity	
Shannon H (loge)	2.706
Shannon H (log10)	
Shannon H (log2)	3.905
Margalef D	6.790
Simpson D	0.124
Evenness	0.052
Function	
Predator Richness	16
Predator Percent	8.23%
Filterer Richness	7
Filterer Percent	22.50%
Collector Percent	36.78%
Scraper Percent	47.56%
Scraper+Shredder Percent	51.21%
Scraper/Filterer	2.114
Scraper/Scraper+Filterer	0.679
Habit	
Burrower Richness	3
Burrower Percent	1.95%
Swimmer Richness	2
Swimmer Percent	0.08%
Clinger Richness	24
Clinger Percent	80.78%
Characteristics	
Cold Stenotherm Richness	1
Cold Stenotherm Percent	1.60%
Hemoglobin Bearer Richness	3
Hemoglobin Bearer Percent	3.03%
Air Breather Richness	2
Air Breather Percent	1.50%
Voltinism	
Univoltine Richness	24
Semivoltine Richness	8
Multivoltine Percent	14.65%
Tolerance	
Sediment Tolerant Richness	5
Sediment Tolerant Percent	3.08%
Sediment Sensitive Richness	3
Sediment Sensitive Percent	1.76%
Metals Tolerance Index	3.759
Pollution Sensitive Richness	1
Pollution Tolerant Percent	46.41%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	3.933
Intolerant Percent	18.56%
Supertolerant Percent	2.94%
CTQa	104.000

Metrics Report

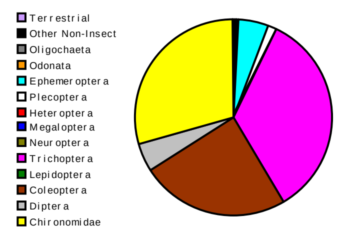
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC005
Sta. Name: Mill Cr. - Willow Creek at Frontage Road - Composite
Client ID: MCWC-MWB
STORET ID
Coll. Date: 8/13/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count: 4399
Sample Abundance: 4,399.00 100.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	5	23	0.52%
Oligochaeta	3	27	0.61%
Odonata	1	1	0.02%
Ephemeroptera	8	206	4.68%
Plecoptera	8	75	1.70%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	14	1498	34.05%
Lepidoptera			
Coleoptera	5	1049	23.85%
Diptera	6	207	4.71%
Chironomidae	19	1313	29.85%

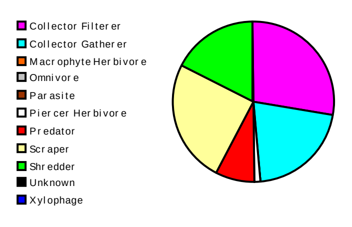


Dominant Taxa

Category	A	PRA
Optioservus	957	21.75%
Cricotopus (Nostococladius)	537	12.21%
Hydropsychidae	443	10.07%
Brachycentrus occidentalis	345	7.84%
Rheotanytarsus	151	3.43%
Lepidostoma	142	3.23%
Simulium	132	3.00%
Tvetenia	129	2.93%
Orthocladius	129	2.93%
Rhyacophila Brunnea/Vemna Gr.	119	2.71%
Pagastia	113	2.57%
Ceratopsyche	95	2.16%
Baetis tricaudatus	92	2.09%
Eukiefferiella	84	1.91%
Rhyacophila	60	1.36%

Functional Composition

Category	R	A	PRA
Predator	16	341	7.75%
Parasite			
Collector Gatherer	26	900	20.46%
Collector Filterer	8	1222	27.78%
Macrophyte Herbivore			
Piercer Herbivore	1	49	1.11%
Xylophage			
Scraper	8	1109	25.21%
Shredder	10	778	17.69%
Omnivore			
Unknown			



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	69
E Richness	8
P Richness	8
P Percent	1.70%
T Richness	14
EPT Richness	30
EPT Percent	40.44%
All Non-Insect Abundance	50
Diptera and Non-Insect Percent	35.69%
All Non-Insect Richness	8
All Non-Insect Percent	1.14%
Oligochaeta+Hirudinea Percent	0.61%
Baetidae/Ephemeroptera	0.578
E (no Baetids) Percent	1.98%
Hydropsychidae/Trichoptera	0.405
T (no Hydropsychids) Percent	20.25%
Diversity	
Shannon H (loge)	3.159
Shannon H (log10)	
Shannon H (log2)	4.558
Margalef D	8.489
Simpson D	0.069
Evenness	0.038
Function	
Predator Richness	16
Predator Percent	7.75%
Filterer Richness	8
Filterer Percent	27.78%
Collector Percent	48.24%
Scraper Percent	25.21%
Scraper+Shredder Percent	42.90%
Scraper/Filterer	0.908
Scraper/Scraper+Filterer	0.476
Habit	
Burrower Richness	7
Burrower Percent	13.16%
Swimmer Richness	3
Swimmer Percent	2.96%
Clinger Richness	33
Clinger Percent	64.99%
Characteristics	
Cold Stenotherm Richness	2
Cold Stenotherm Percent	12.23%
Hemoglobin Bearer Richness	3
Hemoglobin Bearer Percent	0.75%
Air Breather Richness	2
Air Breather Percent	1.48%
Voltinism	
Univoltine Richness	31
Semivoltine Richness	10
Multivoltine Percent	33.78%
Tolerance	
Sediment Tolerant Richness	5
Sediment Tolerant Percent	3.11%
Sediment Sensitive Richness	3
Sediment Sensitive Percent	14.19%
Metals Tolerance Index	4.451
Pollution Sensitive Richness	3
Pollution Tolerant Percent	26.98%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	4.412
Intolerant Percent	20.12%
Supertolerant Percent	3.39%
CTQa	104.000

Metrics Report

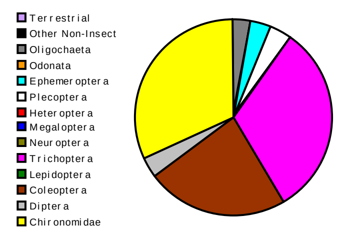
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC006
Sta. Name: Warms Springs Creek near mouth - Composite
Client ID: WSC-SBC
STORET ID
Coll. Date: 8/13/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count: 3420
Sample Abundance: 3,420.00 100.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	2	2	0.06%
Oligochaeta	1	91	2.66%
Odonata			
Ephemeroptera	7	122	3.57%
Plecoptera	4	125	3.65%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	17	1079	31.55%
Lepidoptera			
Coleoptera	5	786	22.98%
Diptera	5	109	3.19%
Chironomidae	13	1106	32.34%

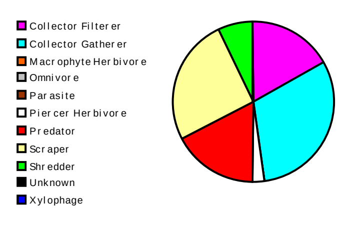


Dominant Taxa

Category	A	PRA
Optioservus	711	20.79%
Arctopsyche grandis	405	11.84%
Pagastia	283	8.27%
Rheotanytarsus	227	6.64%
Eukiefferiella	223	6.52%
Orthocladius	141	4.12%
Glossosoma	140	4.09%
Hydropsychidae	130	3.80%
Baetis tricaudatus	101	2.95%
Hydropsyche	93	2.72%
Cricotopus (Nostococladius)	93	2.72%
Naidinae	91	2.66%
Hydroptilidae	76	2.22%
Cleptelmis addenda	72	2.11%
Pteronarcella	53	1.55%

Functional Composition

Category	R	A	PRA
Predator	10	584	17.08%
Parasite			
Collector Gatherer	18	1035	30.26%
Collector Filterer	8	585	17.11%
Macrophyte Herbivore			
Piercer Herbivore	2	91	2.66%
Xylophage			
Scraper	9	888	25.96%
Shredder	7	237	6.93%
Omnivore			
Unknown			



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	54
E Richness	7
P Richness	4
P Percent	3.66%
T Richness	17
EPT Richness	28
EPT Percent	38.77%
All Non-Insect Abundance	93
Diptera and Non-Insect Percent	38.25%
All Non-Insect Richness	3
All Non-Insect Percent	2.72%
Oligochaeta+Hirudinea Percent	2.66%
Baetidae/Ephemeroptera	0.836
E (no Baetids) Percent	0.58%
Hydropsychidae/Trichoptera	0.601
T (no Hydropsychids) Percent	12.57%
Diversity	
Shannon H (loge)	2.956
Shannon H (log10)	
Shannon H (log2)	4.264
Margalef D	6.802
Simpson D	0.075
Evenness	0.044
Function	
Predator Richness	10
Predator Percent	17.08%
Filterer Richness	8
Filterer Percent	17.11%
Collector Percent	47.37%
Scraper Percent	25.96%
Scraper+Shredder Percent	32.89%
Scraper/Filterer	1.518
Scraper/Scraper+Filterer	0.603
Habit	
Burrower Richness	4
Burrower Percent	3.13%
Swimmer Richness	2
Swimmer Percent	2.98%
Clinger Richness	34
Clinger Percent	67.37%
Characteristics	
Cold Stenotherm Richness	1
Cold Stenotherm Percent	2.72%
Hemoglobin Bearer Richness	0
Hemoglobin Bearer Percent	0.00%
Air Breather Richness	2
Air Breather Percent	1.02%
Voltinism	
Univoltine Richness	24
Semivoltine Richness	10
Multivoltine Percent	37.98%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	1.02%
Sediment Sensitive Richness	3
Sediment Sensitive Percent	18.65%
Metals Tolerance Index	5.098
Pollution Sensitive Richness	1
Pollution Tolerant Percent	21.55%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	4.064
Intolerant Percent	28.01%
Supertolerant Percent	9.27%
CTQa	104.000

Metrics Report

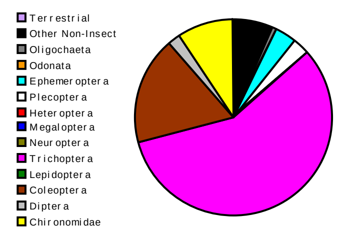
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC007
Sta. Name: Lost Creek at Frontage Road - Composite
Client ID: LC-7.5
STORET ID
Coll. Date: 8/13/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count: 6227
Sample Abundance: 6,227.00 100.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	9	423	6.79%
Oligochaeta	2	51	0.82%
Odonata			
Ephemeroptera	5	208	3.34%
Plecoptera	2	168	2.70%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	12	3566	57.27%
Lepidoptera			
Coleoptera	4	1099	17.65%
Diptera	10	144	2.31%
Chironomidae	14	568	9.12%

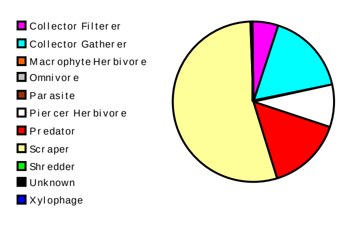


Dominant Taxa

Category	A	PRA
Helicopsyche	2238	35.94%
Optioservus	928	14.90%
Oecetis	564	9.06%
Pagastia	370	5.94%
Hydroptilidae	322	5.17%
Hydroptila	187	3.00%
Skwala	165	2.65%
Gyraulus	162	2.60%
Ceratopsyche slossonae	115	1.85%
Turbellaria	101	1.62%
Zaitzevia	99	1.59%
Cleptelmis addenda	71	1.14%
Baetis tricaudatus	70	1.12%
Pisidium	64	1.03%
Orthocladius	56	0.90%

Functional Composition

Category	R	A	PRA
Predator	12	922	14.81%
Parasite			
Collector Gatherer	22	1039	16.69%
Collector Filterer	10	329	5.28%
Macrophyte Herbivore			
Piercer Herbivore	2	526	8.45%
Xylophage			
Scraper	7	3368	54.09%
Shredder	5	42	0.67%
Omnivore			
Unknown	0	1	0.02%



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	58
E Richness	5
P Richness	2
P Percent	2.70%
T Richness	12
EPT Richness	19
EPT Percent	63.30%
All Non-Insect Abundance	474
Diptera and Non-Insect Percent	19.05%
All Non-Insect Richness	11
All Non-Insect Percent	7.61%
Oligochaeta+Hirudinea Percent	0.95%
Baetidae/Ephemeroptera	0.639
E (no Baetids) Percent	1.20%
Hydropsychidae/Trichoptera	0.056
T (no Hydropsychids) Percent	54.07%
Diversity	
Shannon H (loge)	2.378
Shannon H (log10)	
Shannon H (log2)	3.430
Margalef D	6.633
Simpson D	0.204
Evenness	0.058
Function	
Predator Richness	12
Predator Percent	14.81%
Filterer Richness	10
Filterer Percent	5.28%
Collector Percent	21.97%
Scraper Percent	54.09%
Scraper+Shredder Percent	54.76%
Scraper/Filterer	10.237
Scraper/Scraper+Filterer	0.911
Habit	
Burrower Richness	7
Burrower Percent	0.85%
Swimmer Richness	4
Swimmer Percent	2.30%
Clinger Richness	19
Clinger Percent	76.43%
Characteristics	
Cold Stenotherm Richness	1
Cold Stenotherm Percent	0.02%
Hemoglobin Bearer Richness	3
Hemoglobin Bearer Percent	2.92%
Air Breather Richness	7
Air Breather Percent	1.20%
Voltinism	
Univoltine Richness	26
Semivoltine Richness	6
Multivoltine Percent	21.33%
Tolerance	
Sediment Tolerant Richness	6
Sediment Tolerant Percent	4.35%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.02%
Metals Tolerance Index	3.970
Pollution Sensitive Richness	1
Pollution Tolerant Percent	69.76%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	4.323
Intolerant Percent	6.73%
Supertolerant Percent	15.24%
CTQa	104.000

Metrics Report

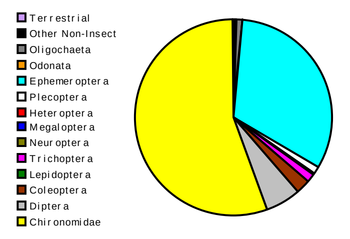
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC008
Sta. Name: Racetrack Creek at Frontage Road - Composite
Client ID: RTC-1.5
STORET ID
Coll. Date: 8/12/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count: 1642
Sample Abundance: 1,642.00 100.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	6	11	0.67%
Oligochaeta	2	17	1.04%
Odonata			
Ephemeroptera	6	519	31.61%
Plecoptera	5	24	1.46%
Heteroptera			
Megaloptera	1	2	0.12%
Neuroptera			
Trichoptera	6	25	1.52%
Lepidoptera			
Coleoptera	6	38	2.31%
Diptera	8	96	5.85%
Chironomidae	11	910	55.42%

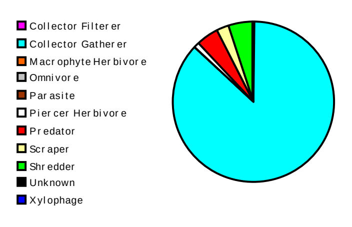


Dominant Taxa

Category	A	PRA
Micropsectra	336	20.46%
Baetis tricaudatus	312	19.00%
Orthocladius	278	16.93%
Pagastia	213	12.97%
Paraleptophlebia	98	5.97%
Diphetor hageni	89	5.42%
Eukiefferiella	48	2.92%
Tipula	33	2.01%
Optioservus	27	1.64%
Muscidae	25	1.52%
Dicranota	20	1.22%
Cricotopus	18	1.10%
Naidinae	14	0.85%
Ecdyonurus criddlei	12	0.73%
Hydroptila	9	0.55%

Functional Composition

Category	R	A	PRA
Predator	13	78	4.75%
Parasite			
Collector Gatherer	17	1415	86.18%
Collector Filterer	4	11	0.67%
Macrophyte Herbivore			
Piercer Herbivore	2	19	1.16%
Xylophage			
Scraper	5	35	2.13%
Shredder	10	84	5.12%
Omnivore			
Unknown			



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	51
E Richness	6
P Richness	5
P Percent	1.46%
T Richness	6
EPT Richness	17
EPT Percent	34.59%
All Non-Insect Abundance	28
Diptera and Non-Insect Percent	62.97%
All Non-Insect Richness	8
All Non-Insect Percent	1.71%
Oligochaeta+Hirudinea Percent	1.10%
Baetidae/Ephemeroptera	0.776
E (no Baetids) Percent	7.06%
Hydropsychidae/Trichoptera	0.040
T (no Hydropsychids) Percent	1.46%
Diversity	
Shannon H (loge)	2.423
Shannon H (log10)	
Shannon H (log2)	3.496
Margalef D	6.786
Simpson D	0.134
Evenness	0.062
Function	
Predator Richness	13
Predator Percent	4.75%
Filterer Richness	4
Filterer Percent	0.67%
Collector Percent	86.85%
Scraper Percent	2.13%
Scraper+Shredder Percent	7.25%
Scraper/Filterer	3.182
Scraper/Scraper+Filterer	0.761
Habit	
Burrower Richness	5
Burrower Percent	2.92%
Swimmer Richness	6
Swimmer Percent	30.69%
Clinger Richness	17
Clinger Percent	6.52%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	2
Hemoglobin Bearer Percent	0.18%
Air Breather Richness	6
Air Breather Percent	4.14%
Voltinism	
Univoltine Richness	22
Semivoltine Richness	8
Multivoltine Percent	81.30%
Tolerance	
Sediment Tolerant Richness	5
Sediment Tolerant Percent	4.02%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	5.058
Pollution Sensitive Richness	0
Pollution Tolerant Percent	5.18%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	4.067
Intolerant Percent	20.58%
Supertolerant Percent	4.51%
CTQa	104.000

Metrics Report

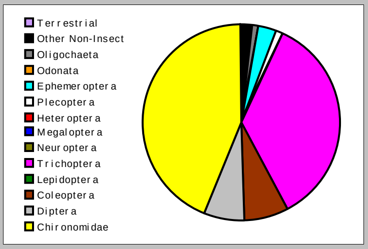
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC009
Sta. Name: Little Blackfoot River near mouth near Garrison - Composite
Client ID: LBR-CFR
STORET ID
Coll. Date: 8/12/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count: 8559
Sample Abundance: 8,559.00 100.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	5	160	1.87%
Oligochaeta	4	72	0.84%
Odonata			
Ephemeroptera	13	262	3.06%
Plecoptera	7	97	1.13%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	11	3025	35.34%
Lepidoptera	1	4	0.05%
Coleoptera	3	608	7.10%
Diptera	5	551	6.44%
Chironomidae	18	3780	44.16%

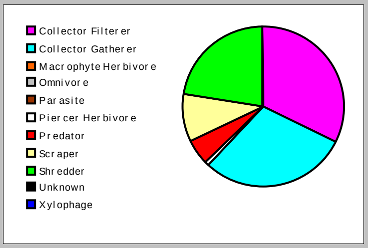


Dominant Taxa

Category	A	PRA
Hydropsyche	2141	25.01%
Cricotopus (Nostococladius)	1752	20.47%
Eukiefferiella	631	7.37%
Orthocladius	465	5.43%
Optioservus	424	4.95%
Tvetenia	328	3.83%
Antocha monticola	323	3.77%
Micropsectra	255	2.98%
Zaitzevia	180	2.10%
Brachycentrus occidentalis	148	1.73%
Arctopsyche grandis	136	1.59%
Ceratopsyche	134	1.57%
Atherix	128	1.50%
Physa	118	1.38%
Ceratopsyche cockerelli	104	1.22%

Functional Composition

Category	R	A	PRA
Predator	13	434	5.07%
Parasite			
Collector Gatherer	26	2494	29.14%
Collector Filterer	8	2791	32.61%
Macrophyte Herbivore			
Piercer Herbivore	1	59	0.69%
Xylophage			
Scraper	10	862	10.07%
Shredder	8	1918	22.41%
Omnivore			
Unknown	1	1	0.01%



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	67
E Richness	13
P Richness	7
P Percent	1.13%
T Richness	11
EPT Richness	31
EPT Percent	39.54%
All Non-Insect Abundance	232
Diptera and Non-Insect Percent	53.31%
All Non-Insect Richness	9
All Non-Insect Percent	2.71%
Oligochaeta+Hirudinea Percent	0.84%
Baetidae/Ephemeroptera	0.187
E (no Baetids) Percent	2.49%
Hydropsychidae/Trichoptera	0.847
T (no Hydropsychids) Percent	5.42%
Diversity	
Shannon H (loge)	2.767
Shannon H (log10)	
Shannon H (log2)	3.992
Margalef D	7.661
Simpson D	0.134
Evenness	0.049
Function	
Predator Richness	13
Predator Percent	5.07%
Filterer Richness	8
Filterer Percent	32.61%
Collector Percent	61.75%
Scraper Percent	10.07%
Scraper+Shredder Percent	32.48%
Scraper/Filterer	0.309
Scraper/Scraper+Filterer	0.236
Habit	
Burrower Richness	2
Burrower Percent	20.70%
Swimmer Richness	5
Swimmer Percent	0.58%
Clinger Richness	27
Clinger Percent	50.65%
Characteristics	
Cold Stenotherm Richness	1
Cold Stenotherm Percent	20.47%
Hemoglobin Bearer Richness	4
Hemoglobin Bearer Percent	0.82%
Air Breather Richness	2
Air Breather Percent	4.00%
Voltinism	
Univoltine Richness	28
Semivoltine Richness	9
Multivoltine Percent	45.43%
Tolerance	
Sediment Tolerant Richness	5
Sediment Tolerant Percent	4.70%
Sediment Sensitive Richness	3
Sediment Sensitive Percent	22.50%
Metals Tolerance Index	4.965
Pollution Sensitive Richness	2
Pollution Tolerant Percent	12.27%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	5.267
Intolerant Percent	5.22%
Supertolerant Percent	10.00%
CTQa	104.000

Metrics Report

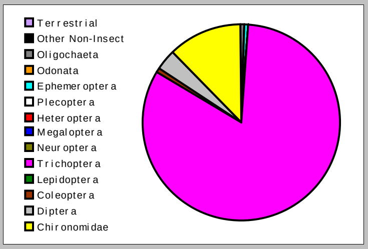
Project ID: PBSJ13CFRC
RAI No.: PBSJ13CFRC010
Sta. Name: Silver Bow Creek at Opportunity - Composite
Client ID: SS-17
STORET ID
Coll. Date: 8/20/2013
Latitude: **Longitude:**

Abundance Measures

Sample Count:	3358		
Sample Abundance:	3,358.00	100.00%	of sample used
Coll. Procedure:			
Sample Notes:			

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	2	3	0.09%
Oligochaeta	4	14	0.42%
Odonata			
Ephemeroptera	2	27	0.80%
Plecoptera	1	5	0.15%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	9	2748	81.83%
Lepidoptera	1	7	0.21%
Coleoptera	3	35	1.04%
Diptera	2	105	3.13%
Chironomidae	12	414	12.33%

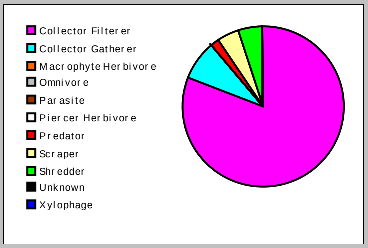


Dominant Taxa

Category	A	PRA
Hydropsyche occidentalis	1904	56.70%
Brachycentrus occidentalis	694	20.67%
Cricotopus	153	4.56%
Pagastia	88	2.62%
Simulium	85	2.53%
Helicopsyche	71	2.11%
Cardiocladius	43	1.28%
Eukiefferiella	35	1.04%
Tvetenia	32	0.95%
Optioservus	31	0.92%
Micropsectra	27	0.80%
Baetis tricaudatus	25	0.74%
Ceratopsyche cockerelli	24	0.71%
Protoptila	21	0.63%
Antocha monticola	20	0.60%

Functional Composition

Category	R	A	PRA
Predator	6	58	1.73%
Parasite			
Collector Gatherer	13	268	7.98%
Collector Filterer	8	2718	80.94%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	6	156	4.65%
Shredder	3	155	4.62%
Omnivore			
Unknown	0	3	0.09%



Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	36
E Richness	2
P Richness	1
P Percent	0.15%
T Richness	9
EPT Richness	12
EPT Percent	82.79%
All Non-Insect Abundance	17
Diptera and Non-Insect Percent	15.96%
All Non-Insect Richness	6
All Non-Insect Percent	0.51%
Oligochaeta+Hirudinea Percent	0.45%
Baetidae/Ephemeroptera	0.926
E (no Baetids) Percent	0.06%
Hydropsychidae/Trichoptera	0.703
T (no Hydropsychids) Percent	24.27%
Diversity	
Shannon H (loge)	1.460
Shannon H (log10)	
Shannon H (log2)	2.106
Margalef D	4.337
Simpson D	0.405
Evenness	0.075
Function	
Predator Richness	6
Predator Percent	1.73%
Filterer Richness	8
Filterer Percent	80.94%
Collector Percent	88.92%
Scraper Percent	4.65%
Scraper+Shredder Percent	9.26%
Scraper/Filterer	0.057
Scraper/Scraper+Filterer	0.054
Habit	
Burrower Richness	1
Burrower Percent	1.28%
Swimmer Richness	2
Swimmer Percent	0.77%
Clinger Richness	15
Clinger Percent	33.47%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	2
Hemoglobin Bearer Percent	0.06%
Air Breather Richness	2
Air Breather Percent	0.63%
Voltinism	
Univoltine Richness	14
Semivoltine Richness	4
Multivoltine Percent	13.07%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	0.66%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.18%
Metals Tolerance Index	4.884
Pollution Sensitive Richness	0
Pollution Tolerant Percent	3.66%
Pollution Tolerant Richness	
Hilsenhoff Biotic Index	4.322
Intolerant Percent	24.12%
Supertolerant Percent	1.55%
CTQa	104.000

APPENDIX F

MACROINVERTEBRATE QUALITY ASSURANCE AND QUALITY CONTROL

Quality control procedures for macroinvertebrate sample processing involved checking sorting efficiency. These checks were conducted on 100% of the samples by independent observers who microscopically re-examined at least 20% of sorted substrate from each sample. Sorting efficiency was evaluated by applying the following calculation:

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

where: SE = the sorting efficiency expressed as a percentage, n_1 = the total number of specimens in the first sort, n_2 = the total number of specimens expected in the second sort based on the results of the re-sorted 20%.

Quality control procedures for taxonomic determinations of invertebrates involved checking accuracy, precision and enumeration. Three samples were randomly selected and all organisms re-identified and counted by an independent taxonomist. Taxa lists and enumerations were compared by calculating a Bray-Curtis similarity statistic for each selected sample (Bray and Curtis 1957).

Quality control and quality assurance results for sample processing and taxonomic determinations are reported in Appendix F.

Table F1. Results of internal quality control procedures for subsampling and taxonomy for macroinvertebrate samples. Rhithron internal quality standards, consistent with industry norms are: for sorting efficiency, ≥95%; for Bray-Curtis similarity, ≥95%; for Percent Taxonomic Disagreement (PTD), ≤5%; and for Percent Difference in Enumeration (PDE), ≤5%. Clark Fork River basin samples, 2013.

Rhithron Sample ID	Site ID	Sorting efficiency	Bray-Curtis similarity	PTD	PDE
PBSJ13CFR017	MCWC-MWB				
PBSJ13CFR018	MCWC-MWB				
PBSJ13CFR019	MCWC-MWB				
PBSJ13CFR020	MCWC-MWB				
PBSJ13CFR021	WSC-SBC				
PBSJ13CFR022	WSC-SBC				
PBSJ13CFR023	WSC-SBC		96.49%	3.51%	0.00%
PBSJ13CFR024	WSC-SBC				
PBSJ13CFR037	SS-17				
PBSJ13CFR038	SS-17				
PBSJ13CFR039	SS-17				
PBSJ13CFR040	SS-17				
PBSJ13CFR001	SS-25				
PBSJ13CFR002	SS-25	99.14%			
PBSJ13CFR003	SS-25				
PBSJ13CFR004	SS-25				
PBSJ13CFR005	CFR-03A				
PBSJ13CFR006	CFR-03A	99.34%			
PBSJ13CFR007	CFR-03A				
PBSJ13CFR008	CFR-03A	94.79%			
PBSJ13CFR009	CFR-7D				
PBSJ13CFR010	CFR-7D				
PBSJ13CFR011	CFR-7D				
PBSJ13CFR012	CFR-7D				
PBSJ13CFR013	CFR-11F				
PBSJ13CFR014	CFR-11F		99.22%	0.00%	0.78%
PBSJ13CFR015	CFR-11F				
PBSJ13CFR016	CFR-11F	94.14%			
PBSJ13CFR025	LC-7.5				
PBSJ13CFR026	LC-7.5				
PBSJ13CFR027	LC-7.5				
PBSJ13CFR028	LC-7.5		97.73%	4.44%	2.27%
PBSJ13CFR029	RTC-1.5	88.94%			
PBSJ13CFR030	RTC-1.5				
PBSJ13CFR031	RTC-1.5				
PBSJ13CFR032	RTC-1.5				
PBSJ13CFR033	LBR-CFR		97.52%	1.67%	0.83%
PBSJ13CFR034	LBR-CFR				
PBSJ13CFR035	LBR-CFR				
PBSJ13CFR036	LBR-CFR				

APPENDIX G

MACROINVERTEBRATE BIOINDEX SCORES

Table G1. **Macroinvertebrate bioindex scores and impairment classifications for the Clark Fork River Operable Unit, 2013.**

Index		McGuire biointegrity metrics (McGuire 2010)		McGuire metals-sensitive subset (McGuire 2010)		McGuire nutrient-sensitive subset (McGuire 2010)	
Site ID	**rep no.**	**score**	**impairment class**	**score**	**impairment class**	**score**	**impairment class**
MCWC-MWB	1	89.39	slightly impaired	77.78	slightly impaired	94.44	nonimpaired
MCWC-MWB	2	93.94	nonimpaired	94.44	nonimpaired	94.44	nonimpaired
MCWC-MWB	3	89.39	slightly impaired	94.44	nonimpaired	88.89	nonimpaired
MCWC-MWB	4	95.45	nonimpaired	94.44	nonimpaired	94.44	nonimpaired
WSC-SBC	1	83.33	slightly impaired	72.22	slightly impaired	100.00	nonimpaired
WSC-SBC	2	81.82	slightly impaired	77.78	slightly impaired	94.44	nonimpaired
WSC-SBC	3	90.91	nonimpaired	88.89	nonimpaired	94.44	nonimpaired
WSC-SBC	4	81.82	slightly impaired	66.67	slightly impaired	100.00	nonimpaired
SS-17	1	68.18	slightly impaired	66.67	slightly impaired	61.11	slightly impaired
SS-17	2	59.09	slightly impaired	66.67	slightly impaired	61.11	slightly impaired
SS-17	3	66.67	slightly impaired	77.78	slightly impaired	61.11	slightly impaired
SS-17	4	60.61	slightly impaired	72.22	slightly impaired	61.11	slightly impaired
SS-25	1	81.82	slightly impaired	72.22	slightly impaired	88.89	nonimpaired
SS-25	2	78.79	slightly impaired	77.78	slightly impaired	83.33	nonimpaired
SS-25	3	81.82	slightly impaired	77.78	slightly impaired	77.78	slightly impaired
SS-25	4	78.79	slightly impaired	77.78	slightly impaired	72.22	slightly impaired
CFR-03A	1	77.27	slightly impaired	83.33	nonimpaired	83.33	nonimpaired
CFR-03A	2	83.33	slightly impaired	88.89	nonimpaired	83.33	nonimpaired
CFR-03A	3	77.27	slightly impaired	83.33	nonimpaired	88.89	nonimpaired
CFR-03A	4	77.27	slightly impaired	77.78	slightly impaired	88.89	nonimpaired
CFR-7D	1	75.76	slightly impaired	72.22	slightly impaired	83.33	nonimpaired
CFR-7D	2	80.30	slightly impaired	83.33	nonimpaired	88.89	nonimpaired
CFR-7D	3	87.88	slightly impaired	83.33	nonimpaired	100.00	nonimpaired
CFR-7D	4	87.88	slightly impaired	83.33	nonimpaired	94.44	nonimpaired
CFR-11F	1	92.42	nonimpaired	88.89	nonimpaired	94.44	nonimpaired
CFR-11F	2	93.94	nonimpaired	100.00	nonimpaired	94.44	nonimpaired
CFR-11F	3	89.39	slightly impaired	88.89	nonimpaired	94.44	nonimpaired
CFR-11F	4	90.91	nonimpaired	88.89	nonimpaired	100.00	nonimpaired
LC-7.5	1	86.36	slightly impaired	88.89	nonimpaired	88.89	nonimpaired
LC-7.5	2	90.91	nonimpaired	83.33	nonimpaired	100.00	nonimpaired
LC-7.5	3	89.39	slightly impaired	83.33	nonimpaired	88.89	nonimpaired
LC-7.5	4	87.88	slightly impaired	88.89	nonimpaired	94.44	nonimpaired
RTC-1.5	1	74.24	slightly impaired	61.11	slightly impaired	94.44	nonimpaired
RTC-1.5	2	78.79	slightly impaired	77.78	slightly impaired	94.44	nonimpaired
RTC-1.5	3	71.21	slightly impaired	44.44	slightly impaired	100.00	nonimpaired
RTC-1.5	4	75.76	slightly impaired	55.56	slightly impaired	100.00	nonimpaired
LBR-CFR	1	83.33	slightly impaired	83.33	nonimpaired	72.22	slightly impaired
LBR-CFR	2	87.88	slightly impaired	88.89	nonimpaired	88.89	nonimpaired
LBR-CFR	3	90.91	nonimpaired	94.44	nonimpaired	88.89	nonimpaired
LBR-CFR	4	84.85	slightly impaired	88.89	nonimpaired	77.78	slightly impaired

APPENDIX H

PERIPHYTON DATA

Site ID: MCWC-MWB
Site Description: Mill and Willow Creeks at Frontage Road
Date Sampled: 9/18/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 2/12/2014
Remarks: proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium exiguum	2	0.25	0.00
Achnanthidium minutissimum	51	6.38	0.00
Amphipleura pellucida	4	0.50	0.00
Amphora pediculus	3	0.38	0.00
Caloneis bacillum	2	0.25	0.00
Cocconeis pediculus	37	4.63	0.00
Cocconeis placentula var. euglypta	40	5.00	0.00
Cocconeis placentula var. lineata	83	10.38	0.00
Cymatopleura solea	1	0.13	0.00
Cymbella excisa	2	0.25	0.00
Cymbella sp. aff. rumrichae	2	0.25	0.00
Denticula valida	2	0.25	0.00
Diatoma moniliformis	3	0.38	0.00
Diatoma vulgaris	2	0.25	0.00
Encyonema cespitosum	1	0.13	0.00
Encyonema minutum	6	0.75	0.00
Encyonema prostratum	3	0.38	0.00
Encyonema silesiacum	2	0.25	0.00
Eolimna minima	7	0.88	0.00
Epithemia sorex	68	8.50	0.00
Epithemia turgida	3	0.38	0.00
Fragilaria delicatissima	1	0.13	0.00
Fragilaria vaucheriae	24	3.00	0.00
Geissleria acceptata	1	0.13	0.00
Geissleria decussis	2	0.25	0.00
Gomphoneis eriense	15	1.88	0.00
Gomphonema micropus	1	0.13	0.00
Gomphonema minusculum	3	0.38	0.00
Gomphonema minutum	3	0.38	0.00
Gomphonema olivaceum	7	0.88	0.00
Gomphonema parvulum	6	0.75	0.00
Gomphonema pumilum	6	0.75	0.00
Gomphonema truncatum	1	0.13	0.00
Hippodonta capitata	1	0.13	0.00
Luticola mutica	1	0.13	0.00
Melosira varians	21	2.63	0.00
Meridion circulare	2	0.25	0.00
Navicula antonii	1	0.13	0.00
Navicula capitatoradiata	20	2.50	0.00
Navicula cryptosephala	1	0.13	0.00
Navicula cryptotenella	36	4.50	0.00
Navicula reichardtiana	18	2.25	0.00
Navicula tripunctata	1	0.13	0.00
Nitzschia dissipata	21	2.63	0.00
Nitzschia fonticola	16	2.00	0.00
Nitzschia graciliformis	1	0.13	0.00
Nitzschia inconspicua	9	1.13	0.00
Nitzschia linearis	3	0.38	0.00
Nitzschia palea	2	0.25	0.00
Nitzschia paleacea	6	0.75	0.00
Nitzschia recta	1	0.13	0.00
Nitzschia sigmoidea	1	0.13	0.00
Nitzschia sociabilis	3	0.38	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	75	Excellent
Shannon Diversity (H'):	3.55	Excellent
Dominant Taxon Percent:	10.38	Excellent
Disturbance Taxa Percent:	6.38	Excellent
Pollution Index:	2.65	Excellent
Siltation Index:	22.00	Good
Abornmal Cells Percent:	0.00	Excellent
Overall Biological Integrity Rating:	**Good**	

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	34.50	
Metals Impairment:		**66%**
Nutrients Increaser Taxa Percent:	37.38	
Nutrients Impairment:		**75%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	28.88	
Sediment Impairment:		**86%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	1.88
Cosmopolitan Taxa Percent:	90.38
Rhopalodiales Percent:	9.13
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	3.25
Tolerant/Indifferent Taxa %:	90.38

Site ID: MCWC-MWB (continued)

Species	Valves	PRA	% Ab.
Nitzschia sublinearis	1	0.13	0.00
Nitzschia supralitorea	1	0.13	0.00
Parlibellus protracta	2	0.25	0.00
Planothidium dubium	9	1.13	0.00
Planothidium frequentissimum	29	3.63	0.00
Planothidium lanceolatum	6	0.75	0.00
Psammothidium subatomoides	6	0.75	0.00
Pseudostaurosira brevistriata	26	3.25	0.00
Reimeria sinuata	14	1.75	0.00
Rhoicosphenia abbreviata	15	1.88	0.00
Rhopalodia gibba	2	0.25	0.00
Sellaphora laevissima	1	0.13	0.00
Sellaphora pupula	2	0.25	0.00
Simonsenia delognei	2	0.25	0.00
Stauroneis phoenicenteron	2	0.25	0.00
Staurosira construens var. pumilla	6	0.75	0.00
Staurosira construens var. venter	52	6.50	0.00
Staurosirella leptostauron	8	1.00	0.00
Staurosirella pinnata	29	3.63	0.00
Stephanocyclus meneghiniana	11	1.38	0.00
Surirella angusta	2	0.25	0.00
Surirella minuta	15	1.88	0.00
Totals:	800	100	0.00

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	16.25
N-Autotroph/High Organic N Taxa %:	61.25
N-Heterotroph/High Organic N Taxa %:	7.88
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	70.38

[1] after Van Dam et.al 1994.

Site ID:	MWB-SBC
Site Description:	Mill-Willow Bypass near mouth
Date Sampled:	9/18/2013
Sampled by:	E. Weber
Analyzed by:	E. Weber
Date Analyzed:	2/13/2014
Remarks:	proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium exiguum	7	0.88	0.00
Achnanthidium minutissimum	21	2.63	0.00
Amphora pediculus	3	0.38	0.00
Caloneis bacillum	1	0.13	0.00
Cocconeis pediculus	17	2.13	0.00
Cocconeis placentula var. euglypta	44	5.50	0.00
Cocconeis placentula var. lineata	54	6.75	0.00
Cymbella excisa	17	2.13	0.00
Cymbella lange-bertalotii	1	0.13	0.00
Diatoma moniliformis	2	0.25	0.00
Diatoma vulgaris	12	1.50	0.00
Encyonema minutum	25	3.13	0.00
Encyonema cespitosum	1	0.13	0.00
Eolimna minima	6	0.75	0.00
Epithemia sorex	16	2.00	0.00
Fragilaria capucina	1	0.13	0.00
Geissleria acceptata	2	0.25	0.00
Gomphoneis eriense	4	0.50	0.00
Gomphonema micropus	2	0.25	0.00
Gomphonema minusculum	8	1.00	0.00
Gomphonema olivaceum	1	0.13	0.00
Gomphonema parvulum	23	2.88	0.00
Gomphonema truncatum	10	1.25	0.00
Hippodonta capitata	2	0.25	0.00
Melosira varians	128	6.00	0.00
Navicula antonii	5	0.63	0.00
Navicula capitatoradiata	2	0.25	0.00
Navicula cryptotenella	14	1.75	0.00
Navicula libonensis	1	0.13	0.00
Navicula reichardtiana	26	3.25	0.00
Navicula tripunctata	10	1.25	0.00
Nitzschia dissipata	24	3.00	0.00
Nitzschia fonticola	41	5.13	0.00
Nitzschia graciliformis	2	0.25	0.00
Nitzschia heufleriana	8	1.00	0.00
Nitzschia inconspicua	3	0.38	0.00
Nitzschia linearis	9	1.13	0.00
Nitzschia palea	19	2.38	0.00
Nitzschia paleacea	2	0.25	0.00
Nitzschia recta	1	0.13	0.00
Nitzschia sigmoidea	2	0.25	0.00
Nitzschia sublinearis	1	0.13	0.00
Nitzschia supralitorea	5	0.63	0.00
Pinnularia viridis	1	0.13	0.00
Planothidium dubium	2	0.25	0.00
Planothidium frequentissimum	13	1.63	0.00
Planothidium lanceolatum	5	0.63	0.00
Psammothidium subatomoides	5	0.63	0.00
Pseudostaurosira brevistriata	22	2.75	0.00
Reimeria sinuata	3	0.38	0.00
Rhoicosphenia abbreviata	5	0.63	0.00
Rhopalodia gibba	1	0.13	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	63	Excellent
Shannon Diversity (H'):	3.42	Excellent
Dominant Taxon Percent:	16.00	Excellent
Disturbance Taxa Percent:	2.63	Excellent
Pollution Index:	2.46	Good
Siltation Index:	23.75	Good
Abornmal Cells Percent:	0.00	Excellent
Overall Biological Integrity Rating:		**Good**

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	29.38	
Metals Impairment:		54%
Nutrients Increaser Taxa Percent:	23.63	
Nutrients Impairment:		43%

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	20.63	
Sediment Impairment:		**66%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	0.50
Cosmopolitan Taxa Percent:	88.63
Rhopalodiales Percent:	2.13
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	1.50
Tolerant/Indifferent Taxa %:	92.00

Site ID: MWB-SBC (continued)

Species	Valves	PRA	%
Staurosira construens var. binodis	1	0.13	0.00
Staurosira construens var. pumilla	16	2.00	0.00
Staurosira construens var. venter	32	4.00	0.00
Staurosirella leptostauron	10	1.25	0.00
Staurosirella pinnata	20	2.50	0.00
Stephanocyclus meneghiniana	55	6.88	0.00
Surirella angusta	1	0.13	0.00
Synedra acus	3	0.38	0.00
Synedra ulna	19	2.38	0.00
Tryblionella hungarica	1	0.13	0.00
Totals	800	100	0.00

Nitrogen Metabolism/Organic N Tolerence1

N-Autotroph/Low Organic N Taxa %:	12.63
N-Autotroph/High Organic N Taxa %:	47.88
N-Heterotroph/High Organic N Taxa %:	30.13

Saprobity/Oxygen Saturation Requirement[1]

Low BOD/High Oxygen Saturation Taxa %:	55.50

[1] after Van Dam et.al 1994.

Site ID:	SS-25
Site Description:	Silver Bow Creek at Warm Springs
Date Sampled:	9/18/2013
Sampled by:	E. Weber
Analyzed by:	E. Weber
Date Analyzed:	2/19/2014
Remarks:	proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium minutissimum	3	0.38	0.00
Amphora pediculus	1	0.13	0.00
Amphora veneta	3	0.38	0.00
Cocconeis pediculus	20	2.50	0.00
Cocconeis placentula var. euglypta	26	3.25	0.00
Cocconeis placentula var. lineata	24	3.00	0.00
Cyclostephanos invisitatus	1	0.13	0.00
Diatoma vulgaris	16	2.00	0.00
Encyonema cespitosum	2	0.25	0.00
Encyonema minutum	1	0.13	0.00
Encyonema silesiacum	6	0.75	0.00
Eolimna minima	2	0.25	0.00
Epithemia sorex	36	4.50	0.00
Fragilaria capucina	7	0.88	0.00
Fragilaria capucina var. gracilis	9	1.13	0.00
Fragilaria vaucheriae	7	0.88	0.00
Gomphoneis minuta	71	8.88	0.00
Gomphonema minusculum	1	0.13	0.00
Gomphonema minutum	2	0.25	0.00
Gomphonema olivaceum	1	0.13	0.00
Gomphonema parvulum	15	1.88	0.00
Gomphonema subclavatum	11	1.38	0.00
Gomphonema truncatum	4	0.50	0.00
Melosira varians	57	7.13	0.00
Navicula antonii	4	0.50	0.00
Navicula capitatoradiata	23	2.88	0.00
Navicula cryptotenella	5	0.63	0.00
Navicula reichardtiana	7	0.88	0.00
Navicula tripunctata	10	1.25	0.00
Nitzschia amphibia	5	0.63	0.00
Nitzschia dissipata	10	1.25	0.00
Nitzschia fonticola	154	19.25	0.00
Nitzschia heufleriana	3	0.38	0.00
Nitzschia linearis	1	0.13	0.00
Nitzschia palea	6	0.75	0.00
Nitzschia paleacea	30	3.75	0.00
Planothidium lanceolatum	1	0.13	0.00
Pseudostaurosira brevistriata	13	1.63	0.00
Rhoicosphenia abbreviata	10	1.25	0.00
Sellaphora pupula	1	0.13	0.00
Staurosira construens var. binodis	2	0.25	0.00
Staurosira construens var. pumilla	8	1.00	0.00
Staurosira construens var. venter	13	1.63	0.00
Staurosirella leptostauron	2	0.25	0.00
Staurosirella pinnata	3	0.38	0.00
Stephanocyclus meneghiniana	14	1.75	0.00
Synedra acus	103	12.88	0.00
Synedra ulna	46	5.75	0.00
Totals	800	100	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	48	Excellent
Shannon Diversity (H'):	3.04	Excellent
Dominant Taxon Percent:	19.25	Excellent
Disturbance Taxa Percent:	0.38	Excellent
Pollution Index:	2.50	Good
Siltation Index:	39.75	Good
Abornmal Cells Percent:	0.00	Excellent
Overall Biological Integrity Rating:	**Good**	

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	56.50	
	Metals Impairment:	**97%**
Nutrients Increaser Taxa Percent:	30.63	
	Nutrients Impairment:	**60%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	10.75	
	Sediment Impairment:	**37%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	8.88
Cosmopolitan Taxa Percent:	72.38
Rhopalodiales Percent:	4.50
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	3.38
Tolerant/Indifferent Taxa %:	86.25

Site ID: SS-25 (continued)

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	10.38
N-Autotroph/High Organic N Taxa %:	60.63
N-Heterotroph/High Organic N Taxa %:	16.13
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	49.75

[1] after Van Dam et.al 1994.

Site ID:	WSC-SBC
Site Description:	Warm Springs Creek near mouth
Date Sampled:	9/18/2013
Sampled by:	E.Weber
Analyzed by:	E. Weber
Date Analyzed:	2/18/2014
Remarks:	proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium minutissimum	93	11.63	0.00
Achnanthidium pyrenaicum	12	1.50	0.00
Amphipleura pellucida	1	0.13	0.00
Amphora pediculus	5	0.63	0.00
Caloneis silicula	1	0.13	0.00
Cocconeis pediculus	73	9.13	0.00
Cocconeis placentula var. euglypta	15	1.88	0.00
Cocconeis placentula var. lineata	17	2.13	0.00
Cymbella excisa	20	2.50	0.00
Cymbella sp. aff. italica	1	0.13	0.00
Diatoma moniliformis	42	5.25	0.00
Diatoma vulgaris	9	1.13	0.00
Encyonema minutum	15	1.88	0.00
Encyonema reichardtii	1	0.13	0.00
Encyonema silesiacum	44	5.50	0.00
Fragilaria capucina	6	0.75	0.00
Fragilaria vaucheriae	1	0.13	0.00
Geissleria acceptata	1	0.13	0.00
Geissleria decussis	3	0.38	0.00
Gomphoneis eriense	4	0.50	0.00
Gomphoneis minuta	3	0.38	0.00
Gomphonema minusculum	1	0.13	0.00
Gomphonema minutum	5	0.63	0.00
Gomphonema olivaceum	1	0.13	0.00
Melosira varians	47	5.88	0.00
Meridion circulare	2	0.25	0.00
Navicula antonii	1	0.13	0.00
Navicula capitatoradiata	26	3.25	0.00
Navicula cryptocephala	4	0.50	0.00
Navicula cryptotenella	56	7.00	0.00
Navicula libonensis	1	0.13	0.00
Navicula reichardtiana	42	5.25	0.00
Navicula subhamulata	2	0.25	0.00
Navicula tripunctata	62	7.75	0.00
Neidium binodiformis	2	0.25	0.00
Nitzschia archibaldii	4	0.50	0.00
Nitzschia agnita	2	0.25	0.00
Nitzschia dissipata	41	5.13	0.00
Nitzschia fonticola	33	4.13	0.00
Nitzschia hantzschiana	1	0.13	0.00
Nitzschia heufleriana	4	0.50	0.00
Nitzschia lacuum	1	0.13	0.00
Nitzschia linearis	2	0.25	0.00
Nitzschia pura	5	0.63	0.00
Nitzschia sigmoidea	3	0.38	0.00
Nitzschia sociabilis	4	0.50	0.00
Planothidium frequentissimum	1	0.13	0.00
Pseudostaurosira brevistriata	4	0.50	0.00
Reimeria sinuata	7	0.88	0.00
Rhoicosphenia abbreviata	3	0	0.00
Staurosira construens var. pumilla	5	0.63	0.00
Staurosira construens var. venter	29	3.63	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	56	Excellent
Shannon Diversity (H'):	3.24	Excellent
Dominant Taxon Percent:	11.63	Excellent
Disturbance Taxa Percent:	11.63	Excellent
Pollution Index:	2.66	Excellent
Siltation Index:	37.50	Good
Abornmal Cells Percent:	0.00	Excellent
Overall Biological Integrity Rating:	**Good**	

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	26.63	
Metals Impairment:		**45%**
Nutrients Increaser Taxa Percent:	20.25	
Nutrients Impairment:		**33%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	23.63	
Sediment Impairment:		**75%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	2.38
Cosmopolitan Taxa Percent:	93.38
Rhopalodiales Percent:	0.00
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	3.50
Tolerant/Indifferent Taxa %:	88.13

Site ID: WSC-SBC (continued)

Species	Valves	PRA	% Ab.
Staurosirella leptostauron	11	1.38	0.00
Staurosirella pinnata	18	2.25	0.00
Stephanocyclus meneghiniana	1	0.13	0.00
Synedra ulna	2	0.25	0.00
Totals	800	100	0.00

Nitrogen Metabolism/Organic N Tolerence[1]

N-Autotroph/Low Organic N Taxa %:	6.00
N-Autotroph/High Organic N Taxa %:	69.63
N-Heterotroph/High Organic N Taxa %:	6.00

Saprobity/Oxygen Saturation Requirement[1]

Low BOD/High Oxygen Saturation Taxa %: 68.38

[1] after Van Dam et.al 1994.

Site ID: LC-7.5
Site Description: Lost Creek at Frontage Road
Date Sampled: 9/17/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 2/21/2014
Remarks: proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium minutissimum	110	13.75	0.00
Achnanthidium pyrenaicum	1	0.13	0.00
Amphipleura pellucida	3	0.38	0.00
Amphora copulata	1	0.13	0.00
Amphora pediculus	1	0.13	0.00
Cocconeis pediculus	12	1.50	0.00
Cocconeis placentula var. lineata	11	1.38	0.00
Craticula buderi	2	0.25	0.00
Cymbella lange-bertalotii	1	0.13	0.00
Diatoma moniliformis	166	20.75	4.25
Diatoma tenuis	48	6.00	0.00
Diatoma vulgaris	135	16.88	0.63
Encyonema minutum	3	0.38	0.00
Encyonema silesiacum	9	1.13	0.00
Encyonopsis minuta	34	4.25	0.00
Encyonopsis subminuta	1	0.13	0.00
Fragilaria capucina	12	1.50	0.00
Fragilaria capucina var. gracilis	2	0.25	0.00
Fragilaria capucins var. mesolepta	14	1.75	0.00
Fragilaria crotonensis	9	1.13	0.00
Gomphonema minutum	5	0.63	0.00
Gomphonema olivaceum	9	1.13	0.00
Gomphonema parvulum var. exilissimum	3	0.38	0.00
Gomphonema truncatum	2	0.25	0.00
Melosira varians	33	4.13	0.00
Navicula capitatoradiata	3	0.38	0.00
Navicula cincta	1	0.13	0.00
Navicula cryptotenella	4	0.50	0.00
Navicula lanceolata	1	0.13	0.00
Navicula tripunctata	11	1.38	0.00
Navicula trivalis	1	0.13	0.00
Nitzschia denticula	8	1.00	0.00
Nitzschia dissipata	4	0.50	0.00
Nitzschia fonticola	2	0.25	0.00
Nitzschia hantzschiana	1	0.13	0.00
Nitzschia linearis	1	0.13	0.00
Nitzschia palea	3	0.38	0.00
Nitzschia recta	1	0.13	0.00
Pseudostaurosira brevistriata	2	0.25	0.00
Rhoicosphenia abbreviata	6	0.75	0.00
Staurosira construens var. binodis	6	0.75	0.00
Staurosira construens var. pumilla	14	1.75	0.00
Staurosira construens var. venter	38	4.75	0.00
Staurosirella leptostauron	9	1.13	0.00
Staurosirella pinnata	10	1.25	0.25
Synedra acus	11	1.38	0.00
Synedra ulna	31	3.88	0.00
Synedra ulna var. spathulifera	5	0.63	0.00
Totals	800	100	5.13

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	48	Excellent
Shannon Diversity (H'):	2.81	Good
Dominant Taxon Percent:	20.75	Excellent
Disturbance Taxa Percent:	13.75	Excellent
Pollution Index:	2.62	Excellent
Siltation Index:	5.38	Excellent
Abornmal Cells Percent:	5.13	Fair
Overall Biological Integrity Rating:		**Fair**

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	30.00	
Metals Impairment:		**55%**
Nutrients Increaser Taxa Percent:	25.38	
Nutrients Impairment:		**46%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	5.63	
Sediment Impairment:		**22%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	0.13
Cosmopolitan Taxa Percent:	87.13
Rhopalodiales Percent:	0.00
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	4.63
Tolerant/Indifferent Taxa %:	88.38

Site ID: LC-7.5 (continued)

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	4.88
N-Autotroph/High Organic N Taxa %:	80.50
N-Heterotroph/High Organic N Taxa %:	4.88
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	53.38

[1] after Van Dam et.al 1994.

Site ID: RTC-1.5
Site Description: Racetrack Creek at Frontage Road
Date Sampled: 9/17/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 2/25/2014
Remarks: proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium deflexum	34	4.25	0.00
Achnanthidium exiguum	2	0.25	0.00
Achnanthidium minutissimum	238	29.75	0.00
Achnanthidium pyrenaicum	181	22.63	0.00
Amphipleura pellucida	1	0.13	0.00
Amphora pediculus	2	0.25	0.00
Cocconeis placentula var. euglypta	1	0.13	0.00
Cymbella excisa	9	1.13	0.00
Cymbopleura subaequalis	1	0.13	0.00
Diatoma mesodon	3	0.38	0.00
Didymosphenia geminata	1	0.13	0.00
Encyonema minutum	40	5.00	0.00
Encyonema reichardtii	2	0.25	0.00
Encyonema silesiacum	48	6.00	0.00
Eolimna minima	2	0.25	0.00
Fragilaria capucina	21	2.63	0.00
Fragilaria capucina var. gracilis	10	1.25	0.00
Fragilaria vaucheriae	1	0.13	0.00
Gomphonema kobayasii	5	0.63	0.00
Gomphonema pumilum	1	0.13	0.00
Hippodonta capitata	1	0.13	0.00
Melosira varians	11	1.38	0.00
Meridion circulare	4	0.50	0.00
Navicula antonii	9	1.13	0.00
Navicula capitatoradiata	2	0.25	0.00
Navicula cryptocephala	4	0.50	0.00
Navicula cryptotenella	1	0.13	0.00
Navicula gregaria	5	0.63	0.00
Navicula reichardtiana	39	4.88	0.00
Navicula rhynchocephala	1	0.13	0.00
Navicula tripunctata	1	0.13	0.00
Navicula trivialis	1	0.13	0.00
Nitzschia dissipata	1	0.13	0.00
Nitzschia heufleriana	1	0.13	0.00
Nitzschia linearis	2	0.25	0.00
Nitzschia pusilla	7	0.88	0.00
Planothidium dubium	6	0.75	0.00
Planothidium frequentissimum	2	0.25	0.00
Planothidium lanceolatum	2	0.25	0.00
Pseudostaurosira brevistriata	6	0.75	0.00
Pseudostaurosira parasitica	2	0.25	0.00
Reimeria sinuata	2	0.25	0.00
Stauroneis smithii	2	0.25	0.00
Staurosira construens var. binodis	4	0.50	0.00
Staurosira construens var. pumilla	10	1.25	0.00
Staurosira construens var. venter	25	3.13	0.00
Staurosirella leptostauron	18	2.25	0.00
Staurosirella pinnata	6	0.75	0.00
Stephanocyclus meneghiniana	2	0.25	0.00
Synedra acus	1	0.13	0.00
Synedra rumpens	14	1.75	0.00
Synedra ulna	5	0.63	0.00
Totals	800	100	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	52	Excellent
Shannon Diversity (H'):	2.57	Good
Dominant Taxon Percent:	29.75	Good
Disturbance Taxa Percent:	29.75	Good
Pollution Index:	2.76	Excellent
Siltation Index:	9.63	Excellent
Abornmal Cells Percent:	0.00	Excellent
Overall Biological Integrity Rating:	**Good**	

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	14.00	
Metals Impairment:		**18%**
Nutrients Increaser Taxa Percent:	0.75	
Nutrients Impairment:		**<10%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	4.63	
Sediment Impairment:		**20%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	23.25
Cosmopolitan Taxa Percent:	67.00
Rhopalodiales Percent:	0.00
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	31.63
Tolerant/Indifferent Taxa %:	60.50

Site ID: RTC-1.5 (continued)

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	7.38
N-Autotroph/High Organic N Taxa %:	51.38
N-Heterotroph/High Organic N Taxa %:	1.88
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	48.63
[1] after Van Dam et.al 1994.	

Site ID:	LBR-CFR
Site Description:	Little Blackfoot River near Garrison
Date Sampled:	9/17/2013
Sampled by:	E. Weber
Analyzed by:	E. Weber
Date Analyzed:	2/27/2014
Remarks:	proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium minutissimum	7	0.88	0.00
Amphora pediculus	4	0.50	0.00
Aulacoseira alpigena	2	0.25	0.00
Caloneis bacillum	2	0.25	0.00
Cocconeis pediculus	42	5.25	0.00
Cocconeis placentula var. euglypta	47	5.88	0.00
Cocconeis placentula var. lineata	25	3.13	0.00
Craticula molestiformis	2	0.25	0.00
Diatoma moniliformis	114	14.25	0.00
Diatoma vulgaris	6	0.75	0.00
Encyonema minutum	4	0.50	0.00
Encyonema silesiacum	13	1.63	0.00
Encyonema yellowstonianum	1	0.13	0.00
Epithemia sorex	168	21.00	0.00
Fragilaria capucina var. gracilis	7	0.88	0.00
Fragilaria vaucheriae	3	0.38	0.00
Gomphoneis eriense	2	0.25	0.00
Gomphonema micropus	4	0.50	0.00
Gomphonema minutum	49	6.13	0.00
Gomphonema olivaceum	1	0.13	0.00
Gomphonema parvulum var. exilissimum	16	2.00	0.00
Gomphonema pumilum	2	0.25	0.00
Mayamaea atomus	1	0.13	0.00
Melosira varians	25	3.13	0.00
Meridion circulare	1	0.13	0.00
Navicula aquaedurae	2	0.25	0.00
Navicula capitatoradiata	30	3.75	0.00
Navicula cryptocephala	4	0.50	0.00
Navicula cryptotenella	12	1.50	0.00
Navicula libonensis	2	0.25	0.00
Navicula reichardtiana	12	1.50	0.00
Navicula tripunctata	6	0.75	0.00
Nitzschia amphibia	1	0.13	0.00
Nitzschia archibaldii	7	0.88	0.00
Nitzschia denticula	2	0.25	0.00
Nitzschia fonticola	19	2.38	0.00
Nitzschia hantzschiana	23	2.88	0.00
Nitzschia inconspicua	3	0.38	0.00
Nitzschia lacuum	1	0.13	0.00
Nitzschia linearis	2	0.25	0.00
Nitzschia palea	12	1.50	0.00
Nitzschia paleacea	15	1.88	0.00
Nitzschia recta	3	0.38	0.00
Nitzschia sublinearis	2	0.25	0.00
Placoneis elginensis	1	0.13	0.00
Planothidium dubium	2	0.25	0.00
Planothidium frequentissimum	4	0.50	0.00
Planothidium lanceolatum	3	0.38	0.00
Psammothidium subatomoides	2	0.25	0.00
Pseudostaurosira brevistriata	4	0.50	0.00
Rhoicosphenia abbreviata	3	0.38	0.00
Sellaphora pupula	2	0.25	0.00
Staurosira construens var. venter	37	4.63	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	59	Excellent
Shannon Diversity (H'):	3.11	Excellent
Dominant Taxon Percent:	21.00	Excellent
Disturbance Taxa Percent:	0.88	Excellent
Pollution Index:	2.58	Excellent
Siltation Index:	20.88	Good
Abornmal Cells Percent:	1.00	Good
Overall Biological Integrity Rating:	**Good**	

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	41.38	
Metals Impairment:		**81%**
Nutrients Increaser Taxa Percent:	56.50	
Nutrients Impairment:		**97%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	16.63	
Sediment Impairment:		**54%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	0.25
Cosmopolitan Taxa Percent:	89.75
Rhopalodiales Percent:	21.00
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	4.63
Tolerant/Indifferent Taxa %:	92.50

Site ID: LBR-CFR (continued)

Species	Valves	PRAs	% Ab.
Staurosira construens var.binodis	11	1.38	0.00
Staurosirella pinnata	4	0.50	0.00
Stephanocyclus meneghiniana	10	1.25	0.00
Surirella minuta	3	0.38	0.00
Synedra acus	6	0.75	0.00
Synedra ulna	2	0.25	0.00
Totals	800	100	0.00

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	26.38
N-Autotroph/High Organic N Taxa %:	51.88
N-Heterotroph/High Organic N Taxa %:	10.63
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	62.75

[1] after Van Dam et.al 1994.

Site ID:	CFR-03A
Site Description:	Clark Fork near Galen
Date Sampled:	9/18/2013
Sampled by:	E. Weber
Analyzed by:	E. Weber
Date Analyzed:	2/19/2014
Remarks:	proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium minutissimum	1	0.13	0.00
Amphora pediculus	23	2.88	0.00
Amphora veneta	1	0.13	0.00
Cocconeis disculus	1	0.13	0.00
Cocconeis pediculus	42	5.25	0.00
Cocconeis placentula var. euglypta	28	3.50	0.00
Cocconeis placentula var. lineata	33	4.13	0.00
Cyclostephanos invisitatus	1	0.13	0.00
Cymbella excisa	2	0.25	0.00
Diatoma moniliformis	38	4.75	0.00
Diatoma vulgaris	12	1.50	0.00
Encyonema cespitosum	1	0.13	0.00
Encyonema minutum	1	0.13	0.00
Encyonema silesiacum	7	0.88	0.00
Encyonopsis microcephala	2	0.25	0.00
Eolimna minima	8	1.00	0.00
Epithemia sorex	109	13.63	0.00
Fragilaria capucina	7	0.88	0.00
Geissleria decussis	2	0.25	0.00
Gomphoneis minuta	7	0.88	0.00
Gomphonema micropus	3	0.38	0.00
Gomphonema minusculum	2	0.25	0.00
Gomphonema olivaceum	16	2.00	0.00
Gomphonema parvulum	4	0.50	0.00
Gomphonema pumilum	3	0.38	0.00
Gomphonema truncatum	11	1.38	0.00
Gyrosigma acuminatum	1	0.13	0.00
Melosira varians	8	1.00	0.00
Navicula antonii	9	1.13	0.00
Navicula capitatoradiata	14	1.75	0.00
Navicula cryptotenella	18	2.25	0.00
Navicula reichardtiana	13	1.63	0.00
Navicula tripunctata	21	2.63	0.00
Nitzschia agnita	1	0.13	0.00
Nitzschia amphibia	4	0.50	0.00
Nitzschia dissipata	21	2.63	0.00
Nitzschia fonticola	80	10.00	0.00
Nitzschia hantzschiana	7	0.88	0.00
Nitzschia heufleriana	2	0.25	0.00
Nitzschia inconspicua	2	0.25	0.00
Nitzschia palea	4	0.50	0.00
Nitzschia paleacea	9	1.13	0.00
Nitzschia pura	5	0.63	0.00
Planothidium frequentissimum	4	0.50	0.00
Psammothidium subatomoides	2	0.25	0.00
Pseudostaurosira brevistriata	37	4.63	0.00
Reimeria sinuata	4	0.50	0.00
Rhoicosphenia abbreviata	21	2.63	0.00
Staurosira construens	1	0.13	0.00
Staurosira construens var. pumilla	19	2	0.00
Staurosira construens var. venter	20	2.50	0.00
Staurosirella leptostauron	14	1.75	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	60	Excellent
Shannon Diversity (H'):	3.44	Excellent
Dominant Taxon Percent:	13.63	Excellent
Disturbance Taxa Percent:	0.13	Excellent
Pollution Index:	2.68	Excellent
Siltation Index:	28.13	Good
Abornmal Cells Percent:	0.00	Excellent
Overall Biological Integrity Rating:		**Good**

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	51.13	
Metals Impairment:		**94%**
Nutrients Increaser Taxa Percent:	42.13	
Nutrients Impairment:		**83%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	19.25	
Sediment Impairment:		**62%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	0.88
Cosmopolitan Taxa Percent:	87.38
Rhopalodiales Percent:	13.63
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	2.50
Tolerant/Indifferent Taxa %:	80.38

Site ID: CFR-03A (continued)

Species	valves	PRA	% Ab.
Staurosirella pinnata	16	2.00	0.00
Sellaphora pupula	4	0.50	0.00
Stephanocyclus meneghiniana	30	3.75	0.00
Stephanodiscus hantzschii	2	0.25	0.00
Surirella angusta	1	0.13	0.00
Synedra acus	24	3.00	0.00
Synedra ulna	16	2.00	0.00
Synedra ulna var. spathulifera	1	0.13	0.00
Totals	800	100	0.00

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	25.75
N-Autotroph/High Organic N Taxa %:	56.50
N-Heterotroph/High Organic N Taxa %:	8.88
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	73.88

[1] after Van Dam et.al 1994.

Site ID: CFR-07D
Site Description: Clark Fork at Galen Road
Date Sampled: 9/18/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 2/20/2014
Remarks: proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium exiguum	2	0.25	0.00
Achnanthidium minutissimum	14	1.75	0.00
Adlafia suchlandtii	2	0.25	0.00
Amphora ovalis	1	0.13	0.00
Amphora pediculus	31	3.88	0.00
Amphora veneta	2	0.25	0.00
Cocconeis pediculus	30	3.75	0.00
Cocconeis placentula var. euglypta	34	4.25	0.00
Cocconeis placentula var. lineata	22	2.75	0.00
Cymbella excisa	8	1.00	0.00
Cymbella lange-bertalotii	7	0.88	0.00
Cymbella mexicana	2	0.25	0.00
Denticula tenuis	2	0.25	0.00
Diatoma moniliformis	13	1.63	0.00
Diatoma vulgaris	33	4.13	0.00
Encyonema minutum	1	0.13	0.00
Encyonema silesiacum	4	0.50	0.00
Encyonopsis microcephala	7	0.88	0.00
Eolimna minima	2	0.25	0.00
Epithemia sorex	224	28.00	0.00
Fragilaria capucina	21	2.63	0.00
Fragilaria capucina var. gracilis	1	0.13	0.00
Fragilaria crotonensis	10	1.25	0.00
Gomphoneis eriense	2	0.25	0.00
Gomphoneis minuta	1	0.13	0.00
Gomphonema micropus	1	0.13	0.00
Gomphonema olivaceum	20	2.50	0.00
Gomphonema pumilum	8	1.00	0.00
Gomphonema subclavatum	5	0.63	0.00
Gomphonema truncatum	14	1.75	0.00
Gyrosigma acuminatum	1	0.13	0.00
Hippodonta capitata	1	0.13	0.00
Melosira varians	12	1.50	0.00
Navicula antonii	8	1.00	0.00
Navicula capitatoradiata	8	1.00	0.00
Navicula cryptotenella	37	4.63	0.00
Navicula libonensis	2	0.25	0.00
Navicula reichardtiana	7	0.88	0.00
Navicula tripunctata	17	2.13	0.00
Nitzschia amphibia	2	0.25	0.00
Nitzschia archibaldii	1	0.13	0.00
Nitzschia dissipata	18	2.25	0.00
Nitzschia fonticola	30	3.75	0.00
Nitzschia hantzschiana	1	0.13	0.00
Nitzschia inconspicua	6	0.75	0.00
Nitzschia linearis	1	0.13	0.00
Nitzschia palea	6	0.75	0.00
Nitzschia paleacea	6	0.75	0.00
Nitzschia pumila	2	0.25	0.00
Nitzschia recta	1	0.13	0.00
Nitzschia sociabilis	1	0.13	0.00
Nitzschia sublinearis	1	0.13	0.00
Planothidium frequentissimum	1	0.13	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	65	Excellent
Shannon Diversity (H'):	3.21	Excellent
Dominant Taxon Percent:	28.00	Good
Disturbance Taxa Percent:	1.75	Excellent
Pollution Index:	2.74	Excellent
Siltation Index:	20.13	Good
Abornmal Cells Percent:	0.00	Excellent
Overall Biological Integrity Rating:	**Good**	

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	50.63	
Metals Impairment:		**93%**
Nutrients Increaser Taxa Percent:	46.50	
Nutrients Impairment:		**89%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	14.00	
Sediment Impairment:		**46%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	0.63
Cosmopolitan Taxa Percent:	87.75
Rhopalodiales Percent:	28.00
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	6.25
Tolerant/Indifferent Taxa %:	90.63

Site ID: CFR-07D (continued)

Species	valves	PRA	% Ab.
Pseudostaurosira brevistriata	3	0.38	0.00
Reimeria sinuata	3	0.38	0.00
Rhoicosphenia abbreviata	29	3.63	0.00
Sellaphora pupula	1	0.13	0.00
Staurosira construens	5	0.63	0.00
Staurosira construens var. venter	19	2.38	0.00
Staurosirella leptostauron	1	0.13	0.00
Staurosirella pinnata	3	0.38	0.00
Stephanocyclus meneghiniana	13	1.63	0.00
Synedra acus	10	1.25	0.00
Synedra ulna	13	1.63	0.00
Synedra ulna var. spathulifera	6	0.75	0.00
Totals	800	100	0.00

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	34.75
N-Autotroph/High Organic N Taxa %:	47.00
N-Heterotroph/High Organic N Taxa %:	5.88
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	83.25

[1] after Van Dam et.al 1994.

Site ID: CFR-11F
Site Description: Clark Fork at Gem Back Road
Date Sampled: 9/18/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 2/25/2014
Remarks: proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium minutissimum	23	2.88	0.00
Amphora pediculus	39	4.88	0.00
Cocconeis pediculus	32	4.00	0.00
Cocconeis placentula var. euglypta	64	8.00	0.00
Cocconeis placentula var. lineata	35	4.38	0.00
Diatoma moniliformis	49	6.13	0.00
Diatoma vulgaris	7	0.88	0.00
Encyonema minutum	4	0.50	0.00
Encyonema silesiacum	11	1.38	0.00
Encyonopsis minuta	2	0.25	0.00
Eolimna minima	10	1.25	0.00
Epithemia sorex	105	13.13	0.00
Fragilaria capucina var. gracilis	3	0.38	0.00
Fragilaria vaucheriae	2	0.25	0.00
Geissleria acceptata	2	0.25	0.00
Geissleria decussis	7	0.88	0.00
Gomphoneis eriense	2	0.25	0.00
Gomphonema minusculum	2	0.25	0.00
Gomphonema olivaceum	6	0.75	0.00
Gomphonema parvulum var. exilissimum	5	0.63	0.00
Gomphonema subclavatum	7	0.88	0.00
Gyrosigma acuminatum	1	0.13	0.00
Meridion circulare	2	0.25	0.00
Navicula antonii	1	0.13	0.00
Navicula capitatoradiata	6	0.75	0.00
Navicula cryptotenella	42	5.25	0.00
Navicula cryptotenelloides	11	1.38	0.00
Navicula reichardtiana	4	0.50	0.00
Navicula tripunctata	15	1.88	0.00
Navicula trivialis	1	0.13	0.00
Nitzschia amphibia	1	0.13	0.00
Nitzschia archibaldii	1	0.13	0.00
Nitzschia capitellata	2	0.25	0.00
Nitzschia communis	3	0.38	0.00
Nitzschia dissipata	8	1.00	0.00
Nitzschia fonticola	49	6.13	0.00
Nitzschia graciliformis	4	0.50	0.00
Nitzschia heufleriana	1	0.13	0.00
Nitzschia inconspicua	1	0.13	0.00
Nitzschia intermedia	1	0.13	0.00
Nitzschia palea	7	0.88	0.00
Nitzschia paleacea	16	2.00	0.00
Nitzschia pusilla	2	0.25	0.00
Nitzschia recta	1	0.13	0.00
Nitzschia sociabilis	2	0.25	0.00
Nitzschia sublinearis	2	0.25	0.00
Nitzschia supralitorea	2	0.25	0.00
Nitzschia vermicularis	1	0.13	0.00
Planothidium frequentissimum	14	1.75	0.00
Planothidium lanceolatum	5	0.63	0.00
Psammothidium subatomoides	4	0.50	0.00
Pseudostaurosira brevistriata	10	1.25	0.00
Reimeria sinuata	1	0.13	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	65	Excellent
Shannon Diversity (H'):	3.45	Excellent
Dominant Taxon Percent:	13.13	Excellent
Disturbance Taxa Percent:	2.88	Excellent
Pollution Index:	2.64	Excellent
Siltation Index:	25.75	Good
Abornmal Cells Percent:	0.00	Excellent
Overall Biological Integrity Rating:		**Good**

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	41.88	
Metals Impairment:		**83%**
Nutrients Increaser Taxa Percent:	43.13	
Nutrients Impairment:		**85%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	23.75	
Sediment Impairment:		**75%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	78.13
Cosmopolitan Taxa Percent:	0.25
Rhopalodiales Percent:	13.13
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	1.88
Tolerant/Indifferent Taxa %:	95.50

Site ID: CFR-11F (continued)

Species	Valves	PRA	% Ab.
Rhoicosphenia abbreviata	27	3.38	0.00
Sellaphora pupula	1	0.13	0.00
Staurosira construens var. binodis	6	0.75	0.00
Staurosira construens var. pumilla	12	1.50	0.00
Staurosira construens var. venter	34	4.25	0.00
Staurosirella leptostauron	8	1.00	0.00
Staurosirella pinnata	25	3.13	0.00
Stephanocyclus meneghiniana	9	1.13	0.00
Synedra acus	14	1.75	0.00
Synedra ulna	18	2.25	0.00
Synedra ulna var. spathulifera	6	0.75	0.00
Tryblionella apiculata	2	0.25	0.00
Totals	800	100	0.00

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	19.50
N-Autotroph/High Organic N Taxa %:	63.38
N-Heterotroph/High Organic N Taxa %:	6.75
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	74.88

[1] after Van Dam et.al 1994.

Site ID: CFR-27H
Site Description: Clark Fork at Deer Lodge
Date Sampled: 9/17/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 2/27/2014
Remarks: proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium deflexum	1	0.13	0.00
Achnanthidium minutissimum	105	13.13	0.00
Amphora copulata	1	0.13	0.00
Amphora pediculus	44	5.50	0.00
Cocconeis pediculus	7	0.88	0.00
Cocconeis placentula var. euglypta	11	1.38	0.00
Cocconeis placentula var. lineata	4	0.50	0.00
Cymatopleura solea	1	0.13	0.00
Cymbella excisa	5	0.63	0.00
Cymbella lange-bertalotii	3	0.38	0.00
Diatoma moniliformis	13	1.63	0.63
Diatoma vulgaris	43	5.38	0.38
Encyonema silesiacum	31	3.88	0.00
Encyonopsis minuta	4	0.50	0.00
Eolimna minima	6	0.75	0.00
Epithemia sorex	10	1.25	0.00
Fragilaria capucina	5	0.63	0.00
Fragilaria capucina var. gracilis	1	0.13	0.00
Geissleria acceptata	2	0.25	0.00
Geissleria decussis	8	1.00	0.00
Gomphonema micropus	29	3.63	0.00
Gomphonema olivaceum	19	2.38	0.00
Gomphonema parvulum var. exilissimum	4	0.50	0.00
Gomphonema pumilum	2	0.25	0.00
Gomphonema subclavatum	5	0.63	0.00
Gomphonema truncatum	3	0.38	0.00
Navicula antonii	26	3.25	0.00
Navicula aquaedurae	2	0.25	0.00
Navicula cryptotenella	123	15.38	0.00
Navicula reichardtiana	23	2.88	0.00
Navicula tripunctata	13	1.63	0.00
Nitzschia amphibia	1	0.13	0.00
Nitzschia archibaldii	1	0.13	0.00
Nitzschia desertorum	2	0.25	0.00
Nitzschia denticula	2	0.25	0.00
Nitzschia dissipata	40	5.00	0.00
Nitzschia fonticola	10	1.25	0.00
Nitzschia graciliformis	2	0.25	0.00
Nitzschia hantzschiana	2	0.25	0.00
Nitzschia heufleriana	12	1.50	0.00
Nitzschia inconspicua	2	0.25	0.00
Nitzschia linearis	4	0.50	0.00
Nitzschia palea	9	1.13	0.00
Nitzschia paleacea	7	0.88	0.00
Nitzschia recta	1	0.13	0.00
Nitzschia sigmoidea	1	0.13	0.00
Nitzschia sociabilis	17	2.13	0.00
Nitzschia sublinearis	14	1.75	0.00
Nitzschia supralitorea	2	0.25	0.00
Planothidium frequentissimum	6	0.75	0.00
Planothidium lanceolatum	1	0.13	0.00
Reimeria sinuata	5	0.63	0.00
Rhoicosphenia abbreviata	30	3.75	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	64	Excellent
Shannon Diversity (H'):	3.37	Excellent
Dominant Taxon Percent:	15.38	Excellent
Disturbance Taxa Percent:	13.13	Excellent
Pollution Index:	2.53	Excellent
Siltation Index:	42.00	Fair
Abornmal Cells Percent:	1.00	Good
Overall Biological Integrity Rating:		**Fair**

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	19.50	
Metals Impairment:		**29%**
Nutrients Increaser Taxa Percent:	11.00	
Nutrients Impairment:		**15%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	8.13	
Sediment Impairment:		**29%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	0.00
Cosmopolitan Taxa Percent:	88.00
Rhopalodiales Percent:	1.25
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	3.13
Tolerant/Indifferent Taxa %:	89.13

Site ID: CFR-27H (continued)

Species	Valves	PRA	% Ab.
Sellaphora laevissima	1	0.13	0.00
Sellaphora pupula	3	0.38	0.00
Staurosira construens var. pumila	6	0.75	0.00
Staurosira construens var. venter	19	2.38	0.00
Staurosirella leptostauron	6	0.75	0.00
Staurosirella pinnata	10	1.25	0.00
Stephanocyclus meneghiniana	9	1.13	0.00
Surirella minuta	2	0.25	0.00
Synedra acus	6	0.75	0.00
Synedra ulna	10	1.25	0.00
Synedra ulna var. spathulifera	3	0.38	0.00
Totals	800	100	1.00

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	6.50
N-Autotroph/High Organic N Taxa %:	60.63
N-Heterotroph/High Organic N Taxa %:	5.00
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	79.63

[1] after Van Dam et.al 1994.

Site ID: CFR-116A
Site Description: Clark Fork near Turah
Date Sampled: 9/17/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 3/3/2014
Remarks: proportional count of 800 diatom valves

Diatom Taxonomy

Species	Valves	PRA	% Ab.
Achnanthidium minutissimum	21	2.63	0.00
Amphora pediculus	11	1.38	0.00
Cocconeis pediculus	19	2.38	0.00
Cocconeis placentula var. euglypta	13	1.63	0.00
Cocconeis placentula var. lineata	7	0.88	0.00
Cymbella excisa	55	6.88	0.00
Cymbella janischii	2	0.25	0.00
Cymbella lange-bertalotii	3	0.38	0.00
Cymbella mexicana	1	0.13	0.00
Diatoma moniliformis	56	7.00	0.25
Diatoma vulgaris	146	18.25	2.13
Encyonema auerswaldii	2	0.25	0.00
Encyonema cespitosum	1	0.13	0.00
Encyonema minutum	18	2.25	0.00
Encyonema prostratum	3	0.38	0.00
Encyonema silesiacum	6	0.75	0.00
Encyonopsis subminuta	2	0.25	0.00
Eolimna minima	2	0.25	0.00
Epithemia adnata	1	0.13	0.00
Epithemia sorex	113	14.13	0.00
Fragilaria capucina var. gracilis	3	0.38	0.00
Gomphoneis eriense	5	0.63	0.00
Gomphonema gracile	2	0.25	0.00
Gomphonema kobayasii	2	0.25	0.00
Gomphonema minutum	4	0.50	0.00
Gomphonema olivaceum	10	1.25	0.00
Gomphonema parvulum var. exilissimum	8	1.00	0.00
Gomphonema pumilum	1	0.13	0.00
Gomphonema subclavatum	6	0.75	0.00
Navicula antonii	1	0.13	0.00
Navicula capitatoradiata	15	1.88	0.00
Navicula cryptotenella	19	2.38	0.00
Navicula oligotraphenta	2	0.25	0.00
Navicula radiosa	1	0.13	0.00
Navicula reichardtiana	12	1.50	0.00
Navicula tripunctata	11	1.38	0.00
Nitzschia amphibia	4	0.50	0.00
Nitzschia archibaldii	13	1.63	0.00
Nitzschia dissipata	22	2.75	0.00
Nitzschia fonticola	30	3.75	0.00
Nitzschia hantzschiana	5	0.63	0.00
Nitzschia heufleriana	1	0.13	0.00
Nitzschia inconspicua	6	0.75	0.00
Nitzschia lacuum	2	0.25	0.00
Nitzschia palea	8	1.00	0.00
Nitzschia paleacea	8	1.00	0.00
Nitzschia sociabilis	1	0.13	0.00
Nitzschia sublinearis	1	0.13	0.00
Planothidium dubium	3	0.38	0.00
Planothidium frequentissimum	4	0.50	0.00
Planothidium lanceolatum	1	0.13	0.00
Psammothidium subatomoides	2	0.25	0.00
Pseudostaurosira brevistriata	4	0.50	0.00

Diatom Metrics

Montana Mountain Streams (after Bahls 1992)

Metric	Value	Biointegrity
Species Richness:	66	Excellent
Shannon Diversity (H'):	3.29	Excellent
Dominant Taxon Percent:	18.25	Excellent
Disturbance Taxa Percent:	2.63	Excellent
Pollution Index:	2.69	Excellent
Siltation Index:	20.63	Good
Abornmal Cells Percent:	2.38	Good
Overall Biological Integrity Rating:	**Good**	

Montana Mountain Streams (after Teply & Bahls 2005)

Metric	Value	Probability
Metals Increaser Taxa Percent:	56.50	
Metals Impairment:		**97%**
Nutrients Increaser Taxa Percent:	31.13	
Nutrients Impairment:		**59%**

Middle Rockies Ecoregion Streams (after Teply 2010)

Metric	Value	Probability
Sediment Increaser Taxa Percent:	9.75	
Sediment Impairment:		**33%**

Additional Diatom Metrics

Metric	Value
Native Taxa Percent:	1.88
Cosmopolitan Taxa Percent:	88.25
Rhopalodiales Percent:	14.25
Trophic State (Elevated Inorganic Nutrients)[1]	
Intolerant Taxa %:	4.13
Tolerant/Indifferent Taxa %:	91.38

Site ID: CFR-116A (continued)

Species	Valves	PRA	% Ab.
Reimeria sinuata	10	1.25	0.00
Rhoicosphenia abbreviata	7	0.88	0.00
Sellaphora pupula	1	0.13	0.00
Staurosira construens var. pumilla	6	0.75	0.00
Staurosira construens var. venter	21	2.63	0.00
Staurosirella leptostauron	10	1.25	0.00
Staurosirella pinnata	7	0.88	0.00
Stephanocyclus meneghiniana	3	0.38	0.00
Synedra acus	17	2.13	0.00
Synedra mazamaensis	7	0.88	0.00
Synedra rumpens	1	0.13	0.00
Synedra ulna	10	1.25	0.00
Synedra ulna var. spathulifera	1	0.13	0.00
Totals	800	100	2.38

Nitrogen Metabolism/Organic N Tolerence[1]	
N-Autotroph/Low Organic N Taxa %:	26.88
N-Autotroph/High Organic N Taxa %:	60.00
N-Heterotroph/High Organic N Taxa %:	4.88
Saprobity/Oxygen Saturation Requirement[1]	
Low BOD/High Oxygen Saturation Taxa %:	73.75

[1] after Van Dam et.al 1994.

Site ID: MCWC-MWB
Site Description: Mill and Willow Creeks at Frontage Road
Date Sampled: 9/18/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 1/21/2014
Remarks: scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
diatoms (all genera)	Bacillariophyta	d	1
Nostoc	Cyanophyta	a	2
Cladophora	Chlorophyta	f	3
Oedogonium	Chlorophyta	f	4
Vaucheria	Xanthophyta	c	5
Audouinella	Rhodophyta	f	6
Tolypothrix	Cyanophyta	f	7
Mougeotia	Chlorophyta	f	8
Ulothrix	Chlorophyta	c	9
Rivularia	Cyanophyta	c	10
Calothrix	Cyanophyta	c	11
Closterium	Chlorophyta	o	12
Scenedesmus	Chlorophyta	o	13
Leptolyngbya	Cyanophyta	o	14
Chamaesiphon	Cyanophyta	c	15
Cosmarium	Chlorophyta	r	16
Pediastrum	Chlorophyta	r	17
Phormidium	Cyanophyta	r	18
Ankistrodesmus	Chlorophyta	o	19
Coelastrum	Chlorophyta	r	20
Gloeocystis	Cyanophyta	r	21

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID: MWB-SBC
Site Description: Mill-Willow Bypass near mouth
Date Sampled: 9/18/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 1/22/2014
Remarks: scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
diatoms (all genera)	Bacillariophyta	d	1
Cladophora	Chlorophyta	f	2
Oedogonium	Chlorophyta	f	3
Nostoc	Cyanophyta	a	4
Closterium	Chlorophyta	c	5
Phormidium	Cyanophyta	f	6
Tolypothrix	Cyanophyta	o	7
Ulothrix	Chlorophyta	o	8
Scenedesmus	Chlorophyta	o	9
Mougeotia	Chlorophyta	r	10
Pediastrum	Chlorophyta	r	11
Cosmarium	Chlorophyta	r	12
Coelastrum	Chlorophyta	r	13
Dactylococcopsis	Cyanophyta	c	14
Ankistrodesmus	Chlorophyta	r	15

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID:	SS-25
Site Description:	Silver Bow Creek at Warm Springs
Date Sampled:	9/18/2013
Sampled by:	E. Weber
Analyzed by:	E. Weber
Date Analyzed:	1/22/2014
Remarks:	scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
diatoms (all genera)	Bacillariophyta	d	1
Cladophora	Chlorophyta	f	2
Oedogonium	Chlorophyta	c	3
Stigeoclonium	Chlorophyta	c	4
Microcystis	Cyanophyta	f	5
Closterium	Chlorophyta	o	6
Cosmarium	Chlorophyta	o	7
Anabaena	Cyanophyta	o	8
Phormidium	Cyanophyta	r	9
Scenedesmus	Chlorophyta	r	10

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID:	WSC-SBC
Site Description:	Warm Springs Creek near mouth
Date Sampled:	9/18/2013
Sampled by:	E.Weber
Analyzed by:	E. Weber
Date Analyzed:	1/23/2014
Remarks:	scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
diatoms (all genera)	Bacillariophyta	d	1
Cladophora	Chlorophyta	f	2
Nostoc	Cyanophyta	a	3
Audouinella	Rhodophyta	f	4
Phormidium	Cyanophyta	a	5
Vaucheria	Xanthophyta	c	6
Oedogonium	Chlorophyta	c	7
Chamaesiphon	Cyanophyta	a	8
Closterium	Chlorophyta	o	9
Staurastrum	Chlorophyta	o	10
Heteroleibleinia	Cyanophyta	a	11
Cosmarium	Chlorophyta	r	12
Mougeotia	Chlorophyta	r	13

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID:	CFR-03A
Site Description:	Clark Fork near Galen
Date Sampled:	9/18/2013
Sampled by:	E. Weber
Analyzed by:	E. Weber
Date Analyzed:	1/23/2014
Remarks:	scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
diatoms (all genera)	Bacillariophyta	d	1
Cladophora	Chlorophyta	a	2
Nostoc	Cyanophyta	d	3
Oedogonium	Chlorophyta	f	4
Tolypothrix	Cyanophyta	c	5
Chamaesiphon	Cyanophyta	a	6
Dichothrix	Cyanophyta	c	7
Heteroleibleinia	Cyanophyta	a	8
Stigeoclonium	Chlorophyta	o	9
Scenedesmus	Chlorophyta	c	10
Microchaete	Cyanophyta	o	11
Microcystis	Cyanophyta	o	12
Pediastrum	Chlorophyta	r	13
Staurastrum	Chlorophyta	r	14
Cosmarium	Chlorophyta	r	15
Spirogyra	Chlorophyta	r	16
Mougeotia	Chlorophyta	r	17
Dactylococcopsis	Cyanophyta	o	18

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID: LC-7.5
Site Description: Lost Creek at Frontage Road
Date Sampled: 9/17/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 1/23/2014
Remarks: scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA1	EBR2
Chara	Chlorophyta	f	1
diatoms (all genera)	Bacillariophyta	d	2
Cladophora	Chlorophyta	a	3
Chamaesiphon	Cyanophyta	a	4
Mougeotia	Chlorophyta	o	5
Tribonema	Xanthophyta	o	6
Oedogonium	Chlorophyta	r	7
Audouinella	Rhodophyta	r	8
Phormidium	Cyanophyta	r	9
Heteroleibleinia	Cyanophyta	o	10

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID:	RTC-1.5
Site Description:	Racetrack Creek at Frontage Road
Date Sampled:	9/17/2013
Sampled by:	E. Weber
Analyzed by:	E. Weber
Date Analyzed:	1/24/2014
Remarks:	scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
diatoms (all genera)	Bacillariophyta	d	1
Phormidium	Cyanophyta	a	2
Vaucheria	Xanthophyta	f	3
Microspora	Chlorophyta	f	4
Tribonema	Xanthophyta	f	5
Ulothrix	Chlorophyta	c	6
Closterium	Chlorophyta	o	7
Spirogyra	Chlorophyta	o	8
Oedogonium	Chlorophyta	o	9
Scenedesmus	Chlorophyta	f	10
Mougeotia	Chlorophyta	o	11
Stigeoclonium	Chlorophyta	o	12
Ankistrodesmus	Chlorophyta	f	13
Dactylococcopsis	Cyanophyta	c	14
Cosmarium	Chlorophyta	r	15
Audouinella	Rhodophyta	r	16

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID: CFR-07D
Site Description: Clark Fork at Galen Road
Date Sampled: 9/18/2013
Sampled by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 1/24/2014
Remarks: scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
diatoms (all genera)	Bacillariophyta	d	1
Cladophora	Chlorophyta	f	2
Nostoc	Cyanophyta	a	3
Oedogonium	Chlorophyta	f	4
Tolypothrix	Cyanophyta	f	5
Closterium	Chlorophyta	c	6
Heteroleibleinia	Cyanophyta	a	7
Microcystis	Cyanophyta	o	8
Dichothrix	Cyanophyta	o	9
Mougeotia	Chlorophyta	r	10
Rivularia	Cyanophyta	o	11
Pediastrum	Chlorophyta	r	12
Asterocystis	Rhodophyta	r	13
Phormidium	Cyanophyta	r	14

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID:	CFR-11F
Site Description:	Clark Fork at Gem Back Road
Date Sampled:	9/18/2013
Sampled by:	E. Weber
Analyzed by:	E. Weber
Date Analyzed:	1/27/2014
Remarks:	scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
Nostoc	Cyanophyta	d	1
diatoms (all genera)	Bacillariophyta	d	2
Cladophora	Chlorophyta	f	3
Oedogonium	Chlorophyta	f	4
Chamaesiphon	Cyanophyta	a	5
Heteroleibleinia	Cyanophyta	f	6
Pediastrum	Chlorophyta	o	7
Scenedesmus	Chlorophyta	c	8
Cosmarium	Chlorophyta	o	9
Closterium	Chlorophyta	r	10
Mougeotia	Chlorophyta	r	11
Dactylococcopsis	Cyanophyta	c	12
Asterocystis	Rhodophyta	r	13
Ankistrodesmus	Chlorophyta	r	14

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare;

[2] Estimated Biovolume Rank

Site ID:	CFR-27H
Site Description:	Clark Fork at Deer Lodge
Date Sampled:	9/17/2013
Sampled by:	E. Weber
Analyzed by:	E. Weber
Date Analyzed:	1/27/2014
Remarks:	scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
diatoms (all genera)	Bacillariophyta	d	1
Cladophora	Chlorophyta	f	2
Nostoc	Cyanophyta	a	3
Oedogonium	Chlorophyta	c	4
Cosmarium	Chlorophyta	c	5
Pediastrum	Chlorophyta	c	6
Stigeoclonium	Chlorophyta	o	7
Scenedesmus	Chlorophyta	c	8
Phormidium	Cyanophyta	o	9
Closterium	Chlorophyta	r	10
Chamaesiphon	Cyanophyta	c	11
Dactylococcopsis	Cyanophyta	o	12
Ankistrodesmus	Chlorophyta	r	13

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID: LBR-CFR
Site Description: Little Blackfoot River near Garrison
Date Sampled: 9/17/2013
Taken by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 1/27/2014
Remarks: scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
Nostoc	Cyanophyta	d	1
diatoms (all genera)	Bacillariophyta	a	2
Cladophora	Chlorophyta	f	3
Oedogonium	Chlorophyta	f	4
Spirogyra	Chlorophyta	a	5
Vaucheria	Xanthophyta	c	6
Mougeotia	Chlorophyta	c	7
Tolypothrix	Cyanophyta	c	8
Tribonema	Xanthophyta	c	9
Cosmarium	Chlorophyta	c	10
Ulothrix	Chlorophyta	o	11
Scenedesmus	Chlorophyta	c	12
Closterium	Chlorophyta	o	13
Dactylococcopsis	Cyanophyta	c	14
Heteroleibleinia	Cyanophyta	f	15
Chamaesiphon	Cyanophyta	c	16
Audouinella	Rhodophyta	r	17
Staurastrum	Chlorophyta	r	18
Coelastrum	Chlorophyta	r	19

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

Site ID: CFR-116A
Site Description: Clark Fork near Turah
Date Sampled: 9/17/2013
Taken by: E. Weber
Analyzed by: E. Weber
Date Analyzed: 1/27/2014
Remarks: scan of non-diatom algae at 100X-400X

Taxon	Algal Division	ERA[1]	EBR[2]
diatoms (all genera)	Bacillariophyta	d	1
Cladophora	Chlorophyta	f	2
Scenedesmus	Chlorophyta	c	3
Nostoc	Cyanophyta	c	4
Heteroleibleinia	Cyanophyta	a	5
Tolypothrix	Cyanophyta	c	6
Stigeoclonium	Chlorophyta	o	7
Heribaudiella	Phaeophyta	o	8
Pediastrum	Chlorophyta	o	9
Homoeothrix	Cyanophyta	o	10
Dactylococcopsis	Cyanophyta	o	11
Asterocystis	Rhodophyta	r	12
Closterium	Chlorophyta	r	13
Ulothrix	Chlorophyta	r	14
Audouinella	Rhodophyta	r	15
Cosmarium	Chlorophyta	r	16
Calothrix	Cyanophyta	r	17
Oocystis	Chlorophyta	r	18
Coelastrum	Chlorophyta	r	19
Microchaete	Cyanophyta	r	20

[1] Estimated Relative Abundance: d=dominant; a=abundant; f=frequent; c=common; o=occasional; r=rare

[2] Estimated Biovolume Rank

APPENDIX I

PERIPHYTON BIOINDEX SCORES

Diatom association metrics used by the State of Montana to evaluate biological integrity in mountain streams: references, range of values, expected response to increasing impairment or natural stress, and criteria for rating levels of biological integrity. The lowest rating for any one metric is the rating for that site.

Biological Integrity/ Impairment or Stress/ Use Support	No. of Species Counted[1]	Diversity Index[2] (Shannon)	Pollution Index[3]	Siltation Index[4]	Disturbance Index[5]	% Dominant Species[6]	% Abnormal Valves[7]
Excellent/None Full Support	>29	>2.99	>2.50	<20.0	<25.0	<25.0	0
Good/Minor Full Support	20-29	2.00-2.99	2.01-2.50	20.0-39.9	25.0-49.9	25.0-49.9	>0.0, <3.0
Fair/Moderate Partial Support	19-10	1.00-1.99	1.50-2.00	40.0-59.9	50.0-74.9	50.0-74.9	3.0-9.9
Poor/Severe Nonsupport	<10	<1.00	<1.50	>59.9	>74.9	>74.9	>9.9
References	Bahls 1979 Bahls 1993	Bahls 1979	Bahls 1993	Bahls 1993	Barbour et al. 1999	Barbour et al. 1999	McFarland et al. 1997
Range of Values	0-100+	0.00-5.00+	1.00-3.00	0.0-90.0+	0.0-100.0	~5.0-100.0	0.0-30.0+
Expected Response	Decrease[8]	Decrease[8]	Decrease	Increase	Increase	Increase	Increase

[1] Based on a proportional count of 400 cells (800 valves)

[2] Base 2 [bits] (Weber 1973)

[3] Composite numeric expression of the pollution tolerances assigned by Lange-Bertalot (1979) to the common diatom species

[4] Sum of the percent abundances of all species in the genera *Navicula, Nitzschia* and *Surirella*

[5] Percent abundance of *Achnanthidium minutissimum* (synonym: *Achnanthes minutissima*)

[6] Percent abundance of the species with the largest number of valves in the proportional count

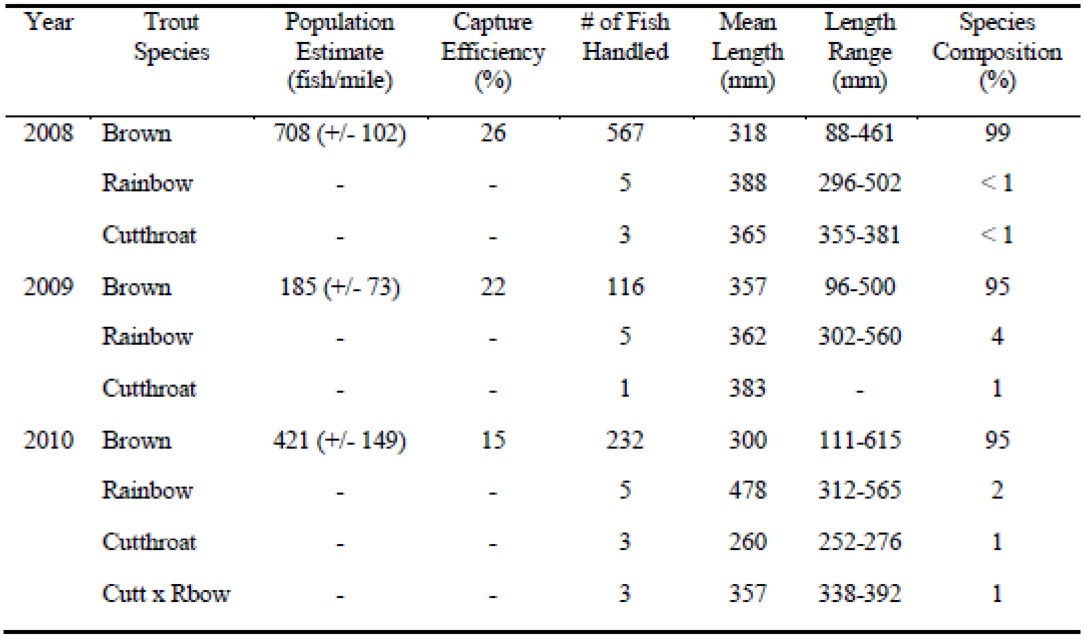
[7] Valves with an irregular outline or with abnormal ornamentation, or both

[8] Species richness and diversity may increase somewhat in mountain streams in response to slight to moderate increases in nutrients or sediment

APPENDIX J

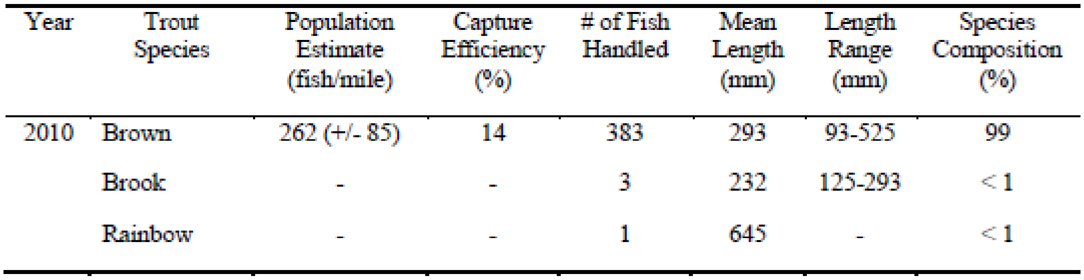
PUBLISHED ELECTROFISHING DATA FROM LINDSTROM (2011)

Table J1. **Electrofishing data collected on the Upper Clark Fork River at the pH Shack Section from 2008 through 2010. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7") in total length. Number following the population estimate (in parentheses) represents the 95 % confidence interval. Cutt x Rbow represents a phenotypic hybrid between a cutthroat and rainbow trout.**



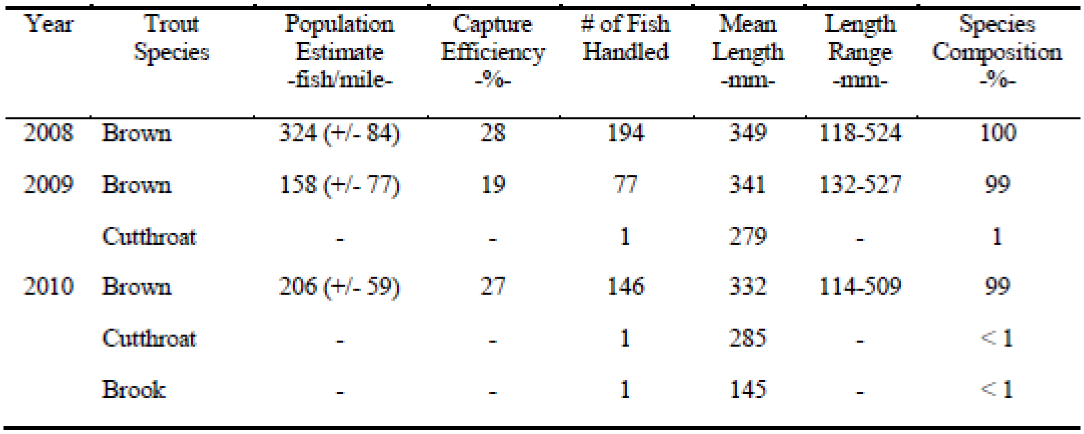
Year	Trout Species	Population Estimate (fish/mile)	Capture Efficiency (%)	# of Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
2008	Brown	708 (+/- 102)	26	567	318	88-461	99
	Rainbow	-	-	5	388	296-502	< 1
	Cutthroat	-	-	3	365	355-381	< 1
2009	Brown	185 (+/- 73)	22	116	357	96-500	95
	Rainbow	-	-	5	362	302-560	4
	Cutthroat	-	-	1	383	-	1
2010	Brown	421 (+/- 149)	15	232	300	111-615	95
	Rainbow	-	-	5	478	312-565	2
	Cutthroat	-	-	3	260	252-276	1
	Cutt x Rbow	-	-	3	357	338-392	1

Table J2. **Electrofishing data collected on the Upper Clark Fork River at the Below Sager Lane Section in 2010. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7”) in total length. Number following the population estimate (in parentheses) represents the 95 % confidence interval.**



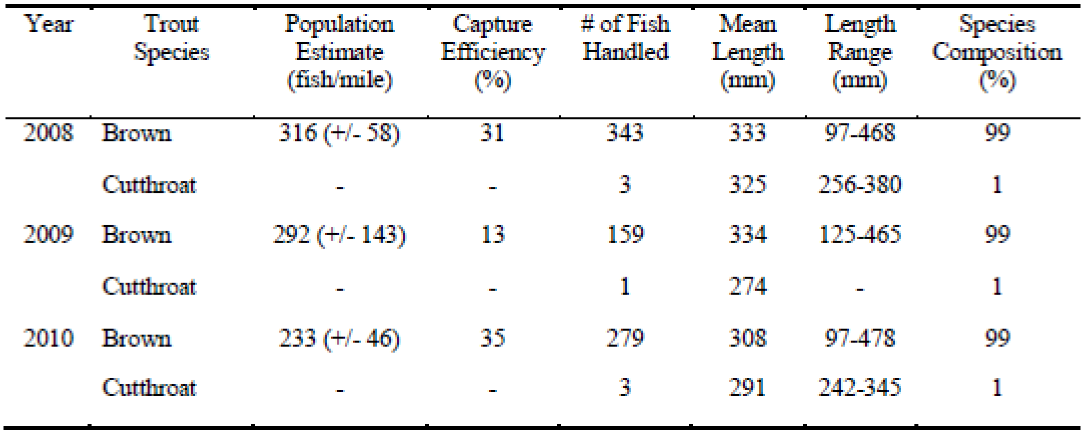
Year	Trout Species	Population Estimate (fish/mile)	Capture Efficiency (%)	# of Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
2010	Brown	262 (+/- 85)	14	383	293	93-525	99
	Brook	-	-	3	232	125-293	< 1
	Rainbow	-	-	1	645	-	< 1

Table J3. Electrofishing data collected on the Upper Clark Fork River at the original Williams-Tavenner Section from 2008 through 2010. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7") in total length. Number following the population estimate (in parentheses) represents the 95 % confidence interval.



Year	Trout Species	Population Estimate -fish/mile-	Capture Efficiency -%-	# of Fish Handled	Mean Length -mm-	Length Range -mm-	Species Composition -%-
2008	Brown	324 (+/- 84)	28	194	349	118-524	100
2009	Brown	158 (+/- 77)	19	77	341	132-527	99
	Cutthroat	-	-	1	279	-	1
2010	Brown	206 (+/- 59)	27	146	332	114-509	99
	Cutthroat	-	-	1	285	-	< 1
	Brook	-	-	1	145	-	< 1

Table J4. Electrofishing data collected on the Upper Clark Fork River at the Phosphate Section from 2008 through 2010. Population estimates and capture efficiencies are for brown trout greater than 175 mm (~7”) in total length. Number following the population estimate (in parentheses) represents the 95 % confidence interval.



Year	Trout Species	Population Estimate (fish/mile)	Capture Efficiency (%)	# of Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
2008	Brown	316 (+/- 58)	31	343	333	97-468	99
	Cutthroat	-	-	3	325	256-380	1
2009	Brown	292 (+/- 143)	13	159	334	125-465	99
	Cutthroat	-	-	1	274	-	1
2010	Brown	233 (+/- 46)	35	279	308	97-478	99
	Cutthroat	-	-	3	291	242-345	1

APPENDIX K

CAGED FISH STUDY COMPARISONS

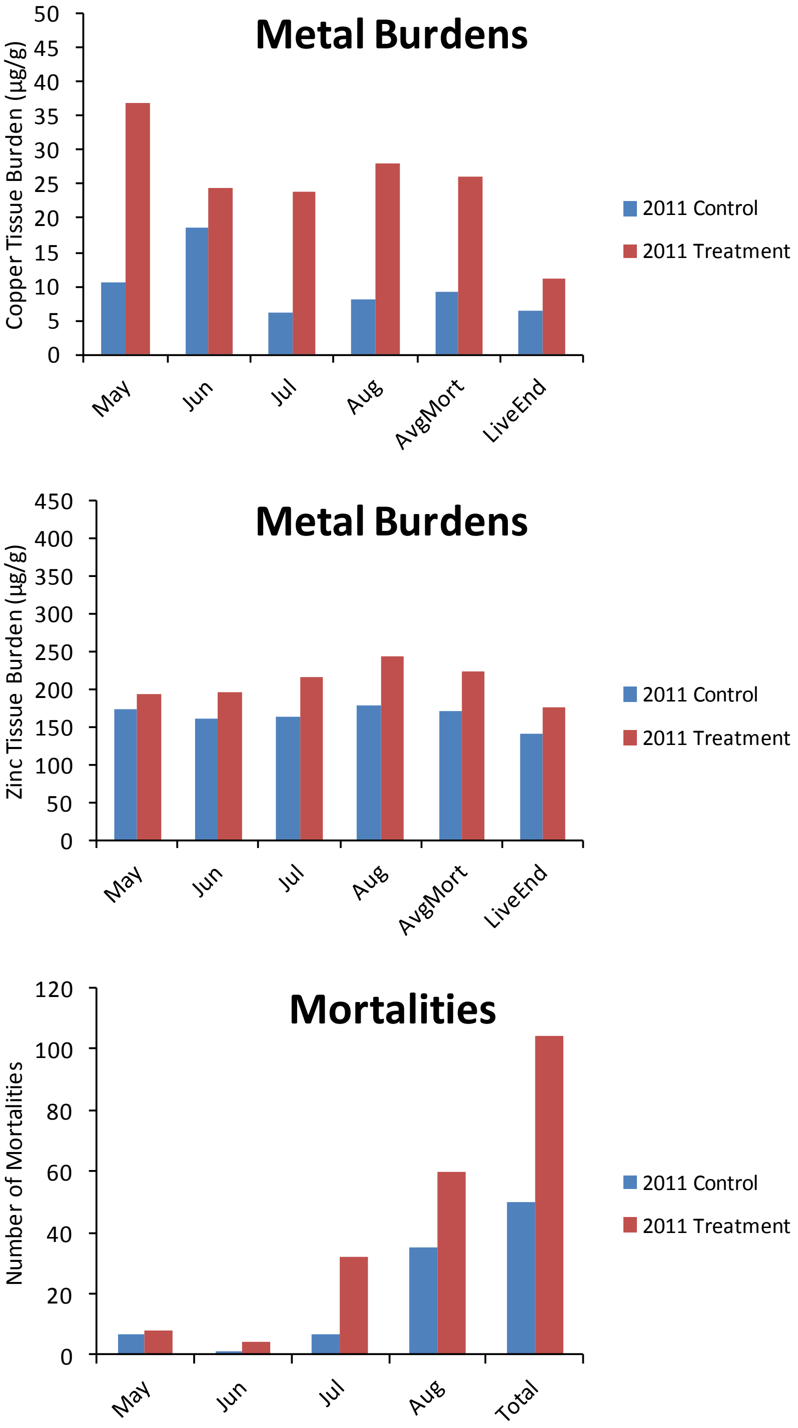


Figure K1. **Comparisons between control and treatment sites' tissue metals burdens and number of mortalities by month in 2011. The last column of each metals burdens figure represents the values of the fish sampled that lived to the end of the 2011 field season and the last column of the mortalities figure represents the total number of mortalities during the 2011 field season.**

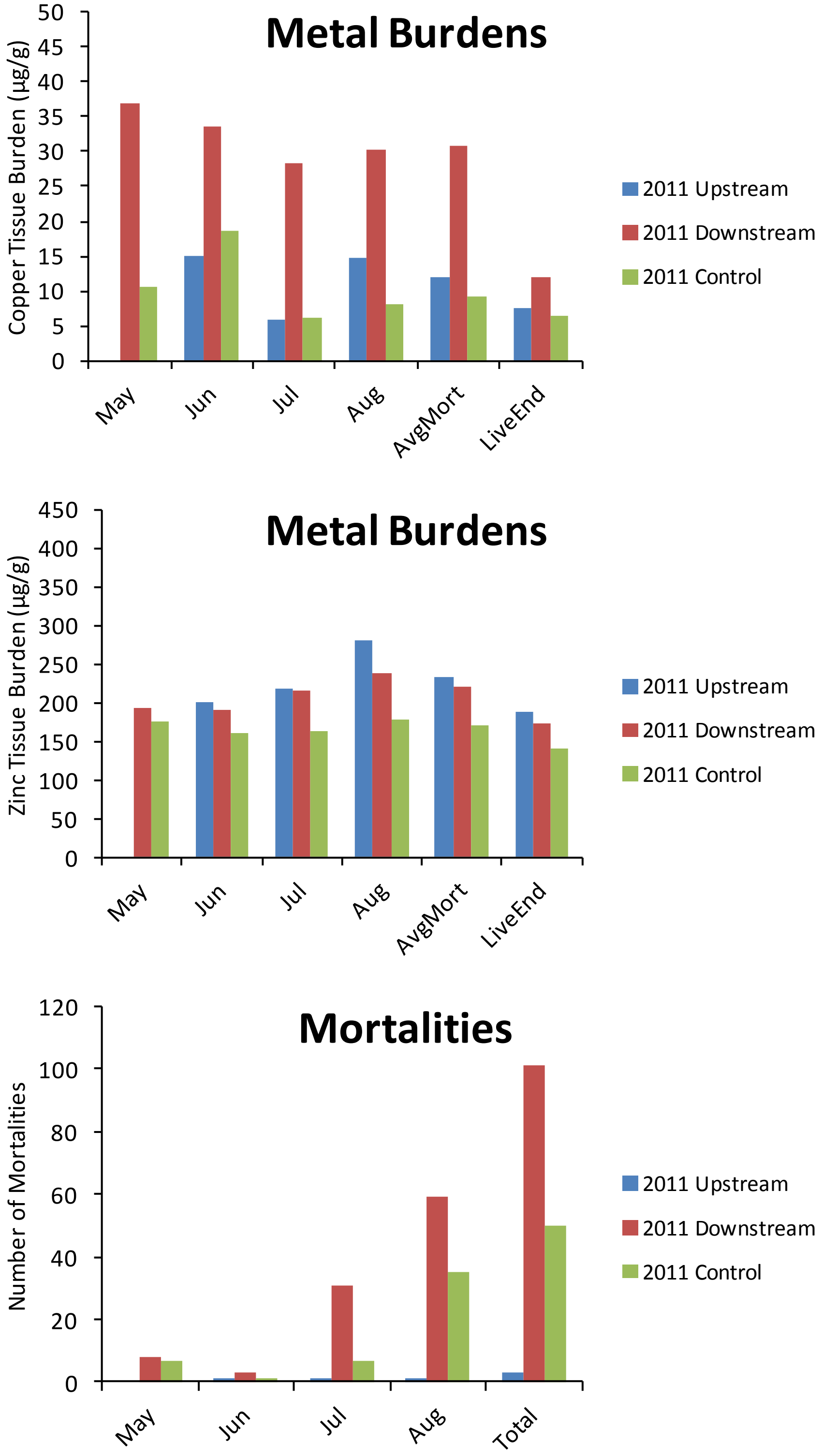
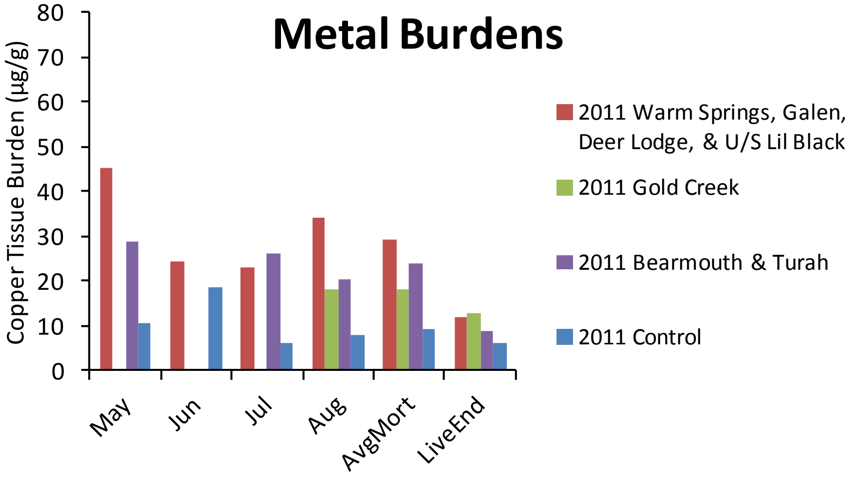
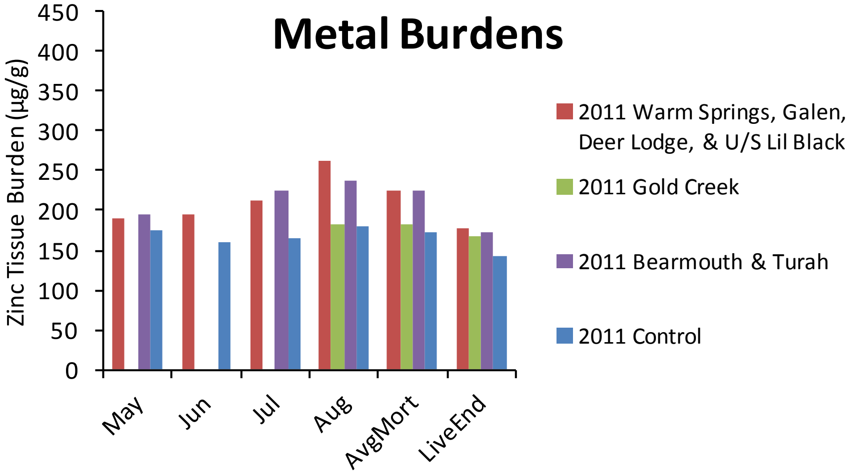


Figure K2. **Comparisons between upstream construction and downstream construction sites' tissue metals burdens and number of mortalities by month in 2011. The last column of each metals burdens figure represents the values of the fish sampled that lived to the end of the 2011 field season and the last column of the mortalities figure represents the total number of mortalities during the 2011 field season.**





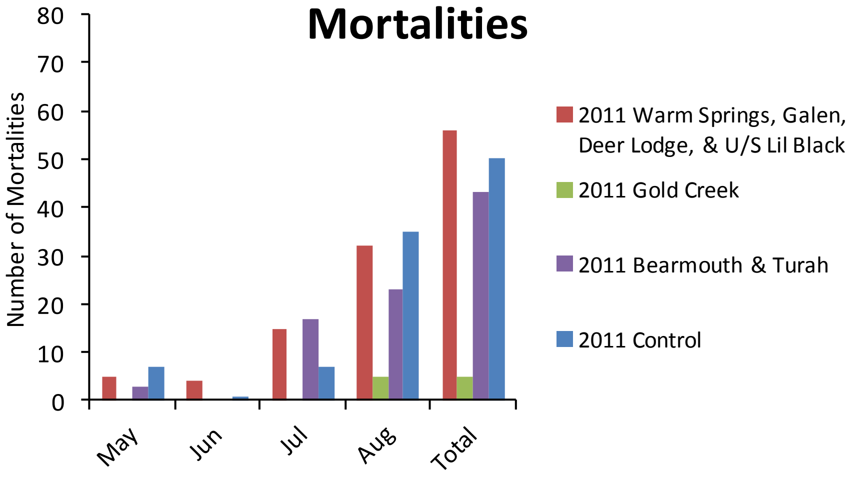


Figure K3. **Comparisons between upper and lower sites' tissue metals burdens and number of mortalities by month in 2011. The last column of each metals burdens figure represents the values of the fish sampled that lived to the end of the 2011 field season and the last column of the mortalities figure represents the total number of mortalities during the 2011 field season.**

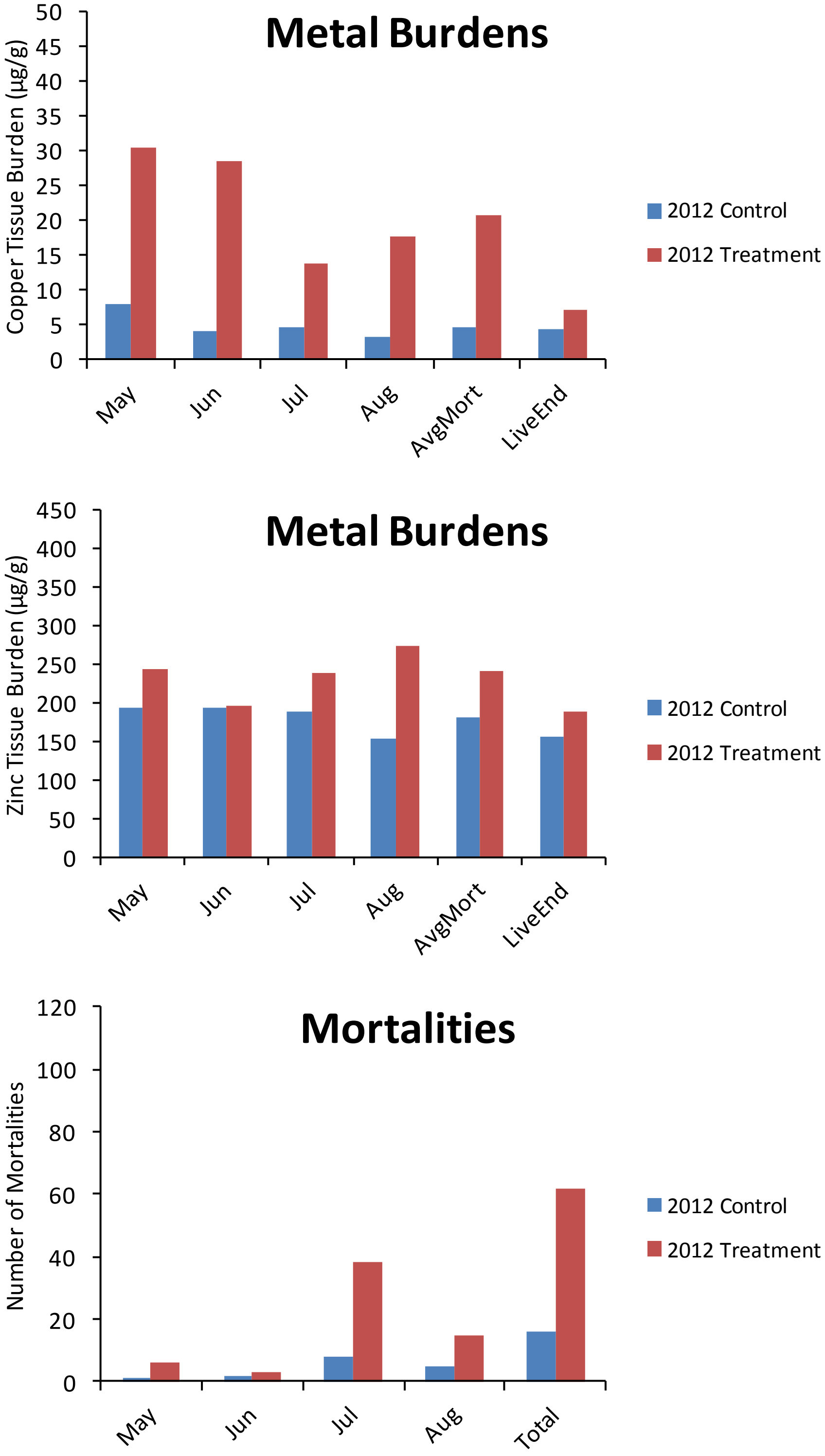


Figure K4. Comparisons between control and treatment sites' tissue metals burdens and number of mortalities by month in 2012. The last column of each metals burdens figure represents the values of the fish sampled that lived to the end of the 2012 field season and the last column of the mortalities figure represents the total number of mortalities during the 2012 field season.

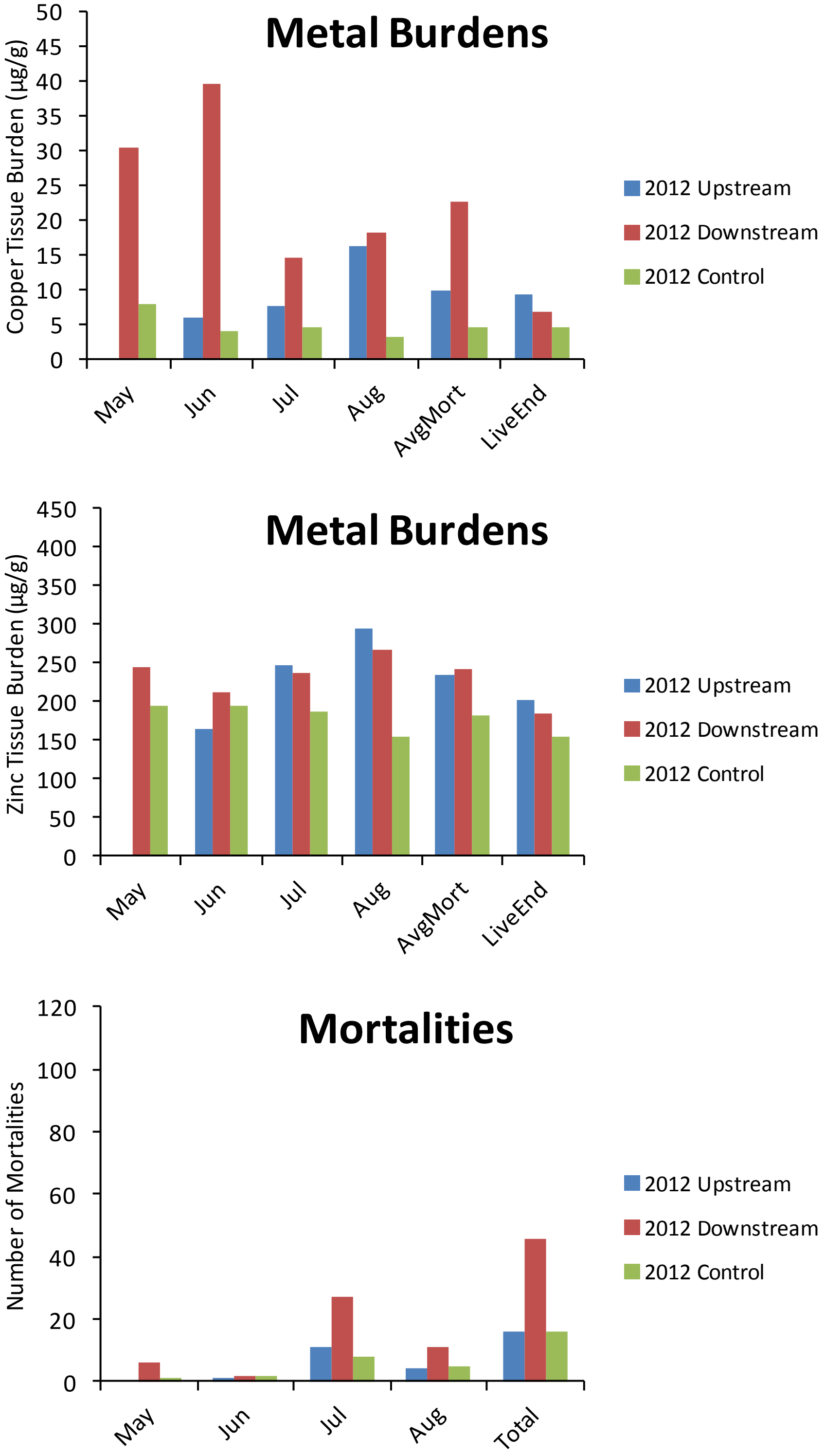


Figure K5. **Comparisons between upstream construction and downstream construction sites' tissue metals burdens and number of mortalities by month in 2012. The last column of each metals burdens figure represents the values of the fish sampled that lived to the end of the 2012 field season and the last column of the mortalities figure represents the total number of mortalities during the 2012 field season.**

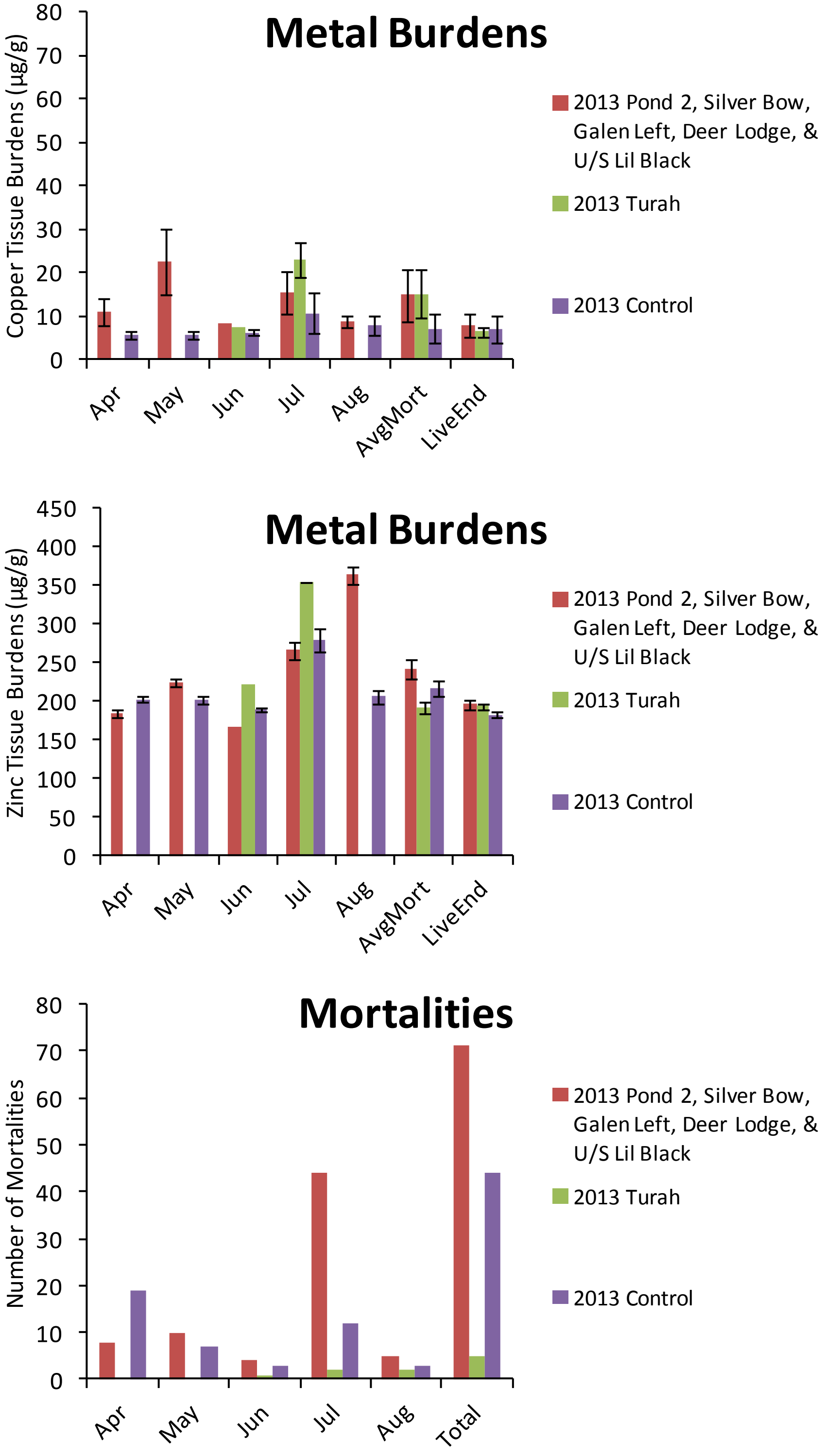


Figure K6. **Comparisons between upper and lower sites' tissue metals burdens and number of mortalities by month in 2012. The last column of each metals burdens figure represents the values of the fish sampled that lived to the end of the 2012 field season and the last column of the mortalities figure represents the total number of mortalities during the 2012 field season.**

APPENDIX L

RAIN EVENT METALS COMPLIANCE RATIOS

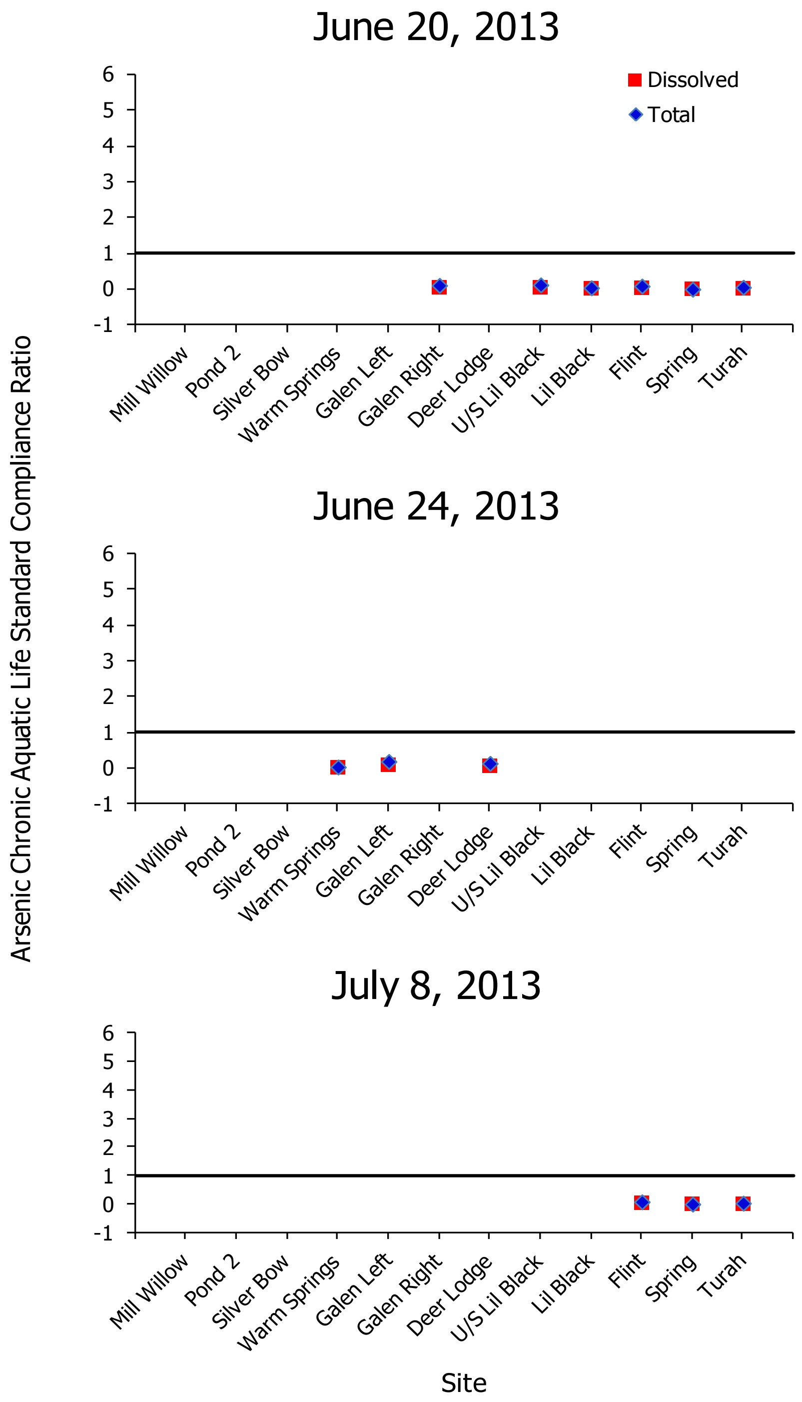


Figure L1. **Arsenic compliance ratios at the cage sites from rain events on June 20, June 24, and July 8 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing arsenic concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate arsenic levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

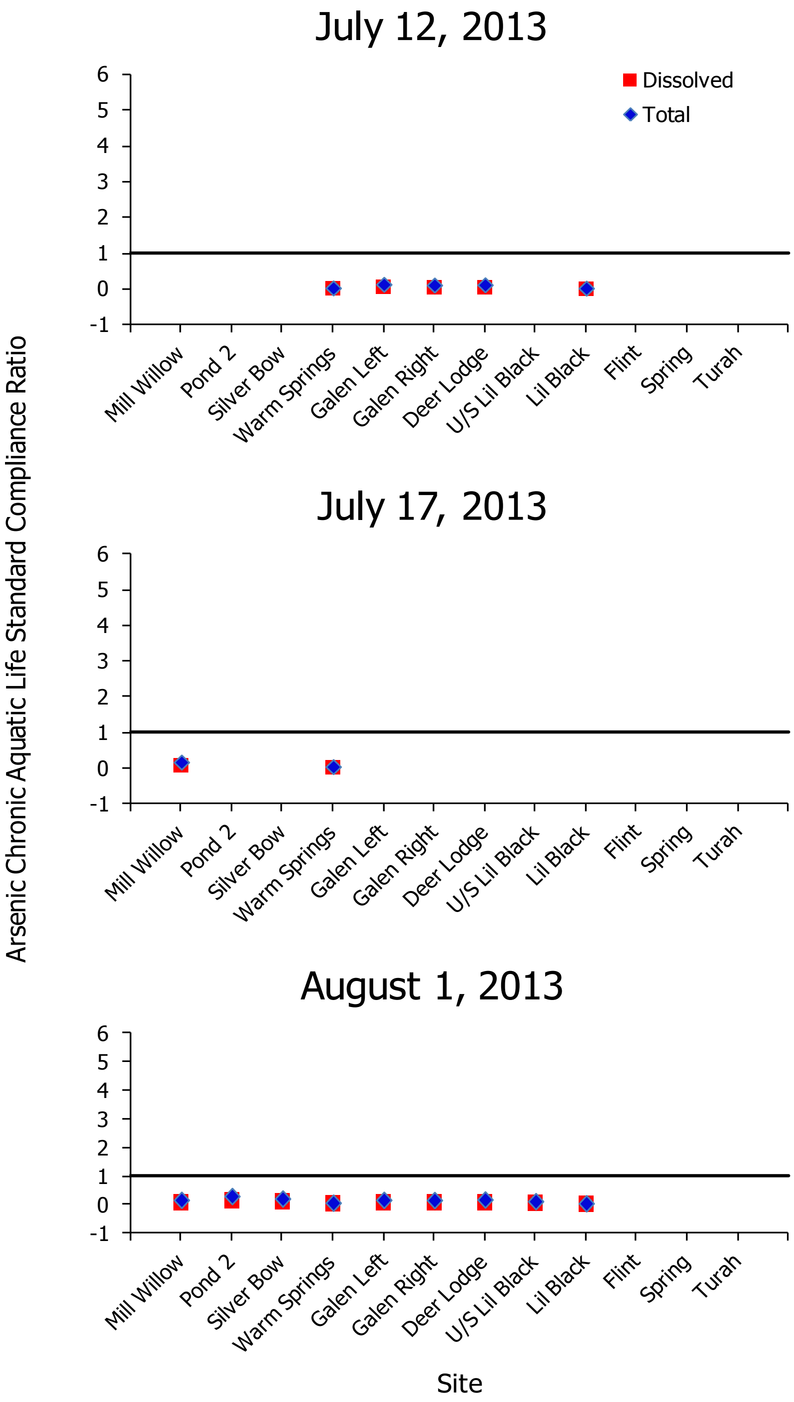


Figure L2. **Arsenic compliance ratios at the cage sites from rain events on July 12, July 17, and August 1 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing arsenic concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate arsenic levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

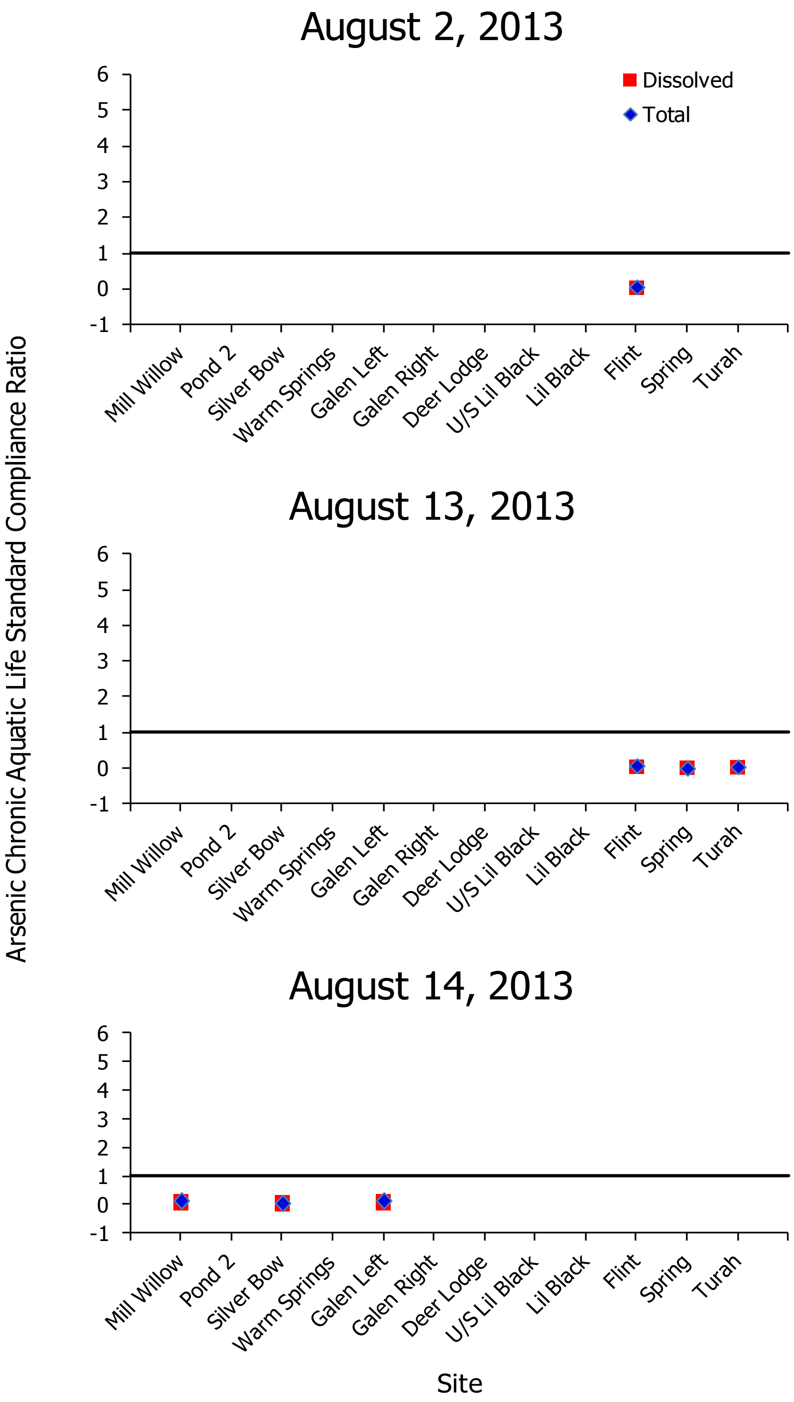


Figure L3. Arsenic compliance ratios at the cage sites from rain events on August 2, August 13, and August 14 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing arsenic concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate arsenic levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

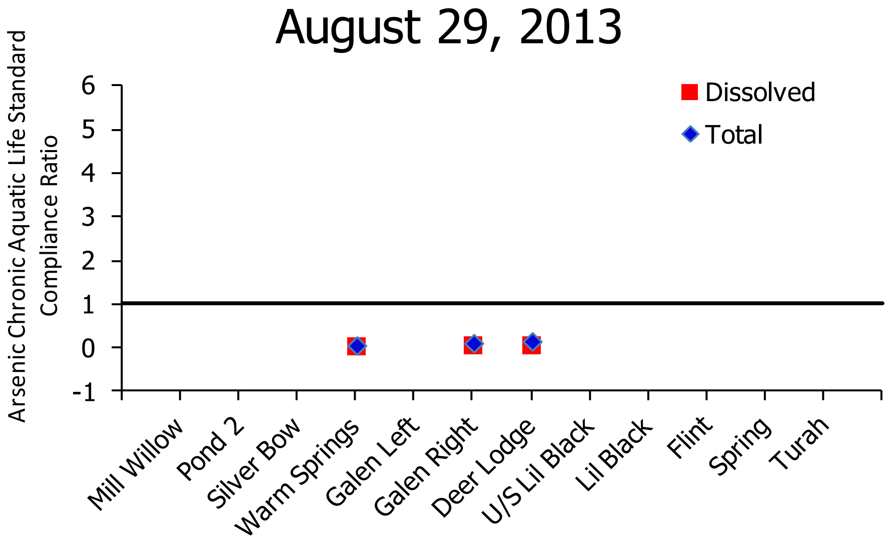


Figure L4. Arsenic compliance ratios at the cage sites from the rain event on August 29, 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing arsenic concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate arsenic levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

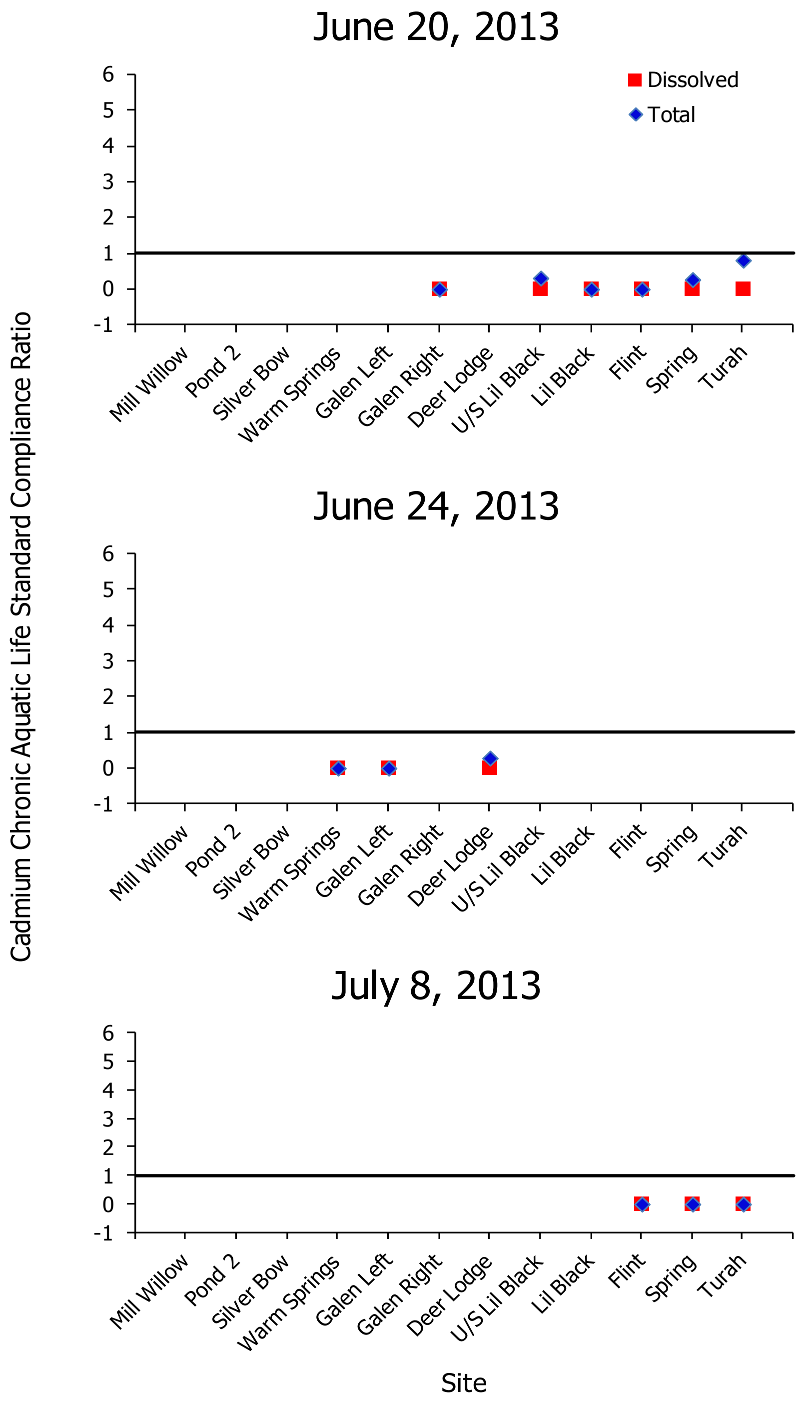


Figure L5. **Cadmium compliance ratios at the cage sites from rain events on June 20, June 24, and July 8 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing cadmium concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate cadmium levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

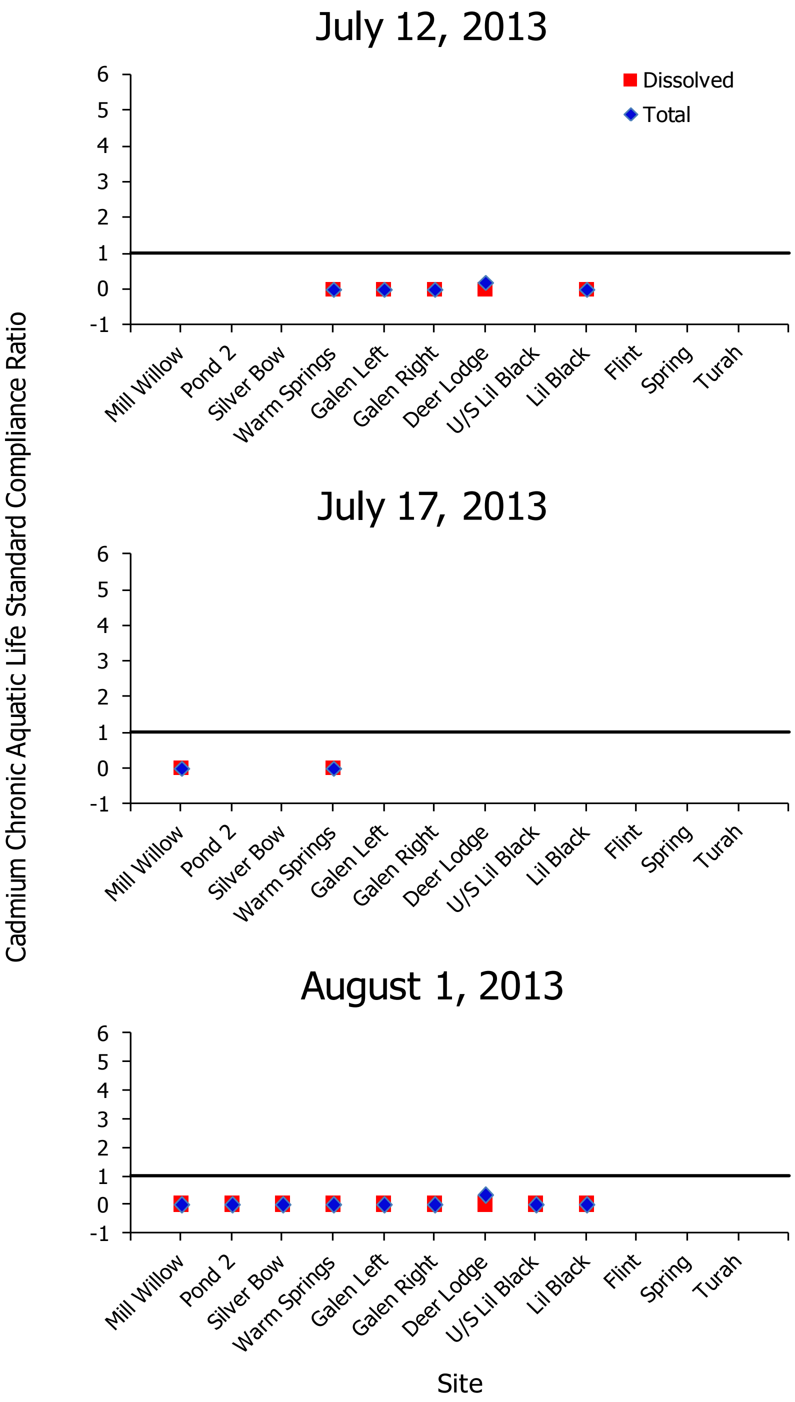


Figure L6. **Cadmium compliance ratios at the cage sites from rain events on July 12, July 17, and August 1 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing cadmium concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate cadmium levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

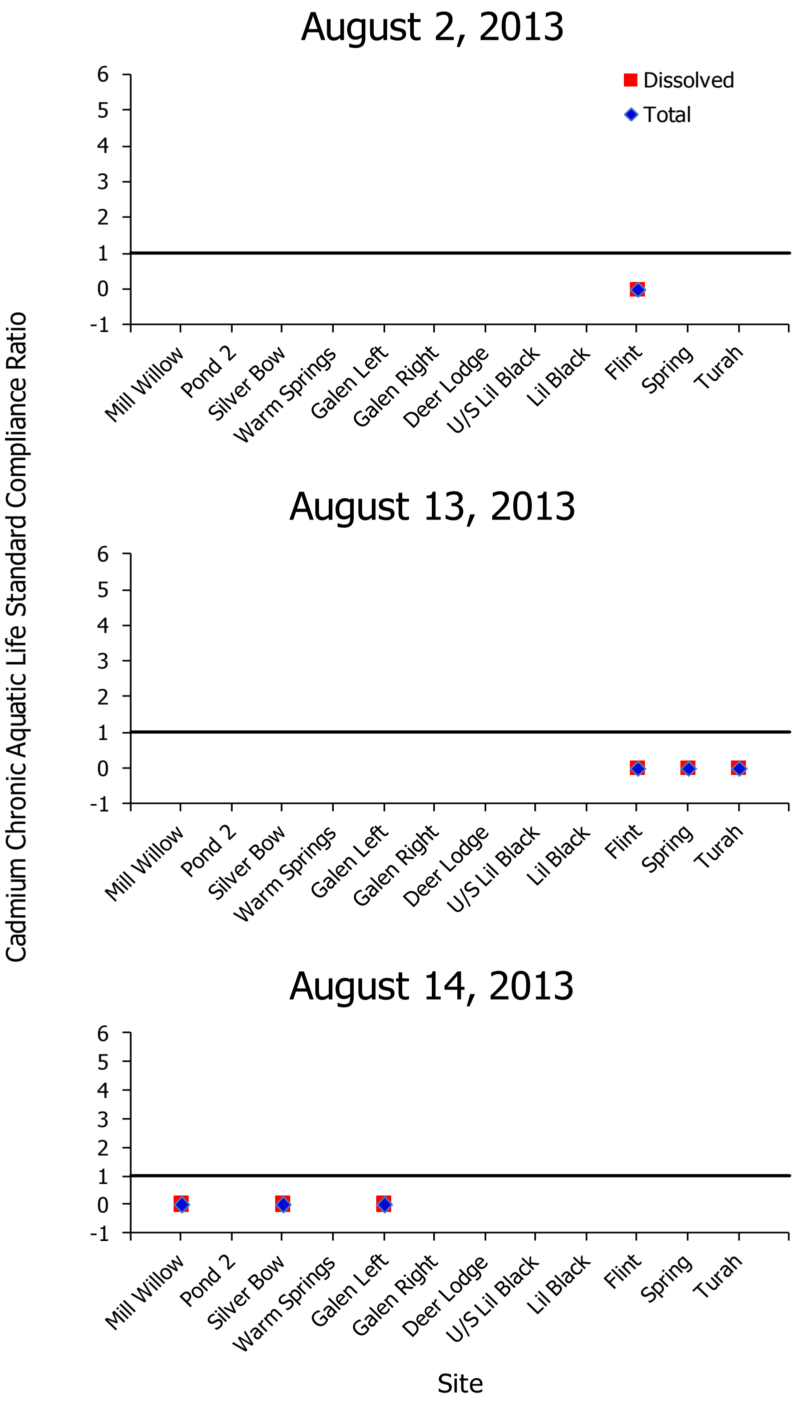


Figure L7. **Cadmium compliance ratios at the cage sites from rain events on August 2, August 13, and August 14 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing cadmium concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate cadmium levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

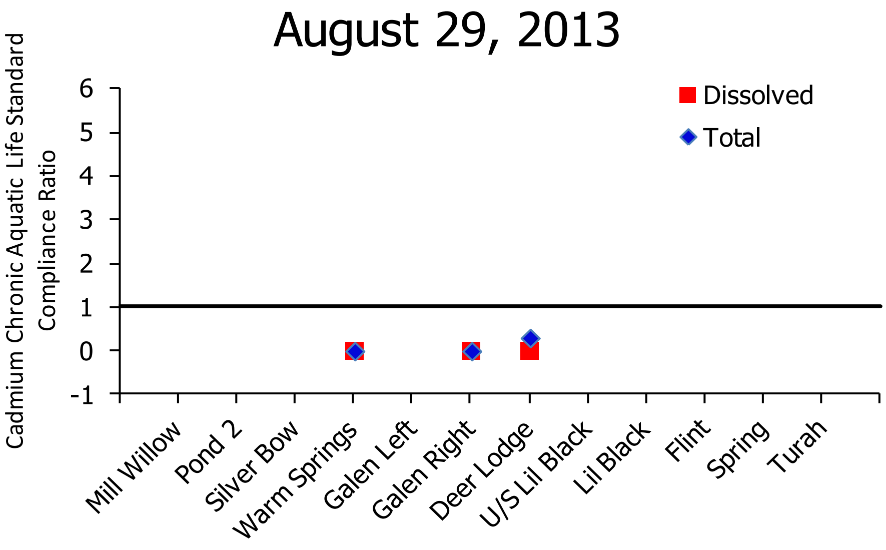


Figure L8. **Cadmium compliance ratios at the cage sites from the rain event on August 29, 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing cadmium concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate cadmium levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

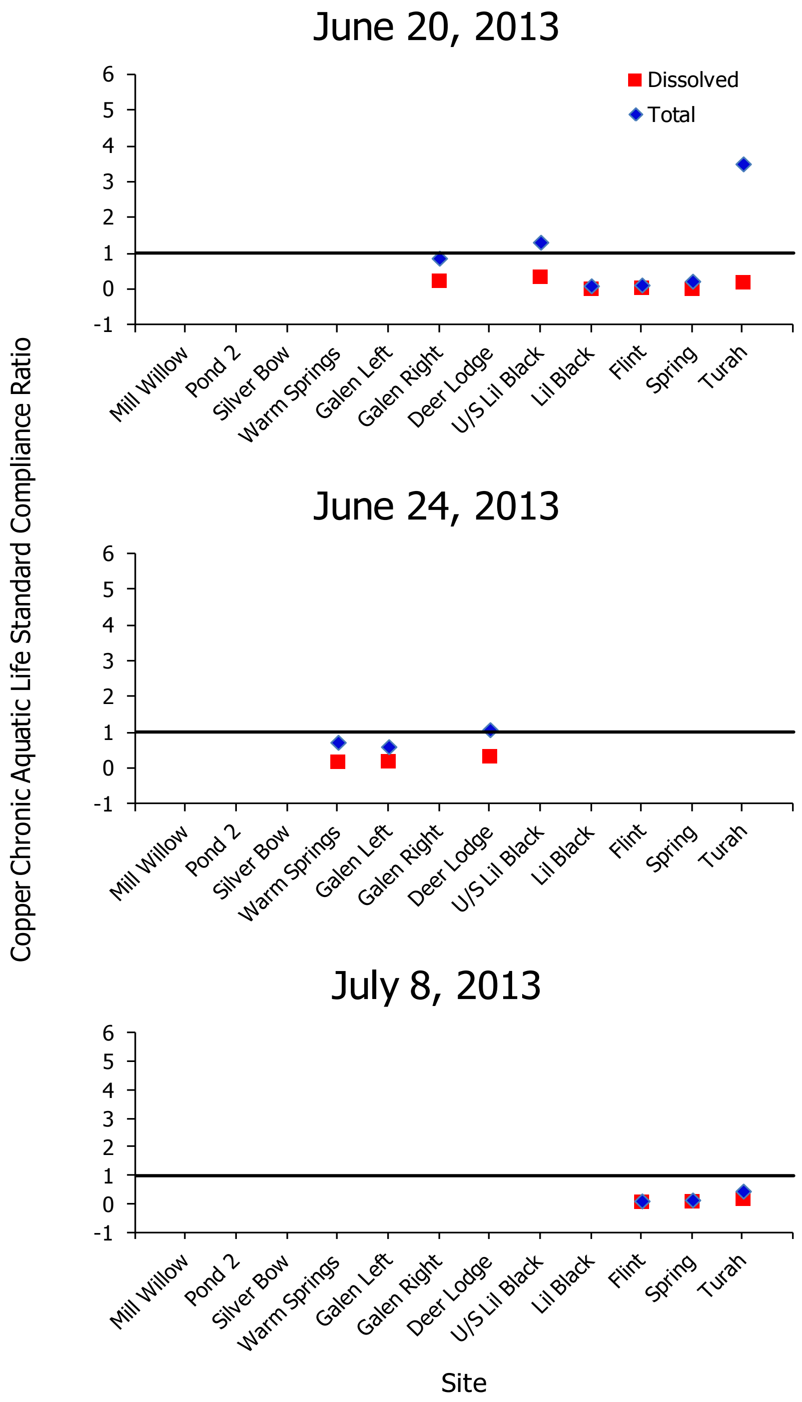


Figure L9. Copper compliance ratios at the cage sites from rain events on June 20, June 24, and July 8 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing copper concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate copper levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

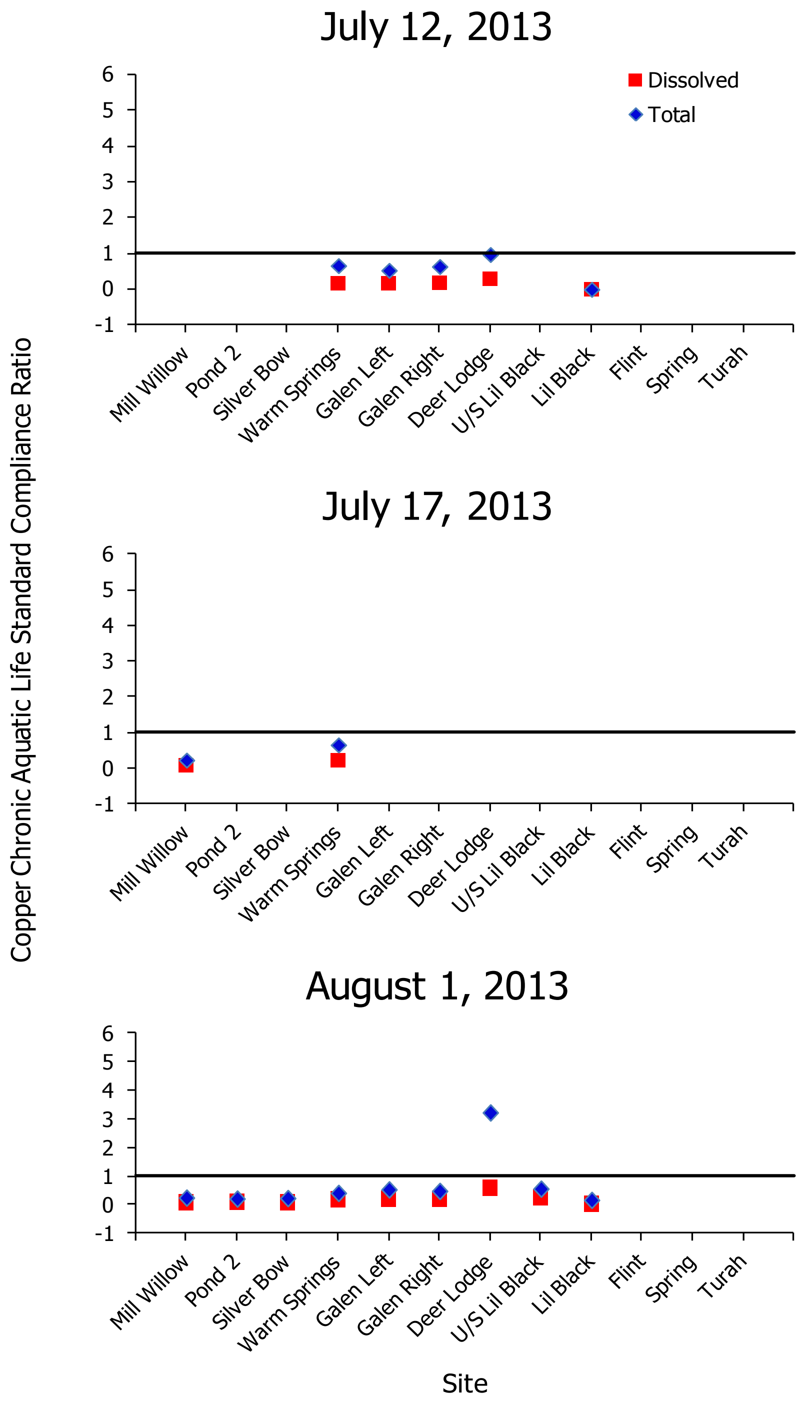


Figure L10. Copper compliance ratios at the cage sites from rain events on July 12, July 17, and August 1 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing copper concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate copper levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

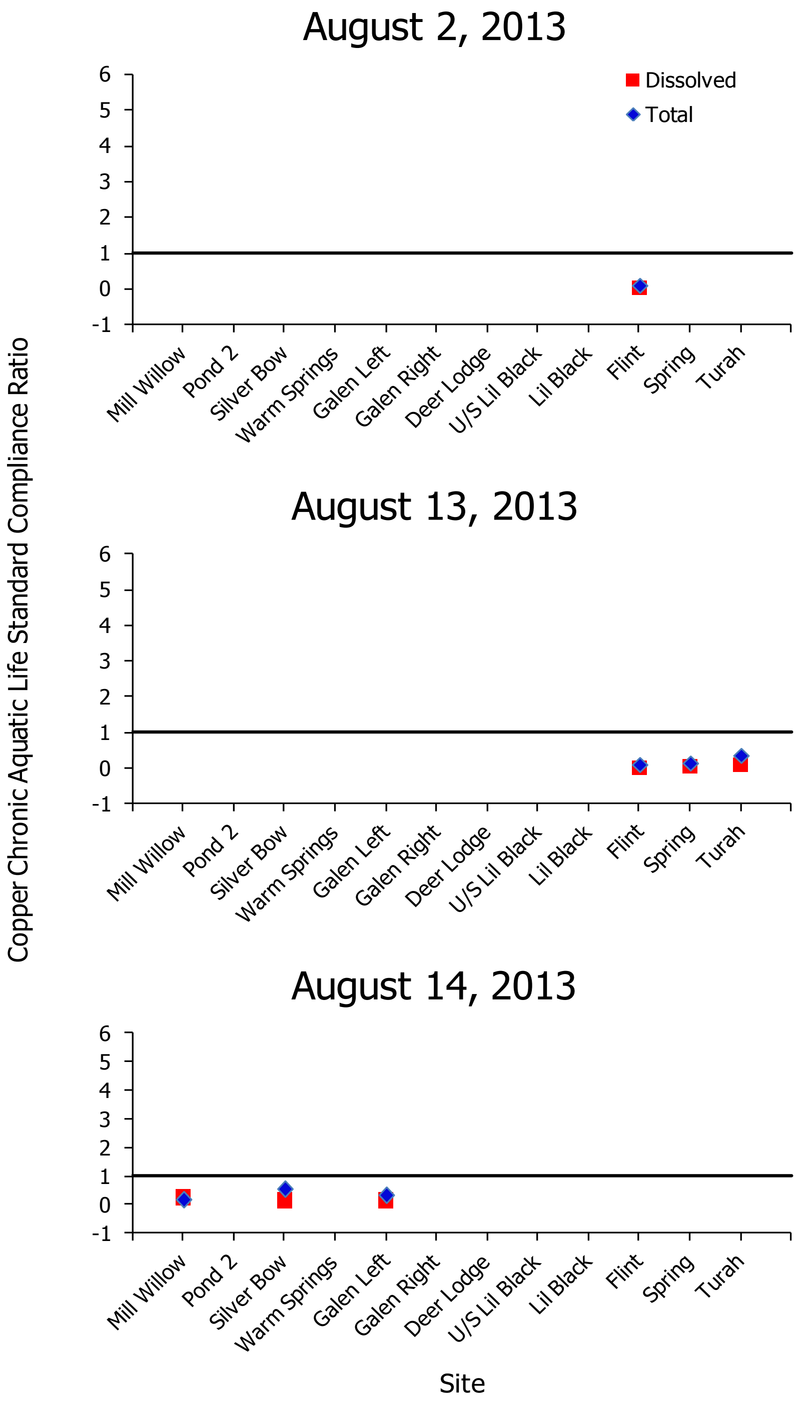


Figure L11. Copper compliance ratios at the cage sites from rain events on August 2, August 13, and August 14 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing copper concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate copper levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

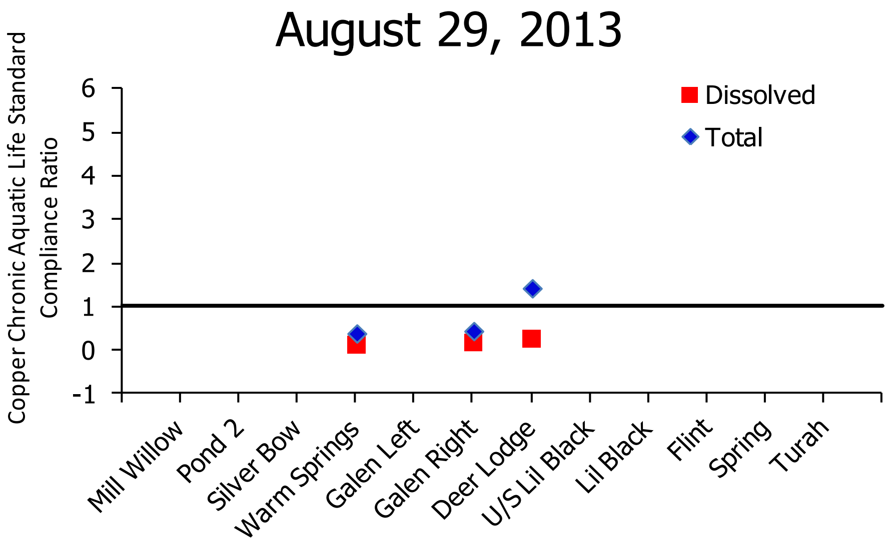


Figure L12. Copper compliance ratios at the cage sites from the rain event on August 29, 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing copper concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate copper levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

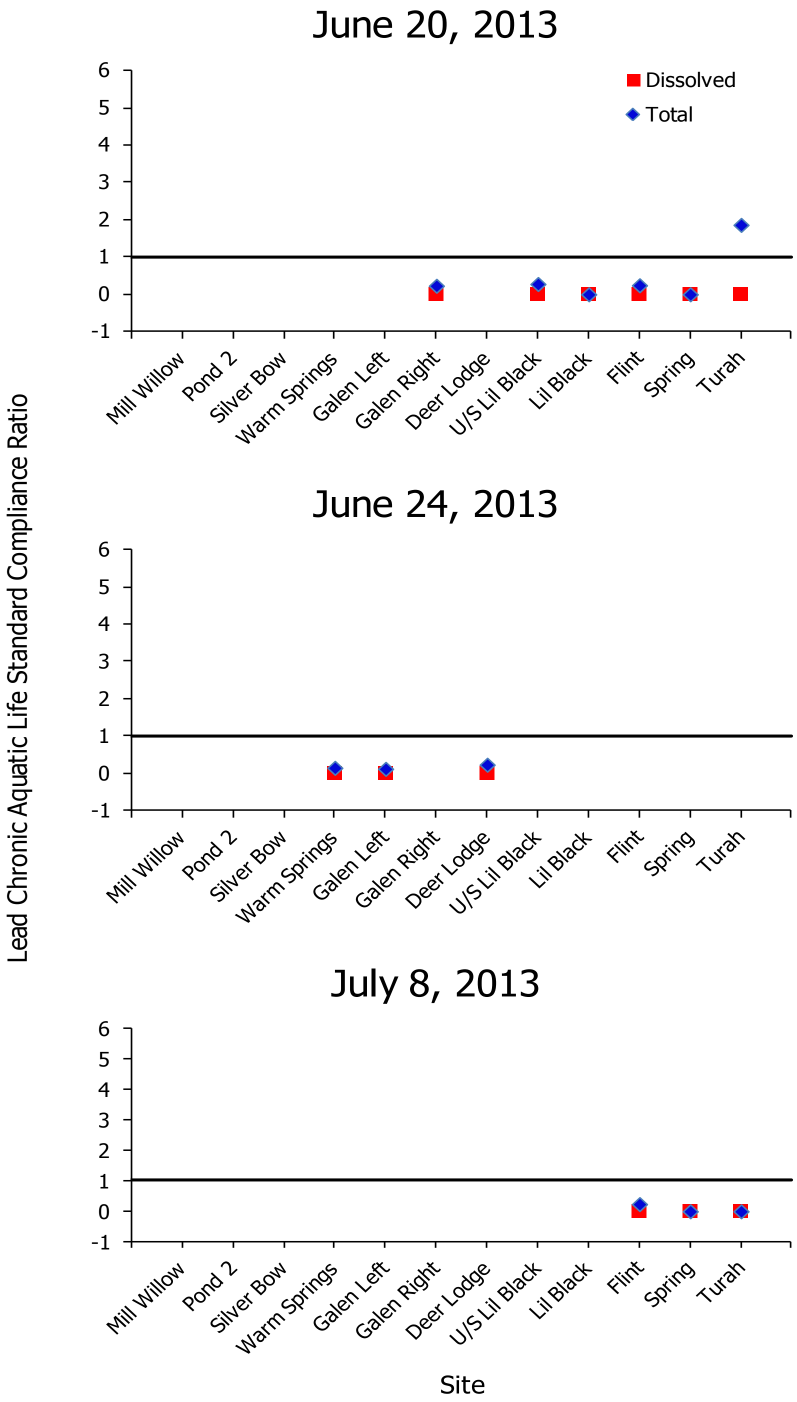


Figure L13. Lead compliance ratios at the cage sites from rain events on June 20, June 24, and July 8 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing lead concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate lead levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

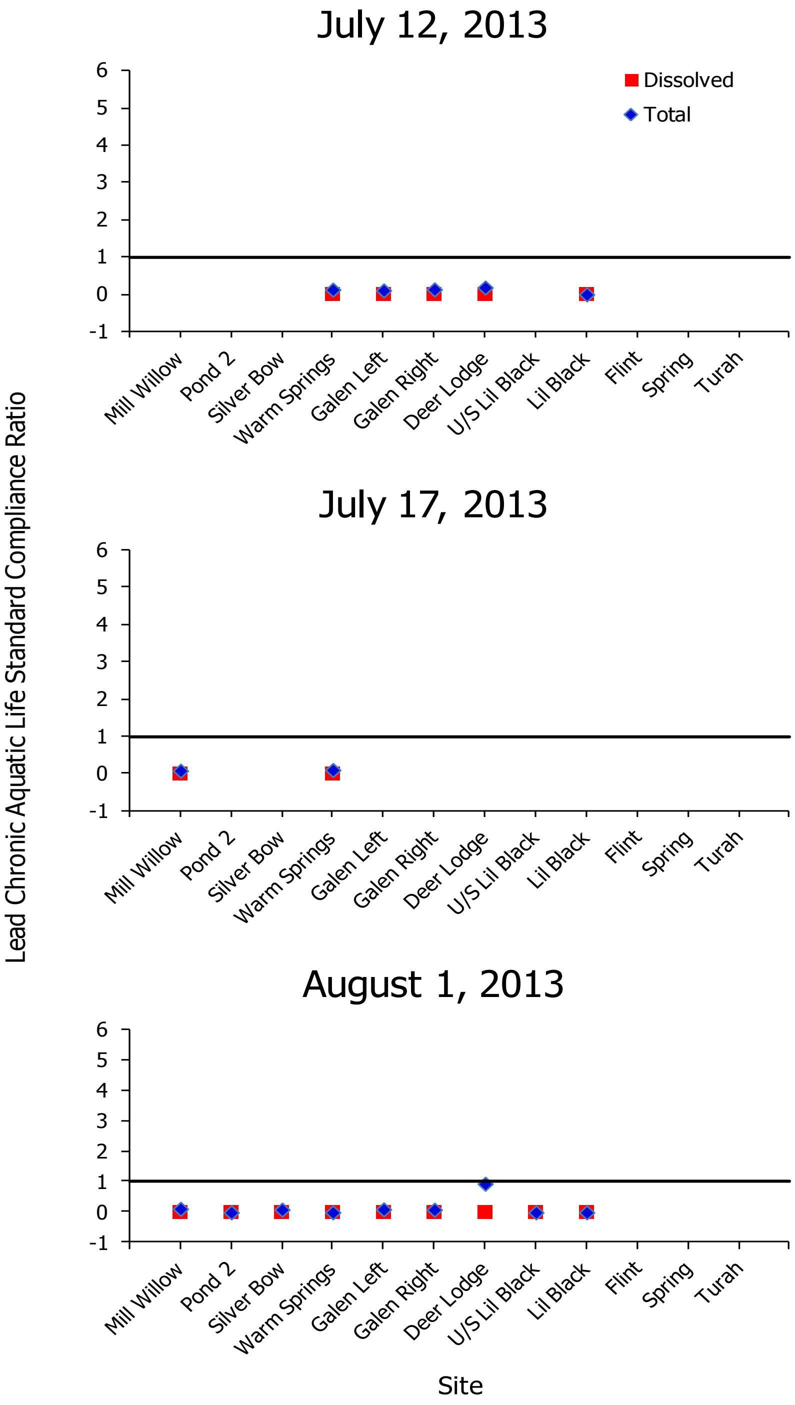


Figure L14. Lead compliance ratios at the cage sites from rain events on July 12, July 17, and August 1 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing lead concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate lead levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

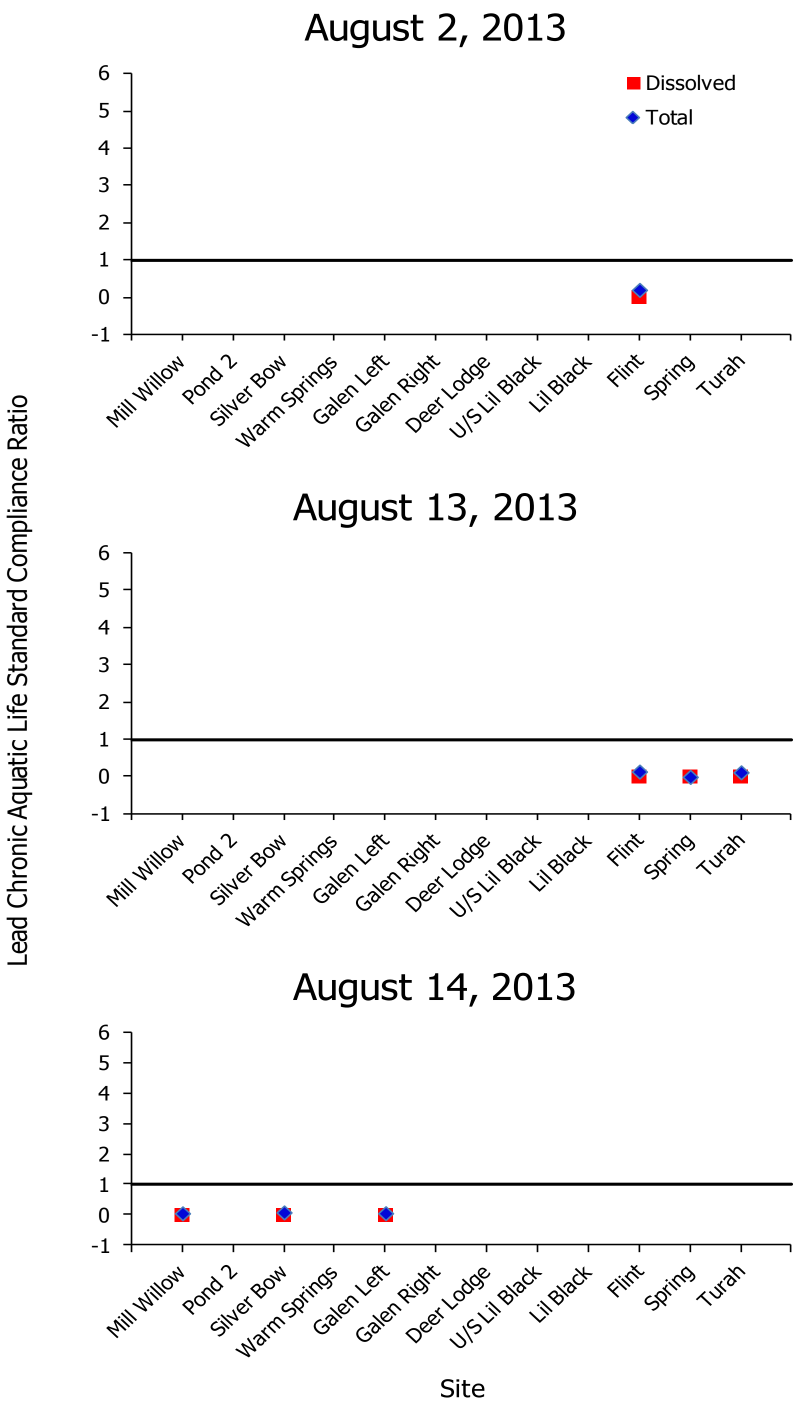


Figure L15. **Lead compliance ratios at the cage sites from rain events on August 2, August 13, and August 14 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing lead concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate lead levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).**

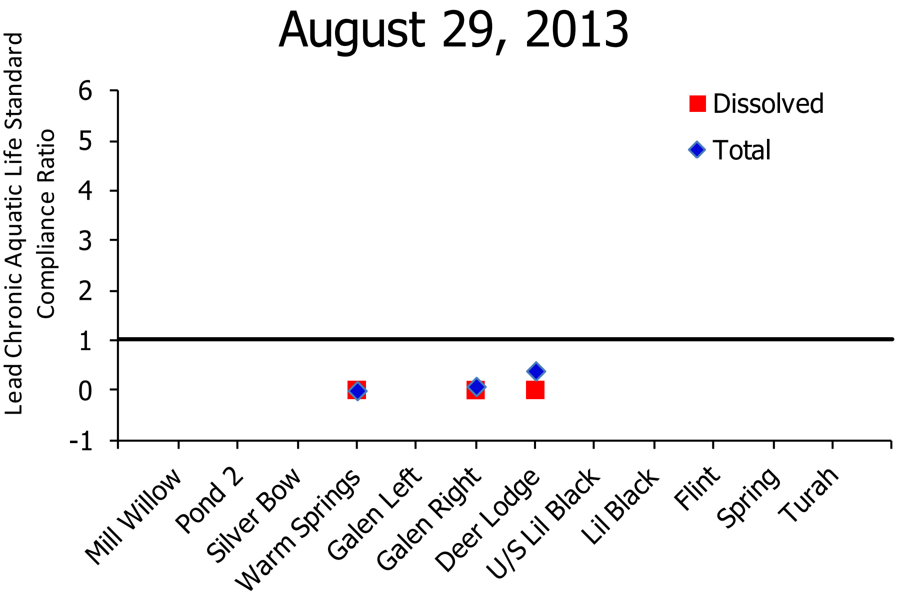


Figure L16. Lead compliance ratios at the cage sites from the rain event on August 29, 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing lead concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate lead levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

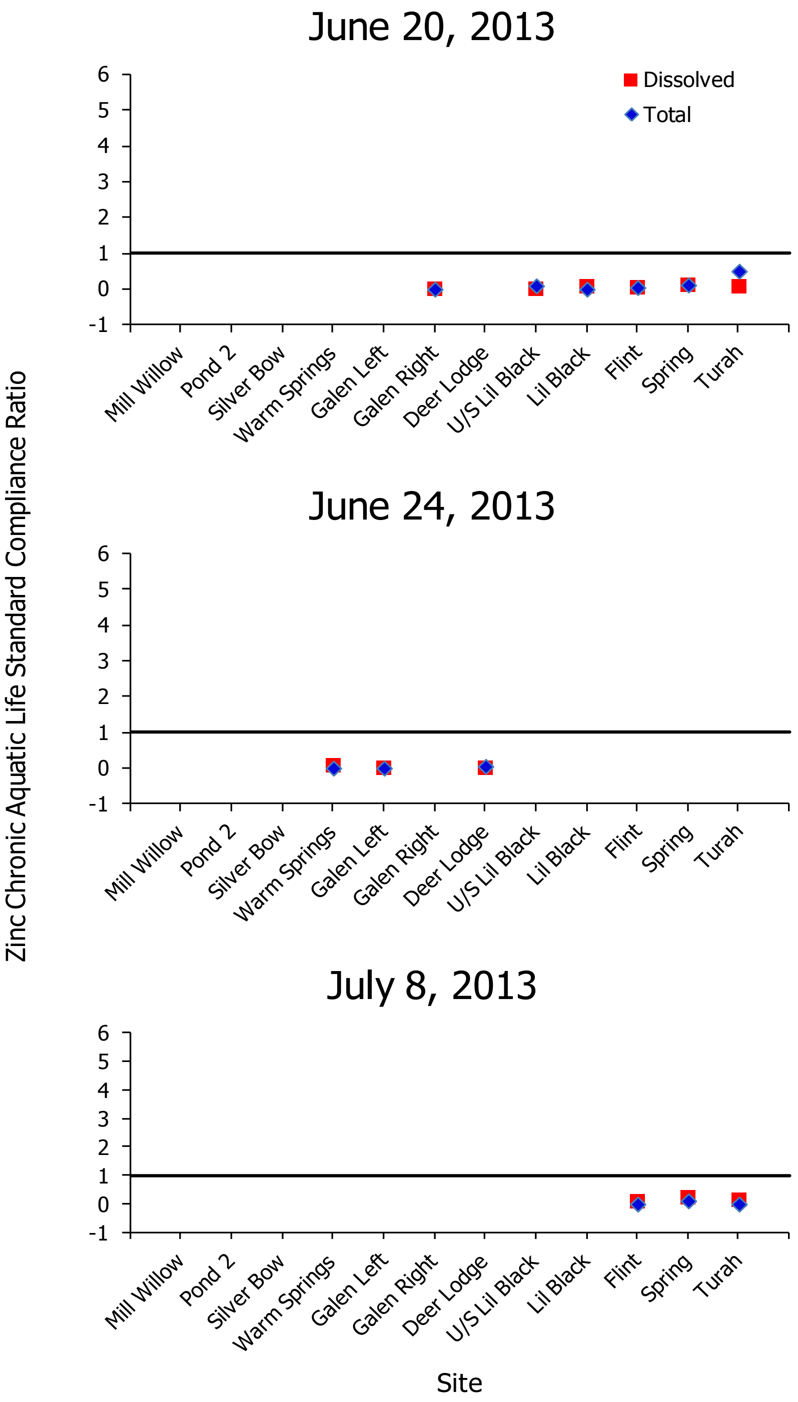


Figure L17. Zinc compliance ratios at the cage sites from rain events on June 20, June 24, and July 8 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing zinc concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate zinc levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

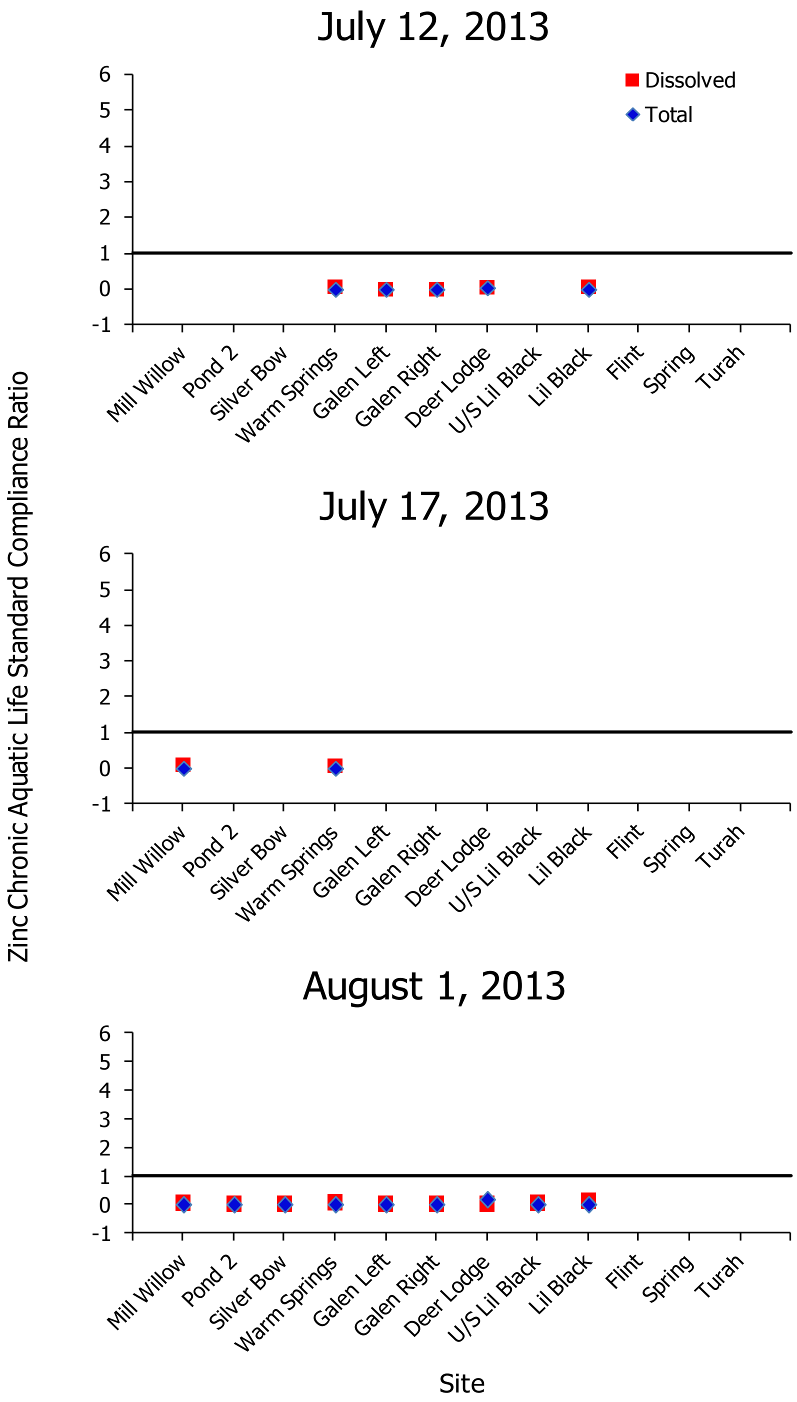


Figure L18. Zinc compliance ratios at the cage sites from rain events on July 12, July 17, and August 1 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing zinc concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate zinc levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

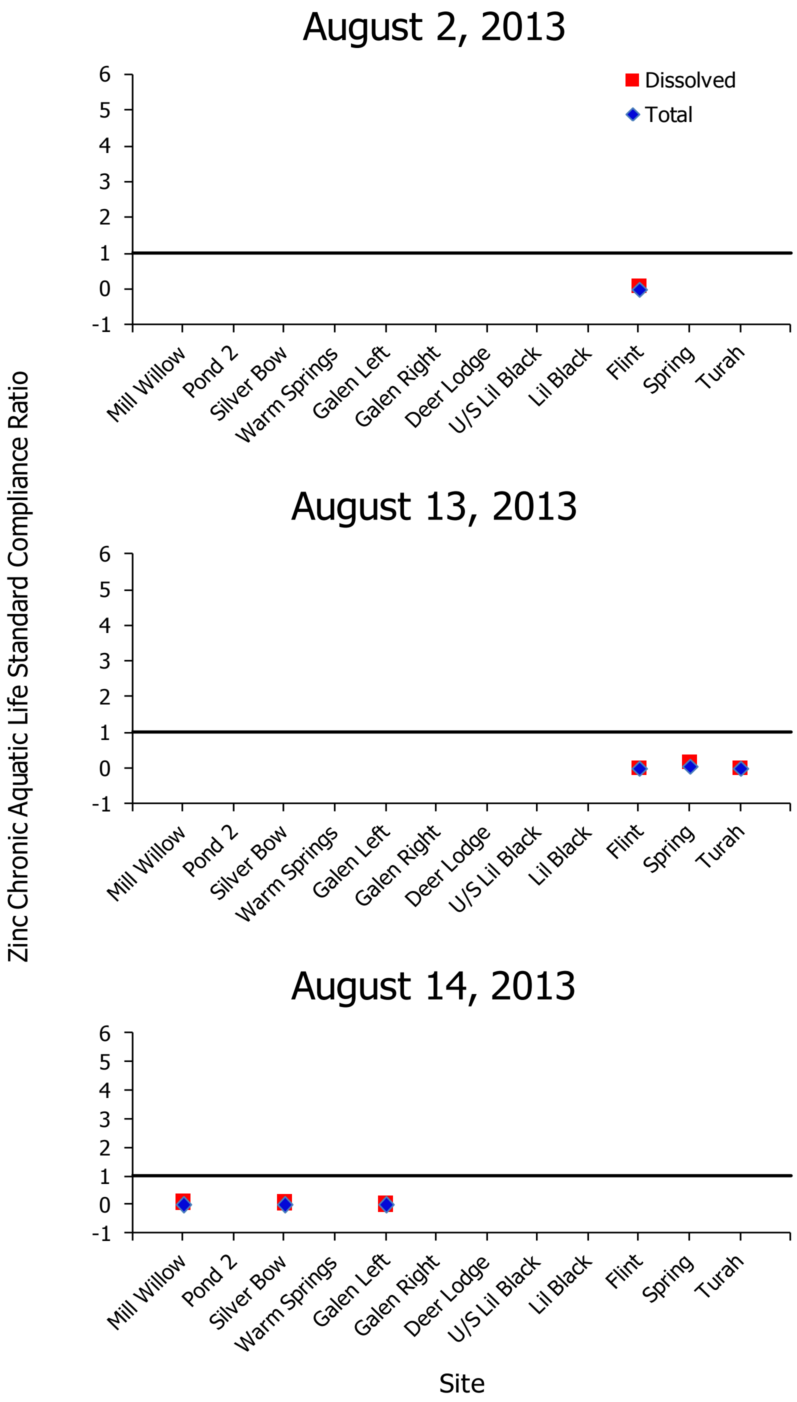


Figure L19. Zinc compliance ratios at the cage sites from rain events on August 2, August 13, and August 14 in 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing zinc concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate zinc levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

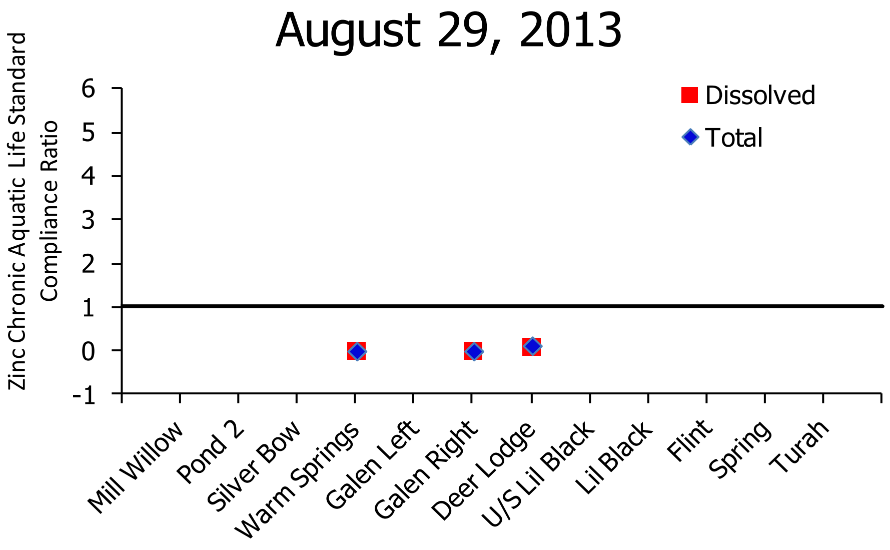


Figure L20. Zinc compliance ratios at the cage sites from the rain event on August 29, 2013 arranged from upstream to downstream. Compliance ratios were calculated by dividing zinc concentrations by the calculated chronic aquatic life standards. Compliance ratio values <1 indicate zinc levels below the aquatic life standard (compliance) while values >1 indicate levels above the standard (non-compliance).

APPENDIX M

CLARK FORK RIVER STREAMFLOW MONITORING 2013

CLARK FORK RIVER STREAMFLOW MONITORING 2013

Prepared for

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May 2014

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APPENDICES

1.0 INTRODUCTION

This report presents results of stream stage monitoring at two sites in the upper Clark Fork River in 2013. Monitoring at these sites provides more detailed streamflow data for the Clark Fork River between two previously established U.S. Geological Survey (USGS) gauge stations. This monitoring effort collected data to develop stage-discharge relationships for each site during low streamflow periods in late summer and early fall. Stream stages were monitored continuously (i.e., every 30 minutes) at each site using digital stage recorders. Stream stage monitoring was initiated in July 2011 and data collected in 2013 provides the third year of monitoring at these sites. Data collected in 2011 and 2012 are described in previous reports (Atkins 2012; 2013).

2.0 METHODS

2.1 Monitoring Locations

Monitoring was conducted at two locations in the upper Clark Fork River: an upstream site at Gemback Road (CFR-F1), and a downstream site at Sager Lane (CFR-F2) (Figure 1). Road bridge crossings at each monitoring location provided convenient access to each site and stable benchmarks for surveying purposes. Each site was located between established streamflow gauge stations operated by the USGS: the “Clark Fork near Galen” station (USGS station number 12323800) and the “Clark Fork at Deer Lodge” station (USGS station number 12324200; Figure 1).

Stage recorders were deployed in pool/run reaches downstream from each bridge crossing. Each site chosen had relatively shallow riffle or run channel characteristics and was moderately incised with near vertical banks (Figure 2; 3). Local sites were selected based on the suitability of instream geomorphic characteristics that were expected to regulate streamflow over the range of stages anticipated during the monitoring period. At each site, staff gauges and stage recorders were established in water shallow enough to wade.

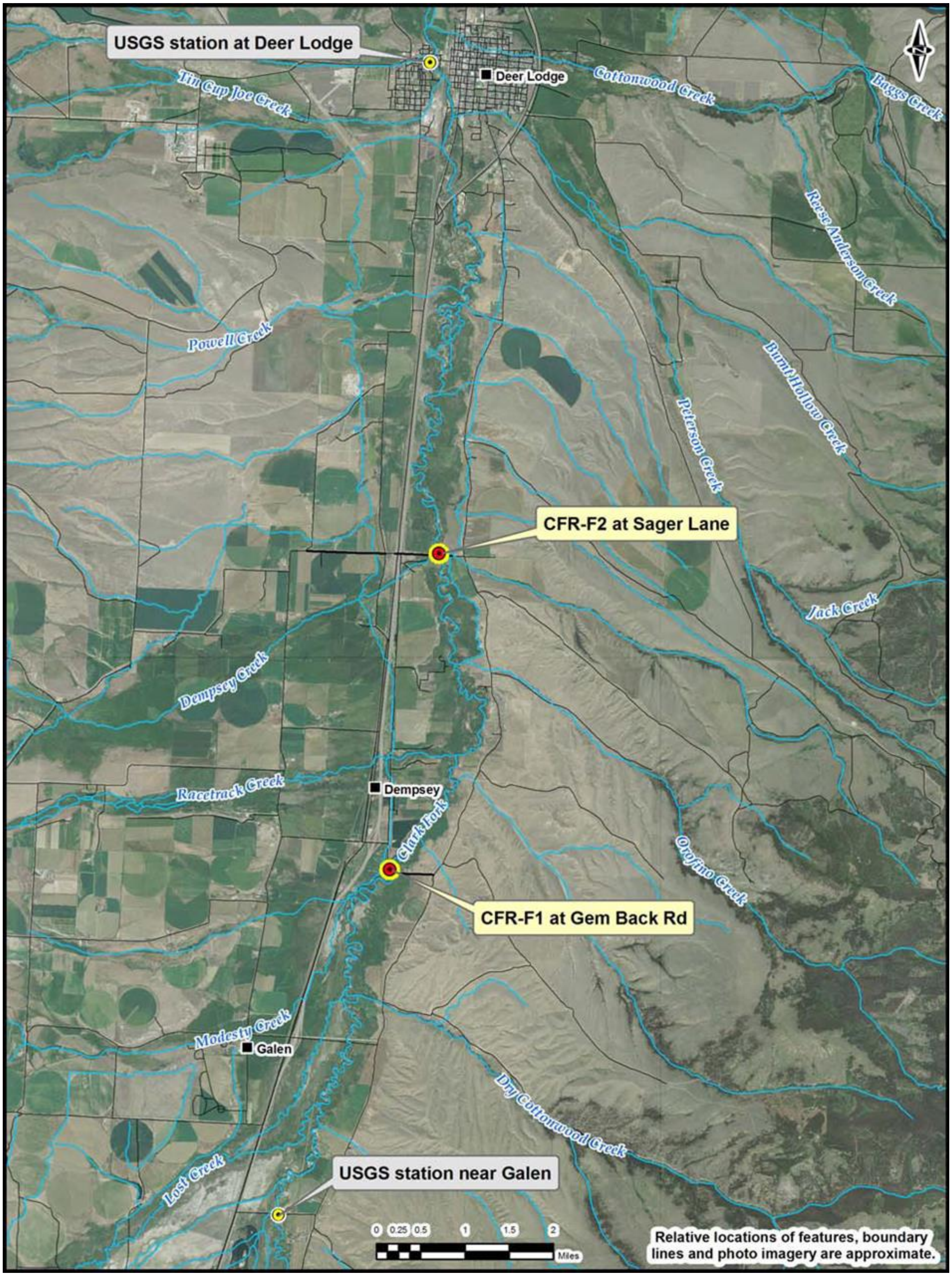

Figure 1. **Streamflow monitoring locations in the upper Clark Fork River, 2013.**

Figure 2. **Streamflow monitoring site in the Clark Fork River at Gemback Road (CFR-F1); view downstream on June 21, 2013 (left) and October 24, 2013 (right). Staff gauge and stage recorder location is near left bank at upper left of photo.**

Figure 3. **Streamflow monitoring site in the Clark Fork River at Sager Lane (CFR-F2); view downstream on June 21, 2013 (left) and October 24, 2013 (right). Staff gauge and stage recorder location is near right bank at right center of photo.**

2.2 Data Collection

Streamflows (i.e., discharge) and water level stage were measured at each site following methods outlined in the project sampling and analysis plan (Atkins 2011). Water level recording instruments (RuggedTROLL, In-Situ Inc.) were used to measure river stage (±0.001 foot) every 30 minutes. Barometric pressure (mmHg) and water temperature (°C) was measured at the Gemback Road site every 30 minutes to calibrate stage data collected at each site to local atmospheric pressure using a barometric pressure logger instrument (Rugged BaroTROLL, In-Situ Inc.). To calibrate river stages to streamflows, streamflows were measured at each site on 12 occasions (including at the time of stage recorder deployment and retrieval) during the period when stage recorders were deployed (June 21 to October 24, 2013). S tilling wells, with attached staff gauges, were used to protect the recording instruments at each site. Stilling wells were constructed from PVC pipe driven into the stream substrate (Figure 4). Detailed information on stilling well construction and installation is provided in Appendix M1.

Pre-deployment Post-deployment

Figure 4. **Stilling well and staff gauge assembly, pre-deployment and post-deployment. River stage and barometric pressure recording instruments are visible in the pre-deployment figure.**

2.3 Data Analysis

Stage-discharge relationships were developed following standard methods (USGS 2005; Braca 2008). The 12 paired streamflow and river stage measurements used to develop stage-discharge relationships at each site exceeded the minimum recommended frequency (6) of paired measurements (USGS 2005; Braca 2008). For each streamflow and river stage pair, stage was plotted against streamflow on a log-log scale and best-fit lines were determined.

To calibrate the accuracy of the stage height measurements from the water level recording instruments, stage height measurements of the recording instruments were compared to manual readings of stage height from the staff gauges on the outside of the stilling well assemblies (Figure 4). The mean difference between the paired stage height measurements of the water level recording instruments and the manual measurements from the staff gauges were used to adjust the recording instrument stage height measurements at each site.

To determine the rating for each site, the curved line in the log-log plot was straightened by adjusting stages to a logarithmic offset (*e*). The logarithmic offset is an approximation of the river stage at zero discharge. For each site, a unique value for the logarithmic offset was determined, such that when subtracted from stage heights through a process of trial and error, a straight line plot on the log-log scale was produced. The power function equations describing these plots therefore represent the stage-discharge ratings for each site.

To assess changes in gauge height over the monitoring period, a laser level was used to compare the height of each gauge to a bridge benchmark at the beginning and end of the study period using a laser level accurate to 0.01 feet (Appendix M1). Stage recording instrument data for each site is included in Appendix M2. Estimated mean daily streamflows for the monitoring period were calculated from the hourly data (Appendix M3)

3.0 RESULTS

Streamflows were low at both sites in the Clark Fork River during the 2013 study period. Streamflow measurements ranged from 16.53-133.95 cfs at Gemback Road (Table 1) and from 8.19-156.19 cfs at Sager Lane (Table 2). On four occasions (from July 26 to August 30), the river stage was below the level of the staff gauge (Table 2).

Table 1. Gauge heights and corresponding streamflows in the Clark Fork River at Gemback Road (CFR-F1), 2013.

Date	Time	Gauge Height (feet)	Streamflow (cfs)
6/21/2013	12:45	1.14	132.98
6/26/2013	11:00	1.12	137.98
7/3/2013	15:45	0.99	111.18
7/11/2013	16:10	0.74	69.33
7/19/2013	15:20	0.62	56.44
7/26/2013	17:15	0.32	22.71
8/8/2013	16:15	0.23	16.53
8/20/2013	16:20	0.25	20.17
8/30/2013	17:15	0.32	23.28
9/18/2013	9:45	0.65	50.94
10/2/2013	16:40	0.96	101.49
10/24/2013	10:45	1.17	133.95

Table 2. Gauge heights and corresponding streamflows in the Clark Fork River at Sager Lane (CFR-F2), 2013.

Date	Time	Gauge Height (feet)	Streamflow (cfs)
6/21/2013	13:45	0.58	109.07
6/26/2013	14:30	0.60	121.67
7/3/2013	17:00	0.57	107.92
7/11/2013	15:05	0.28	65.54
7/19/2013	14:30	0.06	38.42
7/26/2013	16:30	-0.05	13.49
8/8/2013	14:45	-0.14	8.19
8/20/2013	15:15	-0.10	9.45
8/30/2013	15:45	-0.09	16.38
9/18/2013	8:15	0.10	41.77
10/2/2013	15:40	0.66	136.57
10/24/2013	12:45	0.75	156.19

Manual measurements of river stage height at Gemback Road ranged from 0.23-1.17 feet and corresponding measurements in the water level recording instrument ranged from 1.26-2.17 feet (mean difference = 1.02 feet; Table 3). Manual measurements of river stage height at Sager Lane ranged from <0-0.75 feet and corresponding measurements in the water level recording instrument ranged from 0.55-1.12 feet (mean difference = 0.40 feet; Table 3). The change in the vertical location of the gauges relative to the bridge benchmarks was negligible (Appendix M1).

Table 3. **Difference between water level recording instrument and manual measurements of stage height at two sites in the Clark Fork River, 2013.**

Site	Site ID	Stage Height (feet)			
		Recording Instrument	Manual	Difference	Mean Difference
Gemback Road	CFR-F1	2.13	1.14	0.99	**1.02**
		2.14	1.12	1.02	
		2.04	0.99	1.05	
		1.78	0.74	1.04	
		1.63	0.62	1.01	
		1.34	0.32	1.02	
		1.26	0.23	1.03	
		1.26	0.25	1.01	
		1.34	0.32	1.02	
		1.64	0.65	0.99	
		1.99	0.96	1.03	
		2.17	1.17	1.00	
Sager Lane	CFR-F2	1.01	0.58	0.43	**0.40**
		1.00	0.60	0.40	
		0.94	0.57	0.37	
		0.72	0.28	0.44	
		0.56	0.06	0.50	
		0.56	-0.05	-	
		0.55	-0.14	-	
		0.57	-0.10	-	
		0.55	-0.09	-	
		0.56	0.10	0.46	
		1.07	0.66	0.41	
		1.12	0.75	0.37	

3.1 Clark Fork River at Gemback Road (CFR-F1)

The log-log plot of gauge height and discharge at Gemback Road (CFR-F1) for 2013 is presented in Figure 5. The relationship between gauge height and discharge at Gemback Road is presented in Figure 6. The stage-discharge relationship for the Clark Fork River at Gemback Road is presented in Table 4. The relative percent difference between estimated and measured streamflows at Gemback Road was 8% (Table 5).

Estimated mean daily streamflows in the Clark Fork River at Gemback Road during the study period ranged from 4-131 cfs (Figure 7; Appendix M2). Estimated mean daily streamflows were less than 20 cfs on 22 days and less than 10 cfs on three days (Figure 7; Appendix M2).

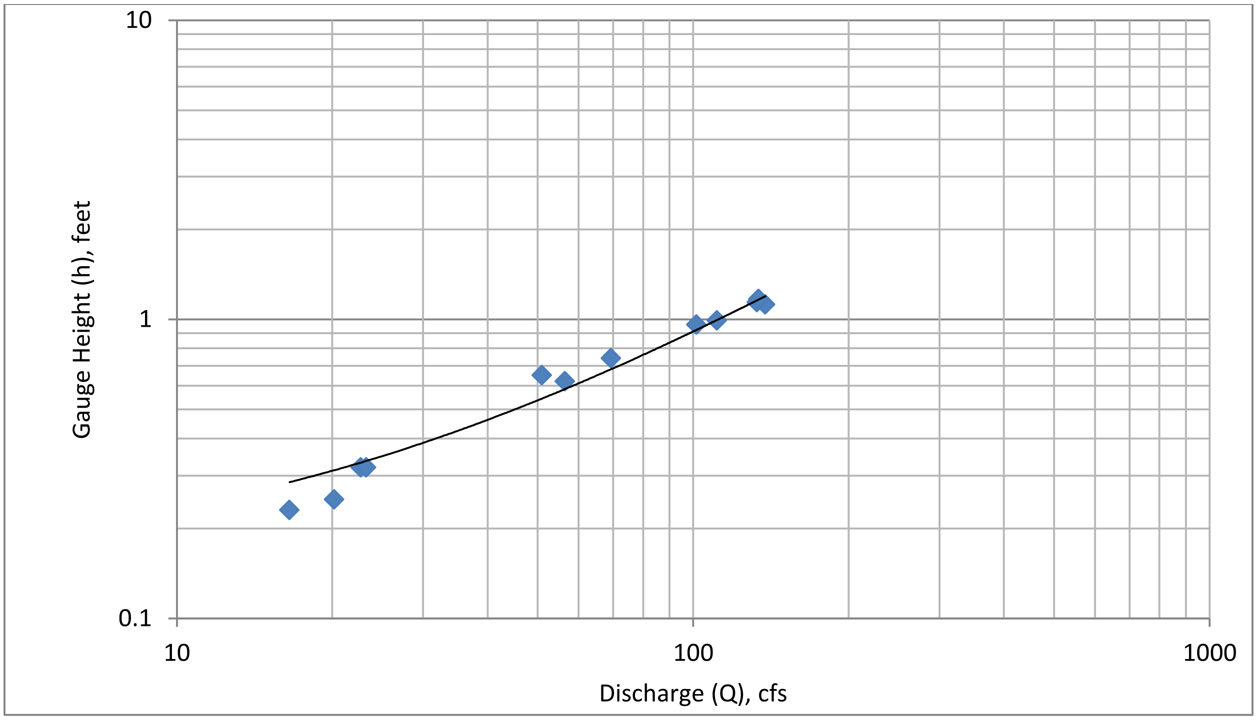

Figure 5. **Log-log plot of gauge height and discharge at Gemback Road (CFR-F1) in the upper Clark Fork River, 2013.**

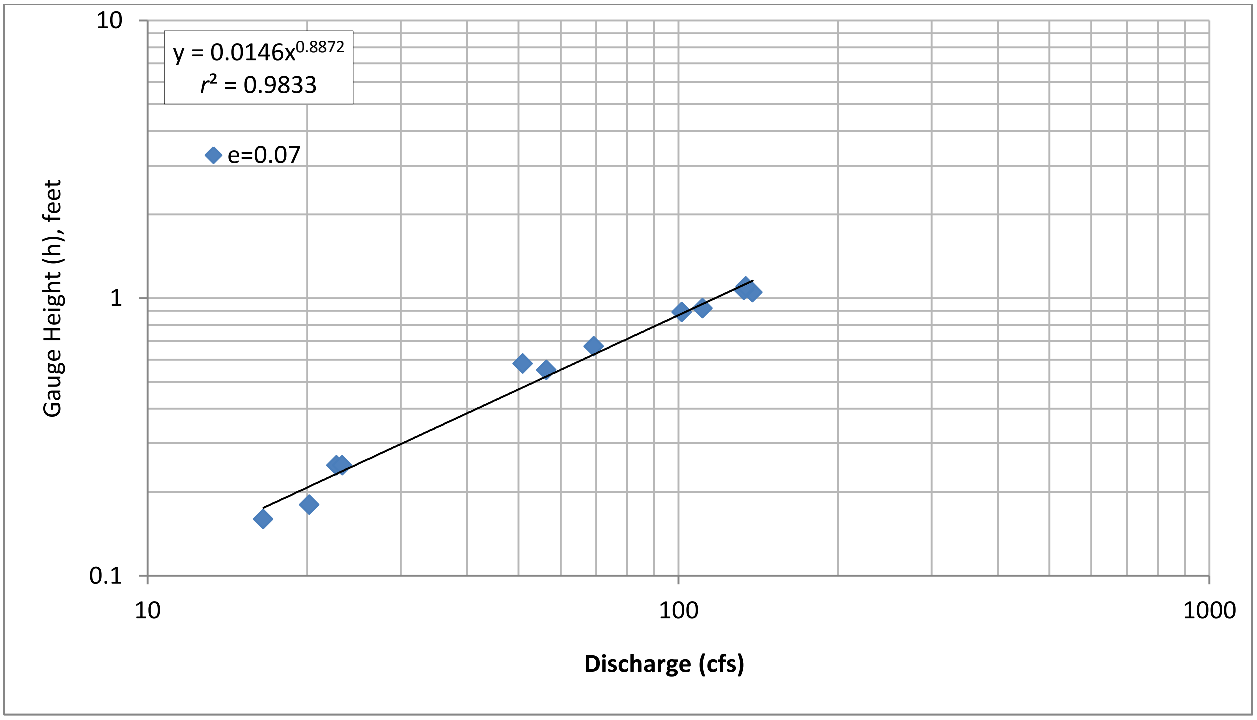

Figure 6. **Relationship between gauge height (adjusted for logarithmic offset [e]) and discharge at Gemback Road (CFR-F1) in the upper Clark Fork River, 2013.**

Table 4. **Stage-discharge relationship for the Clark Fork River at Gemback Road (CFR-F1), 2013.**

Monitoring Period	Rating Equation
June 21 to October 24	$Q=(250(h-0.66))^{0.9238}$

Q = Discharge or streamflow (cfs).

h = Stage height (feet).

Table 5. **Relative percent difference between measured (gauged) and estimated discharge in the Clark Fork River at Gemback Road (CFR-F1), 2013.**

Discharge (Q; cfs)		Relative Percent Difference
Measured	Estimated	
16.53	14.85	11
20.17	16.96	17
22.71	24.56	8
23.28	24.56	5
56.44	59.72	6
50.94	63.41	22
69.33	74.60	7
101.49	102.73	1
111.18	106.65	4
137.98	123.77	11
132.98	126.44	5
	Mean:	**9**

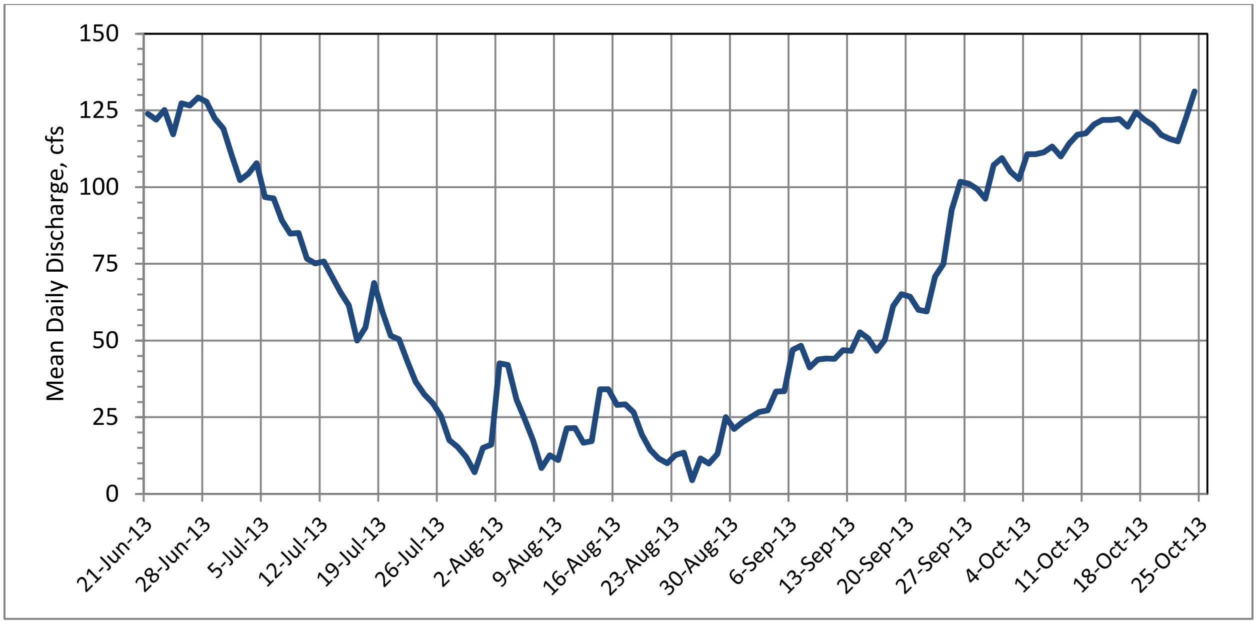

Figure 7. **Mean daily discharge estimates for the Clark Fork River at Gemback Road (CFR-F1) from June 21 through October 24, 2013.**

3.2 Clark Fork River at Sager Lane (CFR-F2)

The log-log plot of gauge height and discharge at Sager Lane (CFR-F2) for 2013 is presented in Figure 8. The relationship between gauge height and discharge at Sager Lane is presented in Figure 9. The stage-discharge relationship for the Clark Fork River at Sager Lane is presented in Table 6. The relative percent difference between estimated and measured streamflows at Sager Lane was 9% (Table 7).

Estimated mean daily streamflows in the Clark Fork River at Sager Lane ranged from 8-144 cfs (Figure 10; Appendix M2). Discharge estimates at Sager Lane are not available from July 14 to September 23, 2013 because the river stage was below the level of the digital stage recorder.

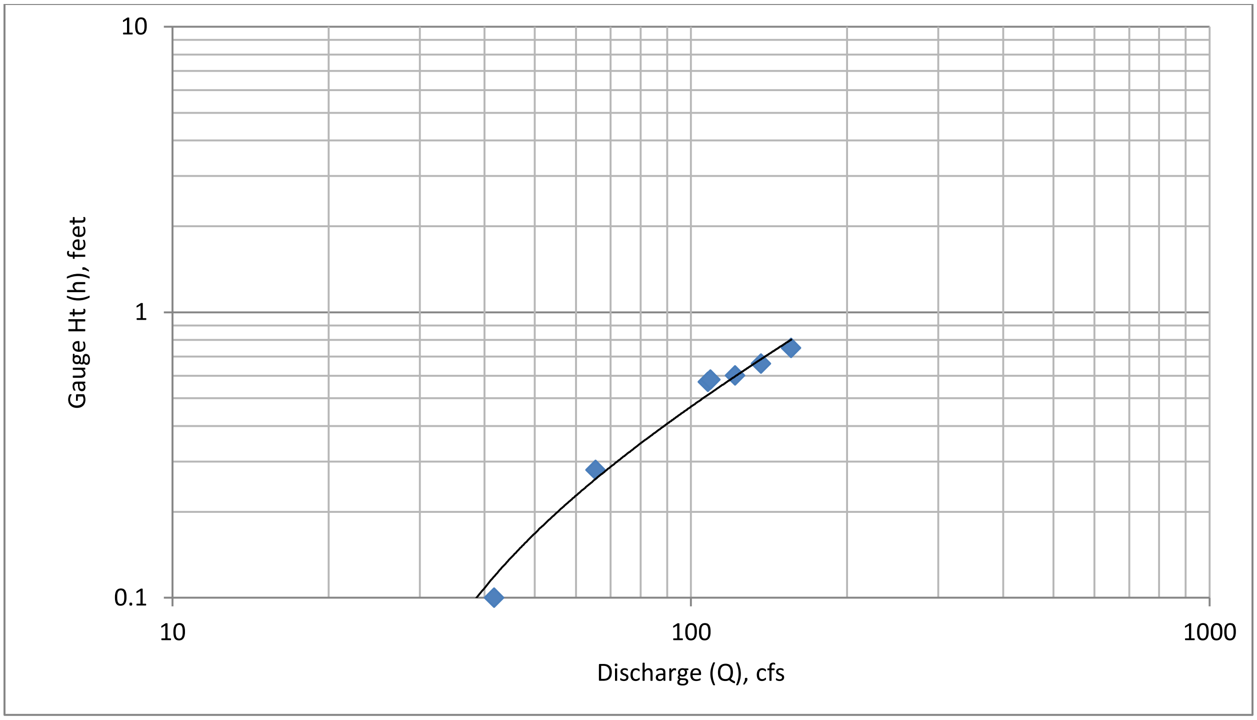

Figure 8. Log-log plot of gauge height and discharge at Sager Lane (CFR-F2) in the upper Clark Fork River, 2013.

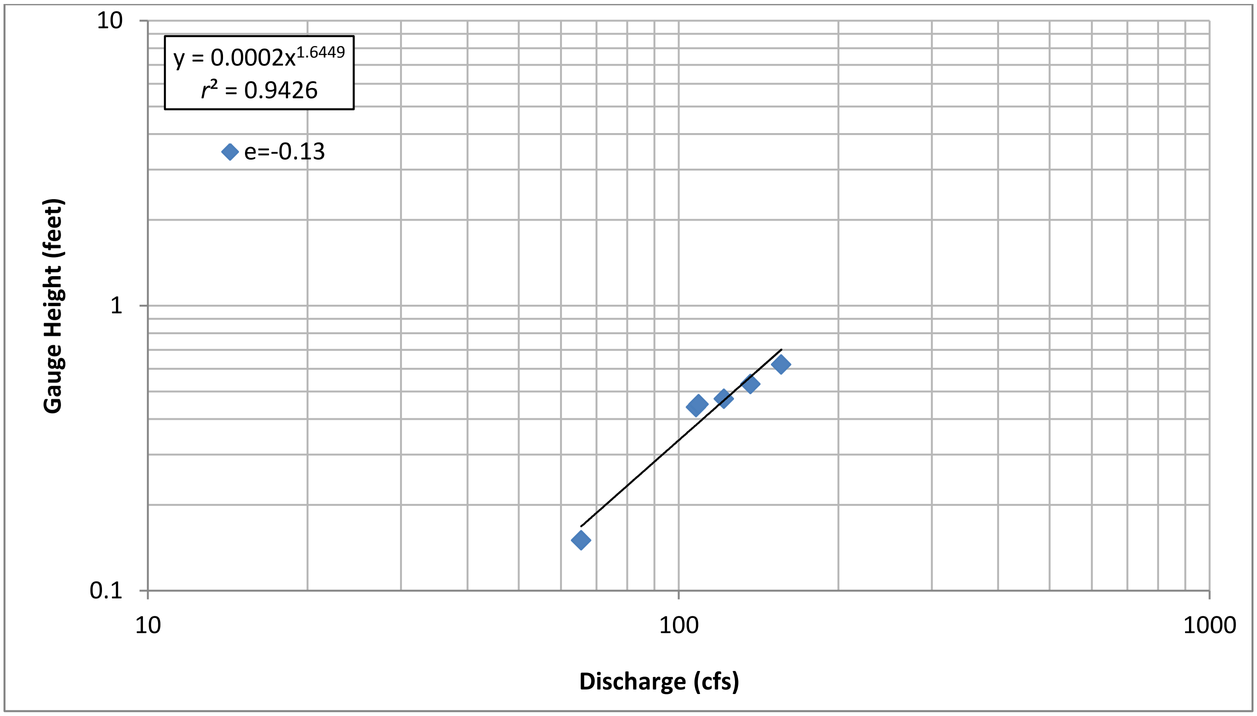

Figure 9. Relationship between gauge height (adjusted for logarithmic offset [e]) and discharge at Sager Lane (CFR-F2) in the upper Clark Fork River, 2013.

Table 6. **Stage-discharge relationship for the Clark Fork River at the Sager lane site (CFR-F2), 2013.**

Monitoring Period	Rating Equation
June 21 to October 24	$Q=(312.5(h-0.27))^{0.9065}$

Q = Discharge or streamflow (cfs).

h = Stage height (feet).

Table 7. **Relative percent difference between measured (gauged) and estimated discharge in the Clark Fork River at the Sager Lane site (CFR-F2), 2013.**

Discharge (Q; cfs)		Relative Percent Difference
Measured	Estimated	
65.54	55.94	16
107.92	107.61	0
109.07	109.09	0
121.67	112.01	8
136.57	120.50	13
156.19	132.56	16
	Mean:	**9**

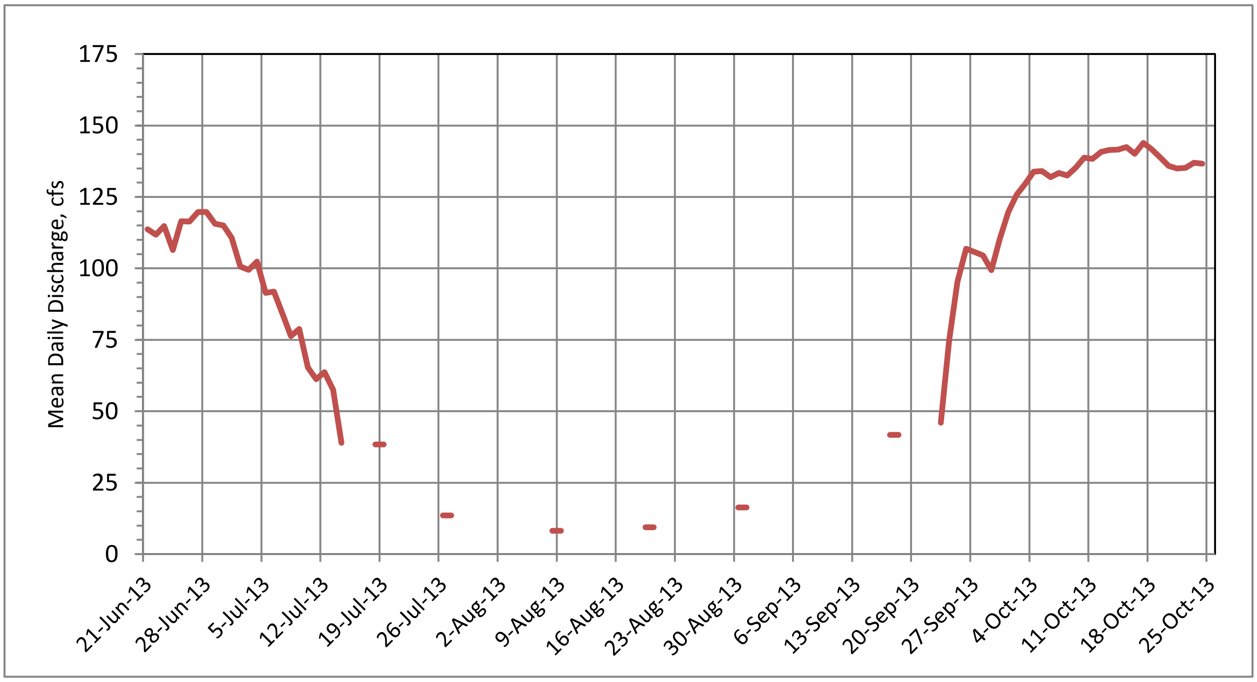

Figure 10. **Mean daily discharge estimates for the Clark Fork River at the Sager Lane site (CFR-F2) from June 21 through October 24, 2013. Dashed line represents the period when river stage was below the digital stage recorder. Dashes are actual discharge values measured on six dates during this period.**

3.3 Discharge at Gemback Road and Sager Lane from 2011-2013

At Gemback Road and Sager Lane, streamflows in 2012 and 2013 were substantially lower than in 2011 (Figure 11). In 2013, streamflows at Gemback Road (CFR-F1) and Sager Lane (CFR-F2) were also considerably lower than in 2012 (Figure 11). By early September 2013 streamflows at both sites were similar to streamflows in 2012 (Figure 11). The seasonal streamflow pattern at each site was similar in 2012 and 2013; however, minimum streamflows in 2013 occurred a week or two earlier than in 2012 (Figure 11).

Summer streamflows were higher in magnitude and elevated streamflows were sustained for a longer period in 2011 compared to 2012 and 2013 (Figure 11). Maximum streamflows at each site in mid-August 2011 were similar to streamflows during the spring runoff period (June 21) in 2012 and were higher than streamflows during the spring runoff period in 2013 (Figure 11).

Discharge at the downstream site (Sager Lane; CFR-F2) was lower than that at the upstream site (Gemback Road; CFR-F1) for the first 14 weeks of the 2013 monitoring period and for almost five weeks of 2012 (Figure 11). Lower discharge at the downstream site was likely due to irrigation withdrawals between Galen and Sager Lane. In 2011, discharge at Sager Lane was similar to or greater than discharge at Gemback Road throughout the study period (Figure 11). An irrigation diversion structure is located immediately upstream of the Sager Lane site (Figure 12; 13).

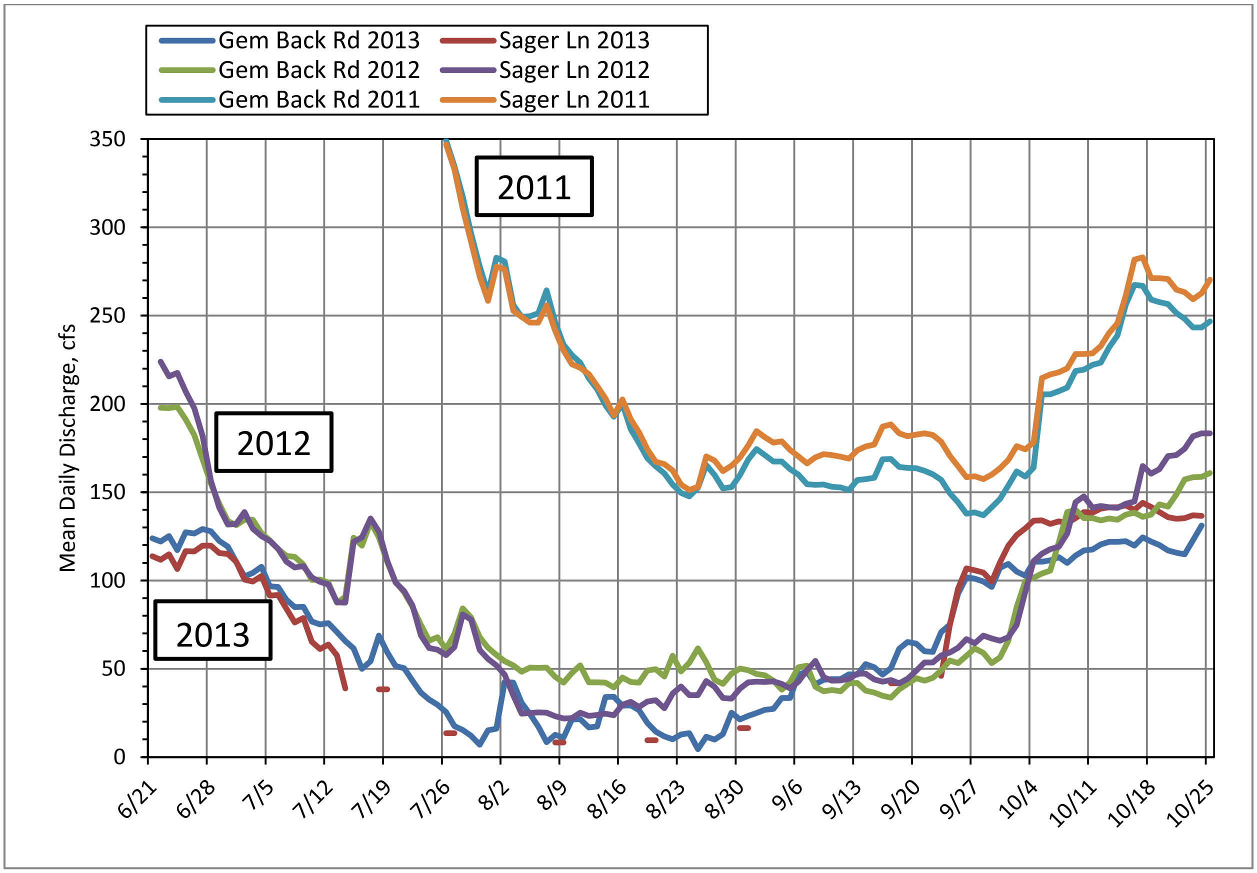

Figure 11. **Mean daily discharge estimates for Clark Fork at Gemback road (CFR-F1) and Sager Lane (CFR-F2), 2011-2013.**

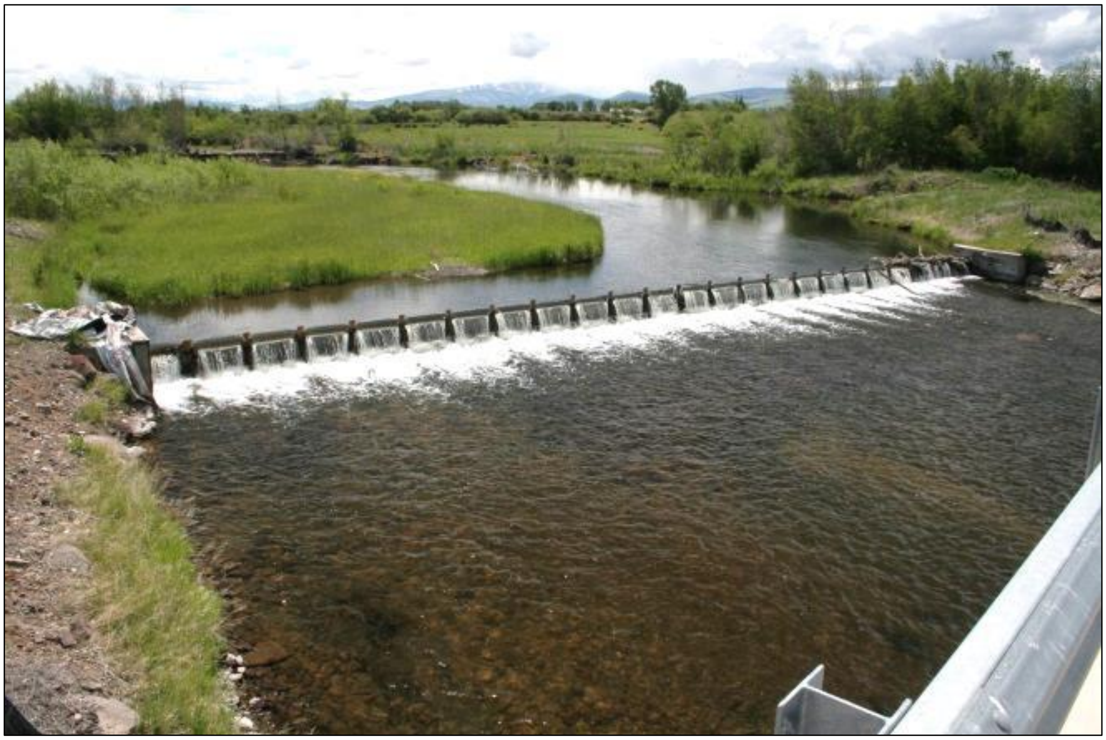

Figure 12. **Diversion dam on the Clark Fork River upstream from Sager Lane (CFR-F2), June 21, 2013.**

Figure 13. **Westside Canal water diversion in the Clark Fork River upstream of Sager Lane (CFR-F2), June 21, 2013.**

3.4 Discharge at Other Local Sites

Estimated daily mean discharge in the Clark Fork River (at Gemback Road, Sager Lane, near Galen, and at Deer Lodge) and in three principal tributaries (Silver Bow Creek, Warm Springs Creek, and Lost Creek) from June 21 to October 24, 2013 is depicted in Figure 14.

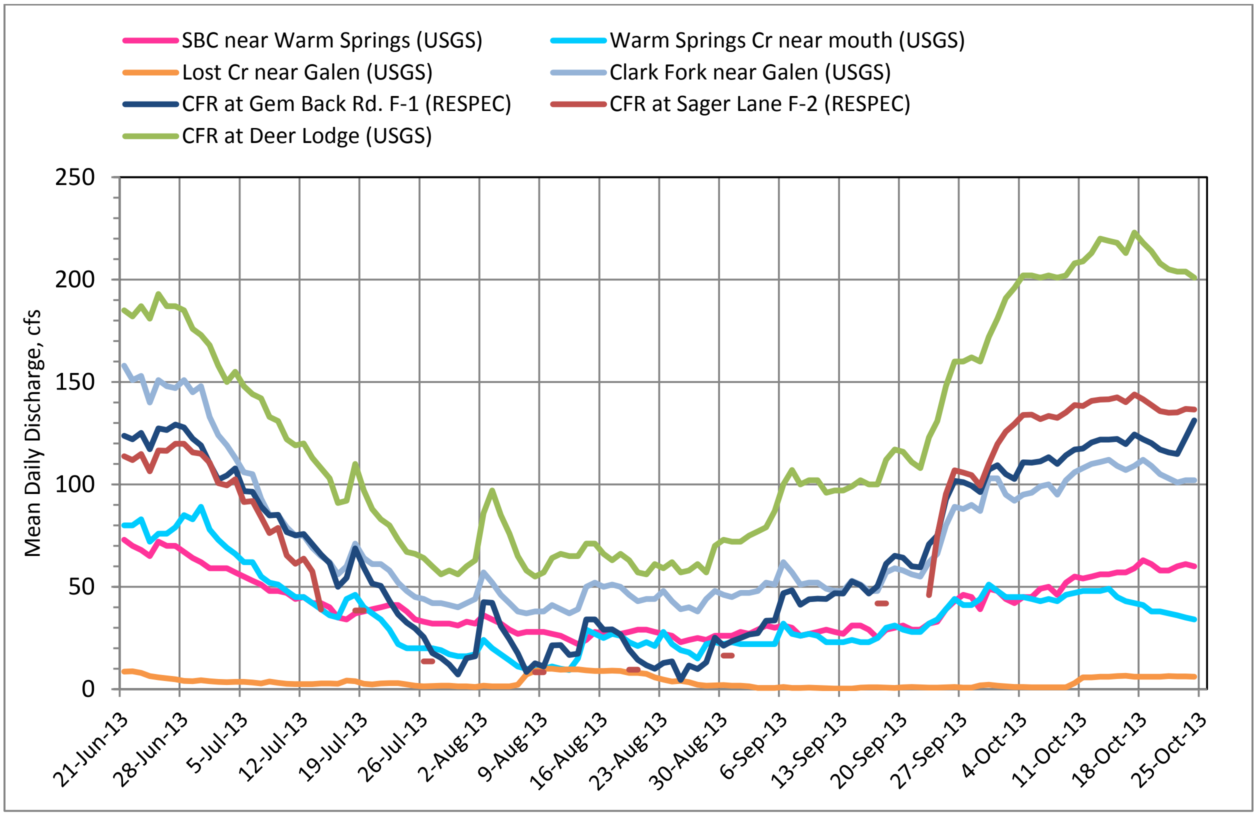

Figure 14. **Estimated mean daily discharge at seven sites in the upper Clark Fork River watershed from June 21 to October 24, 2013.**

4.0 DISCUSSION

The USGS has developed criteria for evaluating the accuracy of field measured streamflow data (USGS 2005). In relation to the accuracy of stage-discharge relationships, USGS (2005) states:

> *"Excellent" indicates that about 95 percent of the daily discharges are within 5 percent of the true value; "good" within 10 percent; and "fair," within 15 percent. "Poor" indicates that daily discharges have less than "fair" accuracy.*

Based on the USGS (2005) criteria, the accuracy rating of the 2013 discharge estimates at Gemback Road (CFR-F1) was poor and the accuracy rating of the estimates at Sager Lane (CFR-F2) was fair. In 2012, the accuracy rating of the discharge estimates at Gemback Road (CFR-F1) was poor and the accuracy rating of the estimates at Sager Lane (CFR-F2) was fair (Atkins 2013). In 2011, the accuracy of the discharge estimates at Gemback Road were rated excellent and the accuracy of the estimates at Sager Lane were rated good (Atkins 2012). The largest differences (proportionally) between estimates and measurements occurred during periods of low streamflow, particularly at Gemback Road. Estimate error is proportionally greater when streamflows are low. In 2012 and 2013, measured streamflows were quite low at each site compared to 2011 which likely contributed to the low accuracy of the 2012 and 2013 discharge estimates.

Due to the high magnitude and sustained period of spring runoff in 2011 streamflow and river stage were well above average throughout the 2011 monitoring period. Consequently, the sites selected for staff gauge placement in 2011 were poorly positioned for the below average streamflows in 2012 and 2013.

The combined streamflows of the principal upstream tributaries (Silver Bow Creek and Warm Springs Creek) largely accounted for streamflows in the Clark Fork near Galen at USGS gauge during the 2013 monitoring period (USGS 2014). From late-June through late-September, streamflows at Gemback Road and Sager Lane generally lower than those at near Galen (upstream). Lower streamflows at downstream sites was likely due to irrigation withdrawals below Galen during that period. Streamflow at Sager Lane was also generally lower than at Gemback Road (upstream) during the same period, also presumably due to water withdrawals from irrigation. Only in late-September did streamflow patterns in the Clark Fork River mainstem begin to demonstrate expected patterns (i.e., progressively greater streamflows at each downstream site). Streamflows increased sharply in late-September at each mainstem site presumably due to the cessation of irrigation at that time.

5.0 REFERENCES

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APPENDIX M1

SITE AND GAUGE SPECIFICATIONS

Site ID	**Site Name**	**Latitude**	**Longitude**	**Elevation, Feet**
CFR-F1	Clark Fork at Gemback Road	46.2652N	112.7443W	4769’
RuggedTROLL Serial #	**BaroTROLL Serial #**	**Start Date/Time**	**End Date / Time**	**Initial gage Ht., Ft.**
181875	191134	6/21/2013 13:00	10/24/2012 10:45	1.14
Surveyed Elevation, Feet:	**At Staff Gauge**	**At Benchmark**	**Difference**	**Vertical Shift, Ft.**
Deployment 6/21/2013	12.81	5.06	7.75	NA
Recovery 10/24/2013	10.96	3.12	7.74	-0.01

Site ID	**Site Name**	**Latitude**	**Longitude**	**Elevation, Feet**
CFR-F2	Clark Fork at Sager Lane	46.3172N	112.7362W	4679’
RuggedTROLL Serial #	**BaroTROLL Serial #**	**Start Date/Time**	**End Date / Time**	**Initial gage Ht., Ft.**
181885	NA	6/21/2013 13:00	10/24/2013 12:45	0.58
Surveyed Elevation, Feet:	**At Staff Gauge**	**At Benchmark**	**Difference**	**Vertical Shift, Ft.**
Deployment 6/21/2013	12.91	3.28	9.63	NA
Recovery 10/24/2013	13.30	3.65	9.65	+0.02

APPENDIX M2

WATER LEVEL RECORDING INSTRUMENT DATA

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
6/21/2013 13:00	1.106	6/23/2013 2:30	1.154	6/24/2013 16:00	1.066	6/26/2013 5:30	1.124	6/27/2013 19:00	1.163
6/21/2013 13:30	1.123	6/23/2013 3:00	1.162	6/24/2013 16:30	1.062	6/26/2013 6:00	1.115	6/27/2013 19:30	1.162
6/21/2013 14:00	1.141	6/23/2013 3:30	1.145	6/24/2013 17:00	1.086	6/26/2013 6:30	1.122	6/27/2013 20:00	1.161
6/21/2013 14:30	1.121	6/23/2013 4:00	1.161	6/24/2013 17:30	1.087	6/26/2013 7:00	1.132	6/27/2013 20:30	1.162
6/21/2013 15:00	1.116	6/23/2013 4:30	1.161	6/24/2013 18:00	1.098	6/26/2013 7:30	1.128	6/27/2013 21:00	1.163
6/21/2013 15:30	1.118	6/23/2013 5:00	1.136	6/24/2013 18:30	1.086	6/26/2013 8:00	1.12	6/27/2013 21:30	1.16
6/21/2013 16:00	1.117	6/23/2013 5:30	1.168	6/24/2013 19:00	1.101	6/26/2013 8:30	1.116	6/27/2013 22:00	1.158
6/21/2013 16:30	1.12	6/23/2013 6:00	1.158	6/24/2013 19:30	1.079	6/26/2013 9:00	1.132	6/27/2013 22:30	1.133
6/21/2013 17:00	1.126	6/23/2013 6:30	1.153	6/24/2013 20:00	1.081	6/26/2013 9:30	1.113	6/27/2013 23:00	1.142
6/21/2013 17:30	1.131	6/23/2013 7:00	1.136	6/24/2013 20:30	1.075	6/26/2013 10:00	1.143	6/27/2013 23:30	1.146
6/21/2013 18:00	1.116	6/23/2013 7:30	1.142	6/24/2013 21:00	1.083	6/26/2013 10:30	1.129	6/28/2013 0:00	1.128
6/21/2013 18:30	1.125	6/23/2013 8:00	1.116	6/24/2013 21:30	1.118	6/26/2013 11:00	1.122	6/28/2013 0:30	1.113
6/21/2013 19:00	1.133	6/23/2013 8:30	1.15	6/24/2013 22:00	1.104	6/26/2013 11:30	1.094	6/28/2013 1:00	1.133
6/21/2013 19:30	1.125	6/23/2013 9:00	1.136	6/24/2013 22:30	1.079	6/26/2013 12:00	1.116	6/28/2013 1:30	1.116
6/21/2013 20:00	1.126	6/23/2013 9:30	1.135	6/24/2013 23:00	1.109	6/26/2013 12:30	1.127	6/28/2013 2:00	1.133
6/21/2013 20:30	1.112	6/23/2013 10:00	1.144	6/24/2013 23:30	1.085	6/26/2013 13:00	1.121	6/28/2013 2:30	1.124
6/21/2013 21:00	1.109	6/23/2013 10:30	1.145	6/25/2013 0:00	1.101	6/26/2013 13:30	1.133	6/28/2013 3:00	1.136
6/21/2013 21:30	1.131	6/23/2013 11:00	1.132	6/25/2013 0:30	1.08	6/26/2013 14:00	1.144	6/28/2013 3:30	1.144
6/21/2013 22:00	1.123	6/23/2013 11:30	1.148	6/25/2013 1:00	1.084	6/26/2013 14:30	1.118	6/28/2013 4:00	1.137
6/21/2013 22:30	1.117	6/23/2013 12:00	1.141	6/25/2013 1:30	1.103	6/26/2013 15:00	1.151	6/28/2013 4:30	1.169
6/21/2013 23:00	1.107	6/23/2013 12:30	1.137	6/25/2013 2:00	1.098	6/26/2013 15:30	1.148	6/28/2013 5:00	1.155
6/21/2013 23:30	1.106	6/23/2013 13:00	1.131	6/25/2013 2:30	1.102	6/26/2013 16:00	1.177	6/28/2013 5:30	1.152
6/22/2013 0:00	1.089	6/23/2013 13:30	1.135	6/25/2013 3:00	1.099	6/26/2013 16:30	1.163	6/28/2013 6:00	1.177
6/22/2013 0:30	1.078	6/23/2013 14:00	1.113	6/25/2013 3:30	1.104	6/26/2013 17:00	1.15	6/28/2013 6:30	1.148
6/22/2013 1:00	1.083	6/23/2013 14:30	1.133	6/25/2013 4:00	1.102	6/26/2013 17:30	1.181	6/28/2013 7:00	1.14
6/22/2013 1:30	1.087	6/23/2013 15:00	1.079	6/25/2013 4:30	1.097	6/26/2013 18:00	1.158	6/28/2013 7:30	1.138
6/22/2013 2:00	1.087	6/23/2013 15:30	1.145	6/25/2013 5:00	1.105	6/26/2013 18:30	1.166	6/28/2013 8:00	1.141
6/22/2013 2:30	1.09	6/23/2013 16:00	1.127	6/25/2013 5:30	1.118	6/26/2013 19:00	1.127	6/28/2013 8:30	1.15
6/22/2013 3:00	1.084	6/23/2013 16:30	1.11	6/25/2013 6:00	1.108	6/26/2013 19:30	1.174	6/28/2013 9:00	1.149
6/22/2013 3:30	1.107	6/23/2013 17:00	1.11	6/25/2013 6:30	1.106	6/26/2013 20:00	1.157	6/28/2013 9:30	1.14
6/22/2013 4:00	1.084	6/23/2013 17:30	1.099	6/25/2013 7:00	1.108	6/26/2013 20:30	1.16	6/28/2013 10:00	1.15
6/22/2013 4:30	1.082	6/23/2013 18:00	1.099	6/25/2013 7:30	1.128	6/26/2013 21:00	1.165	6/28/2013 10:30	1.153
6/22/2013 5:00	1.088	6/23/2013 18:30	1.111	6/25/2013 8:00	1.146	6/26/2013 21:30	1.152	6/28/2013 11:00	1.18
6/22/2013 5:30	1.1	6/23/2013 19:00	1.133	6/25/2013 8:30	1.139	6/26/2013 22:00	1.147	6/28/2013 11:30	1.16
6/22/2013 6:00	1.079	6/23/2013 19:30	1.107	6/25/2013 9:00	1.12	6/26/2013 22:30	1.159	6/28/2013 12:00	1.192
6/22/2013 6:30	1.078	6/23/2013 20:00	1.114	6/25/2013 9:30	1.126	6/26/2013 23:00	1.162	6/28/2013 12:30	1.183
6/22/2013 7:00	1.096	6/23/2013 20:30	1.102	6/25/2013 10:00	1.129	6/26/2013 23:30	1.156	6/28/2013 13:00	1.181
6/22/2013 7:30	1.086	6/23/2013 21:00	1.094	6/25/2013 10:30	1.128	6/27/2013 0:00	1.168	6/28/2013 13:30	1.173
6/22/2013 8:00	1.084	6/23/2013 21:30	1.089	6/25/2013 11:00	1.152	6/27/2013 0:30	1.159	6/28/2013 14:00	1.173
6/22/2013 8:30	1.092	6/23/2013 22:00	1.103	6/25/2013 11:30	1.172	6/27/2013 1:00	1.163	6/28/2013 14:30	1.174
6/22/2013 9:00	1.106	6/23/2013 22:30	1.107	6/25/2013 12:00	1.173	6/27/2013 1:30	1.161	6/28/2013 15:00	1.17
6/22/2013 9:30	1.085	6/23/2013 23:00	1.095	6/25/2013 12:30	1.168	6/27/2013 2:00	1.154	6/28/2013 15:30	1.182
6/22/2013 10:00	1.1	6/23/2013 23:30	1.096	6/25/2013 13:00	1.18	6/27/2013 2:30	1.156	6/28/2013 16:00	1.186
6/22/2013 10:30	1.098	6/24/2013 0:00	1.095	6/25/2013 13:30	1.176	6/27/2013 3:00	1.142	6/28/2013 16:30	1.165
6/22/2013 11:00	1.113	6/24/2013 0:30	1.05	6/25/2013 14:00	1.179	6/27/2013 3:30	1.167	6/28/2013 17:00	1.14
6/22/2013 11:30	1.093	6/24/2013 1:00	1.092	6/25/2013 14:30	1.187	6/27/2013 4:00	1.157	6/28/2013 17:30	1.166
6/22/2013 12:00	1.089	6/24/2013 1:30	1.083	6/25/2013 15:00	1.19	6/27/2013 4:30	1.141	6/28/2013 18:00	1.145
6/22/2013 12:30	1.088	6/24/2013 2:00	1.071	6/25/2013 15:30	1.184	6/27/2013 5:00	1.152	6/28/2013 18:30	1.15
6/22/2013 13:00	1.098	6/24/2013 2:30	1.077	6/25/2013 16:00	1.152	6/27/2013 5:30	1.162	6/28/2013 19:00	1.138
6/22/2013 13:30	1.136	6/24/2013 3:00	1.079	6/25/2013 16:30	1.19	6/27/2013 6:00	1.153	6/28/2013 19:30	1.142
6/22/2013 14:00	1.111	6/24/2013 3:30	1.072	6/25/2013 17:00	1.193	6/27/2013 6:30	1.155	6/28/2013 20:00	1.139
6/22/2013 14:30	1.118	6/24/2013 4:00	1.044	6/25/2013 17:30	1.174	6/27/2013 7:00	1.128	6/28/2013 20:30	1.151
6/22/2013 15:00	1.126	6/24/2013 4:30	1.07	6/25/2013 18:00	1.198	6/27/2013 7:30	1.132	6/28/2013 21:00	1.13
6/22/2013 15:30	1.135	6/24/2013 5:00	1.06	6/25/2013 18:30	1.211	6/27/2013 8:00	1.135	6/28/2013 21:30	1.146
6/22/2013 16:00	1.123	6/24/2013 5:30	1.064	6/25/2013 19:00	1.186	6/27/2013 8:30	1.126	6/28/2013 22:00	1.13
6/22/2013 16:30	1.104	6/24/2013 6:00	1.043	6/25/2013 19:30	1.177	6/27/2013 9:00	1.1	6/28/2013 22:30	1.132
6/22/2013 17:00	1.1	6/24/2013 6:30	1.068	6/25/2013 20:00	1.185	6/27/2013 9:30	1.143	6/28/2013 23:00	1.134
6/22/2013 17:30	1.111	6/24/2013 7:00	1.044	6/25/2013 20:30	1.172	6/27/2013 10:00	1.138	6/28/2013 23:30	1.132
6/22/2013 18:00	1.125	6/24/2013 7:30	1.045	6/25/2013 21:00	1.172	6/27/2013 10:30	1.158	6/29/2013 0:00	1.132
6/22/2013 18:30	1.121	6/24/2013 8:00	1.041	6/25/2013 21:30	1.172	6/27/2013 11:00	1.139	6/29/2013 0:30	1.123
6/22/2013 19:00	1.137	6/24/2013 8:30	1.051	6/25/2013 22:00	1.169	6/27/2013 11:30	1.174	6/29/2013 1:00	1.116
6/22/2013 19:30	1.106	6/24/2013 9:00	1.045	6/25/2013 22:30	1.162	6/27/2013 12:00	1.16	6/29/2013 1:30	1.13
6/22/2013 20:00	1.126	6/24/2013 9:30	1.044	6/25/2013 23:00	1.15	6/27/2013 12:30	1.158	6/29/2013 2:00	1.101
6/22/2013 20:30	1.154	6/24/2013 10:00	1.046	6/25/2013 23:30	1.167	6/27/2013 13:00	1.182	6/29/2013 2:30	1.108
6/22/2013 21:00	1.141	6/24/2013 10:30	1.051	6/26/2013 0:00	1.156	6/27/2013 13:30	1.192	6/29/2013 3:00	1.125
6/22/2013 21:30	1.144	6/24/2013 11:00	1.047	6/26/2013 0:30	1.167	6/27/2013 14:00	1.179	6/29/2013 3:30	1.109
6/22/2013 22:00	1.128	6/24/2013 11:30	1.053	6/26/2013 1:00	1.146	6/27/2013 14:30	1.209	6/29/2013 4:00	1.098
6/22/2013 22:30	1.151	6/24/2013 12:00	1.042	6/26/2013 1:30	1.144	6/27/2013 15:00	1.207	6/29/2013 4:30	1.118
6/22/2013 23:00	1.145	6/24/2013 12:30	1.074	6/26/2013 2:00	1.158	6/27/2013 15:30	1.195	6/29/2013 5:00	1.116
6/22/2013 23:30	1.133	6/24/2013 13:00	1.069	6/26/2013 2:30	1.132	6/27/2013 16:00	1.193	6/29/2013 5:30	1.107
6/23/2013 0:00	1.136	6/24/2013 13:30	1.075	6/26/2013 3:00	1.144	6/27/2013 16:30	1.183	6/29/2013 6:00	1.113
6/23/2013 0:30	1.146	6/24/2013 14:00	1.063	6/26/2013 3:30	1.118	6/27/2013 17:00	1.176	6/29/2013 6:30	1.095
6/23/2013 1:00	1.14	6/24/2013 14:30	1.085	6/26/2013 4:00	1.13	6/27/2013 17:30	1.182	6/29/2013 7:00	1.1
6/23/2013 1:30	1.163	6/24/2013 15:00	1.053	6/26/2013 4:30	1.135	6/27/2013 18:00	1.188	6/29/2013 7:30	1.106
6/23/2013 2:00	1.159	6/24/2013 15:30	1.058	6/26/2013 5:00	1.134	6/27/2013 18:30	1.191	6/29/2013 8:00	1.088

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
6/29/2013 8:30	1.093	6/30/2013 22:00	1.074	7/2/2013 11:30	0.967	7/4/2013 1:00	0.968	7/5/2013 14:30	0.913
6/29/2013 9:00	1.09	6/30/2013 22:30	1.083	7/2/2013 12:00	0.953	7/4/2013 1:30	0.967	7/5/2013 15:00	0.899
6/29/2013 9:30	1.086	6/30/2013 23:00	1.07	7/2/2013 12:30	0.97	7/4/2013 2:00	0.954	7/5/2013 15:30	0.891
6/29/2013 10:00	1.088	6/30/2013 23:30	1.08	7/2/2013 13:00	0.965	7/4/2013 2:30	0.957	7/5/2013 16:00	0.92
6/29/2013 10:30	1.114	7/1/2013 0:00	1.06	7/2/2013 13:30	0.994	7/4/2013 3:00	0.979	7/5/2013 16:30	0.927
6/29/2013 11:00	1.104	7/1/2013 0:30	1.06	7/2/2013 14:00	0.967	7/4/2013 3:30	0.974	7/5/2013 17:00	0.901
6/29/2013 11:30	1.117	7/1/2013 1:00	1.058	7/2/2013 14:30	0.946	7/4/2013 4:00	0.952	7/5/2013 17:30	0.9
6/29/2013 12:00	1.11	7/1/2013 1:30	1.064	7/2/2013 15:00	0.992	7/4/2013 4:30	0.961	7/5/2013 18:00	0.912
6/29/2013 12:30	1.124	7/1/2013 2:00	1.053	7/2/2013 15:30	0.955	7/4/2013 5:00	0.964	7/5/2013 18:30	0.918
6/29/2013 13:00	1.129	7/1/2013 2:30	1.047	7/2/2013 16:00	0.986	7/4/2013 5:30	0.964	7/5/2013 19:00	0.877
6/29/2013 13:30	1.155	7/1/2013 3:00	1.034	7/2/2013 16:30	0.95	7/4/2013 6:00	0.961	7/5/2013 19:30	0.891
6/29/2013 14:00	1.143	7/1/2013 3:30	1.05	7/2/2013 17:00	0.973	7/4/2013 6:30	1.049	7/5/2013 20:00	0.901
6/29/2013 14:30	1.139	7/1/2013 4:00	1.037	7/2/2013 17:30	0.951	7/4/2013 7:00	1.036	7/5/2013 20:30	0.896
6/29/2013 15:00	1.145	7/1/2013 4:30	1.05	7/2/2013 18:00	0.964	7/4/2013 7:30	1.029	7/5/2013 21:00	0.906
6/29/2013 15:30	1.144	7/1/2013 5:00	1.048	7/2/2013 18:30	0.941	7/4/2013 8:00	1.027	7/5/2013 21:30	0.919
6/29/2013 16:00	1.142	7/1/2013 5:30	1.03	7/2/2013 19:00	0.93	7/4/2013 8:30	1.015	7/5/2013 22:00	0.932
6/29/2013 16:30	1.158	7/1/2013 6:00	1.037	7/2/2013 19:30	0.95	7/4/2013 9:00	1.011	7/5/2013 22:30	0.91
6/29/2013 17:00	1.137	7/1/2013 6:30	1.024	7/2/2013 20:00	0.956	7/4/2013 9:30	1.004	7/5/2013 23:00	0.906
6/29/2013 17:30	1.148	7/1/2013 7:00	1.015	7/2/2013 20:30	0.96	7/4/2013 10:00	1.015	7/5/2013 23:30	0.93
6/29/2013 18:00	1.131	7/1/2013 7:30	0.975	7/2/2013 21:00	0.951	7/4/2013 10:30	1.007	7/6/2013 0:00	0.921
6/29/2013 18:30	1.095	7/1/2013 8:00	1.013	7/2/2013 21:30	0.935	7/4/2013 11:00	1.023	7/6/2013 0:30	0.896
6/29/2013 19:00	1.112	7/1/2013 8:30	1.019	7/2/2013 22:00	0.943	7/4/2013 11:30	1.001	7/6/2013 1:00	0.886
6/29/2013 19:30	1.101	7/1/2013 9:00	1.018	7/2/2013 22:30	0.95	7/4/2013 12:00	1.035	7/6/2013 1:30	0.912
6/29/2013 20:00	1.047	7/1/2013 9:30	1.01	7/2/2013 23:00	0.939	7/4/2013 12:30	1.011	7/6/2013 2:00	0.888
6/29/2013 20:30	1.07	7/1/2013 10:00	1.013	7/2/2013 23:30	0.939	7/4/2013 13:00	1.028	7/6/2013 2:30	0.893
6/29/2013 21:00	1.118	7/1/2013 10:30	1	7/3/2013 0:00	0.948	7/4/2013 13:30	1.044	7/6/2013 3:00	0.916
6/29/2013 21:30	1.072	7/1/2013 11:00	1.013	7/3/2013 0:30	0.942	7/4/2013 14:00	1.032	7/6/2013 3:30	0.924
6/29/2013 22:00	1.059	7/1/2013 11:30	1.026	7/3/2013 1:00	0.945	7/4/2013 14:30	1.036	7/6/2013 4:00	0.919
6/29/2013 22:30	1.084	7/1/2013 12:00	1.041	7/3/2013 1:30	0.929	7/4/2013 15:00	1.04	7/6/2013 4:30	0.906
6/29/2013 23:00	1.062	7/1/2013 12:30	1.013	7/3/2013 2:00	0.935	7/4/2013 15:30	1.02	7/6/2013 5:00	0.911
6/29/2013 23:30	1.061	7/1/2013 13:00	1.038	7/3/2013 2:30	0.951	7/4/2013 16:00	1.023	7/6/2013 5:30	0.927
6/30/2013 0:00	1.06	7/1/2013 13:30	1.025	7/3/2013 3:00	0.939	7/4/2013 16:30	1.011	7/6/2013 6:00	0.9
6/30/2013 0:30	1.059	7/1/2013 14:00	1.062	7/3/2013 3:30	0.966	7/4/2013 17:00	1.024	7/6/2013 6:30	0.905
6/30/2013 1:00	1.056	7/1/2013 14:30	1.034	7/3/2013 4:00	0.94	7/4/2013 17:30	1.025	7/6/2013 7:00	0.9
6/30/2013 1:30	1.056	7/1/2013 15:00	1.031	7/3/2013 4:30	0.946	7/4/2013 18:00	0.997	7/6/2013 7:30	0.883
6/30/2013 2:00	1.062	7/1/2013 15:30	0.997	7/3/2013 5:00	0.956	7/4/2013 18:30	0.99	7/6/2013 8:00	0.883
6/30/2013 2:30	1.074	7/1/2013 16:00	1.001	7/3/2013 5:30	0.933	7/4/2013 19:00	0.987	7/6/2013 8:30	0.901
6/30/2013 3:00	1.06	7/1/2013 16:30	1.029	7/3/2013 6:00	0.932	7/4/2013 19:30	0.977	7/6/2013 9:00	0.919
6/30/2013 3:30	1.069	7/1/2013 17:00	1.009	7/3/2013 6:30	0.937	7/4/2013 20:00	0.973	7/6/2013 9:30	0.898
6/30/2013 4:00	1.066	7/1/2013 17:30	0.997	7/3/2013 7:00	0.931	7/4/2013 20:30	0.999	7/6/2013 10:00	0.893
6/30/2013 4:30	1.078	7/1/2013 18:00	1.002	7/3/2013 7:30	0.991	7/4/2013 21:00	0.993	7/6/2013 10:30	0.9
6/30/2013 5:00	1.078	7/1/2013 18:30	0.997	7/3/2013 8:00	0.972	7/4/2013 21:30	0.994	7/6/2013 11:00	0.897
6/30/2013 5:30	1.068	7/1/2013 19:00	0.98	7/3/2013 8:30	0.936	7/4/2013 22:00	0.987	7/6/2013 11:30	0.903
6/30/2013 6:00	1.051	7/1/2013 19:30	0.979	7/3/2013 9:00	0.967	7/4/2013 22:30	0.982	7/6/2013 12:00	0.913
6/30/2013 6:30	1.083	7/1/2013 20:00	0.991	7/3/2013 9:30	0.958	7/4/2013 23:00	0.993	7/6/2013 12:30	0.892
6/30/2013 7:00	1.071	7/1/2013 20:30	1.003	7/3/2013 10:00	0.948	7/4/2013 23:30	0.984	7/6/2013 13:00	0.903
6/30/2013 7:30	1.096	7/1/2013 21:00	0.996	7/3/2013 10:30	0.969	7/5/2013 0:00	0.957	7/6/2013 13:30	0.907
6/30/2013 8:00	1.088	7/1/2013 21:30	0.974	7/3/2013 11:00	0.979	7/5/2013 0:30	0.963	7/6/2013 14:00	0.9
6/30/2013 8:30	1.099	7/1/2013 22:00	0.995	7/3/2013 11:30	0.976	7/5/2013 1:00	0.953	7/6/2013 14:30	0.909
6/30/2013 9:00	1.092	7/1/2013 22:30	0.985	7/3/2013 12:00	0.983	7/5/2013 1:30	0.951	7/6/2013 15:00	0.939
6/30/2013 9:30	1.101	7/1/2013 23:00	0.967	7/3/2013 12:30	0.974	7/5/2013 2:00	0.94	7/6/2013 15:30	0.947
6/30/2013 10:00	1.1	7/1/2013 23:30	0.99	7/3/2013 13:00	1.004	7/5/2013 2:30	0.922	7/6/2013 16:00	0.934
6/30/2013 10:30	1.089	7/2/2013 0:00	0.978	7/3/2013 13:30	1	7/5/2013 3:00	0.922	7/6/2013 16:30	0.935
6/30/2013 11:00	1.108	7/2/2013 0:30	0.982	7/3/2013 14:00	0.987	7/5/2013 3:30	0.932	7/6/2013 17:00	0.934
6/30/2013 11:30	1.102	7/2/2013 1:00	0.951	7/3/2013 14:30	1.016	7/5/2013 4:00	0.942	7/6/2013 17:30	0.912
6/30/2013 12:00	1.11	7/2/2013 1:30	0.95	7/3/2013 15:00	1.015	7/5/2013 4:30	0.958	7/6/2013 18:00	0.938
6/30/2013 12:30	1.132	7/2/2013 2:00	0.952	7/3/2013 15:30	1.019	7/5/2013 5:00	0.942	7/6/2013 18:30	0.926
6/30/2013 13:00	1.118	7/2/2013 2:30	0.955	7/3/2013 16:00	1.012	7/5/2013 5:30	0.951	7/6/2013 19:00	0.933
6/30/2013 13:30	1.121	7/2/2013 3:00	0.954	7/3/2013 16:30	1.023	7/5/2013 6:00	0.959	7/6/2013 19:30	0.897
6/30/2013 14:00	1.112	7/2/2013 3:30	0.977	7/3/2013 17:00	0.98	7/5/2013 6:30	0.967	7/6/2013 20:00	0.932
6/30/2013 14:30	1.114	7/2/2013 4:00	0.96	7/3/2013 17:30	0.971	7/5/2013 7:00	0.941	7/6/2013 20:30	0.92
6/30/2013 15:00	1.096	7/2/2013 4:30	0.941	7/3/2013 18:00	0.971	7/5/2013 7:30	0.884	7/6/2013 21:00	0.913
6/30/2013 15:30	1.103	7/2/2013 5:00	0.95	7/3/2013 18:30	0.971	7/5/2013 8:00	0.871	7/6/2013 21:30	0.918
6/30/2013 16:00	1.114	7/2/2013 5:30	0.966	7/3/2013 19:00	1.006	7/5/2013 8:30	0.9	7/6/2013 22:00	0.9
6/30/2013 16:30	1.094	7/2/2013 6:00	0.946	7/3/2013 19:30	0.974	7/5/2013 9:00	0.869	7/6/2013 22:30	0.919
6/30/2013 17:00	1.096	7/2/2013 6:30	0.944	7/3/2013 20:00	0.996	7/5/2013 9:30	0.883	7/6/2013 23:00	0.905
6/30/2013 17:30	1.059	7/2/2013 7:00	0.944	7/3/2013 20:30	0.995	7/5/2013 10:00	0.888	7/6/2013 23:30	0.906
6/30/2013 18:00	1.077	7/2/2013 7:30	0.987	7/3/2013 21:00	0.998	7/5/2013 10:30	0.902	7/7/2013 0:00	0.885
6/30/2013 18:30	1.072	7/2/2013 8:00	0.949	7/3/2013 21:30	0.999	7/5/2013 11:00	0.848	7/7/2013 0:30	0.893
6/30/2013 19:00	1.079	7/2/2013 8:30	0.928	7/3/2013 22:00	1.001	7/5/2013 11:30	0.854	7/7/2013 1:00	0.873
6/30/2013 19:30	1.08	7/2/2013 9:00	0.942	7/3/2013 22:30	0.989	7/5/2013 12:00	0.915	7/7/2013 1:30	0.881
6/30/2013 20:00	1.094	7/2/2013 9:30	0.961	7/3/2013 23:00	0.988	7/5/2013 12:30	0.931	7/7/2013 2:00	0.882
6/30/2013 20:30	1.079	7/2/2013 10:00	0.96	7/3/2013 23:30	0.971	7/5/2013 13:00	0.862	7/7/2013 2:30	0.89
6/30/2013 21:00	1.069	7/2/2013 10:30	0.952	7/4/2013 0:00	0.969	7/5/2013 13:30	0.877	7/7/2013 3:00	0.868
6/30/2013 21:30	1.078	7/2/2013 11:00	0.949	7/4/2013 0:30	0.974	7/5/2013 14:00	0.907	7/7/2013 3:30	0.852

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
7/7/2013 4:00	0.855	7/8/2013 17:30	0.805	7/10/2013 7:00	0.752	7/11/2013 20:30	0.746	7/13/2013 10:00	0.721
7/7/2013 4:30	0.867	7/8/2013 18:00	0.828	7/10/2013 7:30	0.743	7/11/2013 21:00	0.745	7/13/2013 10:30	0.716
7/7/2013 5:00	0.858	7/8/2013 18:30	0.822	7/10/2013 8:00	0.733	7/11/2013 21:30	0.742	7/13/2013 11:00	0.729
7/7/2013 5:30	0.857	7/8/2013 19:00	0.815	7/10/2013 8:30	0.765	7/11/2013 22:00	0.734	7/13/2013 11:30	0.725
7/7/2013 6:00	0.87	7/8/2013 19:30	0.814	7/10/2013 9:00	0.762	7/11/2013 22:30	0.76	7/13/2013 12:00	0.713
7/7/2013 6:30	0.863	7/8/2013 20:00	0.864	7/10/2013 9:30	0.774	7/11/2013 23:00	0.747	7/13/2013 12:30	0.733
7/7/2013 7:00	0.841	7/8/2013 20:30	0.83	7/10/2013 10:00	0.772	7/11/2013 23:30	0.75	7/13/2013 13:00	0.724
7/7/2013 7:30	0.846	7/8/2013 21:00	0.824	7/10/2013 10:30	0.77	7/12/2013 0:00	0.743	7/13/2013 13:30	0.714
7/7/2013 8:00	0.845	7/8/2013 21:30	0.834	7/10/2013 11:00	0.781	7/12/2013 0:30	0.73	7/13/2013 14:00	0.719
7/7/2013 8:30	0.867	7/8/2013 22:00	0.838	7/10/2013 11:30	0.766	7/12/2013 1:00	0.755	7/13/2013 14:30	0.723
7/7/2013 9:00	0.863	7/8/2013 22:30	0.829	7/10/2013 12:00	0.776	7/12/2013 1:30	0.768	7/13/2013 15:00	0.705
7/7/2013 9:30	0.86	7/8/2013 23:00	0.834	7/10/2013 12:30	0.754	7/12/2013 2:00	0.753	7/13/2013 15:30	0.683
7/7/2013 10:00	0.84	7/8/2013 23:30	0.834	7/10/2013 13:00	0.764	7/12/2013 2:30	0.757	7/13/2013 16:00	0.724
7/7/2013 10:30	0.86	7/9/2013 0:00	0.83	7/10/2013 13:30	0.757	7/12/2013 3:00	0.756	7/13/2013 16:30	0.726
7/7/2013 11:00	0.868	7/9/2013 0:30	0.839	7/10/2013 14:00	0.791	7/12/2013 3:30	0.763	7/13/2013 17:00	0.694
7/7/2013 11:30	0.847	7/9/2013 1:00	0.834	7/10/2013 14:30	0.78	7/12/2013 4:00	0.761	7/13/2013 17:30	0.694
7/7/2013 12:00	0.842	7/9/2013 1:30	0.825	7/10/2013 15:00	0.759	7/12/2013 4:30	0.767	7/13/2013 18:00	0.698
7/7/2013 12:30	0.852	7/9/2013 2:00	0.845	7/10/2013 15:30	0.771	7/12/2013 5:00	0.748	7/13/2013 18:30	0.694
7/7/2013 13:00	0.844	7/9/2013 2:30	0.829	7/10/2013 16:00	0.744	7/12/2013 5:30	0.74	7/13/2013 19:00	0.704
7/7/2013 13:30	0.851	7/9/2013 3:00	0.85	7/10/2013 16:30	0.756	7/12/2013 6:00	0.766	7/13/2013 19:30	0.699
7/7/2013 14:00	0.849	7/9/2013 3:30	0.848	7/10/2013 17:00	0.747	7/12/2013 6:30	0.743	7/13/2013 20:00	0.698
7/7/2013 14:30	0.863	7/9/2013 4:00	0.849	7/10/2013 17:30	0.741	7/12/2013 7:00	0.747	7/13/2013 20:30	0.7
7/7/2013 15:00	0.859	7/9/2013 4:30	0.839	7/10/2013 18:00	0.715	7/12/2013 7:30	0.726	7/13/2013 21:00	0.703
7/7/2013 15:30	0.852	7/9/2013 5:00	0.849	7/10/2013 18:30	0.723	7/12/2013 8:00	0.749	7/13/2013 21:30	0.702
7/7/2013 16:00	0.87	7/9/2013 5:30	0.86	7/10/2013 19:00	0.727	7/12/2013 8:30	0.747	7/13/2013 22:00	0.695
7/7/2013 16:30	0.847	7/9/2013 6:00	0.872	7/10/2013 19:30	0.744	7/12/2013 9:00	0.763	7/13/2013 22:30	0.691
7/7/2013 17:00	0.837	7/9/2013 6:30	0.863	7/10/2013 20:00	0.734	7/12/2013 9:30	0.773	7/13/2013 23:00	0.667
7/7/2013 17:30	0.857	7/9/2013 7:00	0.831	7/10/2013 20:30	0.792	7/12/2013 10:00	0.761	7/13/2013 23:30	0.688
7/7/2013 18:00	0.856	7/9/2013 7:30	0.824	7/10/2013 21:00	0.746	7/12/2013 10:30	0.76	7/14/2013 0:00	0.657
7/7/2013 18:30	0.814	7/9/2013 8:00	0.819	7/10/2013 21:30	0.759	7/12/2013 11:00	0.746	7/14/2013 0:30	0.658
7/7/2013 19:00	0.834	7/9/2013 8:30	0.832	7/10/2013 22:00	0.758	7/12/2013 11:30	0.716	7/14/2013 1:00	0.663
7/7/2013 19:30	0.853	7/9/2013 9:00	0.831	7/10/2013 22:30	0.751	7/12/2013 12:00	0.762	7/14/2013 1:30	0.666
7/7/2013 20:00	0.864	7/9/2013 9:30	0.824	7/10/2013 23:00	0.761	7/12/2013 12:30	0.718	7/14/2013 2:00	0.668
7/7/2013 20:30	0.812	7/9/2013 10:00	0.838	7/10/2013 23:30	0.731	7/12/2013 13:00	0.785	7/14/2013 2:30	0.687
7/7/2013 21:00	0.857	7/9/2013 10:30	0.844	7/11/2013 0:00	0.755	7/12/2013 13:30	0.733	7/14/2013 3:00	0.683
7/7/2013 21:30	0.848	7/9/2013 11:00	0.884	7/11/2013 0:30	0.743	7/12/2013 14:00	0.805	7/14/2013 3:30	0.681
7/7/2013 22:00	0.84	7/9/2013 11:30	0.86	7/11/2013 1:00	0.76	7/12/2013 14:30	0.724	7/14/2013 4:00	0.676
7/7/2013 22:30	0.821	7/9/2013 12:00	0.877	7/11/2013 1:30	0.75	7/12/2013 15:00	0.808	7/14/2013 4:30	0.679
7/7/2013 23:00	0.835	7/9/2013 12:30	0.842	7/11/2013 2:00	0.742	7/12/2013 15:30	0.764	7/14/2013 5:00	0.676
7/7/2013 23:30	0.835	7/9/2013 13:00	0.847	7/11/2013 2:30	0.764	7/12/2013 16:00	0.765	7/14/2013 5:30	0.679
7/8/2013 0:00	0.856	7/9/2013 13:30	0.893	7/11/2013 3:00	0.746	7/12/2013 16:30	0.753	7/14/2013 6:00	0.688
7/8/2013 0:30	0.837	7/9/2013 14:00	0.865	7/11/2013 3:30	0.761	7/12/2013 17:00	0.758	7/14/2013 6:30	0.69
7/8/2013 1:00	0.825	7/9/2013 14:30	0.845	7/11/2013 4:00	0.751	7/12/2013 17:30	0.746	7/14/2013 7:00	0.659
7/8/2013 1:30	0.826	7/9/2013 15:00	0.83	7/11/2013 4:30	0.762	7/12/2013 18:00	0.735	7/14/2013 7:30	0.662
7/8/2013 2:00	0.824	7/9/2013 15:30	0.838	7/11/2013 5:00	0.744	7/12/2013 18:30	0.75	7/14/2013 8:00	0.665
7/8/2013 2:30	0.826	7/9/2013 16:00	0.853	7/11/2013 5:30	0.756	7/12/2013 19:00	0.744	7/14/2013 8:30	0.67
7/8/2013 3:00	0.844	7/9/2013 16:30	0.835	7/11/2013 6:00	0.754	7/12/2013 19:30	0.756	7/14/2013 9:00	0.667
7/8/2013 3:30	0.834	7/9/2013 17:00	0.767	7/11/2013 6:30	0.755	7/12/2013 20:00	0.745	7/14/2013 9:30	0.669
7/8/2013 4:00	0.841	7/9/2013 17:30	0.77	7/11/2013 7:00	0.743	7/12/2013 20:30	0.734	7/14/2013 10:00	0.686
7/8/2013 4:30	0.834	7/9/2013 18:00	0.776	7/11/2013 7:30	0.738	7/12/2013 21:00	0.728	7/14/2013 10:30	0.65
7/8/2013 5:00	0.823	7/9/2013 18:30	0.753	7/11/2013 8:00	0.737	7/12/2013 21:30	0.72	7/14/2013 11:00	0.666
7/8/2013 5:30	0.807	7/9/2013 19:00	0.78	7/11/2013 8:30	0.746	7/12/2013 22:00	0.734	7/14/2013 11:30	0.669
7/8/2013 6:00	0.794	7/9/2013 19:30	0.775	7/11/2013 9:00	0.74	7/12/2013 22:30	0.73	7/14/2013 12:00	0.693
7/8/2013 6:30	0.793	7/9/2013 20:00	0.767	7/11/2013 9:30	0.721	7/12/2013 23:00	0.719	7/14/2013 12:30	0.666
7/8/2013 7:00	0.791	7/9/2013 20:30	0.782	7/11/2013 10:00	0.712	7/12/2013 23:30	0.709	7/14/2013 13:00	0.628
7/8/2013 7:30	0.783	7/9/2013 21:00	0.763	7/11/2013 10:30	0.761	7/13/2013 0:00	0.709	7/14/2013 13:30	0.688
7/8/2013 8:00	0.781	7/9/2013 21:30	0.754	7/11/2013 11:00	0.68	7/13/2013 0:30	0.706	7/14/2013 14:00	0.67
7/8/2013 8:30	0.79	7/9/2013 22:00	0.75	7/11/2013 11:30	0.765	7/13/2013 1:00	0.709	7/14/2013 14:30	0.677
7/8/2013 9:00	0.795	7/9/2013 22:30	0.775	7/11/2013 12:00	0.729	7/13/2013 1:30	0.719	7/14/2013 15:00	0.672
7/8/2013 9:30	0.81	7/9/2013 23:00	0.766	7/11/2013 12:30	0.729	7/13/2013 2:00	0.695	7/14/2013 15:30	0.676
7/8/2013 10:00	0.791	7/9/2013 23:30	0.772	7/11/2013 13:00	0.732	7/13/2013 2:30	0.708	7/14/2013 16:00	0.668
7/8/2013 10:30	0.809	7/10/2013 0:00	0.75	7/11/2013 13:30	0.734	7/13/2013 3:00	0.699	7/14/2013 16:30	0.672
7/8/2013 11:00	0.816	7/10/2013 0:30	0.759	7/11/2013 14:00	0.746	7/13/2013 3:30	0.703	7/14/2013 17:00	0.676
7/8/2013 11:30	0.811	7/10/2013 1:00	0.751	7/11/2013 14:30	0.709	7/13/2013 4:00	0.7	7/14/2013 17:30	0.656
7/8/2013 12:00	0.814	7/10/2013 1:30	0.741	7/11/2013 15:00	0.735	7/13/2013 4:30	0.73	7/14/2013 18:00	0.675
7/8/2013 12:30	0.823	7/10/2013 2:00	0.764	7/11/2013 15:30	0.769	7/13/2013 5:00	0.726	7/14/2013 18:30	0.646
7/8/2013 13:00	0.846	7/10/2013 2:30	0.762	7/11/2013 16:00	0.775	7/13/2013 5:30	0.736	7/14/2013 19:00	0.668
7/8/2013 13:30	0.844	7/10/2013 3:00	0.774	7/11/2013 16:30	0.753	7/13/2013 6:00	0.734	7/14/2013 19:30	0.66
7/8/2013 14:00	0.847	7/10/2013 3:30	0.771	7/11/2013 17:00	0.722	7/13/2013 6:30	0.745	7/14/2013 20:00	0.633
7/8/2013 14:30	0.82	7/10/2013 4:00	0.776	7/11/2013 17:30	0.739	7/13/2013 7:00	0.717	7/14/2013 20:30	0.683
7/8/2013 15:00	0.818	7/10/2013 4:30	0.752	7/11/2013 18:00	0.75	7/13/2013 7:30	0.716	7/14/2013 21:00	0.675
7/8/2013 15:30	0.826	7/10/2013 5:00	0.757	7/11/2013 18:30	0.745	7/13/2013 8:00	0.692	7/14/2013 21:30	0.657
7/8/2013 16:00	0.823	7/10/2013 5:30	0.758	7/11/2013 19:00	0.746	7/13/2013 8:30	0.71	7/14/2013 22:00	0.668
7/8/2013 16:30	0.81	7/10/2013 6:00	0.759	7/11/2013 19:30	0.743	7/13/2013 9:00	0.712	7/14/2013 22:30	0.664
7/8/2013 17:00	0.831	7/10/2013 6:30	0.763	7/11/2013 20:00	0.746	7/13/2013 9:30	0.706	7/14/2013 23:00	0.675

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
7/14/2013 23:30	0.657	7/16/2013 13:00	0.548	7/18/2013 2:30	0.712	7/19/2013 16:00	0.598	7/21/2013 5:30	0.544
7/15/2013 0:00	0.675	7/16/2013 13:30	0.541	7/18/2013 3:00	0.72	7/19/2013 16:30	0.591	7/21/2013 6:00	0.568
7/15/2013 0:30	0.678	7/16/2013 14:00	0.563	7/18/2013 3:30	0.727	7/19/2013 17:00	0.593	7/21/2013 6:30	0.574
7/15/2013 1:00	0.665	7/16/2013 14:30	0.539	7/18/2013 4:00	0.744	7/19/2013 17:30	0.579	7/21/2013 7:00	0.555
7/15/2013 1:30	0.676	7/16/2013 15:00	0.547	7/18/2013 4:30	0.752	7/19/2013 18:00	0.594	7/21/2013 7:30	0.548
7/15/2013 2:00	0.663	7/16/2013 15:30	0.557	7/18/2013 5:00	0.781	7/19/2013 18:30	0.589	7/21/2013 8:00	0.525
7/15/2013 2:30	0.658	7/16/2013 16:00	0.538	7/18/2013 5:30	0.787	7/19/2013 19:00	0.585	7/21/2013 8:30	0.54
7/15/2013 3:00	0.658	7/16/2013 16:30	0.562	7/18/2013 6:00	0.777	7/19/2013 19:30	0.596	7/21/2013 9:00	0.524
7/15/2013 3:30	0.652	7/16/2013 17:00	0.506	7/18/2013 6:30	0.755	7/19/2013 20:00	0.591	7/21/2013 9:30	0.522
7/15/2013 4:00	0.663	7/16/2013 17:30	0.533	7/18/2013 7:00	0.749	7/19/2013 20:30	0.59	7/21/2013 10:00	0.518
7/15/2013 4:30	0.643	7/16/2013 18:00	0.529	7/18/2013 7:30	0.718	7/19/2013 21:00	0.583	7/21/2013 10:30	0.533
7/15/2013 5:00	0.661	7/16/2013 18:30	0.534	7/18/2013 8:00	0.696	7/19/2013 21:30	0.582	7/21/2013 11:00	0.535
7/15/2013 5:30	0.654	7/16/2013 19:00	0.529	7/18/2013 8:30	0.674	7/19/2013 22:00	0.578	7/21/2013 11:30	0.535
7/15/2013 6:00	0.652	7/16/2013 19:30	0.504	7/18/2013 9:00	0.697	7/19/2013 22:30	0.577	7/21/2013 12:00	0.543
7/15/2013 6:30	0.664	7/16/2013 20:00	0.522	7/18/2013 9:30	0.685	7/19/2013 23:00	0.581	7/21/2013 12:30	0.532
7/15/2013 7:00	0.65	7/16/2013 20:30	0.517	7/18/2013 10:00	0.694	7/19/2013 23:30	0.575	7/21/2013 13:00	0.543
7/15/2013 7:30	0.65	7/16/2013 21:00	0.517	7/18/2013 10:30	0.637	7/20/2013 0:00	0.566	7/21/2013 13:30	0.549
7/15/2013 8:00	0.659	7/16/2013 21:30	0.517	7/18/2013 11:00	0.65	7/20/2013 0:30	0.584	7/21/2013 14:00	0.546
7/15/2013 8:30	0.61	7/16/2013 22:00	0.524	7/18/2013 11:30	0.727	7/20/2013 1:00	0.57	7/21/2013 14:30	0.542
7/15/2013 9:00	0.627	7/16/2013 22:30	0.523	7/18/2013 12:00	0.691	7/20/2013 1:30	0.573	7/21/2013 15:00	0.562
7/15/2013 9:30	0.628	7/16/2013 23:00	0.526	7/18/2013 12:30	0.684	7/20/2013 2:00	0.571	7/21/2013 15:30	0.564
7/15/2013 10:00	0.635	7/16/2013 23:30	0.52	7/18/2013 13:00	0.669	7/20/2013 2:30	0.566	7/21/2013 16:00	0.541
7/15/2013 10:30	0.614	7/17/2013 0:00	0.528	7/18/2013 13:30	0.653	7/20/2013 3:00	0.572	7/21/2013 16:30	0.546
7/15/2013 11:00	0.62	7/17/2013 0:30	0.536	7/18/2013 14:00	0.689	7/20/2013 3:30	0.589	7/21/2013 17:00	0.536
7/15/2013 11:30	0.616	7/17/2013 1:00	0.528	7/18/2013 14:30	0.68	7/20/2013 4:00	0.577	7/21/2013 17:30	0.529
7/15/2013 12:00	0.643	7/17/2013 1:30	0.534	7/18/2013 15:00	0.685	7/20/2013 4:30	0.574	7/21/2013 18:00	0.535
7/15/2013 12:30	0.628	7/17/2013 2:00	0.536	7/18/2013 15:30	0.681	7/20/2013 5:00	0.588	7/21/2013 18:30	0.532
7/15/2013 13:00	0.614	7/17/2013 2:30	0.545	7/18/2013 16:00	0.682	7/20/2013 5:30	0.582	7/21/2013 19:00	0.506
7/15/2013 13:30	0.632	7/17/2013 3:00	0.531	7/18/2013 16:30	0.674	7/20/2013 6:00	0.585	7/21/2013 19:30	0.54
7/15/2013 14:00	0.634	7/17/2013 3:30	0.533	7/18/2013 17:00	0.661	7/20/2013 6:30	0.568	7/21/2013 20:00	0.546
7/15/2013 14:30	0.65	7/17/2013 4:00	0.538	7/18/2013 17:30	0.683	7/20/2013 7:00	0.572	7/21/2013 20:30	0.531
7/15/2013 15:00	0.654	7/17/2013 4:30	0.527	7/18/2013 18:00	0.663	7/20/2013 7:30	0.533	7/21/2013 21:00	0.539
7/15/2013 15:30	0.641	7/17/2013 5:00	0.529	7/18/2013 18:30	0.64	7/20/2013 8:00	0.537	7/21/2013 21:30	0.529
7/15/2013 16:00	0.595	7/17/2013 5:30	0.531	7/18/2013 19:00	0.666	7/20/2013 8:30	0.528	7/21/2013 22:00	0.545
7/15/2013 16:30	0.619	7/17/2013 6:00	0.521	7/18/2013 19:30	0.645	7/20/2013 9:00	0.518	7/21/2013 22:30	0.545
7/15/2013 17:00	0.624	7/17/2013 6:30	0.536	7/18/2013 20:00	0.652	7/20/2013 9:30	0.526	7/21/2013 23:00	0.524
7/15/2013 17:30	0.611	7/17/2013 7:00	0.536	7/18/2013 20:30	0.656	7/20/2013 10:00	0.512	7/21/2013 23:30	0.524
7/15/2013 18:00	0.623	7/17/2013 7:30	0.522	7/18/2013 21:00	0.663	7/20/2013 10:30	0.524	7/22/2013 0:00	0.535
7/15/2013 18:30	0.617	7/17/2013 8:00	0.538	7/18/2013 21:30	0.656	7/20/2013 11:00	0.53	7/22/2013 0:30	0.533
7/15/2013 19:00	0.636	7/17/2013 8:30	0.531	7/18/2013 22:00	0.662	7/20/2013 11:30	0.556	7/22/2013 1:00	0.537
7/15/2013 19:30	0.626	7/17/2013 9:00	0.519	7/18/2013 22:30	0.642	7/20/2013 12:00	0.538	7/22/2013 1:30	0.516
7/15/2013 20:00	0.649	7/17/2013 9:30	0.539	7/18/2013 23:00	0.645	7/20/2013 12:30	0.555	7/22/2013 2:00	0.498
7/15/2013 20:30	0.608	7/17/2013 10:00	0.527	7/18/2013 23:30	0.656	7/20/2013 13:00	0.526	7/22/2013 2:30	0.518
7/15/2013 21:00	0.617	7/17/2013 10:30	0.457	7/19/2013 0:00	0.639	7/20/2013 13:30	0.529	7/22/2013 3:00	0.518
7/15/2013 21:30	0.609	7/17/2013 11:00	0.535	7/19/2013 0:30	0.628	7/20/2013 14:00	0.548	7/22/2013 3:30	0.505
7/15/2013 22:00	0.601	7/17/2013 11:30	0.526	7/19/2013 1:00	0.623	7/20/2013 14:30	0.541	7/22/2013 4:00	0.521
7/15/2013 22:30	0.587	7/17/2013 12:00	0.521	7/19/2013 1:30	0.641	7/20/2013 15:00	0.54	7/22/2013 4:30	0.522
7/15/2013 23:00	0.58	7/17/2013 12:30	0.536	7/19/2013 2:00	0.651	7/20/2013 15:30	0.534	7/22/2013 5:00	0.513
7/15/2013 23:30	0.579	7/17/2013 13:00	0.522	7/19/2013 2:30	0.637	7/20/2013 16:00	0.536	7/22/2013 5:30	0.544
7/16/2013 0:00	0.558	7/17/2013 13:30	0.519	7/19/2013 3:00	0.649	7/20/2013 16:30	0.552	7/22/2013 6:00	0.532
7/16/2013 0:30	0.57	7/17/2013 14:00	0.529	7/19/2013 3:30	0.638	7/20/2013 17:00	0.536	7/22/2013 6:30	0.524
7/16/2013 1:00	0.565	7/17/2013 14:30	0.538	7/19/2013 4:00	0.633	7/20/2013 17:30	0.563	7/22/2013 7:00	0.521
7/16/2013 1:30	0.576	7/17/2013 15:00	0.543	7/19/2013 4:30	0.645	7/20/2013 18:00	0.558	7/22/2013 7:30	0.472
7/16/2013 2:00	0.544	7/17/2013 15:30	0.534	7/19/2013 5:00	0.638	7/20/2013 18:30	0.528	7/22/2013 8:00	0.45
7/16/2013 2:30	0.545	7/17/2013 16:00	0.557	7/19/2013 5:30	0.653	7/20/2013 19:00	0.562	7/22/2013 8:30	0.45
7/16/2013 3:00	0.537	7/17/2013 16:30	0.549	7/19/2013 6:00	0.637	7/20/2013 19:30	0.535	7/22/2013 9:00	0.462
7/16/2013 3:30	0.541	7/17/2013 17:00	0.544	7/19/2013 6:30	0.623	7/20/2013 20:00	0.548	7/22/2013 9:30	0.453
7/16/2013 4:00	0.545	7/17/2013 17:30	0.544	7/19/2013 7:00	0.646	7/20/2013 20:30	0.569	7/22/2013 10:00	0.478
7/16/2013 4:30	0.545	7/17/2013 18:00	0.602	7/19/2013 7:30	0.638	7/20/2013 21:00	0.563	7/22/2013 10:30	0.453
7/16/2013 5:00	0.552	7/17/2013 18:30	0.606	7/19/2013 8:00	0.627	7/20/2013 21:30	0.558	7/22/2013 11:00	0.464
7/16/2013 5:30	0.553	7/17/2013 19:00	0.608	7/19/2013 8:30	0.622	7/20/2013 22:00	0.551	7/22/2013 11:30	0.464
7/16/2013 6:00	0.543	7/17/2013 19:30	0.614	7/19/2013 9:00	0.587	7/20/2013 22:30	0.554	7/22/2013 12:00	0.462
7/16/2013 6:30	0.554	7/17/2013 20:00	0.725	7/19/2013 9:30	0.661	7/20/2013 23:00	0.565	7/22/2013 12:30	0.474
7/16/2013 7:00	0.534	7/17/2013 20:30	0.877	7/19/2013 10:00	0.589	7/20/2013 23:30	0.547	7/22/2013 13:00	0.472
7/16/2013 7:30	0.542	7/17/2013 21:00	0.805	7/19/2013 10:30	0.654	7/21/2013 0:00	0.545	7/22/2013 13:30	0.476
7/16/2013 8:00	0.538	7/17/2013 21:30	0.758	7/19/2013 11:00	0.627	7/21/2013 0:30	0.551	7/22/2013 14:00	0.459
7/16/2013 8:30	0.539	7/17/2013 22:00	0.724	7/19/2013 11:30	0.636	7/21/2013 1:00	0.561	7/22/2013 14:30	0.472
7/16/2013 9:00	0.528	7/17/2013 22:30	0.737	7/19/2013 12:00	0.647	7/21/2013 1:30	0.548	7/22/2013 15:00	0.475
7/16/2013 9:30	0.557	7/17/2013 23:00	0.698	7/19/2013 12:30	0.619	7/21/2013 2:00	0.568	7/22/2013 15:30	0.482
7/16/2013 10:00	0.515	7/17/2013 23:30	0.711	7/19/2013 13:00	0.621	7/21/2013 2:30	0.562	7/22/2013 16:00	0.451
7/16/2013 10:30	0.496	7/18/2013 0:00	0.705	7/19/2013 13:30	0.639	7/21/2013 3:00	0.549	7/22/2013 16:30	0.454
7/16/2013 11:00	0.561	7/18/2013 0:30	0.714	7/19/2013 14:00	0.636	7/21/2013 3:30	0.553	7/22/2013 17:00	0.431
7/16/2013 11:30	0.54	7/18/2013 1:00	0.73	7/19/2013 14:30	0.627	7/21/2013 4:00	0.555	7/22/2013 17:30	0.472
7/16/2013 12:00	0.573	7/18/2013 1:30	0.735	7/19/2013 15:00	0.613	7/21/2013 4:30	0.558	7/22/2013 18:00	0.428
7/16/2013 12:30	0.541	7/18/2013 2:00	0.724	7/19/2013 15:30	0.606	7/21/2013 5:00	0.554	7/22/2013 18:30	0.44

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
7/22/2013 19:00	0.472	7/24/2013 8:30	0.381	7/25/2013 22:00	0.371	7/27/2013 11:30	0.232	7/29/2013 1:00	0.227
7/22/2013 19:30	0.465	7/24/2013 9:00	0.379	7/25/2013 22:30	0.393	7/27/2013 12:00	0.241	7/29/2013 1:30	0.227
7/22/2013 20:00	0.479	7/24/2013 9:30	0.383	7/25/2013 23:00	0.364	7/27/2013 12:30	0.248	7/29/2013 2:00	0.231
7/22/2013 20:30	0.483	7/24/2013 10:00	0.372	7/25/2013 23:30	0.368	7/27/2013 13:00	0.27	7/29/2013 2:30	0.23
7/22/2013 21:00	0.494	7/24/2013 10:30	0.383	7/26/2013 0:00	0.352	7/27/2013 13:30	0.25	7/29/2013 3:00	0.231
7/22/2013 21:30	0.48	7/24/2013 11:00	0.389	7/26/2013 0:30	0.344	7/27/2013 14:00	0.264	7/29/2013 3:30	0.219
7/22/2013 22:00	0.473	7/24/2013 11:30	0.423	7/26/2013 1:00	0.351	7/27/2013 14:30	0.265	7/29/2013 4:00	0.206
7/22/2013 22:30	0.461	7/24/2013 12:00	0.419	7/26/2013 1:30	0.347	7/27/2013 15:00	0.232	7/29/2013 4:30	0.232
7/22/2013 23:00	0.457	7/24/2013 12:30	0.388	7/26/2013 2:00	0.335	7/27/2013 15:30	0.255	7/29/2013 5:00	0.218
7/22/2013 23:30	0.446	7/24/2013 13:00	0.379	7/26/2013 2:30	0.347	7/27/2013 16:00	0.26	7/29/2013 5:30	0.218
7/23/2013 0:00	0.458	7/24/2013 13:30	0.392	7/26/2013 3:00	0.339	7/27/2013 16:30	0.249	7/29/2013 6:00	0.216
7/23/2013 0:30	0.453	7/24/2013 14:00	0.363	7/26/2013 3:30	0.353	7/27/2013 17:00	0.252	7/29/2013 6:30	0.239
7/23/2013 1:00	0.449	7/24/2013 14:30	0.381	7/26/2013 4:00	0.342	7/27/2013 17:30	0.256	7/29/2013 7:00	0.211
7/23/2013 1:30	0.441	7/24/2013 15:00	0.385	7/26/2013 4:30	0.336	7/27/2013 18:00	0.236	7/29/2013 7:30	0.24
7/23/2013 2:00	0.425	7/24/2013 15:30	0.382	7/26/2013 5:00	0.345	7/27/2013 18:30	0.25	7/29/2013 8:00	0.206
7/23/2013 2:30	0.424	7/24/2013 16:00	0.394	7/26/2013 5:30	0.36	7/27/2013 19:00	0.254	7/29/2013 8:30	0.202
7/23/2013 3:00	0.445	7/24/2013 16:30	0.385	7/26/2013 6:00	0.359	7/27/2013 19:30	0.257	7/29/2013 9:00	0.196
7/23/2013 3:30	0.425	7/24/2013 17:00	0.375	7/26/2013 6:30	0.364	7/27/2013 20:00	0.245	7/29/2013 9:30	0.188
7/23/2013 4:00	0.426	7/24/2013 17:30	0.356	7/26/2013 7:00	0.35	7/27/2013 20:30	0.261	7/29/2013 10:00	0.196
7/23/2013 4:30	0.429	7/24/2013 18:00	0.347	7/26/2013 7:30	0.365	7/27/2013 21:00	0.243	7/29/2013 10:30	0.205
7/23/2013 5:00	0.433	7/24/2013 18:30	0.37	7/26/2013 8:00	0.344	7/27/2013 21:30	0.27	7/29/2013 11:00	0.181
7/23/2013 5:30	0.423	7/24/2013 19:00	0.384	7/26/2013 8:30	0.341	7/27/2013 22:00	0.254	7/29/2013 11:30	0.195
7/23/2013 6:00	0.42	7/24/2013 19:30	0.358	7/26/2013 9:00	0.357	7/27/2013 22:30	0.255	7/29/2013 12:00	0.192
7/23/2013 6:30	0.43	7/24/2013 20:00	0.373	7/26/2013 9:30	0.339	7/27/2013 23:00	0.247	7/29/2013 12:30	0.202
7/23/2013 7:00	0.427	7/24/2013 20:30	0.372	7/26/2013 10:00	0.349	7/27/2013 23:30	0.239	7/29/2013 13:00	0.203
7/23/2013 7:30	0.421	7/24/2013 21:00	0.382	7/26/2013 10:30	0.35	7/28/2013 0:00	0.228	7/29/2013 13:30	0.208
7/23/2013 8:00	0.421	7/24/2013 21:30	0.425	7/26/2013 11:00	0.378	7/28/2013 0:30	0.231	7/29/2013 14:00	0.214
7/23/2013 8:30	0.411	7/24/2013 22:00	0.42	7/26/2013 11:30	0.359	7/28/2013 1:00	0.248	7/29/2013 14:30	0.183
7/23/2013 9:00	0.417	7/24/2013 22:30	0.449	7/26/2013 12:00	0.364	7/28/2013 1:30	0.232	7/29/2013 15:00	0.198
7/23/2013 9:30	0.445	7/24/2013 23:00	0.443	7/26/2013 12:30	0.364	7/28/2013 2:00	0.227	7/29/2013 15:30	0.204
7/23/2013 10:00	0.416	7/24/2013 23:30	0.401	7/26/2013 13:00	0.36	7/28/2013 2:30	0.207	7/29/2013 16:00	0.184
7/23/2013 10:30	0.422	7/25/2013 0:00	0.388	7/26/2013 13:30	0.375	7/28/2013 3:00	0.212	7/29/2013 16:30	0.209
7/23/2013 11:00	0.413	7/25/2013 0:30	0.393	7/26/2013 14:00	0.344	7/28/2013 3:30	0.213	7/29/2013 17:00	0.195
7/23/2013 11:30	0.437	7/25/2013 1:00	0.374	7/26/2013 14:30	0.215	7/28/2013 4:00	0.217	7/29/2013 17:30	0.2
7/23/2013 12:00	0.426	7/25/2013 1:30	0.374	7/26/2013 15:00	0.218	7/28/2013 4:30	0.222	7/29/2013 18:00	0.217
7/23/2013 12:30	0.448	7/25/2013 2:00	0.362	7/26/2013 15:30	0.317	7/28/2013 5:00	0.229	7/29/2013 18:30	0.199
7/23/2013 13:00	0.421	7/25/2013 2:30	0.362	7/26/2013 16:00	0.289	7/28/2013 5:30	0.233	7/29/2013 19:00	0.208
7/23/2013 13:30	0.428	7/25/2013 3:00	0.341	7/26/2013 16:30	0.321	7/28/2013 6:00	0.229	7/29/2013 19:30	0.208
7/23/2013 14:00	0.427	7/25/2013 3:30	0.352	7/26/2013 17:00	0.321	7/28/2013 6:30	0.236	7/29/2013 20:00	0.195
7/23/2013 14:30	0.432	7/25/2013 4:00	0.338	7/26/2013 17:30	0.321	7/28/2013 7:00	0.216	7/29/2013 20:30	0.179
7/23/2013 15:00	0.429	7/25/2013 4:30	0.354	7/26/2013 18:00	0.321	7/28/2013 7:30	0.215	7/29/2013 21:00	0.174
7/23/2013 15:30	0.431	7/25/2013 5:00	0.36	7/26/2013 18:30	0.311	7/28/2013 8:00	0.219	7/29/2013 21:30	0.171
7/23/2013 16:00	0.409	7/25/2013 5:30	0.354	7/26/2013 19:00	0.294	7/28/2013 8:30	0.22	7/29/2013 22:00	0.155
7/23/2013 16:30	0.412	7/25/2013 6:00	0.361	7/26/2013 19:30	0.313	7/28/2013 9:00	0.24	7/29/2013 22:30	0.145
7/23/2013 17:00	0.402	7/25/2013 6:30	0.366	7/26/2013 20:00	0.314	7/28/2013 9:30	0.226	7/29/2013 23:00	0.143
7/23/2013 17:30	0.398	7/25/2013 7:00	0.358	7/26/2013 20:30	0.312	7/28/2013 10:00	0.224	7/29/2013 23:30	0.136
7/23/2013 18:00	0.411	7/25/2013 7:30	0.349	7/26/2013 21:00	0.281	7/28/2013 10:30	0.226	7/30/2013 0:00	0.141
7/23/2013 18:30	0.416	7/25/2013 8:00	0.339	7/26/2013 21:30	0.276	7/28/2013 11:00	0.239	7/30/2013 0:30	0.138
7/23/2013 19:00	0.406	7/25/2013 8:30	0.348	7/26/2013 22:00	0.286	7/28/2013 11:30	0.232	7/30/2013 1:00	0.111
7/23/2013 19:30	0.41	7/25/2013 9:00	0.345	7/26/2013 22:30	0.288	7/28/2013 12:00	0.224	7/30/2013 1:30	0.124
7/23/2013 20:00	0.431	7/25/2013 9:30	0.341	7/26/2013 23:00	0.272	7/28/2013 12:30	0.214	7/30/2013 2:00	0.107
7/23/2013 20:30	0.447	7/25/2013 10:00	0.347	7/26/2013 23:30	0.268	7/28/2013 13:00	0.198	7/30/2013 2:30	0.12
7/23/2013 21:00	0.425	7/25/2013 10:30	0.366	7/27/2013 0:00	0.257	7/28/2013 13:30	0.246	7/30/2013 3:00	0.096
7/23/2013 21:30	0.438	7/25/2013 11:00	0.355	7/27/2013 0:30	0.268	7/28/2013 14:00	0.231	7/30/2013 3:30	0.116
7/23/2013 22:00	0.446	7/25/2013 11:30	0.355	7/27/2013 1:00	0.247	7/28/2013 14:30	0.242	7/30/2013 4:00	0.071
7/23/2013 22:30	0.424	7/25/2013 12:00	0.353	7/27/2013 1:30	0.242	7/28/2013 15:00	0.244	7/30/2013 4:30	0.083
7/23/2013 23:00	0.409	7/25/2013 12:30	0.372	7/27/2013 2:00	0.249	7/28/2013 15:30	0.248	7/30/2013 5:00	0.078
7/23/2013 23:30	0.401	7/25/2013 13:00	0.366	7/27/2013 2:30	0.256	7/28/2013 16:00	0.261	7/30/2013 5:30	0.117
7/24/2013 0:00	0.391	7/25/2013 13:30	0.363	7/27/2013 3:00	0.261	7/28/2013 16:30	0.233	7/30/2013 6:00	0.137
7/24/2013 0:30	0.396	7/25/2013 14:00	0.362	7/27/2013 3:30	0.261	7/28/2013 17:00	0.249	7/30/2013 6:30	0.125
7/24/2013 1:00	0.414	7/25/2013 14:30	0.375	7/27/2013 4:00	0.258	7/28/2013 17:30	0.257	7/30/2013 7:00	0.14
7/24/2013 1:30	0.383	7/25/2013 15:00	0.386	7/27/2013 4:30	0.269	7/28/2013 18:00	0.272	7/30/2013 7:30	0.121
7/24/2013 2:00	0.393	7/25/2013 15:30	0.38	7/27/2013 5:00	0.288	7/28/2013 18:30	0.277	7/30/2013 8:00	0.131
7/24/2013 2:30	0.396	7/25/2013 16:00	0.381	7/27/2013 5:30	0.291	7/28/2013 19:00	0.239	7/30/2013 8:30	0.129
7/24/2013 3:00	0.372	7/25/2013 16:30	0.376	7/27/2013 6:00	0.29	7/28/2013 19:30	0.252	7/30/2013 9:00	0.149
7/24/2013 3:30	0.383	7/25/2013 17:00	0.375	7/27/2013 6:30	0.271	7/28/2013 20:00	0.259	7/30/2013 9:30	0.135
7/24/2013 4:00	0.398	7/25/2013 17:30	0.354	7/27/2013 7:00	0.279	7/28/2013 20:30	0.252	7/30/2013 10:00	0.116
7/24/2013 4:30	0.392	7/25/2013 18:00	0.362	7/27/2013 7:30	0.27	7/28/2013 21:00	0.244	7/30/2013 10:30	0.131
7/24/2013 5:00	0.409	7/25/2013 18:30	0.365	7/27/2013 8:00	0.246	7/28/2013 21:30	0.249	7/30/2013 11:00	0.149
7/24/2013 5:30	0.402	7/25/2013 19:00	0.356	7/27/2013 8:30	0.255	7/28/2013 22:00	0.232	7/30/2013 11:30	0.144
7/24/2013 6:00	0.401	7/25/2013 19:30	0.365	7/27/2013 9:00	0.224	7/28/2013 22:30	0.232	7/30/2013 12:00	0.153
7/24/2013 6:30	0.421	7/25/2013 20:00	0.373	7/27/2013 9:30	0.255	7/28/2013 23:00	0.231	7/30/2013 12:30	0.146
7/24/2013 7:00	0.388	7/25/2013 20:30	0.383	7/27/2013 10:00	0.239	7/28/2013 23:30	0.237	7/30/2013 13:00	0.148
7/24/2013 7:30	0.383	7/25/2013 21:00	0.407	7/27/2013 10:30	0.262	7/29/2013 0:00	0.243	7/30/2013 13:30	0.166
7/24/2013 8:00	0.38	7/25/2013 21:30	0.392	7/27/2013 11:00	0.247	7/29/2013 0:30	0.232	7/30/2013 14:00	0.165

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
7/30/2013 14:30	0.184	8/1/2013 4:00	0.179	8/2/2013 17:30	0.509	8/4/2013 7:00	0.37	8/5/2013 20:30	0.3
7/30/2013 15:00	0.189	8/1/2013 4:30	0.192	8/2/2013 18:00	0.497	8/4/2013 7:30	0.368	8/5/2013 21:00	0.299
7/30/2013 15:30	0.179	8/1/2013 5:00	0.19	8/2/2013 18:30	0.49	8/4/2013 8:00	0.355	8/5/2013 21:30	0.328
7/30/2013 16:00	0.18	8/1/2013 5:30	0.183	8/2/2013 19:00	0.489	8/4/2013 8:30	0.368	8/5/2013 22:00	0.365
7/30/2013 16:30	0.179	8/1/2013 6:00	0.185	8/2/2013 19:30	0.506	8/4/2013 9:00	0.358	8/5/2013 22:30	0.353
7/30/2013 17:00	0.178	8/1/2013 6:30	0.187	8/2/2013 20:00	0.491	8/4/2013 9:30	0.347	8/5/2013 23:00	0.345
7/30/2013 17:30	0.199	8/1/2013 7:00	0.185	8/2/2013 20:30	0.492	8/4/2013 10:00	0.362	8/5/2013 23:30	0.331
7/30/2013 18:00	0.183	8/1/2013 7:30	0.182	8/2/2013 21:00	0.504	8/4/2013 10:30	0.365	8/6/2013 0:00	0.312
7/30/2013 18:30	0.177	8/1/2013 8:00	0.194	8/2/2013 21:30	0.508	8/4/2013 11:00	0.372	8/6/2013 0:30	0.298
7/30/2013 19:00	0.177	8/1/2013 8:30	0.19	8/2/2013 22:00	0.503	8/4/2013 11:30	0.37	8/6/2013 1:00	0.286
7/30/2013 19:30	0.185	8/1/2013 9:00	0.193	8/2/2013 22:30	0.503	8/4/2013 12:00	0.388	8/6/2013 1:30	0.296
7/30/2013 20:00	0.203	8/1/2013 9:30	0.184	8/2/2013 23:00	0.513	8/4/2013 12:30	0.382	8/6/2013 2:00	0.276
7/30/2013 20:30	0.197	8/1/2013 10:00	0.186	8/2/2013 23:30	0.529	8/4/2013 13:00	0.384	8/6/2013 2:30	0.266
7/30/2013 21:00	0.188	8/1/2013 10:30	0.2	8/3/2013 0:00	0.523	8/4/2013 13:30	0.37	8/6/2013 3:00	0.268
7/30/2013 21:30	0.19	8/1/2013 11:00	0.192	8/3/2013 0:30	0.511	8/4/2013 14:00	0.399	8/6/2013 3:30	0.242
7/30/2013 22:00	0.19	8/1/2013 11:30	0.193	8/3/2013 1:00	0.496	8/4/2013 14:30	0.384	8/6/2013 4:00	0.241
7/30/2013 22:30	0.204	8/1/2013 12:00	0.214	8/3/2013 1:30	0.491	8/4/2013 15:00	0.369	8/6/2013 4:30	0.25
7/30/2013 23:00	0.206	8/1/2013 12:30	0.23	8/3/2013 2:00	0.486	8/4/2013 15:30	0.391	8/6/2013 5:00	0.24
7/30/2013 23:30	0.207	8/1/2013 13:00	0.229	8/3/2013 2:30	0.503	8/4/2013 16:00	0.37	8/6/2013 5:30	0.266
7/31/2013 0:00	0.201	8/1/2013 13:30	0.213	8/3/2013 3:00	0.484	8/4/2013 16:30	0.384	8/6/2013 6:00	0.241
7/31/2013 0:30	0.196	8/1/2013 14:00	0.211	8/3/2013 3:30	0.496	8/4/2013 17:00	0.37	8/6/2013 6:30	0.253
7/31/2013 1:00	0.19	8/1/2013 14:30	0.219	8/3/2013 4:00	0.492	8/4/2013 17:30	0.374	8/6/2013 7:00	0.257
7/31/2013 1:30	0.206	8/1/2013 15:00	0.217	8/3/2013 4:30	0.501	8/4/2013 18:00	0.399	8/6/2013 7:30	0.245
7/31/2013 2:00	0.203	8/1/2013 15:30	0.219	8/3/2013 5:00	0.499	8/4/2013 18:30	0.369	8/6/2013 8:00	0.261
7/31/2013 2:30	0.189	8/1/2013 16:00	0.219	8/3/2013 5:30	0.503	8/4/2013 19:00	0.369	8/6/2013 8:30	0.248
7/31/2013 3:00	0.202	8/1/2013 16:30	0.256	8/3/2013 6:00	0.497	8/4/2013 19:30	0.367	8/6/2013 9:00	0.257
7/31/2013 3:30	0.201	8/1/2013 17:00	0.303	8/3/2013 6:30	0.489	8/4/2013 20:00	0.372	8/6/2013 9:30	0.24
7/31/2013 4:00	0.205	8/1/2013 17:30	0.304	8/3/2013 7:00	0.488	8/4/2013 20:30	0.376	8/6/2013 10:00	0.253
7/31/2013 4:30	0.209	8/1/2013 18:00	0.332	8/3/2013 7:30	0.491	8/4/2013 21:00	0.355	8/6/2013 10:30	0.265
7/31/2013 5:00	0.217	8/1/2013 18:30	0.341	8/3/2013 8:00	0.471	8/4/2013 21:30	0.381	8/6/2013 11:00	0.255
7/31/2013 5:30	0.21	8/1/2013 19:00	0.329	8/3/2013 8:30	0.483	8/4/2013 22:00	0.362	8/6/2013 11:30	0.272
7/31/2013 6:00	0.212	8/1/2013 19:30	0.339	8/3/2013 9:00	0.492	8/4/2013 22:30	0.373	8/6/2013 12:00	0.292
7/31/2013 6:30	0.215	8/1/2013 20:00	0.341	8/3/2013 9:30	0.489	8/4/2013 23:00	0.349	8/6/2013 12:30	0.271
7/31/2013 7:00	0.223	8/1/2013 20:30	0.33	8/3/2013 10:00	0.477	8/4/2013 23:30	0.363	8/6/2013 13:00	0.271
7/31/2013 7:30	0.225	8/1/2013 21:00	0.329	8/3/2013 10:30	0.473	8/5/2013 0:00	0.351	8/6/2013 13:30	0.253
7/31/2013 8:00	0.223	8/1/2013 21:30	0.348	8/3/2013 11:00	0.492	8/5/2013 0:30	0.338	8/6/2013 14:00	0.253
7/31/2013 8:30	0.239	8/1/2013 22:00	0.358	8/3/2013 11:30	0.504	8/5/2013 1:00	0.337	8/6/2013 14:30	0.252
7/31/2013 9:00	0.241	8/1/2013 22:30	0.345	8/3/2013 12:00	0.486	8/5/2013 1:30	0.346	8/6/2013 15:00	0.251
7/31/2013 9:30	0.249	8/1/2013 23:00	0.371	8/3/2013 12:30	0.473	8/5/2013 2:00	0.324	8/6/2013 15:30	0.263
7/31/2013 10:00	0.248	8/1/2013 23:30	0.369	8/3/2013 13:00	0.481	8/5/2013 2:30	0.321	8/6/2013 16:00	0.244
7/31/2013 10:30	0.25	8/2/2013 0:00	0.396	8/3/2013 13:30	0.461	8/5/2013 3:00	0.339	8/6/2013 16:30	0.248
7/31/2013 11:00	0.245	8/2/2013 0:30	0.378	8/3/2013 14:00	0.456	8/5/2013 3:30	0.321	8/6/2013 17:00	0.268
7/31/2013 11:30	0.24	8/2/2013 1:00	0.412	8/3/2013 14:30	0.484	8/5/2013 4:00	0.311	8/6/2013 17:30	0.264
7/31/2013 12:00	0.237	8/2/2013 1:30	0.431	8/3/2013 15:00	0.482	8/5/2013 4:30	0.304	8/6/2013 18:00	0.268
7/31/2013 12:30	0.265	8/2/2013 2:00	0.436	8/3/2013 15:30	0.474	8/5/2013 5:00	0.299	8/6/2013 18:30	0.244
7/31/2013 13:00	0.272	8/2/2013 2:30	0.44	8/3/2013 16:00	0.474	8/5/2013 5:30	0.3	8/6/2013 19:00	0.242
7/31/2013 13:30	0.257	8/2/2013 3:00	0.429	8/3/2013 16:30	0.461	8/5/2013 6:00	0.285	8/6/2013 19:30	0.266
7/31/2013 14:00	0.245	8/2/2013 3:30	0.453	8/3/2013 17:00	0.445	8/5/2013 6:30	0.299	8/6/2013 20:00	0.244
7/31/2013 14:30	0.254	8/2/2013 4:00	0.457	8/3/2013 17:30	0.444	8/5/2013 7:00	0.281	8/6/2013 20:30	0.241
7/31/2013 15:00	0.238	8/2/2013 4:30	0.47	8/3/2013 18:00	0.453	8/5/2013 7:30	0.289	8/6/2013 21:00	0.242
7/31/2013 15:30	0.254	8/2/2013 5:00	0.469	8/3/2013 18:30	0.448	8/5/2013 8:00	0.302	8/6/2013 21:30	0.218
7/31/2013 16:00	0.251	8/2/2013 5:30	0.464	8/3/2013 19:00	0.454	8/5/2013 8:30	0.303	8/6/2013 22:00	0.226
7/31/2013 16:30	0.24	8/2/2013 6:00	0.48	8/3/2013 19:30	0.434	8/5/2013 9:00	0.301	8/6/2013 22:30	0.203
7/31/2013 17:00	0.263	8/2/2013 6:30	0.489	8/3/2013 20:00	0.452	8/5/2013 9:30	0.294	8/6/2013 23:00	0.196
7/31/2013 17:30	0.248	8/2/2013 7:00	0.477	8/3/2013 20:30	0.446	8/5/2013 10:00	0.307	8/6/2013 23:30	0.181
7/31/2013 18:00	0.259	8/2/2013 7:30	0.465	8/3/2013 21:00	0.458	8/5/2013 10:30	0.294	8/7/2013 0:00	0.159
7/31/2013 18:30	0.257	8/2/2013 8:00	0.453	8/3/2013 21:30	0.431	8/5/2013 11:00	0.328	8/7/2013 0:30	0.154
7/31/2013 19:00	0.247	8/2/2013 8:30	0.475	8/3/2013 22:00	0.43	8/5/2013 11:30	0.312	8/7/2013 1:00	0.157
7/31/2013 19:30	0.261	8/2/2013 9:00	0.476	8/3/2013 22:30	0.421	8/5/2013 12:00	0.326	8/7/2013 1:30	0.169
7/31/2013 20:00	0.236	8/2/2013 9:30	0.482	8/3/2013 23:00	0.427	8/5/2013 12:30	0.311	8/7/2013 2:00	0.147
7/31/2013 20:30	0.231	8/2/2013 10:00	0.471	8/3/2013 23:30	0.408	8/5/2013 13:00	0.316	8/7/2013 2:30	0.154
7/31/2013 21:00	0.229	8/2/2013 10:30	0.476	8/4/2013 0:00	0.407	8/5/2013 13:30	0.348	8/7/2013 3:00	0.153
7/31/2013 21:30	0.243	8/2/2013 11:00	0.477	8/4/2013 0:30	0.409	8/5/2013 14:00	0.338	8/7/2013 3:30	0.151
7/31/2013 22:00	0.223	8/2/2013 11:30	0.492	8/4/2013 1:00	0.39	8/5/2013 14:30	0.319	8/7/2013 4:00	0.148
7/31/2013 22:30	0.24	8/2/2013 12:00	0.501	8/4/2013 1:30	0.396	8/5/2013 15:00	0.32	8/7/2013 4:30	0.146
7/31/2013 23:00	0.228	8/2/2013 12:30	0.493	8/4/2013 2:00	0.396	8/5/2013 15:30	0.325	8/7/2013 5:00	0.148
7/31/2013 23:30	0.211	8/2/2013 13:00	0.464	8/4/2013 2:30	0.369	8/5/2013 16:00	0.305	8/7/2013 5:30	0.149
8/1/2013 0:00	0.203	8/2/2013 13:30	0.486	8/4/2013 3:00	0.379	8/5/2013 16:30	0.33	8/7/2013 6:00	0.134
8/1/2013 0:30	0.2	8/2/2013 14:00	0.481	8/4/2013 3:30	0.378	8/5/2013 17:00	0.331	8/7/2013 6:30	0.11
8/1/2013 1:00	0.188	8/2/2013 14:30	0.483	8/4/2013 4:00	0.379	8/5/2013 17:30	0.339	8/7/2013 7:00	0.165
8/1/2013 1:30	0.185	8/2/2013 15:00	0.486	8/4/2013 4:30	0.367	8/5/2013 18:00	0.3	8/7/2013 7:30	0.168
8/1/2013 2:00	0.202	8/2/2013 15:30	0.497	8/4/2013 5:00	0.379	8/5/2013 18:30	0.309	8/7/2013 8:00	0.191
8/1/2013 2:30	0.196	8/2/2013 16:00	0.502	8/4/2013 5:30	0.382	8/5/2013 19:00	0.306	8/7/2013 8:30	0.209
8/1/2013 3:00	0.205	8/2/2013 16:30	0.508	8/4/2013 6:00	0.363	8/5/2013 19:30	0.317	8/7/2013 9:00	0.18
8/1/2013 3:30	0.179	8/2/2013 17:00	0.503	8/4/2013 6:30	0.371	8/5/2013 20:00	0.307	8/7/2013 9:30	0.181

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
8/7/2013 10:00	0.154	8/8/2013 23:30	0.192	8/10/2013 13:00	0.307	8/12/2013 2:30	0.263	8/13/2013 16:00	0.271
8/7/2013 10:30	0.152	8/9/2013 0:00	0.178	8/10/2013 13:30	0.306	8/12/2013 3:00	0.246	8/13/2013 16:30	0.261
8/7/2013 11:00	0.158	8/9/2013 0:30	0.187	8/10/2013 14:00	0.278	8/12/2013 3:30	0.23	8/13/2013 17:00	0.265
8/7/2013 11:30	0.16	8/9/2013 1:00	0.187	8/10/2013 14:30	0.285	8/12/2013 4:00	0.261	8/13/2013 17:30	0.254
8/7/2013 12:00	0.144	8/9/2013 1:30	0.18	8/10/2013 15:00	0.292	8/12/2013 4:30	0.235	8/13/2013 18:00	0.253
8/7/2013 12:30	0.166	8/9/2013 2:00	0.173	8/10/2013 15:30	0.29	8/12/2013 5:00	0.238	8/13/2013 18:30	0.241
8/7/2013 13:00	0.134	8/9/2013 2:30	0.17	8/10/2013 16:00	0.335	8/12/2013 5:30	0.247	8/13/2013 19:00	0.234
8/7/2013 13:30	0.161	8/9/2013 3:00	0.179	8/10/2013 16:30	0.295	8/12/2013 6:00	0.247	8/13/2013 19:30	0.236
8/7/2013 14:00	0.148	8/9/2013 3:30	0.161	8/10/2013 17:00	0.318	8/12/2013 6:30	0.251	8/13/2013 20:00	0.24
8/7/2013 14:30	0.173	8/9/2013 4:00	0.173	8/10/2013 17:30	0.331	8/12/2013 7:00	0.244	8/13/2013 20:30	0.229
8/7/2013 15:00	0.146	8/9/2013 4:30	0.163	8/10/2013 18:00	0.321	8/12/2013 7:30	0.234	8/13/2013 21:00	0.231
8/7/2013 15:30	0.16	8/9/2013 5:00	0.165	8/10/2013 18:30	0.326	8/12/2013 8:00	0.262	8/13/2013 21:30	0.241
8/7/2013 16:00	0.155	8/9/2013 5:30	0.156	8/10/2013 19:00	0.303	8/12/2013 8:30	0.261	8/13/2013 22:00	0.224
8/7/2013 16:30	0.158	8/9/2013 6:00	0.148	8/10/2013 19:30	0.305	8/12/2013 9:00	0.25	8/13/2013 22:30	0.232
8/7/2013 17:00	0.179	8/9/2013 6:30	0.157	8/10/2013 20:00	0.303	8/12/2013 9:30	0.247	8/13/2013 23:00	0.222
8/7/2013 17:30	0.201	8/9/2013 7:00	0.158	8/10/2013 20:30	0.307	8/12/2013 10:00	0.234	8/13/2013 23:30	0.233
8/7/2013 18:00	0.202	8/9/2013 7:30	0.159	8/10/2013 21:00	0.295	8/12/2013 10:30	0.229	8/14/2013 0:00	0.25
8/7/2013 18:30	0.216	8/9/2013 8:00	0.139	8/10/2013 21:30	0.29	8/12/2013 11:00	0.243	8/14/2013 0:30	0.292
8/7/2013 19:00	0.186	8/9/2013 8:30	0.156	8/10/2013 22:00	0.296	8/12/2013 11:30	0.233	8/14/2013 1:00	0.346
8/7/2013 19:30	0.208	8/9/2013 9:00	0.171	8/10/2013 22:30	0.296	8/12/2013 12:00	0.263	8/14/2013 1:30	0.359
8/7/2013 20:00	0.21	8/9/2013 9:30	0.168	8/10/2013 23:00	0.284	8/12/2013 12:30	0.274	8/14/2013 2:00	0.389
8/7/2013 20:30	0.217	8/9/2013 10:00	0.174	8/10/2013 23:30	0.282	8/12/2013 13:00	0.253	8/14/2013 2:30	0.419
8/7/2013 21:00	0.192	8/9/2013 10:30	0.193	8/11/2013 0:00	0.299	8/12/2013 13:30	0.249	8/14/2013 3:00	0.408
8/7/2013 21:30	0.183	8/9/2013 11:00	0.185	8/11/2013 0:30	0.299	8/12/2013 14:00	0.214	8/14/2013 3:30	0.406
8/7/2013 22:00	0.175	8/9/2013 11:30	0.179	8/11/2013 1:00	0.307	8/12/2013 14:30	0.249	8/14/2013 4:00	0.425
8/7/2013 22:30	0.167	8/9/2013 12:00	0.206	8/11/2013 1:30	0.297	8/12/2013 15:00	0.235	8/14/2013 4:30	0.425
8/7/2013 23:00	0.161	8/9/2013 12:30	0.204	8/11/2013 2:00	0.292	8/12/2013 15:30	0.255	8/14/2013 5:00	0.434
8/7/2013 23:30	0.163	8/9/2013 13:00	0.209	8/11/2013 2:30	0.275	8/12/2013 16:00	0.27	8/14/2013 5:30	0.432
8/8/2013 0:00	0.158	8/9/2013 13:30	0.18	8/11/2013 3:00	0.281	8/12/2013 16:30	0.263	8/14/2013 6:00	0.423
8/8/2013 0:30	0.146	8/9/2013 14:00	0.212	8/11/2013 3:30	0.281	8/12/2013 17:00	0.268	8/14/2013 6:30	0.416
8/8/2013 1:00	0.149	8/9/2013 14:30	0.227	8/11/2013 4:00	0.286	8/12/2013 17:30	0.256	8/14/2013 7:00	0.423
8/8/2013 1:30	0.167	8/9/2013 15:00	0.201	8/11/2013 4:30	0.307	8/12/2013 18:00	0.258	8/14/2013 7:30	0.447
8/8/2013 2:00	0.136	8/9/2013 15:30	0.219	8/11/2013 5:00	0.277	8/12/2013 18:30	0.245	8/14/2013 8:00	0.414
8/8/2013 2:30	0.152	8/9/2013 16:00	0.206	8/11/2013 5:30	0.288	8/12/2013 19:00	0.266	8/14/2013 8:30	0.412
8/8/2013 3:00	0.174	8/9/2013 16:30	0.205	8/11/2013 6:00	0.303	8/12/2013 19:30	0.255	8/14/2013 9:00	0.415
8/8/2013 3:30	0.175	8/9/2013 17:00	0.221	8/11/2013 6:30	0.287	8/12/2013 20:00	0.259	8/14/2013 9:30	0.425
8/8/2013 4:00	0.174	8/9/2013 17:30	0.245	8/11/2013 7:00	0.292	8/12/2013 20:30	0.25	8/14/2013 10:00	0.41
8/8/2013 4:30	0.181	8/9/2013 18:00	0.205	8/11/2013 7:30	0.298	8/12/2013 21:00	0.23	8/14/2013 10:30	0.422
8/8/2013 5:00	0.186	8/9/2013 18:30	0.216	8/11/2013 8:00	0.308	8/12/2013 21:30	0.237	8/14/2013 11:00	0.42
8/8/2013 5:30	0.178	8/9/2013 19:00	0.205	8/11/2013 8:30	0.29	8/12/2013 22:00	0.22	8/14/2013 11:30	0.407
8/8/2013 6:00	0.192	8/9/2013 19:30	0.214	8/11/2013 9:00	0.296	8/12/2013 22:30	0.227	8/14/2013 12:00	0.43
8/8/2013 6:30	0.198	8/9/2013 20:00	0.231	8/11/2013 9:30	0.274	8/12/2013 23:00	0.236	8/14/2013 12:30	0.405
8/8/2013 7:00	0.198	8/9/2013 20:30	0.222	8/11/2013 10:00	0.291	8/12/2013 23:30	0.246	8/14/2013 13:00	0.416
8/8/2013 7:30	0.216	8/9/2013 21:00	0.227	8/11/2013 10:30	0.285	8/13/2013 0:00	0.24	8/14/2013 13:30	0.421
8/8/2013 8:00	0.217	8/9/2013 21:30	0.229	8/11/2013 11:00	0.285	8/13/2013 0:30	0.252	8/14/2013 14:00	0.427
8/8/2013 8:30	0.231	8/9/2013 22:00	0.219	8/11/2013 11:30	0.292	8/13/2013 1:00	0.249	8/14/2013 14:30	0.406
8/8/2013 9:00	0.226	8/9/2013 22:30	0.22	8/11/2013 12:00	0.308	8/13/2013 1:30	0.246	8/14/2013 15:00	0.414
8/8/2013 9:30	0.224	8/9/2013 23:00	0.232	8/11/2013 12:30	0.285	8/13/2013 2:00	0.234	8/14/2013 15:30	0.412
8/8/2013 10:00	0.222	8/9/2013 23:30	0.22	8/11/2013 13:00	0.31	8/13/2013 2:30	0.234	8/14/2013 16:00	0.396
8/8/2013 10:30	0.217	8/10/2013 0:00	0.211	8/11/2013 13:30	0.278	8/13/2013 3:00	0.241	8/14/2013 16:30	0.406
8/8/2013 11:00	0.241	8/10/2013 0:30	0.218	8/11/2013 14:00	0.322	8/13/2013 3:30	0.239	8/14/2013 17:00	0.405
8/8/2013 11:30	0.24	8/10/2013 1:00	0.199	8/11/2013 14:30	0.319	8/13/2013 4:00	0.238	8/14/2013 17:30	0.397
8/8/2013 12:00	0.234	8/10/2013 1:30	0.202	8/11/2013 15:00	0.256	8/13/2013 4:30	0.235	8/14/2013 18:00	0.396
8/8/2013 12:30	0.253	8/10/2013 2:00	0.222	8/11/2013 15:30	0.287	8/13/2013 5:00	0.245	8/14/2013 18:30	0.387
8/8/2013 13:00	0.258	8/10/2013 2:30	0.245	8/11/2013 16:00	0.303	8/13/2013 5:30	0.256	8/14/2013 19:00	0.399
8/8/2013 13:30	0.242	8/10/2013 3:00	0.238	8/11/2013 16:30	0.291	8/13/2013 6:00	0.262	8/14/2013 19:30	0.413
8/8/2013 14:00	0.242	8/10/2013 3:30	0.247	8/11/2013 17:00	0.278	8/13/2013 6:30	0.257	8/14/2013 20:00	0.372
8/8/2013 14:30	0.222	8/10/2013 4:00	0.253	8/11/2013 17:30	0.308	8/13/2013 7:00	0.282	8/14/2013 20:30	0.374
8/8/2013 15:00	0.236	8/10/2013 4:30	0.253	8/11/2013 18:00	0.309	8/13/2013 7:30	0.261	8/14/2013 21:00	0.386
8/8/2013 15:30	0.225	8/10/2013 5:00	0.272	8/11/2013 18:30	0.298	8/13/2013 8:00	0.268	8/14/2013 21:30	0.399
8/8/2013 16:00	0.237	8/10/2013 5:30	0.305	8/11/2013 19:00	0.305	8/13/2013 8:30	0.27	8/14/2013 22:00	0.418
8/8/2013 16:30	0.243	8/10/2013 6:00	0.303	8/11/2013 19:30	0.304	8/13/2013 9:00	0.276	8/14/2013 22:30	0.423
8/8/2013 17:00	0.25	8/10/2013 6:30	0.3	8/11/2013 20:00	0.286	8/13/2013 9:30	0.274	8/14/2013 23:00	0.449
8/8/2013 17:30	0.251	8/10/2013 7:00	0.309	8/11/2013 20:30	0.277	8/13/2013 10:00	0.261	8/14/2013 23:30	0.424
8/8/2013 18:00	0.223	8/10/2013 7:30	0.328	8/11/2013 21:00	0.297	8/13/2013 10:30	0.247	8/15/2013 0:00	0.436
8/8/2013 18:30	0.214	8/10/2013 8:00	0.323	8/11/2013 21:30	0.285	8/13/2013 11:00	0.255	8/15/2013 0:30	0.428
8/8/2013 19:00	0.212	8/10/2013 8:30	0.324	8/11/2013 22:00	0.288	8/13/2013 11:30	0.254	8/15/2013 1:00	0.409
8/8/2013 19:30	0.227	8/10/2013 9:00	0.319	8/11/2013 22:30	0.275	8/13/2013 12:00	0.276	8/15/2013 1:30	0.416
8/8/2013 20:00	0.222	8/10/2013 9:30	0.315	8/11/2013 23:00	0.271	8/13/2013 12:30	0.264	8/15/2013 2:00	0.417
8/8/2013 20:30	0.214	8/10/2013 10:00	0.333	8/11/2013 23:30	0.279	8/13/2013 13:00	0.248	8/15/2013 2:30	0.403
8/8/2013 21:00	0.22	8/10/2013 10:30	0.315	8/12/2013 0:00	0.25	8/13/2013 13:30	0.27	8/15/2013 3:00	0.397
8/8/2013 21:30	0.206	8/10/2013 11:00	0.328	8/12/2013 0:30	0.251	8/13/2013 14:00	0.28	8/15/2013 3:30	0.413
8/8/2013 22:00	0.201	8/10/2013 11:30	0.321	8/12/2013 1:00	0.249	8/13/2013 14:30	0.272	8/15/2013 4:00	0.419
8/8/2013 22:30	0.198	8/10/2013 12:00	0.312	8/12/2013 1:30	0.254	8/13/2013 15:00	0.285	8/15/2013 4:30	0.42
8/8/2013 23:00	0.188	8/10/2013 12:30	0.307	8/12/2013 2:00	0.264	8/13/2013 15:30	0.279	8/15/2013 5:00	0.405

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
8/15/2013 5:30	0.415	8/16/2013 19:00	0.391	8/18/2013 8:30	0.314	8/19/2013 22:00	0.273	8/21/2013 11:30	0.178
8/15/2013 6:00	0.401	8/16/2013 19:30	0.386	8/18/2013 9:00	0.305	8/19/2013 22:30	0.265	8/21/2013 12:00	0.194
8/15/2013 6:30	0.411	8/16/2013 20:00	0.361	8/18/2013 9:30	0.287	8/19/2013 23:00	0.266	8/21/2013 12:30	0.186
8/15/2013 7:00	0.412	8/16/2013 20:30	0.351	8/18/2013 10:00	0.374	8/19/2013 23:30	0.246	8/21/2013 13:00	0.184
8/15/2013 7:30	0.398	8/16/2013 21:00	0.366	8/18/2013 10:30	0.34	8/20/2013 0:00	0.231	8/21/2013 13:30	0.245
8/15/2013 8:00	0.41	8/16/2013 21:30	0.369	8/18/2013 11:00	0.332	8/20/2013 0:30	0.244	8/21/2013 14:00	0.218
8/15/2013 8:30	0.41	8/16/2013 22:00	0.361	8/18/2013 11:30	0.356	8/20/2013 1:00	0.217	8/21/2013 14:30	0.196
8/15/2013 9:00	0.42	8/16/2013 22:30	0.363	8/18/2013 12:00	0.366	8/20/2013 1:30	0.215	8/21/2013 15:00	0.227
8/15/2013 9:30	0.398	8/16/2013 23:00	0.347	8/18/2013 12:30	0.371	8/20/2013 2:00	0.218	8/21/2013 15:30	0.219
8/15/2013 10:00	0.365	8/16/2013 23:30	0.351	8/18/2013 13:00	0.299	8/20/2013 2:30	0.221	8/21/2013 16:00	0.203
8/15/2013 10:30	0.437	8/17/2013 0:00	0.346	8/18/2013 13:30	0.34	8/20/2013 3:00	0.192	8/21/2013 16:30	0.238
8/15/2013 11:00	0.407	8/17/2013 0:30	0.345	8/18/2013 14:00	0.351	8/20/2013 3:30	0.206	8/21/2013 17:00	0.239
8/15/2013 11:30	0.439	8/17/2013 1:00	0.348	8/18/2013 14:30	0.331	8/20/2013 4:00	0.22	8/21/2013 17:30	0.232
8/15/2013 12:00	0.434	8/17/2013 1:30	0.34	8/18/2013 15:00	0.303	8/20/2013 4:30	0.202	8/21/2013 18:00	0.212
8/15/2013 12:30	0.424	8/17/2013 2:00	0.351	8/18/2013 15:30	0.308	8/20/2013 5:00	0.21	8/21/2013 18:30	0.23
8/15/2013 13:00	0.421	8/17/2013 2:30	0.324	8/18/2013 16:00	0.314	8/20/2013 5:30	0.214	8/21/2013 19:00	0.232
8/15/2013 13:30	0.41	8/17/2013 3:00	0.337	8/18/2013 16:30	0.336	8/20/2013 6:00	0.218	8/21/2013 19:30	0.23
8/15/2013 14:00	0.406	8/17/2013 3:30	0.338	8/18/2013 17:00	0.316	8/20/2013 6:30	0.226	8/21/2013 20:00	0.234
8/15/2013 14:30	0.403	8/17/2013 4:00	0.334	8/18/2013 17:30	0.33	8/20/2013 7:00	0.219	8/21/2013 20:30	0.252
8/15/2013 15:00	0.394	8/17/2013 4:30	0.352	8/18/2013 18:00	0.338	8/20/2013 7:30	0.217	8/21/2013 21:00	0.245
8/15/2013 15:30	0.402	8/17/2013 5:00	0.341	8/18/2013 18:30	0.298	8/20/2013 8:00	0.229	8/21/2013 21:30	0.24
8/15/2013 16:00	0.393	8/17/2013 5:30	0.354	8/18/2013 19:00	0.304	8/20/2013 8:30	0.217	8/21/2013 22:00	0.231
8/15/2013 16:30	0.399	8/17/2013 6:00	0.352	8/18/2013 19:30	0.299	8/20/2013 9:00	0.23	8/21/2013 22:30	0.238
8/15/2013 17:00	0.394	8/17/2013 6:30	0.345	8/18/2013 20:00	0.311	8/20/2013 9:30	0.25	8/21/2013 23:00	0.216
8/15/2013 17:30	0.388	8/17/2013 7:00	0.363	8/18/2013 20:30	0.302	8/20/2013 10:00	0.24	8/21/2013 23:30	0.225
8/15/2013 18:00	0.414	8/17/2013 7:30	0.345	8/18/2013 21:00	0.316	8/20/2013 10:30	0.215	8/22/2013 0:00	0.223
8/15/2013 18:30	0.403	8/17/2013 8:00	0.361	8/18/2013 21:30	0.315	8/20/2013 11:00	0.234	8/22/2013 0:30	0.23
8/15/2013 19:00	0.39	8/17/2013 8:30	0.354	8/18/2013 22:00	0.304	8/20/2013 11:30	0.239	8/22/2013 1:00	0.203
8/15/2013 19:30	0.39	8/17/2013 9:00	0.352	8/18/2013 22:30	0.292	8/20/2013 12:00	0.234	8/22/2013 1:30	0.212
8/15/2013 20:00	0.408	8/17/2013 9:30	0.366	8/18/2013 23:00	0.309	8/20/2013 12:30	0.264	8/22/2013 2:00	0.201
8/15/2013 20:30	0.372	8/17/2013 10:00	0.354	8/18/2013 23:30	0.287	8/20/2013 13:00	0.275	8/22/2013 2:30	0.205
8/15/2013 21:00	0.387	8/17/2013 10:30	0.391	8/19/2013 0:00	0.293	8/20/2013 13:30	0.225	8/22/2013 3:00	0.195
8/15/2013 21:30	0.38	8/17/2013 11:00	0.361	8/19/2013 0:30	0.284	8/20/2013 14:00	0.239	8/22/2013 3:30	0.213
8/15/2013 22:00	0.372	8/17/2013 11:30	0.37	8/19/2013 1:00	0.273	8/20/2013 14:30	0.239	8/22/2013 4:00	0.209
8/15/2013 22:30	0.383	8/17/2013 12:00	0.38	8/19/2013 1:30	0.271	8/20/2013 15:00	0.255	8/22/2013 4:30	0.22
8/15/2013 23:00	0.383	8/17/2013 12:30	0.367	8/19/2013 2:00	0.283	8/20/2013 15:30	0.244	8/22/2013 5:00	0.237
8/15/2013 23:30	0.376	8/17/2013 13:00	0.367	8/19/2013 2:30	0.268	8/20/2013 16:00	0.238	8/22/2013 5:30	0.232
8/16/2013 0:00	0.371	8/17/2013 13:30	0.358	8/19/2013 3:00	0.273	8/20/2013 16:30	0.232	8/22/2013 6:00	0.235
8/16/2013 0:30	0.369	8/17/2013 14:00	0.359	8/19/2013 3:30	0.271	8/20/2013 17:00	0.242	8/22/2013 6:30	0.235
8/16/2013 1:00	0.359	8/17/2013 14:30	0.345	8/19/2013 4:00	0.267	8/20/2013 17:30	0.235	8/22/2013 7:00	0.243
8/16/2013 1:30	0.355	8/17/2013 15:00	0.357	8/19/2013 4:30	0.276	8/20/2013 18:00	0.223	8/22/2013 7:30	0.228
8/16/2013 2:00	0.345	8/17/2013 15:30	0.355	8/19/2013 5:00	0.269	8/20/2013 18:30	0.25	8/22/2013 8:00	0.208
8/16/2013 2:30	0.349	8/17/2013 16:00	0.358	8/19/2013 5:30	0.277	8/20/2013 19:00	0.231	8/22/2013 8:30	0.162
8/16/2013 3:00	0.324	8/17/2013 16:30	0.362	8/19/2013 6:00	0.296	8/20/2013 19:30	0.2	8/22/2013 9:00	0.156
8/16/2013 3:30	0.331	8/17/2013 17:00	0.371	8/19/2013 6:30	0.289	8/20/2013 20:00	0.213	8/22/2013 9:30	0.153
8/16/2013 4:00	0.332	8/17/2013 17:30	0.366	8/19/2013 7:00	0.29	8/20/2013 20:30	0.213	8/22/2013 10:00	0.153
8/16/2013 4:30	0.345	8/17/2013 18:00	0.374	8/19/2013 7:30	0.284	8/20/2013 21:00	0.231	8/22/2013 10:30	0.155
8/16/2013 5:00	0.332	8/17/2013 18:30	0.367	8/19/2013 8:00	0.27	8/20/2013 21:30	0.219	8/22/2013 11:00	0.134
8/16/2013 5:30	0.363	8/17/2013 19:00	0.375	8/19/2013 8:30	0.262	8/20/2013 22:00	0.202	8/22/2013 11:30	0.14
8/16/2013 6:00	0.363	8/17/2013 19:30	0.395	8/19/2013 9:00	0.272	8/20/2013 22:30	0.202	8/22/2013 12:00	0.163
8/16/2013 6:30	0.367	8/17/2013 20:00	0.396	8/19/2013 9:30	0.269	8/20/2013 23:00	0.207	8/22/2013 12:30	0.149
8/16/2013 7:00	0.369	8/17/2013 20:30	0.377	8/19/2013 10:00	0.259	8/20/2013 23:30	0.19	8/22/2013 13:00	0.154
8/16/2013 7:30	0.373	8/17/2013 21:00	0.377	8/19/2013 10:30	0.262	8/21/2013 0:00	0.185	8/22/2013 13:30	0.143
8/16/2013 8:00	0.353	8/17/2013 21:30	0.378	8/19/2013 11:00	0.218	8/21/2013 0:30	0.168	8/22/2013 14:00	0.186
8/16/2013 8:30	0.375	8/17/2013 22:00	0.408	8/19/2013 11:30	0.283	8/21/2013 1:00	0.166	8/22/2013 14:30	0.157
8/16/2013 9:00	0.368	8/17/2013 22:30	0.394	8/19/2013 12:00	0.288	8/21/2013 1:30	0.147	8/22/2013 15:00	0.154
8/16/2013 9:30	0.369	8/17/2013 23:00	0.374	8/19/2013 12:30	0.306	8/21/2013 2:00	0.164	8/22/2013 15:30	0.153
8/16/2013 10:00	0.365	8/17/2013 23:30	0.367	8/19/2013 13:00	0.286	8/21/2013 2:30	0.134	8/22/2013 16:00	0.14
8/16/2013 10:30	0.358	8/18/2013 0:00	0.378	8/19/2013 13:30	0.276	8/21/2013 3:00	0.134	8/22/2013 16:30	0.168
8/16/2013 11:00	0.362	8/18/2013 0:30	0.372	8/19/2013 14:00	0.292	8/21/2013 3:30	0.15	8/22/2013 17:00	0.129
8/16/2013 11:30	0.387	8/18/2013 1:00	0.368	8/19/2013 14:30	0.268	8/21/2013 4:00	0.15	8/22/2013 17:30	0.175
8/16/2013 12:00	0.358	8/18/2013 1:30	0.363	8/19/2013 15:00	0.279	8/21/2013 4:30	0.143	8/22/2013 18:00	0.181
8/16/2013 12:30	0.368	8/18/2013 2:00	0.387	8/19/2013 15:30	0.279	8/21/2013 5:00	0.155	8/22/2013 18:30	0.197
8/16/2013 13:00	0.367	8/18/2013 2:30	0.367	8/19/2013 16:00	0.266	8/21/2013 5:30	0.169	8/22/2013 19:00	0.188
8/16/2013 13:30	0.365	8/18/2013 3:00	0.364	8/19/2013 16:30	0.272	8/21/2013 6:00	0.185	8/22/2013 19:30	0.168
8/16/2013 14:00	0.366	8/18/2013 3:30	0.374	8/19/2013 17:00	0.263	8/21/2013 6:30	0.184	8/22/2013 20:00	0.16
8/16/2013 14:30	0.376	8/18/2013 4:00	0.381	8/19/2013 17:30	0.265	8/21/2013 7:00	0.19	8/22/2013 20:30	0.167
8/16/2013 15:00	0.357	8/18/2013 4:30	0.368	8/19/2013 18:00	0.263	8/21/2013 7:30	0.196	8/22/2013 21:00	0.165
8/16/2013 15:30	0.372	8/18/2013 5:00	0.372	8/19/2013 18:30	0.248	8/21/2013 8:00	0.186	8/22/2013 21:30	0.164
8/16/2013 16:00	0.361	8/18/2013 5:30	0.371	8/19/2013 19:00	0.261	8/21/2013 8:30	0.209	8/22/2013 22:00	0.186
8/16/2013 16:30	0.346	8/18/2013 6:00	0.373	8/19/2013 19:30	0.285	8/21/2013 9:00	0.185	8/22/2013 22:30	0.166
8/16/2013 17:00	0.35	8/18/2013 6:30	0.374	8/19/2013 20:00	0.26	8/21/2013 9:30	0.202	8/22/2013 23:00	0.173
8/16/2013 17:30	0.361	8/18/2013 7:00	0.371	8/19/2013 20:30	0.255	8/21/2013 10:00	0.192	8/22/2013 23:30	0.184
8/16/2013 18:00	0.33	8/18/2013 7:30	0.374	8/19/2013 21:00	0.259	8/21/2013 10:30	0.183	8/23/2013 0:00	0.189
8/16/2013 18:30	0.374	8/18/2013 8:00	0.343	8/19/2013 21:30	0.254	8/21/2013 11:00	0.193	8/23/2013 0:30	0.171

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
8/23/2013 1:00	0.173	8/24/2013 14:30	0.23	8/26/2013 4:00	0.137	8/27/2013 17:30	0.163	8/29/2013 7:00	0.298
8/23/2013 1:30	0.173	8/24/2013 15:00	0.211	8/26/2013 4:30	0.139	8/27/2013 18:00	0.15	8/29/2013 7:30	0.292
8/23/2013 2:00	0.148	8/24/2013 15:30	0.201	8/26/2013 5:00	0.152	8/27/2013 18:30	0.169	8/29/2013 8:00	0.301
8/23/2013 2:30	0.162	8/24/2013 16:00	0.197	8/26/2013 5:30	0.157	8/27/2013 19:00	0.161	8/29/2013 8:30	0.303
8/23/2013 3:00	0.165	8/24/2013 16:30	0.189	8/26/2013 6:00	0.171	8/27/2013 19:30	0.169	8/29/2013 9:00	0.308
8/23/2013 3:30	0.164	8/24/2013 17:00	0.187	8/26/2013 6:30	0.17	8/27/2013 20:00	0.161	8/29/2013 9:30	0.313
8/23/2013 4:00	0.16	8/24/2013 17:30	0.175	8/26/2013 7:00	0.205	8/27/2013 20:30	0.171	8/29/2013 10:00	0.313
8/23/2013 4:30	0.164	8/24/2013 18:00	0.133	8/26/2013 7:30	0.208	8/27/2013 21:00	0.169	8/29/2013 10:30	0.317
8/23/2013 5:00	0.16	8/24/2013 18:30	0.153	8/26/2013 8:00	0.226	8/27/2013 21:30	0.155	8/29/2013 11:00	0.341
8/23/2013 5:30	0.155	8/24/2013 19:00	0.152	8/26/2013 8:30	0.225	8/27/2013 22:00	0.146	8/29/2013 11:30	0.304
8/23/2013 6:00	0.165	8/24/2013 19:30	0.145	8/26/2013 9:00	0.232	8/27/2013 22:30	0.148	8/29/2013 12:00	0.352
8/23/2013 6:30	0.167	8/24/2013 20:00	0.144	8/26/2013 9:30	0.219	8/27/2013 23:00	0.146	8/29/2013 12:30	0.356
8/23/2013 7:00	0.184	8/24/2013 20:30	0.143	8/26/2013 10:00	0.22	8/27/2013 23:30	0.136	8/29/2013 13:00	0.327
8/23/2013 7:30	0.155	8/24/2013 21:00	0.124	8/26/2013 10:30	0.202	8/28/2013 0:00	0.139	8/29/2013 13:30	0.343
8/23/2013 8:00	0.184	8/24/2013 21:30	0.133	8/26/2013 11:00	0.217	8/28/2013 0:30	0.142	8/29/2013 14:00	0.341
8/23/2013 8:30	0.19	8/24/2013 22:00	0.135	8/26/2013 11:30	0.218	8/28/2013 1:00	0.129	8/29/2013 14:30	0.336
8/23/2013 9:00	0.195	8/24/2013 22:30	0.125	8/26/2013 12:00	0.2	8/28/2013 1:30	0.129	8/29/2013 15:00	0.322
8/23/2013 9:30	0.185	8/24/2013 23:00	0.115	8/26/2013 12:30	0.214	8/28/2013 2:00	0.127	8/29/2013 15:30	0.313
8/23/2013 10:00	0.189	8/24/2013 23:30	0.124	8/26/2013 13:00	0.225	8/28/2013 2:30	0.13	8/29/2013 16:00	0.309
8/23/2013 10:30	0.182	8/25/2013 0:00	0.142	8/26/2013 13:30	0.229	8/28/2013 3:00	0.145	8/29/2013 16:30	0.338
8/23/2013 11:00	0.187	8/25/2013 0:30	0.106	8/26/2013 14:00	0.23	8/28/2013 3:30	0.141	8/29/2013 17:00	0.327
8/23/2013 11:30	0.19	8/25/2013 1:00	0.106	8/26/2013 14:30	0.234	8/28/2013 4:00	0.155	8/29/2013 17:30	0.332
8/23/2013 12:00	0.196	8/25/2013 1:30	0.118	8/26/2013 15:00	0.225	8/28/2013 4:30	0.137	8/29/2013 18:00	0.339
8/23/2013 12:30	0.177	8/25/2013 2:00	0.115	8/26/2013 15:30	0.209	8/28/2013 5:00	0.122	8/29/2013 18:30	0.372
8/23/2013 13:00	0.198	8/25/2013 2:30	0.122	8/26/2013 16:00	0.218	8/28/2013 5:30	0.123	8/29/2013 19:00	0.348
8/23/2013 13:30	0.19	8/25/2013 3:00	0.101	8/26/2013 16:30	0.232	8/28/2013 6:00	0.116	8/29/2013 19:30	0.326
8/23/2013 14:00	0.192	8/25/2013 3:30	0.115	8/26/2013 17:00	0.25	8/28/2013 6:30	0.133	8/29/2013 20:00	0.324
8/23/2013 14:30	0.21	8/25/2013 4:00	0.112	8/26/2013 17:30	0.244	8/28/2013 7:00	0.136	8/29/2013 20:30	0.33
8/23/2013 15:00	0.22	8/25/2013 4:30	0.119	8/26/2013 18:00	0.24	8/28/2013 7:30	0.141	8/29/2013 21:00	0.314
8/23/2013 15:30	0.226	8/25/2013 5:00	0.145	8/26/2013 18:30	0.226	8/28/2013 8:00	0.133	8/29/2013 21:30	0.338
8/23/2013 16:00	0.229	8/25/2013 5:30	0.125	8/26/2013 19:00	0.231	8/28/2013 8:30	0.162	8/29/2013 22:00	0.301
8/23/2013 16:30	0.229	8/25/2013 6:00	0.112	8/26/2013 19:30	0.239	8/28/2013 9:00	0.156	8/29/2013 22:30	0.311
8/23/2013 17:00	0.249	8/25/2013 6:30	0.126	8/26/2013 20:00	0.234	8/28/2013 9:30	0.135	8/29/2013 23:00	0.309
8/23/2013 17:30	0.244	8/25/2013 7:00	0.091	8/26/2013 20:30	0.231	8/28/2013 10:00	0.15	8/29/2013 23:30	0.29
8/23/2013 18:00	0.234	8/25/2013 7:30	0.125	8/26/2013 21:00	0.231	8/28/2013 10:30	0.165	8/30/2013 0:00	0.297
8/23/2013 18:30	0.262	8/25/2013 8:00	0.125	8/26/2013 21:30	0.21	8/28/2013 11:00	0.2	8/30/2013 0:30	0.29
8/23/2013 19:00	0.261	8/25/2013 8:30	0.099	8/26/2013 22:00	0.208	8/28/2013 11:30	0.187	8/30/2013 1:00	0.284
8/23/2013 19:30	0.263	8/25/2013 9:00	0.126	8/26/2013 22:30	0.207	8/28/2013 12:00	0.187	8/30/2013 1:30	0.267
8/23/2013 20:00	0.257	8/25/2013 9:30	0.139	8/26/2013 23:00	0.207	8/28/2013 12:30	0.185	8/30/2013 2:00	0.262
8/23/2013 20:30	0.263	8/25/2013 10:00	0.134	8/26/2013 23:30	0.194	8/28/2013 13:00	0.207	8/30/2013 2:30	0.263
8/23/2013 21:00	0.273	8/25/2013 10:30	0.128	8/27/2013 0:00	0.197	8/28/2013 13:30	0.21	8/30/2013 3:00	0.258
8/23/2013 21:30	0.282	8/25/2013 11:00	0.143	8/27/2013 0:30	0.171	8/28/2013 14:00	0.235	8/30/2013 3:30	0.273
8/23/2013 22:00	0.287	8/25/2013 11:30	0.104	8/27/2013 1:00	0.186	8/28/2013 14:30	0.256	8/30/2013 4:00	0.242
8/23/2013 22:30	0.307	8/25/2013 12:00	0.153	8/27/2013 1:30	0.198	8/28/2013 15:00	0.248	8/30/2013 4:30	0.258
8/23/2013 23:00	0.305	8/25/2013 12:30	0.116	8/27/2013 2:00	0.202	8/28/2013 15:30	0.269	8/30/2013 5:00	0.255
8/23/2013 23:30	0.295	8/25/2013 13:00	0.113	8/27/2013 2:30	0.188	8/28/2013 16:00	0.264	8/30/2013 5:30	0.252
8/24/2013 0:00	0.275	8/25/2013 13:30	0.12	8/27/2013 3:00	0.203	8/28/2013 16:30	0.296	8/30/2013 6:00	0.261
8/24/2013 0:30	0.253	8/25/2013 14:00	0.113	8/27/2013 3:30	0.185	8/28/2013 17:00	0.257	8/30/2013 6:30	0.276
8/24/2013 1:00	0.254	8/25/2013 14:30	0.121	8/27/2013 4:00	0.196	8/28/2013 17:30	0.275	8/30/2013 7:00	0.272
8/24/2013 1:30	0.278	8/25/2013 15:00	0.142	8/27/2013 4:30	0.172	8/28/2013 18:00	0.276	8/30/2013 7:30	0.273
8/24/2013 2:00	0.251	8/25/2013 15:30	0.106	8/27/2013 5:00	0.206	8/28/2013 18:30	0.295	8/30/2013 8:00	0.272
8/24/2013 2:30	0.252	8/25/2013 16:00	0.107	8/27/2013 5:30	0.176	8/28/2013 19:00	0.31	8/30/2013 8:30	0.281
8/24/2013 3:00	0.254	8/25/2013 16:30	0.116	8/27/2013 6:00	0.179	8/28/2013 19:30	0.296	8/30/2013 9:00	0.286
8/24/2013 3:30	0.262	8/25/2013 17:00	0.111	8/27/2013 6:30	0.191	8/28/2013 20:00	0.307	8/30/2013 9:30	0.308
8/24/2013 4:00	0.243	8/25/2013 17:30	0.133	8/27/2013 7:00	0.167	8/28/2013 20:30	0.292	8/30/2013 10:00	0.297
8/24/2013 4:30	0.255	8/25/2013 18:00	0.135	8/27/2013 7:30	0.186	8/28/2013 21:00	0.311	8/30/2013 10:30	0.301
8/24/2013 5:00	0.239	8/25/2013 18:30	0.164	8/27/2013 8:00	0.181	8/28/2013 21:30	0.324	8/30/2013 11:00	0.318
8/24/2013 5:30	0.226	8/25/2013 19:00	0.152	8/27/2013 8:30	0.174	8/28/2013 22:00	0.322	8/30/2013 11:30	0.316
8/24/2013 6:00	0.241	8/25/2013 19:30	0.156	8/27/2013 9:00	0.2	8/28/2013 22:30	0.331	8/30/2013 12:00	0.311
8/24/2013 6:30	0.242	8/25/2013 20:00	0.154	8/27/2013 9:30	0.2	8/28/2013 23:00	0.342	8/30/2013 12:30	0.312
8/24/2013 7:00	0.252	8/25/2013 20:30	0.129	8/27/2013 10:00	0.203	8/28/2013 23:30	0.34	8/30/2013 13:00	0.303
8/24/2013 7:30	0.223	8/25/2013 21:00	0.12	8/27/2013 10:30	0.192	8/29/2013 0:00	0.343	8/30/2013 13:30	0.297
8/24/2013 8:00	0.23	8/25/2013 21:30	0.132	8/27/2013 11:00	0.2	8/29/2013 0:30	0.342	8/30/2013 14:00	0.307
8/24/2013 8:30	0.234	8/25/2013 22:00	0.128	8/27/2013 11:30	0.16	8/29/2013 1:00	0.349	8/30/2013 14:30	0.316
8/24/2013 9:00	0.24	8/25/2013 22:30	0.129	8/27/2013 12:00	0.232	8/29/2013 1:30	0.354	8/30/2013 15:00	0.302
8/24/2013 9:30	0.233	8/25/2013 23:00	0.141	8/27/2013 12:30	0.206	8/29/2013 2:00	0.32	8/30/2013 15:30	0.309
8/24/2013 10:00	0.234	8/25/2013 23:30	0.113	8/27/2013 13:00	0.188	8/29/2013 2:30	0.343	8/30/2013 16:00	0.311
8/24/2013 10:30	0.252	8/26/2013 0:00	0.133	8/27/2013 13:30	0.211	8/29/2013 3:00	0.332	8/30/2013 16:30	0.311
8/24/2013 11:00	0.264	8/26/2013 0:30	0.115	8/27/2013 14:00	0.202	8/29/2013 3:30	0.321	8/30/2013 17:00	0.316
8/24/2013 11:30	0.252	8/26/2013 1:00	0.113	8/27/2013 14:30	0.19	8/29/2013 4:00	0.322	8/30/2013 17:30	0.32
8/24/2013 12:00	0.256	8/26/2013 1:30	0.131	8/27/2013 15:00	0.191	8/29/2013 4:30	0.325	8/30/2013 18:00	0.308
8/24/2013 12:30	0.312	8/26/2013 2:00	0.129	8/27/2013 15:30	0.182	8/29/2013 5:00	0.307	8/30/2013 18:30	0.294
8/24/2013 13:00	0.245	8/26/2013 2:30	0.122	8/27/2013 16:00	0.177	8/29/2013 5:30	0.324	8/30/2013 19:00	0.272
8/24/2013 13:30	0.28	8/26/2013 3:00	0.134	8/27/2013 16:30	0.179	8/29/2013 6:00	0.311	8/30/2013 19:30	0.308
8/24/2013 14:00	0.293	8/26/2013 3:30	0.122	8/27/2013 17:00	0.18	8/29/2013 6:30	0.298	8/30/2013 20:00	0.309

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
8/30/2013 20:30	0.294	9/1/2013 10:00	0.316	9/2/2013 23:30	0.35	9/4/2013 13:00	0.473	9/6/2013 2:30	0.416
8/30/2013 21:00	0.283	9/1/2013 10:30	0.311	9/3/2013 0:00	0.362	9/4/2013 13:30	0.435	9/6/2013 3:00	0.427
8/30/2013 21:30	0.289	9/1/2013 11:00	0.319	9/3/2013 0:30	0.338	9/4/2013 14:00	0.432	9/6/2013 3:30	0.446
8/30/2013 22:00	0.294	9/1/2013 11:30	0.334	9/3/2013 1:00	0.35	9/4/2013 14:30	0.431	9/6/2013 4:00	0.431
8/30/2013 22:30	0.301	9/1/2013 12:00	0.289	9/3/2013 1:30	0.336	9/4/2013 15:00	0.417	9/6/2013 4:30	0.455
8/30/2013 23:00	0.289	9/1/2013 12:30	0.328	9/3/2013 2:00	0.355	9/4/2013 15:30	0.423	9/6/2013 5:00	0.476
8/30/2013 23:30	0.282	9/1/2013 13:00	0.33	9/3/2013 2:30	0.341	9/4/2013 16:00	0.43	9/6/2013 5:30	0.483
8/31/2013 0:00	0.275	9/1/2013 13:30	0.322	9/3/2013 3:00	0.339	9/4/2013 16:30	0.421	9/6/2013 6:00	0.513
8/31/2013 0:30	0.287	9/1/2013 14:00	0.33	9/3/2013 3:30	0.345	9/4/2013 17:00	0.415	9/6/2013 6:30	0.52
8/31/2013 1:00	0.278	9/1/2013 14:30	0.333	9/3/2013 4:00	0.342	9/4/2013 17:30	0.411	9/6/2013 7:00	0.506
8/31/2013 1:30	0.276	9/1/2013 15:00	0.323	9/3/2013 4:30	0.35	9/4/2013 18:00	0.383	9/6/2013 7:30	0.52
8/31/2013 2:00	0.287	9/1/2013 15:30	0.328	9/3/2013 5:00	0.348	9/4/2013 18:30	0.377	9/6/2013 8:00	0.518
8/31/2013 2:30	0.29	9/1/2013 16:00	0.345	9/3/2013 5:30	0.334	9/4/2013 19:00	0.394	9/6/2013 8:30	0.527
8/31/2013 3:00	0.271	9/1/2013 16:30	0.327	9/3/2013 6:00	0.348	9/4/2013 19:30	0.402	9/6/2013 9:00	0.514
8/31/2013 3:30	0.277	9/1/2013 17:00	0.321	9/3/2013 6:30	0.342	9/4/2013 20:00	0.402	9/6/2013 9:30	0.505
8/31/2013 4:00	0.286	9/1/2013 17:30	0.339	9/3/2013 7:00	0.349	9/4/2013 20:30	0.397	9/6/2013 10:00	0.516
8/31/2013 4:30	0.284	9/1/2013 18:00	0.335	9/3/2013 7:30	0.344	9/4/2013 21:00	0.414	9/6/2013 10:30	0.509
8/31/2013 5:00	0.282	9/1/2013 18:30	0.342	9/3/2013 8:00	0.354	9/4/2013 21:30	0.388	9/6/2013 11:00	0.506
8/31/2013 5:30	0.291	9/1/2013 19:00	0.351	9/3/2013 8:30	0.334	9/4/2013 22:00	0.378	9/6/2013 11:30	0.496
8/31/2013 6:00	0.293	9/1/2013 19:30	0.359	9/3/2013 9:00	0.334	9/4/2013 22:30	0.394	9/6/2013 12:00	0.515
8/31/2013 6:30	0.284	9/1/2013 20:00	0.359	9/3/2013 9:30	0.346	9/4/2013 23:00	0.376	9/6/2013 12:30	0.519
8/31/2013 7:00	0.289	9/1/2013 20:30	0.35	9/3/2013 10:00	0.358	9/4/2013 23:30	0.379	9/6/2013 13:00	0.553
8/31/2013 7:30	0.289	9/1/2013 21:00	0.358	9/3/2013 10:30	0.343	9/5/2013 0:00	0.37	9/6/2013 13:30	0.546
8/31/2013 8:00	0.294	9/1/2013 21:30	0.352	9/3/2013 11:00	0.356	9/5/2013 0:30	0.38	9/6/2013 14:00	0.545
8/31/2013 8:30	0.315	9/1/2013 22:00	0.356	9/3/2013 11:30	0.341	9/5/2013 1:00	0.363	9/6/2013 14:30	0.576
8/31/2013 9:00	0.322	9/1/2013 22:30	0.343	9/3/2013 12:00	0.342	9/5/2013 1:30	0.369	9/6/2013 15:00	0.565
8/31/2013 9:30	0.317	9/1/2013 23:00	0.34	9/3/2013 12:30	0.353	9/5/2013 2:00	0.354	9/6/2013 15:30	0.569
8/31/2013 10:00	0.312	9/1/2013 23:30	0.319	9/3/2013 13:00	0.338	9/5/2013 2:30	0.357	9/6/2013 16:00	0.55
8/31/2013 10:30	0.323	9/2/2013 0:00	0.331	9/3/2013 13:30	0.363	9/5/2013 3:00	0.358	9/6/2013 16:30	0.549
8/31/2013 11:00	0.312	9/2/2013 0:30	0.316	9/3/2013 14:00	0.332	9/5/2013 3:30	0.39	9/6/2013 17:00	0.554
8/31/2013 11:30	0.326	9/2/2013 1:00	0.322	9/3/2013 14:30	0.337	9/5/2013 4:00	0.372	9/6/2013 17:30	0.545
8/31/2013 12:00	0.317	9/2/2013 1:30	0.333	9/3/2013 15:00	0.36	9/5/2013 4:30	0.38	9/6/2013 18:00	0.553
8/31/2013 12:30	0.309	9/2/2013 2:00	0.332	9/3/2013 15:30	0.324	9/5/2013 5:00	0.39	9/6/2013 18:30	0.547
8/31/2013 13:00	0.328	9/2/2013 2:30	0.349	9/3/2013 16:00	0.344	9/5/2013 5:30	0.396	9/6/2013 19:00	0.547
8/31/2013 13:30	0.326	9/2/2013 3:00	0.329	9/3/2013 16:30	0.358	9/5/2013 6:00	0.385	9/6/2013 19:30	0.538
8/31/2013 14:00	0.331	9/2/2013 3:30	0.343	9/3/2013 17:00	0.335	9/5/2013 6:30	0.393	9/6/2013 20:00	0.54
8/31/2013 14:30	0.325	9/2/2013 4:00	0.347	9/3/2013 17:30	0.339	9/5/2013 7:00	0.396	9/6/2013 20:30	0.55
8/31/2013 15:00	0.339	9/2/2013 4:30	0.326	9/3/2013 18:00	0.33	9/5/2013 7:30	0.414	9/6/2013 21:00	0.562
8/31/2013 15:30	0.339	9/2/2013 5:00	0.338	9/3/2013 18:30	0.334	9/5/2013 8:00	0.4	9/6/2013 21:30	0.553
8/31/2013 16:00	0.345	9/2/2013 5:30	0.34	9/3/2013 19:00	0.34	9/5/2013 8:30	0.387	9/6/2013 22:00	0.571
8/31/2013 16:30	0.337	9/2/2013 6:00	0.333	9/3/2013 19:30	0.338	9/5/2013 9:00	0.379	9/6/2013 22:30	0.558
8/31/2013 17:00	0.321	9/2/2013 6:30	0.331	9/3/2013 20:00	0.334	9/5/2013 9:30	0.379	9/6/2013 23:00	0.568
8/31/2013 17:30	0.311	9/2/2013 7:00	0.33	9/3/2013 20:30	0.333	9/5/2013 10:00	0.395	9/6/2013 23:30	0.565
8/31/2013 18:00	0.339	9/2/2013 7:30	0.343	9/3/2013 21:00	0.34	9/5/2013 10:30	0.404	9/7/2013 0:00	0.575
8/31/2013 18:30	0.307	9/2/2013 8:00	0.343	9/3/2013 21:30	0.341	9/5/2013 11:00	0.396	9/7/2013 0:30	0.547
8/31/2013 19:00	0.335	9/2/2013 8:30	0.34	9/3/2013 22:00	0.327	9/5/2013 11:30	0.389	9/7/2013 1:00	0.552
8/31/2013 19:30	0.321	9/2/2013 9:00	0.321	9/3/2013 22:30	0.343	9/5/2013 12:00	0.394	9/7/2013 1:30	0.55
8/31/2013 20:00	0.321	9/2/2013 9:30	0.32	9/3/2013 23:00	0.362	9/5/2013 12:30	0.368	9/7/2013 2:00	0.552
8/31/2013 20:30	0.322	9/2/2013 10:00	0.319	9/3/2013 23:30	0.382	9/5/2013 13:00	0.394	9/7/2013 2:30	0.543
8/31/2013 21:00	0.326	9/2/2013 10:30	0.332	9/4/2013 0:00	0.378	9/5/2013 13:30	0.407	9/7/2013 3:00	0.541
8/31/2013 21:30	0.325	9/2/2013 11:00	0.328	9/4/2013 0:30	0.374	9/5/2013 14:00	0.416	9/7/2013 3:30	0.543
8/31/2013 22:00	0.313	9/2/2013 11:30	0.347	9/4/2013 1:00	0.36	9/5/2013 14:30	0.421	9/7/2013 4:00	0.544
8/31/2013 22:30	0.313	9/2/2013 12:00	0.331	9/4/2013 1:30	0.362	9/5/2013 15:00	0.406	9/7/2013 4:30	0.534
8/31/2013 23:00	0.322	9/2/2013 12:30	0.339	9/4/2013 2:00	0.344	9/5/2013 15:30	0.409	9/7/2013 5:00	0.531
8/31/2013 23:30	0.299	9/2/2013 13:00	0.345	9/4/2013 2:30	0.38	9/5/2013 16:00	0.418	9/7/2013 5:30	0.525
9/1/2013 0:00	0.298	9/2/2013 13:30	0.343	9/4/2013 3:00	0.35	9/5/2013 16:30	0.429	9/7/2013 6:00	0.527
9/1/2013 0:30	0.296	9/2/2013 14:00	0.329	9/4/2013 3:30	0.363	9/5/2013 17:00	0.453	9/7/2013 6:30	0.511
9/1/2013 1:00	0.289	9/2/2013 14:30	0.353	9/4/2013 4:00	0.345	9/5/2013 17:30	0.393	9/7/2013 7:00	0.529
9/1/2013 1:30	0.304	9/2/2013 15:00	0.344	9/4/2013 4:30	0.36	9/5/2013 18:00	0.401	9/7/2013 7:30	0.532
9/1/2013 2:00	0.291	9/2/2013 15:30	0.362	9/4/2013 5:00	0.359	9/5/2013 18:30	0.389	9/7/2013 8:00	0.528
9/1/2013 2:30	0.297	9/2/2013 16:00	0.356	9/4/2013 5:30	0.38	9/5/2013 19:00	0.387	9/7/2013 8:30	0.512
9/1/2013 3:00	0.31	9/2/2013 16:30	0.339	9/4/2013 6:00	0.378	9/5/2013 19:30	0.392	9/7/2013 9:00	0.517
9/1/2013 3:30	0.305	9/2/2013 17:00	0.378	9/4/2013 6:30	0.401	9/5/2013 20:00	0.393	9/7/2013 9:30	0.525
9/1/2013 4:00	0.3	9/2/2013 17:30	0.334	9/4/2013 7:00	0.426	9/5/2013 20:30	0.454	9/7/2013 10:00	0.527
9/1/2013 4:30	0.302	9/2/2013 18:00	0.342	9/4/2013 7:30	0.435	9/5/2013 21:00	0.427	9/7/2013 10:30	0.525
9/1/2013 5:00	0.3	9/2/2013 18:30	0.336	9/4/2013 8:00	0.428	9/5/2013 21:30	0.435	9/7/2013 11:00	0.527
9/1/2013 5:30	0.317	9/2/2013 19:00	0.348	9/4/2013 8:30	0.43	9/5/2013 22:00	0.443	9/7/2013 11:30	0.525
9/1/2013 6:00	0.315	9/2/2013 19:30	0.335	9/4/2013 9:00	0.408	9/5/2013 22:30	0.443	9/7/2013 12:00	0.509
9/1/2013 6:30	0.32	9/2/2013 20:00	0.345	9/4/2013 9:30	0.416	9/5/2013 23:00	0.442	9/7/2013 12:30	0.53
9/1/2013 7:00	0.331	9/2/2013 20:30	0.334	9/4/2013 10:00	0.411	9/5/2013 23:30	0.455	9/7/2013 13:00	0.526
9/1/2013 7:30	0.332	9/2/2013 21:00	0.355	9/4/2013 10:30	0.414	9/6/2013 0:00	0.445	9/7/2013 13:30	0.516
9/1/2013 8:00	0.321	9/2/2013 21:30	0.338	9/4/2013 11:00	0.414	9/6/2013 0:30	0.425	9/7/2013 14:00	0.509
9/1/2013 8:30	0.328	9/2/2013 22:00	0.348	9/4/2013 11:30	0.414	9/6/2013 1:00	0.41	9/7/2013 14:30	0.526
9/1/2013 9:00	0.318	9/2/2013 22:30	0.336	9/4/2013 12:00	0.401	9/6/2013 1:30	0.432	9/7/2013 15:00	0.511
9/1/2013 9:30	0.321	9/2/2013 23:00	0.354	9/4/2013 12:30	0.406	9/6/2013 2:00	0.422	9/7/2013 15:30	0.526

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
9/7/2013 16:00	0.522	9/9/2013 5:30	0.448	9/10/2013 19:00	0.497	9/12/2013 8:30	0.546	9/13/2013 22:00	0.543
9/7/2013 16:30	0.518	9/9/2013 6:00	0.47	9/10/2013 19:30	0.501	9/12/2013 9:00	0.505	9/13/2013 22:30	0.513
9/7/2013 17:00	0.498	9/9/2013 6:30	0.46	9/10/2013 20:00	0.486	9/12/2013 9:30	0.525	9/13/2013 23:00	0.534
9/7/2013 17:30	0.519	9/9/2013 7:00	0.459	9/10/2013 20:30	0.484	9/12/2013 10:00	0.513	9/13/2013 23:30	0.533
9/7/2013 18:00	0.498	9/9/2013 7:30	0.458	9/10/2013 21:00	0.511	9/12/2013 10:30	0.517	9/14/2013 0:00	0.525
9/7/2013 18:30	0.515	9/9/2013 8:00	0.483	9/10/2013 21:30	0.501	9/12/2013 11:00	0.527	9/14/2013 0:30	0.534
9/7/2013 19:00	0.524	9/9/2013 8:30	0.49	9/10/2013 22:00	0.5	9/12/2013 11:30	0.527	9/14/2013 1:00	0.526
9/7/2013 19:30	0.511	9/9/2013 9:00	0.508	9/10/2013 22:30	0.485	9/12/2013 12:00	0.518	9/14/2013 1:30	0.531
9/7/2013 20:00	0.521	9/9/2013 9:30	0.499	9/10/2013 23:00	0.504	9/12/2013 12:30	0.526	9/14/2013 2:00	0.537
9/7/2013 20:30	0.511	9/9/2013 10:00	0.503	9/10/2013 23:30	0.51	9/12/2013 13:00	0.528	9/14/2013 2:30	0.533
9/7/2013 21:00	0.519	9/9/2013 10:30	0.503	9/11/2013 0:00	0.491	9/12/2013 13:30	0.504	9/14/2013 3:00	0.534
9/7/2013 21:30	0.514	9/9/2013 11:00	0.504	9/11/2013 0:30	0.496	9/12/2013 14:00	0.55	9/14/2013 3:30	0.544
9/7/2013 22:00	0.535	9/9/2013 11:30	0.483	9/11/2013 1:00	0.494	9/12/2013 14:30	0.516	9/14/2013 4:00	0.529
9/7/2013 22:30	0.512	9/9/2013 12:00	0.499	9/11/2013 1:30	0.475	9/12/2013 15:00	0.51	9/14/2013 4:30	0.544
9/7/2013 23:00	0.506	9/9/2013 12:30	0.493	9/11/2013 2:00	0.491	9/12/2013 15:30	0.514	9/14/2013 5:00	0.55
9/7/2013 23:30	0.518	9/9/2013 13:00	0.494	9/11/2013 2:30	0.491	9/12/2013 16:00	0.513	9/14/2013 5:30	0.577
9/8/2013 0:00	0.499	9/9/2013 13:30	0.51	9/11/2013 3:00	0.501	9/12/2013 16:30	0.498	9/14/2013 6:00	0.576
9/8/2013 0:30	0.509	9/9/2013 14:00	0.503	9/11/2013 3:30	0.484	9/12/2013 17:00	0.515	9/14/2013 6:30	0.576
9/8/2013 1:00	0.496	9/9/2013 14:30	0.51	9/11/2013 4:00	0.5	9/12/2013 17:30	0.525	9/14/2013 7:00	0.577
9/8/2013 1:30	0.495	9/9/2013 15:00	0.517	9/11/2013 4:30	0.503	9/12/2013 18:00	0.518	9/14/2013 7:30	0.582
9/8/2013 2:00	0.481	9/9/2013 15:30	0.527	9/11/2013 5:00	0.481	9/12/2013 18:30	0.53	9/14/2013 8:00	0.557
9/8/2013 2:30	0.483	9/9/2013 16:00	0.521	9/11/2013 5:30	0.491	9/12/2013 19:00	0.533	9/14/2013 8:30	0.571
9/8/2013 3:00	0.481	9/9/2013 16:30	0.495	9/11/2013 6:00	0.477	9/12/2013 19:30	0.528	9/14/2013 9:00	0.565
9/8/2013 3:30	0.475	9/9/2013 17:00	0.511	9/11/2013 6:30	0.488	9/12/2013 20:00	0.521	9/14/2013 9:30	0.566
9/8/2013 4:00	0.461	9/9/2013 17:30	0.492	9/11/2013 7:00	0.48	9/12/2013 20:30	0.537	9/14/2013 10:00	0.571
9/8/2013 4:30	0.466	9/9/2013 18:00	0.465	9/11/2013 7:30	0.494	9/12/2013 21:00	0.529	9/14/2013 10:30	0.58
9/8/2013 5:00	0.482	9/9/2013 18:30	0.498	9/11/2013 8:00	0.49	9/12/2013 21:30	0.533	9/14/2013 11:00	0.584
9/8/2013 5:30	0.478	9/9/2013 19:00	0.507	9/11/2013 8:30	0.503	9/12/2013 22:00	0.529	9/14/2013 11:30	0.57
9/8/2013 6:00	0.462	9/9/2013 19:30	0.502	9/11/2013 9:00	0.498	9/12/2013 22:30	0.525	9/14/2013 12:00	0.567
9/8/2013 6:30	0.473	9/9/2013 20:00	0.513	9/11/2013 9:30	0.493	9/12/2013 23:00	0.537	9/14/2013 12:30	0.563
9/8/2013 7:00	0.463	9/9/2013 20:30	0.515	9/11/2013 10:00	0.5	9/12/2013 23:30	0.546	9/14/2013 13:00	0.558
9/8/2013 7:30	0.477	9/9/2013 21:00	0.512	9/11/2013 10:30	0.491	9/13/2013 0:00	0.514	9/14/2013 13:30	0.577
9/8/2013 8:00	0.448	9/9/2013 21:30	0.514	9/11/2013 11:00	0.484	9/13/2013 0:30	0.505	9/14/2013 14:00	0.572
9/8/2013 8:30	0.466	9/9/2013 22:00	0.505	9/11/2013 11:30	0.492	9/13/2013 1:00	0.529	9/14/2013 14:30	0.572
9/8/2013 9:00	0.472	9/9/2013 22:30	0.503	9/11/2013 12:00	0.483	9/13/2013 1:30	0.512	9/14/2013 15:00	0.559
9/8/2013 9:30	0.452	9/9/2013 23:00	0.505	9/11/2013 12:30	0.485	9/13/2013 2:00	0.518	9/14/2013 15:30	0.578
9/8/2013 10:00	0.453	9/9/2013 23:30	0.514	9/11/2013 13:00	0.5	9/13/2013 2:30	0.531	9/14/2013 16:00	0.575
9/8/2013 10:30	0.445	9/10/2013 0:00	0.497	9/11/2013 13:30	0.463	9/13/2013 3:00	0.537	9/14/2013 16:30	0.549
9/8/2013 11:00	0.476	9/10/2013 0:30	0.494	9/11/2013 14:00	0.51	9/13/2013 3:30	0.501	9/14/2013 17:00	0.577
9/8/2013 11:30	0.462	9/10/2013 1:00	0.507	9/11/2013 14:30	0.498	9/13/2013 4:00	0.507	9/14/2013 17:30	0.585
9/8/2013 12:00	0.447	9/10/2013 1:30	0.479	9/11/2013 15:00	0.49	9/13/2013 4:30	0.515	9/14/2013 18:00	0.559
9/8/2013 12:30	0.476	9/10/2013 2:00	0.494	9/11/2013 15:30	0.493	9/13/2013 5:00	0.517	9/14/2013 18:30	0.573
9/8/2013 13:00	0.465	9/10/2013 2:30	0.502	9/11/2013 16:00	0.492	9/13/2013 5:30	0.514	9/14/2013 19:00	0.571
9/8/2013 13:30	0.469	9/10/2013 3:00	0.497	9/11/2013 16:30	0.486	9/13/2013 6:00	0.516	9/14/2013 19:30	0.572
9/8/2013 14:00	0.469	9/10/2013 3:30	0.501	9/11/2013 17:00	0.492	9/13/2013 6:30	0.506	9/14/2013 20:00	0.578
9/8/2013 14:30	0.472	9/10/2013 4:00	0.489	9/11/2013 17:30	0.489	9/13/2013 7:00	0.499	9/14/2013 20:30	0.56
9/8/2013 15:00	0.461	9/10/2013 4:30	0.498	9/11/2013 18:00	0.49	9/13/2013 7:30	0.515	9/14/2013 21:00	0.568
9/8/2013 15:30	0.479	9/10/2013 5:00	0.491	9/11/2013 18:30	0.493	9/13/2013 8:00	0.507	9/14/2013 21:30	0.558
9/8/2013 16:00	0.479	9/10/2013 5:30	0.498	9/11/2013 19:00	0.483	9/13/2013 8:30	0.487	9/14/2013 22:00	0.561
9/8/2013 16:30	0.47	9/10/2013 6:00	0.506	9/11/2013 19:30	0.483	9/13/2013 9:00	0.49	9/14/2013 22:30	0.565
9/8/2013 17:00	0.468	9/10/2013 6:30	0.507	9/11/2013 20:00	0.493	9/13/2013 9:30	0.504	9/14/2013 23:00	0.578
9/8/2013 17:30	0.456	9/10/2013 7:00	0.506	9/11/2013 20:30	0.487	9/13/2013 10:00	0.498	9/14/2013 23:30	0.558
9/8/2013 18:00	0.47	9/10/2013 7:30	0.496	9/11/2013 21:00	0.488	9/13/2013 10:30	0.487	9/15/2013 0:00	0.561
9/8/2013 18:30	0.445	9/10/2013 8:00	0.492	9/11/2013 21:30	0.501	9/13/2013 11:00	0.506	9/15/2013 0:30	0.556
9/8/2013 19:00	0.452	9/10/2013 8:30	0.482	9/11/2013 22:00	0.485	9/13/2013 11:30	0.493	9/15/2013 1:00	0.54
9/8/2013 19:30	0.448	9/10/2013 9:00	0.478	9/11/2013 22:30	0.476	9/13/2013 12:00	0.443	9/15/2013 1:30	0.529
9/8/2013 20:00	0.468	9/10/2013 9:30	0.48	9/11/2013 23:00	0.491	9/13/2013 12:30	0.536	9/15/2013 2:00	0.545
9/8/2013 20:30	0.45	9/10/2013 10:00	0.485	9/11/2013 23:30	0.481	9/13/2013 13:00	0.489	9/15/2013 2:30	0.55
9/8/2013 21:00	0.442	9/10/2013 10:30	0.487	9/12/2013 0:00	0.513	9/13/2013 13:30	0.481	9/15/2013 3:00	0.562
9/8/2013 21:30	0.441	9/10/2013 11:00	0.485	9/12/2013 0:30	0.481	9/13/2013 14:00	0.508	9/15/2013 3:30	0.55
9/8/2013 22:00	0.442	9/10/2013 11:30	0.475	9/12/2013 1:00	0.481	9/13/2013 14:30	0.497	9/15/2013 4:00	0.543
9/8/2013 22:30	0.431	9/10/2013 12:00	0.503	9/12/2013 1:30	0.477	9/13/2013 15:00	0.499	9/15/2013 4:30	0.548
9/8/2013 23:00	0.442	9/10/2013 12:30	0.488	9/12/2013 2:00	0.46	9/13/2013 15:30	0.497	9/15/2013 5:00	0.54
9/8/2013 23:30	0.46	9/10/2013 13:00	0.483	9/12/2013 2:30	0.46	9/13/2013 16:00	0.5	9/15/2013 5:30	0.551
9/9/2013 0:00	0.458	9/10/2013 13:30	0.486	9/12/2013 3:00	0.47	9/13/2013 16:30	0.505	9/15/2013 6:00	0.562
9/9/2013 0:30	0.455	9/10/2013 14:00	0.473	9/12/2013 3:30	0.468	9/13/2013 17:00	0.522	9/15/2013 6:30	0.556
9/9/2013 1:00	0.442	9/10/2013 14:30	0.437	9/12/2013 4:00	0.464	9/13/2013 17:30	0.522	9/15/2013 7:00	0.572
9/9/2013 1:30	0.459	9/10/2013 15:00	0.489	9/12/2013 4:30	0.473	9/13/2013 18:00	0.533	9/15/2013 7:30	0.552
9/9/2013 2:00	0.474	9/10/2013 15:30	0.487	9/12/2013 5:00	0.485	9/13/2013 18:30	0.521	9/15/2013 8:00	0.568
9/9/2013 2:30	0.447	9/10/2013 16:00	0.488	9/12/2013 5:30	0.51	9/13/2013 19:00	0.535	9/15/2013 8:30	0.555
9/9/2013 3:00	0.458	9/10/2013 16:30	0.503	9/12/2013 6:00	0.53	9/13/2013 19:30	0.519	9/15/2013 9:00	0.561
9/9/2013 3:30	0.455	9/10/2013 17:00	0.479	9/12/2013 6:30	0.529	9/13/2013 20:00	0.522	9/15/2013 9:30	0.53
9/9/2013 4:00	0.453	9/10/2013 17:30	0.472	9/12/2013 7:00	0.548	9/13/2013 20:30	0.536	9/15/2013 10:00	0.558
9/9/2013 4:30	0.456	9/10/2013 18:00	0.466	9/12/2013 7:30	0.528	9/13/2013 21:00	0.528	9/15/2013 10:30	0.542
9/9/2013 5:00	0.456	9/10/2013 18:30	0.477	9/12/2013 8:00	0.53	9/13/2013 21:30	0.53	9/15/2013 11:00	0.552

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
9/15/2013 11:30	0.558	9/17/2013 1:00	0.538	9/18/2013 14:30	0.645	9/20/2013 4:00	0.677	9/21/2013 17:30	0.627
9/15/2013 12:00	0.535	9/17/2013 1:30	0.546	9/18/2013 15:00	0.647	9/20/2013 4:30	0.685	9/21/2013 18:00	0.636
9/15/2013 12:30	0.551	9/17/2013 2:00	0.538	9/18/2013 15:30	0.642	9/20/2013 5:00	0.657	9/21/2013 18:30	0.637
9/15/2013 13:00	0.562	9/17/2013 2:30	0.532	9/18/2013 16:00	0.644	9/20/2013 5:30	0.668	9/21/2013 19:00	0.629
9/15/2013 13:30	0.545	9/17/2013 3:00	0.541	9/18/2013 16:30	0.643	9/20/2013 6:00	0.668	9/21/2013 19:30	0.642
9/15/2013 14:00	0.544	9/17/2013 3:30	0.528	9/18/2013 17:00	0.645	9/20/2013 6:30	0.656	9/21/2013 20:00	0.649
9/15/2013 14:30	0.553	9/17/2013 4:00	0.515	9/18/2013 17:30	0.66	9/20/2013 7:00	0.667	9/21/2013 20:30	0.626
9/15/2013 15:00	0.527	9/17/2013 4:30	0.505	9/18/2013 18:00	0.637	9/20/2013 7:30	0.674	9/21/2013 21:00	0.63
9/15/2013 15:30	0.537	9/17/2013 5:00	0.525	9/18/2013 18:30	0.662	9/20/2013 8:00	0.651	9/21/2013 21:30	0.63
9/15/2013 16:00	0.538	9/17/2013 5:30	0.508	9/18/2013 19:00	0.661	9/20/2013 8:30	0.642	9/21/2013 22:00	0.603
9/15/2013 16:30	0.523	9/17/2013 6:00	0.5	9/18/2013 19:30	0.657	9/20/2013 9:00	0.644	9/21/2013 22:30	0.606
9/15/2013 17:00	0.533	9/17/2013 6:30	0.515	9/18/2013 20:00	0.672	9/20/2013 9:30	0.64	9/21/2013 23:00	0.615
9/15/2013 17:30	0.496	9/17/2013 7:00	0.508	9/18/2013 20:30	0.662	9/20/2013 10:00	0.646	9/21/2013 23:30	0.625
9/15/2013 18:00	0.525	9/17/2013 7:30	0.516	9/18/2013 21:00	0.675	9/20/2013 10:30	0.654	9/22/2013 0:00	0.6
9/15/2013 18:30	0.498	9/17/2013 8:00	0.516	9/18/2013 21:30	0.675	9/20/2013 11:00	0.68	9/22/2013 0:30	0.597
9/15/2013 19:00	0.533	9/17/2013 8:30	0.516	9/18/2013 22:00	0.653	9/20/2013 11:30	0.638	9/22/2013 1:00	0.583
9/15/2013 19:30	0.552	9/17/2013 9:00	0.534	9/18/2013 22:30	0.654	9/20/2013 12:00	0.637	9/22/2013 1:30	0.588
9/15/2013 20:00	0.554	9/17/2013 9:30	0.534	9/18/2013 23:00	0.665	9/20/2013 12:30	0.638	9/22/2013 2:00	0.594
9/15/2013 20:30	0.57	9/17/2013 10:00	0.538	9/18/2013 23:30	0.654	9/20/2013 13:00	0.628	9/22/2013 2:30	0.59
9/15/2013 21:00	0.557	9/17/2013 10:30	0.556	9/19/2013 0:00	0.662	9/20/2013 13:30	0.64	9/22/2013 3:00	0.58
9/15/2013 21:30	0.547	9/17/2013 11:00	0.527	9/19/2013 0:30	0.656	9/20/2013 14:00	0.636	9/22/2013 3:30	0.576
9/15/2013 22:00	0.559	9/17/2013 11:30	0.547	9/19/2013 1:00	0.677	9/20/2013 14:30	0.634	9/22/2013 4:00	0.601
9/15/2013 22:30	0.543	9/17/2013 12:00	0.552	9/19/2013 1:30	0.672	9/20/2013 15:00	0.638	9/22/2013 4:30	0.598
9/15/2013 23:00	0.547	9/17/2013 12:30	0.528	9/19/2013 2:00	0.673	9/20/2013 15:30	0.645	9/22/2013 5:00	0.627
9/15/2013 23:30	0.543	9/17/2013 13:00	0.536	9/19/2013 2:30	0.672	9/20/2013 16:00	0.65	9/22/2013 5:30	0.623
9/16/2013 0:00	0.545	9/17/2013 13:30	0.516	9/19/2013 3:00	0.671	9/20/2013 16:30	0.652	9/22/2013 6:00	0.605
9/16/2013 0:30	0.555	9/17/2013 14:00	0.533	9/19/2013 3:30	0.68	9/20/2013 17:00	0.67	9/22/2013 6:30	0.618
9/16/2013 1:00	0.535	9/17/2013 14:30	0.532	9/19/2013 4:00	0.662	9/20/2013 17:30	0.671	9/22/2013 7:00	0.612
9/16/2013 1:30	0.515	9/17/2013 15:00	0.572	9/19/2013 4:30	0.655	9/20/2013 18:00	0.652	9/22/2013 7:30	0.594
9/16/2013 2:00	0.521	9/17/2013 15:30	0.559	9/19/2013 5:00	0.662	9/20/2013 18:30	0.664	9/22/2013 8:00	0.584
9/16/2013 2:30	0.524	9/17/2013 16:00	0.543	9/19/2013 5:30	0.699	9/20/2013 19:00	0.665	9/22/2013 8:30	0.601
9/16/2013 3:00	0.532	9/17/2013 16:30	0.546	9/19/2013 6:00	0.699	9/20/2013 19:30	0.65	9/22/2013 9:00	0.61
9/16/2013 3:30	0.524	9/17/2013 17:00	0.563	9/19/2013 6:30	0.681	9/20/2013 20:00	0.666	9/22/2013 9:30	0.628
9/16/2013 4:00	0.515	9/17/2013 17:30	0.559	9/19/2013 7:00	0.681	9/20/2013 20:30	0.657	9/22/2013 10:00	0.564
9/16/2013 4:30	0.537	9/17/2013 18:00	0.55	9/19/2013 7:30	0.638	9/20/2013 21:00	0.654	9/22/2013 10:30	0.625
9/16/2013 5:00	0.514	9/17/2013 18:30	0.546	9/19/2013 8:00	0.671	9/20/2013 21:30	0.646	9/22/2013 11:00	0.611
9/16/2013 5:30	0.493	9/17/2013 19:00	0.552	9/19/2013 8:30	0.658	9/20/2013 22:00	0.668	9/22/2013 11:30	0.598
9/16/2013 6:00	0.49	9/17/2013 19:30	0.563	9/19/2013 9:00	0.638	9/20/2013 22:30	0.657	9/22/2013 12:00	0.593
9/16/2013 6:30	0.492	9/17/2013 20:00	0.554	9/19/2013 9:30	0.646	9/20/2013 23:00	0.66	9/22/2013 12:30	0.602
9/16/2013 7:00	0.51	9/17/2013 20:30	0.569	9/19/2013 10:00	0.668	9/20/2013 23:30	0.652	9/22/2013 13:00	0.605
9/16/2013 7:30	0.5	9/17/2013 21:00	0.578	9/19/2013 10:30	0.633	9/21/2013 0:00	0.674	9/22/2013 13:30	0.603
9/16/2013 8:00	0.492	9/17/2013 21:30	0.575	9/19/2013 11:00	0.65	9/21/2013 0:30	0.653	9/22/2013 14:00	0.6
9/16/2013 8:30	0.512	9/17/2013 22:00	0.57	9/19/2013 11:30	0.659	9/21/2013 1:00	0.64	9/22/2013 14:30	0.613
9/16/2013 9:00	0.496	9/17/2013 22:30	0.596	9/19/2013 12:00	0.66	9/21/2013 1:30	0.664	9/22/2013 15:00	0.621
9/16/2013 9:30	0.517	9/17/2013 23:00	0.588	9/19/2013 12:30	0.647	9/21/2013 2:00	0.643	9/22/2013 15:30	0.623
9/16/2013 10:00	0.495	9/17/2013 23:30	0.588	9/19/2013 13:00	0.65	9/21/2013 2:30	0.628	9/22/2013 16:00	0.642
9/16/2013 10:30	0.515	9/18/2013 0:00	0.59	9/19/2013 13:30	0.667	9/21/2013 3:00	0.638	9/22/2013 16:30	0.642
9/16/2013 11:00	0.499	9/18/2013 0:30	0.59	9/19/2013 14:00	0.656	9/21/2013 3:30	0.641	9/22/2013 17:00	0.614
9/16/2013 11:30	0.507	9/18/2013 1:00	0.586	9/19/2013 14:30	0.664	9/21/2013 4:00	0.638	9/22/2013 17:30	0.618
9/16/2013 12:00	0.498	9/18/2013 1:30	0.589	9/19/2013 15:00	0.651	9/21/2013 4:30	0.647	9/22/2013 18:00	0.627
9/16/2013 12:30	0.497	9/18/2013 2:00	0.577	9/19/2013 15:30	0.665	9/21/2013 5:00	0.595	9/22/2013 18:30	0.633
9/16/2013 13:00	0.509	9/18/2013 2:30	0.58	9/19/2013 16:00	0.673	9/21/2013 5:30	0.64	9/22/2013 19:00	0.643
9/16/2013 13:30	0.503	9/18/2013 3:00	0.6	9/19/2013 16:30	0.668	9/21/2013 6:00	0.64	9/22/2013 19:30	0.654
9/16/2013 14:00	0.464	9/18/2013 3:30	0.615	9/19/2013 17:00	0.655	9/21/2013 6:30	0.619	9/22/2013 20:00	0.659
9/16/2013 14:30	0.475	9/18/2013 4:00	0.595	9/19/2013 17:30	0.646	9/21/2013 7:00	0.602	9/22/2013 20:30	0.672
9/16/2013 15:00	0.509	9/18/2013 4:30	0.614	9/19/2013 18:00	0.647	9/21/2013 7:30	0.606	9/22/2013 21:00	0.657
9/16/2013 15:30	0.458	9/18/2013 5:00	0.608	9/19/2013 18:30	0.669	9/21/2013 8:00	0.612	9/22/2013 21:30	0.669
9/16/2013 16:00	0.494	9/18/2013 5:30	0.594	9/19/2013 19:00	0.673	9/21/2013 8:30	0.608	9/22/2013 22:00	0.654
9/16/2013 16:30	0.487	9/18/2013 6:00	0.599	9/19/2013 19:30	0.66	9/21/2013 9:00	0.623	9/22/2013 22:30	0.672
9/16/2013 17:00	0.509	9/18/2013 6:30	0.635	9/19/2013 20:00	0.676	9/21/2013 9:30	0.602	9/22/2013 23:00	0.658
9/16/2013 17:30	0.506	9/18/2013 7:00	0.645	9/19/2013 20:30	0.663	9/21/2013 10:00	0.577	9/22/2013 23:30	0.673
9/16/2013 18:00	0.521	9/18/2013 7:30	0.598	9/19/2013 21:00	0.643	9/21/2013 10:30	0.585	9/23/2013 0:00	0.674
9/16/2013 18:30	0.522	9/18/2013 8:00	0.648	9/19/2013 21:30	0.669	9/21/2013 11:00	0.582	9/23/2013 0:30	0.665
9/16/2013 19:00	0.522	9/18/2013 8:30	0.629	9/19/2013 22:00	0.69	9/21/2013 11:30	0.6	9/23/2013 1:00	0.686
9/16/2013 19:30	0.516	9/18/2013 9:00	0.676	9/19/2013 22:30	0.664	9/21/2013 12:00	0.603	9/23/2013 1:30	0.698
9/16/2013 20:00	0.53	9/18/2013 9:30	0.635	9/19/2013 23:00	0.67	9/21/2013 12:30	0.626	9/23/2013 2:00	0.64
9/16/2013 20:30	0.531	9/18/2013 10:00	0.614	9/19/2013 23:30	0.675	9/21/2013 13:00	0.604	9/23/2013 2:30	0.716
9/16/2013 21:00	0.531	9/18/2013 10:30	0.631	9/20/2013 0:00	0.664	9/21/2013 13:30	0.622	9/23/2013 3:00	0.67
9/16/2013 21:30	0.526	9/18/2013 11:00	0.632	9/20/2013 0:30	0.666	9/21/2013 14:00	0.603	9/23/2013 3:30	0.685
9/16/2013 22:00	0.533	9/18/2013 11:30	0.617	9/20/2013 1:00	0.659	9/21/2013 14:30	0.62	9/23/2013 4:00	0.697
9/16/2013 22:30	0.536	9/18/2013 12:00	0.645	9/20/2013 1:30	0.658	9/21/2013 15:00	0.608	9/23/2013 4:30	0.678
9/16/2013 23:00	0.52	9/18/2013 12:30	0.649	9/20/2013 2:00	0.682	9/21/2013 15:30	0.609	9/23/2013 5:00	0.662
9/16/2013 23:30	0.526	9/18/2013 13:00	0.627	9/20/2013 2:30	0.669	9/21/2013 16:00	0.609	9/23/2013 5:30	0.679
9/17/2013 0:00	0.513	9/18/2013 13:30	0.653	9/20/2013 3:00	0.674	9/21/2013 16:30	0.615	9/23/2013 6:00	0.691
9/17/2013 0:30	0.528	9/18/2013 14:00	0.648	9/20/2013 3:30	0.673	9/21/2013 17:00	0.623	9/23/2013 6:30	0.683

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
9/23/2013 7:00	0.667	9/24/2013 20:30	0.791	9/26/2013 10:00	0.967	9/27/2013 23:30	0.975	9/29/2013 13:00	0.906
9/23/2013 7:30	0.707	9/24/2013 21:00	0.773	9/26/2013 10:30	0.942	9/28/2013 0:00	0.956	9/29/2013 13:30	0.907
9/23/2013 8:00	0.703	9/24/2013 21:30	0.779	9/26/2013 11:00	0.969	9/28/2013 0:30	0.935	9/29/2013 14:00	0.89
9/23/2013 8:30	0.679	9/24/2013 22:00	0.782	9/26/2013 11:30	0.971	9/28/2013 1:00	0.932	9/29/2013 14:30	0.916
9/23/2013 9:00	0.707	9/24/2013 22:30	0.777	9/26/2013 12:00	0.961	9/28/2013 1:30	0.935	9/29/2013 15:00	0.918
9/23/2013 9:30	0.719	9/24/2013 23:00	0.813	9/26/2013 12:30	0.964	9/28/2013 2:00	0.945	9/29/2013 15:30	0.909
9/23/2013 10:00	0.721	9/24/2013 23:30	0.821	9/26/2013 13:00	0.958	9/28/2013 2:30	0.933	9/29/2013 16:00	0.934
9/23/2013 10:30	0.709	9/25/2013 0:00	0.805	9/26/2013 13:30	0.957	9/28/2013 3:00	0.946	9/29/2013 16:30	0.896
9/23/2013 11:00	0.707	9/25/2013 0:30	0.827	9/26/2013 14:00	0.953	9/28/2013 3:30	0.933	9/29/2013 17:00	0.914
9/23/2013 11:30	0.721	9/25/2013 1:00	0.834	9/26/2013 14:30	0.972	9/28/2013 4:00	0.93	9/29/2013 17:30	0.928
9/23/2013 12:00	0.729	9/25/2013 1:30	0.843	9/26/2013 15:00	0.98	9/28/2013 4:30	0.936	9/29/2013 18:00	0.924
9/23/2013 12:30	0.729	9/25/2013 2:00	0.836	9/26/2013 15:30	0.981	9/28/2013 5:00	0.925	9/29/2013 18:30	0.932
9/23/2013 13:00	0.757	9/25/2013 2:30	0.843	9/26/2013 16:00	0.955	9/28/2013 5:30	0.944	9/29/2013 19:00	0.929
9/23/2013 13:30	0.729	9/25/2013 3:00	0.838	9/26/2013 16:30	0.979	9/28/2013 6:00	0.935	9/29/2013 19:30	0.938
9/23/2013 14:00	0.717	9/25/2013 3:30	0.845	9/26/2013 17:00	0.977	9/28/2013 6:30	0.948	9/29/2013 20:00	0.932
9/23/2013 14:30	0.72	9/25/2013 4:00	0.873	9/26/2013 17:30	0.965	9/28/2013 7:00	0.939	9/29/2013 20:30	0.94
9/23/2013 15:00	0.715	9/25/2013 4:30	0.871	9/26/2013 18:00	0.977	9/28/2013 7:30	0.957	9/29/2013 21:00	0.945
9/23/2013 15:30	0.71	9/25/2013 5:00	0.846	9/26/2013 18:30	0.976	9/28/2013 8:00	0.926	9/29/2013 21:30	0.949
9/23/2013 16:00	0.728	9/25/2013 5:30	0.853	9/26/2013 19:00	0.983	9/28/2013 8:30	0.924	9/29/2013 22:00	0.954
9/23/2013 16:30	0.734	9/25/2013 6:00	0.857	9/26/2013 19:30	0.973	9/28/2013 9:00	0.952	9/29/2013 22:30	0.946
9/23/2013 17:00	0.717	9/25/2013 6:30	0.88	9/26/2013 20:00	0.973	9/28/2013 9:30	0.935	9/29/2013 23:00	0.956
9/23/2013 17:30	0.717	9/25/2013 7:00	0.866	9/26/2013 20:30	0.975	9/28/2013 10:00	0.912	9/29/2013 23:30	0.953
9/23/2013 18:00	0.72	9/25/2013 7:30	0.868	9/26/2013 21:00	0.989	9/28/2013 10:30	0.923	9/30/2013 0:00	0.933
9/23/2013 18:30	0.727	9/25/2013 8:00	0.865	9/26/2013 21:30	0.971	9/28/2013 11:00	0.914	9/30/2013 0:30	0.951
9/23/2013 19:00	0.737	9/25/2013 8:30	0.874	9/26/2013 22:00	0.98	9/28/2013 11:30	0.902	9/30/2013 1:00	0.959
9/23/2013 19:30	0.741	9/25/2013 9:00	0.891	9/26/2013 22:30	0.964	9/28/2013 12:00	0.913	9/30/2013 1:30	0.962
9/23/2013 20:00	0.742	9/25/2013 9:30	0.906	9/26/2013 23:00	0.959	9/28/2013 12:30	0.909	9/30/2013 2:00	0.974
9/23/2013 20:30	0.735	9/25/2013 10:00	0.896	9/26/2013 23:30	0.977	9/28/2013 13:00	0.937	9/30/2013 2:30	0.965
9/23/2013 21:00	0.732	9/25/2013 10:30	0.893	9/27/2013 0:00	0.98	9/28/2013 13:30	0.924	9/30/2013 3:00	0.979
9/23/2013 21:30	0.741	9/25/2013 11:00	0.888	9/27/2013 0:30	0.975	9/28/2013 14:00	0.949	9/30/2013 3:30	0.996
9/23/2013 22:00	0.723	9/25/2013 11:30	0.888	9/27/2013 1:00	0.964	9/28/2013 14:30	0.939	9/30/2013 4:00	0.977
9/23/2013 22:30	0.731	9/25/2013 12:00	0.883	9/27/2013 1:30	0.962	9/28/2013 15:00	0.936	9/30/2013 4:30	0.981
9/23/2013 23:00	0.737	9/25/2013 12:30	0.899	9/27/2013 2:00	0.954	9/28/2013 15:30	0.935	9/30/2013 5:00	0.963
9/23/2013 23:30	0.743	9/25/2013 13:00	0.888	9/27/2013 2:30	0.96	9/28/2013 16:00	0.943	9/30/2013 5:30	0.98
9/24/2013 0:00	0.71	9/25/2013 13:30	0.868	9/27/2013 3:00	0.964	9/28/2013 16:30	0.944	9/30/2013 6:00	0.986
9/24/2013 0:30	0.711	9/25/2013 14:00	0.88	9/27/2013 3:30	0.975	9/28/2013 17:00	0.945	9/30/2013 6:30	0.998
9/24/2013 1:00	0.704	9/25/2013 14:30	0.907	9/27/2013 4:00	0.963	9/28/2013 17:30	0.944	9/30/2013 7:00	0.997
9/24/2013 1:30	0.738	9/25/2013 15:00	0.887	9/27/2013 4:30	0.967	9/28/2013 18:00	0.939	9/30/2013 7:30	1.006
9/24/2013 2:00	0.753	9/25/2013 15:30	0.917	9/27/2013 5:00	0.965	9/28/2013 18:30	0.938	9/30/2013 8:00	1.026
9/24/2013 2:30	0.732	9/25/2013 16:00	0.904	9/27/2013 5:30	0.969	9/28/2013 19:00	0.95	9/30/2013 8:30	1.031
9/24/2013 3:00	0.727	9/25/2013 16:30	0.894	9/27/2013 6:00	0.963	9/28/2013 19:30	0.961	9/30/2013 9:00	1.022
9/24/2013 3:30	0.719	9/25/2013 17:00	0.917	9/27/2013 6:30	0.952	9/28/2013 20:00	0.96	9/30/2013 9:30	1.03
9/24/2013 4:00	0.727	9/25/2013 17:30	0.908	9/27/2013 7:00	0.956	9/28/2013 20:30	0.948	9/30/2013 10:00	1.03
9/24/2013 4:30	0.719	9/25/2013 18:00	0.903	9/27/2013 7:30	0.975	9/28/2013 21:00	0.956	9/30/2013 10:30	1.002
9/24/2013 5:00	0.731	9/25/2013 18:30	0.905	9/27/2013 8:00	0.968	9/28/2013 21:30	0.945	9/30/2013 11:00	1.003
9/24/2013 5:30	0.74	9/25/2013 19:00	0.897	9/27/2013 8:30	0.961	9/28/2013 22:00	0.917	9/30/2013 11:30	1.011
9/24/2013 6:00	0.737	9/25/2013 19:30	0.916	9/27/2013 9:00	0.947	9/28/2013 22:30	0.913	9/30/2013 12:00	0.995
9/24/2013 6:30	0.73	9/25/2013 20:00	0.91	9/27/2013 9:30	0.913	9/28/2013 23:00	0.898	9/30/2013 12:30	0.979
9/24/2013 7:00	0.744	9/25/2013 20:30	0.907	9/27/2013 10:00	0.919	9/28/2013 23:30	0.895	9/30/2013 13:00	0.977
9/24/2013 7:30	0.737	9/25/2013 21:00	0.909	9/27/2013 10:30	0.947	9/29/2013 0:00	0.905	9/30/2013 13:30	0.978
9/24/2013 8:00	0.719	9/25/2013 21:30	0.9	9/27/2013 11:00	0.927	9/29/2013 0:30	0.891	9/30/2013 14:00	0.982
9/24/2013 8:30	0.727	9/25/2013 22:00	0.923	9/27/2013 11:30	0.926	9/29/2013 1:00	0.905	9/30/2013 14:30	0.98
9/24/2013 9:00	0.728	9/25/2013 22:30	0.91	9/27/2013 12:00	0.92	9/29/2013 1:30	0.908	9/30/2013 15:00	0.978
9/24/2013 9:30	0.717	9/25/2013 23:00	0.91	9/27/2013 12:30	0.937	9/29/2013 2:00	0.894	9/30/2013 15:30	0.969
9/24/2013 10:00	0.726	9/25/2013 23:30	0.888	9/27/2013 13:00	0.913	9/29/2013 2:30	0.882	9/30/2013 16:00	0.982
9/24/2013 10:30	0.715	9/26/2013 0:00	0.898	9/27/2013 13:30	0.935	9/29/2013 3:00	0.88	9/30/2013 16:30	0.978
9/24/2013 11:00	0.722	9/26/2013 0:30	0.908	9/27/2013 14:00	0.921	9/29/2013 3:30	0.887	9/30/2013 17:00	0.97
9/24/2013 11:30	0.71	9/26/2013 1:00	0.919	9/27/2013 14:30	0.928	9/29/2013 4:00	0.889	9/30/2013 17:30	0.98
9/24/2013 12:00	0.719	9/26/2013 1:30	0.893	9/27/2013 15:00	0.92	9/29/2013 4:30	0.881	9/30/2013 18:00	0.975
9/24/2013 12:30	0.716	9/26/2013 2:00	0.909	9/27/2013 15:30	0.925	9/29/2013 5:00	0.889	9/30/2013 18:30	1.005
9/24/2013 13:00	0.712	9/26/2013 2:30	0.91	9/27/2013 16:00	0.919	9/29/2013 5:30	0.877	9/30/2013 19:00	1.01
9/24/2013 13:30	0.729	9/26/2013 3:00	0.91	9/27/2013 16:30	0.938	9/29/2013 6:00	0.885	9/30/2013 19:30	1.017
9/24/2013 14:00	0.721	9/26/2013 3:30	0.913	9/27/2013 17:00	0.934	9/29/2013 6:30	0.9	9/30/2013 20:00	1.038
9/24/2013 14:30	0.724	9/26/2013 4:00	0.914	9/27/2013 17:30	0.94	9/29/2013 7:00	0.884	9/30/2013 20:30	1.003
9/24/2013 15:00	0.747	9/26/2013 4:30	0.928	9/27/2013 18:00	0.945	9/29/2013 7:30	0.888	9/30/2013 21:00	1.029
9/24/2013 15:30	0.742	9/26/2013 5:00	0.918	9/27/2013 18:30	0.964	9/29/2013 8:00	0.894	9/30/2013 21:30	1.026
9/24/2013 16:00	0.75	9/26/2013 5:30	0.915	9/27/2013 19:00	0.949	9/29/2013 8:30	0.901	9/30/2013 22:00	1.045
9/24/2013 16:30	0.757	9/26/2013 6:00	0.936	9/27/2013 19:30	0.958	9/29/2013 9:00	0.893	9/30/2013 22:30	1.04
9/24/2013 17:00	0.744	9/26/2013 6:30	0.948	9/27/2013 20:00	0.934	9/29/2013 9:30	0.889	9/30/2013 23:00	1.025
9/24/2013 17:30	0.753	9/26/2013 7:00	0.965	9/27/2013 20:30	0.95	9/29/2013 10:00	0.9	9/30/2013 23:30	0.999
9/24/2013 18:00	0.782	9/26/2013 7:30	0.952	9/27/2013 21:00	0.941	9/29/2013 10:30	0.914	10/1/2013 0:00	1.024
9/24/2013 18:30	0.749	9/26/2013 8:00	0.953	9/27/2013 21:30	0.938	9/29/2013 11:00	0.912	10/1/2013 0:30	1.025
9/24/2013 19:00	0.779	9/26/2013 8:30	0.943	9/27/2013 22:00	0.946	9/29/2013 11:30	0.899	10/1/2013 1:00	1.037
9/24/2013 19:30	0.78	9/26/2013 9:00	0.947	9/27/2013 22:30	0.951	9/29/2013 12:00	0.893	10/1/2013 1:30	1.029
9/24/2013 20:00	0.79	9/26/2013 9:30	0.968	9/27/2013 23:00	0.949	9/29/2013 12:30	0.918	10/1/2013 2:00	1.016

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
10/1/2013 2:30	1.009	10/2/2013 16:00	0.966	10/4/2013 5:30	1.022	10/5/2013 19:00	0.994	10/7/2013 8:30	1.018
10/1/2013 3:00	1.028	10/2/2013 16:30	0.962	10/4/2013 6:00	1.048	10/5/2013 19:30	1.01	10/7/2013 9:00	1.046
10/1/2013 3:30	1.007	10/2/2013 17:00	0.969	10/4/2013 6:30	1.019	10/5/2013 20:00	1.017	10/7/2013 9:30	1.03
10/1/2013 4:00	1.019	10/2/2013 17:30	0.975	10/4/2013 7:00	1.015	10/5/2013 20:30	1.022	10/7/2013 10:00	1.019
10/1/2013 4:30	1.042	10/2/2013 18:00	0.964	10/4/2013 7:30	1.025	10/5/2013 21:00	1.024	10/7/2013 10:30	1.022
10/1/2013 5:00	1.03	10/2/2013 18:30	0.956	10/4/2013 8:00	1.023	10/5/2013 21:30	1.01	10/7/2013 11:00	1.003
10/1/2013 5:30	1.031	10/2/2013 19:00	0.97	10/4/2013 8:30	1.038	10/5/2013 22:00	1.038	10/7/2013 11:30	1.01
10/1/2013 6:00	1.035	10/2/2013 19:30	0.969	10/4/2013 9:00	1.053	10/5/2013 22:30	1.01	10/7/2013 12:00	1.005
10/1/2013 6:30	1.045	10/2/2013 20:00	0.968	10/4/2013 9:30	1.018	10/5/2013 23:00	1.032	10/7/2013 12:30	1.001
10/1/2013 7:00	1.041	10/2/2013 20:30	0.994	10/4/2013 10:00	1.036	10/5/2013 23:30	1.014	10/7/2013 13:00	1.017
10/1/2013 7:30	1.008	10/2/2013 21:00	0.963	10/4/2013 10:30	1.003	10/6/2013 0:00	1.025	10/7/2013 13:30	1.004
10/1/2013 8:00	1.024	10/2/2013 21:30	0.977	10/4/2013 11:00	1.021	10/6/2013 0:30	1.025	10/7/2013 14:00	1.015
10/1/2013 8:30	1.016	10/2/2013 22:00	0.971	10/4/2013 11:30	0.992	10/6/2013 1:00	1.022	10/7/2013 14:30	1.009
10/1/2013 9:00	1.027	10/2/2013 22:30	0.992	10/4/2013 12:00	1.009	10/6/2013 1:30	1.015	10/7/2013 15:00	1.008
10/1/2013 9:30	1.002	10/2/2013 23:00	0.96	10/4/2013 12:30	1.012	10/6/2013 2:00	1.003	10/7/2013 15:30	1.015
10/1/2013 10:00	1.016	10/2/2013 23:30	0.975	10/4/2013 13:00	1.016	10/6/2013 2:30	1.03	10/7/2013 16:00	1.009
10/1/2013 10:30	0.986	10/3/2013 0:00	0.977	10/4/2013 13:30	1.016	10/6/2013 3:00	1.023	10/7/2013 16:30	1.031
10/1/2013 11:00	1	10/3/2013 0:30	0.974	10/4/2013 14:00	1.012	10/6/2013 3:30	1.03	10/7/2013 17:00	1.054
10/1/2013 11:30	1.004	10/3/2013 1:00	0.988	10/4/2013 14:30	1.024	10/6/2013 4:00	1.02	10/7/2013 17:30	1.091
10/1/2013 12:00	0.996	10/3/2013 1:30	0.98	10/4/2013 15:00	1.029	10/6/2013 4:30	1.009	10/7/2013 18:00	1.087
10/1/2013 12:30	1.004	10/3/2013 2:00	0.959	10/4/2013 15:30	1.017	10/6/2013 5:00	1.032	10/7/2013 18:30	1.078
10/1/2013 13:00	1.012	10/3/2013 2:30	0.982	10/4/2013 16:00	1.032	10/6/2013 5:30	1.026	10/7/2013 19:00	1.088
10/1/2013 13:30	1.017	10/3/2013 3:00	0.96	10/4/2013 16:30	0.997	10/6/2013 6:00	1.039	10/7/2013 19:30	1.095
10/1/2013 14:00	0.988	10/3/2013 3:30	0.972	10/4/2013 17:00	1.001	10/6/2013 6:30	1.013	10/7/2013 20:00	1.084
10/1/2013 14:30	0.996	10/3/2013 4:00	0.956	10/4/2013 17:30	1.024	10/6/2013 7:00	1.014	10/7/2013 20:30	1.091
10/1/2013 15:00	0.993	10/3/2013 4:30	0.981	10/4/2013 18:00	1.029	10/6/2013 7:30	1.028	10/7/2013 21:00	1.062
10/1/2013 15:30	1.002	10/3/2013 5:00	0.972	10/4/2013 18:30	1.018	10/6/2013 8:00	1.047	10/7/2013 21:30	1.076
10/1/2013 16:00	0.989	10/3/2013 5:30	0.961	10/4/2013 19:00	1.048	10/6/2013 8:30	1.033	10/7/2013 22:00	1.065
10/1/2013 16:30	0.989	10/3/2013 6:00	0.963	10/4/2013 19:30	1.054	10/6/2013 9:00	1.006	10/7/2013 22:30	1.067
10/1/2013 17:00	0.968	10/3/2013 6:30	0.969	10/4/2013 20:00	1.034	10/6/2013 9:30	1.029	10/7/2013 23:00	1.044
10/1/2013 17:30	0.999	10/3/2013 7:00	0.955	10/4/2013 20:30	1.016	10/6/2013 10:00	1.034	10/7/2013 23:30	1.052
10/1/2013 18:00	1.019	10/3/2013 7:30	0.957	10/4/2013 21:00	1.029	10/6/2013 10:30	1.02	10/8/2013 0:00	1.028
10/1/2013 18:30	1.013	10/3/2013 8:00	0.949	10/4/2013 21:30	1.03	10/6/2013 11:00	1.006	10/8/2013 0:30	1.019
10/1/2013 19:00	1	10/3/2013 8:30	0.967	10/4/2013 22:00	1.016	10/6/2013 11:30	0.998	10/8/2013 1:00	1.023
10/1/2013 19:30	1.003	10/3/2013 9:00	0.97	10/4/2013 22:30	1.033	10/6/2013 12:00	1.002	10/8/2013 1:30	1.005
10/1/2013 20:00	1	10/3/2013 9:30	0.972	10/4/2013 23:00	1.046	10/6/2013 12:30	0.992	10/8/2013 2:00	1.014
10/1/2013 20:30	1.011	10/3/2013 10:00	0.95	10/4/2013 23:30	1.03	10/6/2013 13:00	1.023	10/8/2013 2:30	1.019
10/1/2013 21:00	0.992	10/3/2013 10:30	0.964	10/5/2013 0:00	1.043	10/6/2013 13:30	1.014	10/8/2013 3:00	1.018
10/1/2013 21:30	1.009	10/3/2013 11:00	0.954	10/5/2013 0:30	1.041	10/6/2013 14:00	1.006	10/8/2013 3:30	1.008
10/1/2013 22:00	1.017	10/3/2013 11:30	0.941	10/5/2013 1:00	1.027	10/6/2013 14:30	1.024	10/8/2013 4:00	1.012
10/1/2013 22:30	1.009	10/3/2013 12:00	0.968	10/5/2013 1:30	1.041	10/6/2013 15:00	1.017	10/8/2013 4:30	1.029
10/1/2013 23:00	0.998	10/3/2013 12:30	0.934	10/5/2013 2:00	1.017	10/6/2013 15:30	0.989	10/8/2013 5:00	1.026
10/1/2013 23:30	1.012	10/3/2013 13:00	0.937	10/5/2013 2:30	1.032	10/6/2013 16:00	1.003	10/8/2013 5:30	1.007
10/2/2013 0:00	0.985	10/3/2013 13:30	0.937	10/5/2013 3:00	1.027	10/6/2013 16:30	0.989	10/8/2013 6:00	1.019
10/2/2013 0:30	0.985	10/3/2013 14:00	0.921	10/5/2013 3:30	1.033	10/6/2013 17:00	1.007	10/8/2013 6:30	1.023
10/2/2013 1:00	0.992	10/3/2013 14:30	0.921	10/5/2013 4:00	1.041	10/6/2013 17:30	1.019	10/8/2013 7:00	1.02
10/2/2013 1:30	1.006	10/3/2013 15:00	0.96	10/5/2013 4:30	1.034	10/6/2013 18:00	1.024	10/8/2013 7:30	1.013
10/2/2013 2:00	0.993	10/3/2013 15:30	0.955	10/5/2013 5:00	1.022	10/6/2013 18:30	1.045	10/8/2013 8:00	1.02
10/2/2013 2:30	1.006	10/3/2013 16:00	0.942	10/5/2013 5:30	1.067	10/6/2013 19:00	1.051	10/8/2013 8:30	1.018
10/2/2013 3:00	0.99	10/3/2013 16:30	0.949	10/5/2013 6:00	1.062	10/6/2013 19:30	1.06	10/8/2013 9:00	1.004
10/2/2013 3:30	0.986	10/3/2013 17:00	0.93	10/5/2013 6:30	1.04	10/6/2013 20:00	1.063	10/8/2013 9:30	0.99
10/2/2013 4:00	0.989	10/3/2013 17:30	0.954	10/5/2013 7:00	1.057	10/6/2013 20:30	1.057	10/8/2013 10:00	0.989
10/2/2013 4:30	0.99	10/3/2013 18:00	0.94	10/5/2013 7:30	1.053	10/6/2013 21:00	1.058	10/8/2013 10:30	0.989
10/2/2013 5:00	0.992	10/3/2013 18:30	0.954	10/5/2013 8:00	1.049	10/6/2013 21:30	1.049	10/8/2013 11:00	1.007
10/2/2013 5:30	0.985	10/3/2013 19:00	0.952	10/5/2013 8:30	1.049	10/6/2013 22:00	1.064	10/8/2013 11:30	1.002
10/2/2013 6:00	0.994	10/3/2013 19:30	0.955	10/5/2013 9:00	1.022	10/6/2013 22:30	1.052	10/8/2013 12:00	1.005
10/2/2013 6:30	0.986	10/3/2013 20:00	0.963	10/5/2013 9:30	1.018	10/6/2013 23:00	1.052	10/8/2013 12:30	1.015
10/2/2013 7:00	0.995	10/3/2013 20:30	0.953	10/5/2013 10:00	0.983	10/6/2013 23:30	1.042	10/8/2013 13:00	1.005
10/2/2013 7:30	0.999	10/3/2013 21:00	0.97	10/5/2013 10:30	1.019	10/7/2013 0:00	1.035	10/8/2013 13:30	0.999
10/2/2013 8:00	0.993	10/3/2013 21:30	0.966	10/5/2013 11:00	1.006	10/7/2013 0:30	1.032	10/8/2013 14:00	1.004
10/2/2013 8:30	0.991	10/3/2013 22:00	0.976	10/5/2013 11:30	1.026	10/7/2013 1:00	1.054	10/8/2013 14:30	1.003
10/2/2013 9:00	0.993	10/3/2013 22:30	0.965	10/5/2013 12:00	0.998	10/7/2013 1:30	1.058	10/8/2013 15:00	1.003
10/2/2013 9:30	0.974	10/3/2013 23:00	0.988	10/5/2013 12:30	0.999	10/7/2013 2:00	1.031	10/8/2013 15:30	1.008
10/2/2013 10:00	0.969	10/3/2013 23:30	0.974	10/5/2013 13:00	1.012	10/7/2013 2:30	1.059	10/8/2013 16:00	1.009
10/2/2013 10:30	0.972	10/4/2013 0:00	0.997	10/5/2013 13:30	1.01	10/7/2013 3:00	1.05	10/8/2013 16:30	1.015
10/2/2013 11:00	0.942	10/4/2013 0:30	0.993	10/5/2013 14:00	0.993	10/7/2013 3:30	1.035	10/8/2013 17:00	1.016
10/2/2013 11:30	0.97	10/4/2013 1:00	1.001	10/5/2013 14:30	0.999	10/7/2013 4:00	1.034	10/8/2013 17:30	1.018
10/2/2013 12:00	0.953	10/4/2013 1:30	1.021	10/5/2013 15:00	0.997	10/7/2013 4:30	1.02	10/8/2013 18:00	1.018
10/2/2013 12:30	0.968	10/4/2013 2:00	1.003	10/5/2013 15:30	1.018	10/7/2013 5:00	1.029	10/8/2013 18:30	1.018
10/2/2013 13:00	0.968	10/4/2013 2:30	1.005	10/5/2013 16:00	0.994	10/7/2013 5:30	1.035	10/8/2013 19:00	1.007
10/2/2013 13:30	0.978	10/4/2013 3:00	0.994	10/5/2013 16:30	0.989	10/7/2013 6:00	1.03	10/8/2013 19:30	1.023
10/2/2013 14:00	0.97	10/4/2013 3:30	1.037	10/5/2013 17:00	0.998	10/7/2013 6:30	1.043	10/8/2013 20:00	1.023
10/2/2013 14:30	0.973	10/4/2013 4:00	1.027	10/5/2013 17:30	1.002	10/7/2013 7:00	1.021	10/8/2013 20:30	1.029
10/2/2013 15:00	0.954	10/4/2013 4:30	1.028	10/5/2013 18:00	1.002	10/7/2013 7:30	1.035	10/8/2013 21:00	1.026
10/2/2013 15:30	0.952	10/4/2013 5:00	1.016	10/5/2013 18:30	1.002	10/7/2013 8:00	1.036	10/8/2013 21:30	1.034

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
10/8/2013 22:00	1.033	10/10/2013 11:30	1.064	10/12/2013 1:00	1.106	10/15/2013 16:30	1.073	10/17/2013 6:00	1.142
10/8/2013 22:30	1.034	10/10/2013 12:00	1.05	10/12/2013 1:30	1.08	10/15/2013 17:00	1.081	10/17/2013 6:30	1.166
10/8/2013 23:00	1.045	10/10/2013 12:30	1.054	10/12/2013 2:00	1.117	10/15/2013 17:30	1.082	10/17/2013 7:00	1.149
10/8/2013 23:30	1.037	10/10/2013 13:00	1.056	10/12/2013 2:30	1.103	10/15/2013 18:00	1.08	10/17/2013 7:30	1.145
10/9/2013 0:00	1.048	10/10/2013 13:30	1.06	10/12/2013 3:00	1.094	10/15/2013 18:30	1.065	10/17/2013 8:00	1.129
10/9/2013 0:30	1.021	10/10/2013 14:00	1.054	10/12/2013 3:30	1.091	10/15/2013 19:00	1.083	10/17/2013 8:30	1.15
10/9/2013 1:00	1.038	10/10/2013 14:30	1.062	10/12/2013 4:00	1.094	10/15/2013 19:30	1.092	10/17/2013 9:00	1.132
10/9/2013 1:30	1.034	10/10/2013 15:00	1.072	10/12/2013 4:30	1.115	10/15/2013 20:00	1.098	10/17/2013 9:30	1.144
10/9/2013 2:00	1.026	10/10/2013 15:30	1.054	10/12/2013 5:00	1.107	10/15/2013 20:30	1.085	10/17/2013 10:00	1.138
10/9/2013 2:30	1.036	10/10/2013 16:00	1.07	10/12/2013 5:30	1.11	10/15/2013 21:00	1.099	10/17/2013 10:30	1.112
10/9/2013 3:00	1.053	10/10/2013 16:30	1.058	10/12/2013 6:00	1.118	10/15/2013 21:30	1.094	10/17/2013 11:00	1.108
10/9/2013 3:30	1.04	10/10/2013 17:00	1.064	10/12/2013 6:30	1.099	10/15/2013 22:00	1.09	10/17/2013 11:30	1.105
10/9/2013 4:00	1.017	10/10/2013 17:30	1.048	10/12/2013 7:00	1.118	10/15/2013 22:30	1.101	10/17/2013 12:00	1.117
10/9/2013 4:30	1.051	10/10/2013 18:00	1.077	10/12/2013 7:30	1.115	10/15/2013 23:00	1.09	10/17/2013 12:30	1.104
10/9/2013 5:00	1.023	10/10/2013 18:30	1.073	10/12/2013 8:00	1.105	10/15/2013 23:30	1.077	10/17/2013 13:00	1.087
10/9/2013 5:30	1.044	10/10/2013 19:00	1.059	10/12/2013 8:30	1.117	10/16/2013 0:00	1.069	10/17/2013 13:30	1.096
10/9/2013 6:00	1.055	10/10/2013 19:30	1.059	10/12/2013 9:00	1.11	10/16/2013 0:30	1.094	10/17/2013 14:00	1.095
10/9/2013 6:30	1.037	10/10/2013 20:00	1.075	10/12/2013 9:30	1.115	10/16/2013 1:00	1.101	10/17/2013 14:30	1.109
10/9/2013 7:00	1.048	10/10/2013 20:30	1.087	10/12/2013 10:00	1.086	10/16/2013 1:30	1.109	10/17/2013 15:00	1.094
10/9/2013 7:30	1.062	10/10/2013 21:00	1.087	10/12/2013 10:30	1.07	10/16/2013 2:00	1.111	10/17/2013 15:30	1.1
10/9/2013 8:00	1.035	10/10/2013 21:30	1.081	10/12/2013 11:00	1.09	10/16/2013 2:30	1.107	10/17/2013 16:00	1.088
10/9/2013 8:30	1.058	10/10/2013 22:00	1.064	10/12/2013 11:30	1.095	10/16/2013 3:00	1.111	10/17/2013 16:30	1.084
10/9/2013 9:00	1.044	10/10/2013 22:30	1.075	10/12/2013 12:00	1.087	10/16/2013 3:30	1.107	10/17/2013 17:00	1.086
10/9/2013 9:30	1.035	10/10/2013 23:00	1.057	10/12/2013 12:30	1.089	10/16/2013 4:00	1.093	10/17/2013 17:30	1.086
10/9/2013 10:00	1.076	10/10/2013 23:30	1.064	10/12/2013 13:00	1.086	10/16/2013 4:30	1.094	10/17/2013 18:00	1.106
10/9/2013 10:30	1.055	10/11/2013 0:00	1.068	10/12/2013 13:30	1.075	10/16/2013 5:00	1.09	10/17/2013 18:30	1.107
10/9/2013 11:00	1.045	10/11/2013 0:30	1.061	10/12/2013 14:00	1.08	10/16/2013 5:30	1.096	10/17/2013 19:00	1.114
10/9/2013 11:30	1.038	10/11/2013 1:00	1.07	10/12/2013 14:30	1.082	10/16/2013 6:00	1.1	10/17/2013 19:30	1.12
10/9/2013 12:00	1.037	10/11/2013 1:30	1.071	10/12/2013 15:00	1.082	10/16/2013 6:30	1.107	10/17/2013 20:00	1.102
10/9/2013 12:30	1.035	10/11/2013 2:00	1.063	10/12/2013 15:30	1.074	10/16/2013 7:00	1.088	10/17/2013 20:30	1.118
10/9/2013 13:00	1.035	10/11/2013 2:30	1.06	10/12/2013 16:00	1.069	10/16/2013 7:30	1.118	10/17/2013 21:00	1.112
10/9/2013 13:30	1.044	10/11/2013 3:00	1.077	10/12/2013 16:30	1.062	10/16/2013 8:00	1.084	10/17/2013 21:30	1.096
10/9/2013 14:00	1.029	10/11/2013 3:30	1.066	10/12/2013 17:00	1.074	10/16/2013 8:30	1.087	10/17/2013 22:00	1.11
10/9/2013 14:30	1.052	10/11/2013 4:00	1.042	10/12/2013 17:30	1.081	10/16/2013 9:00	1.082	10/17/2013 22:30	1.106
10/9/2013 15:00	1.039	10/11/2013 4:30	1.056	10/12/2013 18:00	1.072	10/16/2013 9:30	1.087	10/17/2013 23:00	1.104
10/9/2013 15:30	1.047	10/11/2013 5:00	1.058	10/12/2013 18:30	1.083	10/16/2013 10:00	1.092	10/17/2013 23:30	1.11
10/9/2013 16:00	1.045	10/11/2013 5:30	1.07	10/12/2013 19:00	1.096	10/16/2013 10:30	1.064	10/18/2013 0:00	1.114
10/9/2013 16:30	1.036	10/11/2013 6:00	1.076	10/12/2013 19:30	1.097	10/16/2013 11:00	1.099	10/18/2013 0:30	1.094
10/9/2013 17:00	1.05	10/11/2013 6:30	1.074	10/12/2013 20:00	1.102	10/16/2013 11:30	1.076	10/18/2013 1:00	1.119
10/9/2013 17:30	1.036	10/11/2013 7:00	1.07	10/12/2013 20:30	1.103	10/16/2013 12:00	1.089	10/18/2013 1:30	1.109
10/9/2013 18:00	1.052	10/11/2013 7:30	1.069	10/12/2013 21:00	1.12	10/16/2013 12:30	1.083	10/18/2013 2:00	1.099
10/9/2013 18:30	1.053	10/11/2013 8:00	1.074	10/12/2013 21:30	1.085	10/16/2013 13:00	1.069	10/18/2013 2:30	1.095
10/9/2013 19:00	1.075	10/11/2013 8:30	1.085	10/12/2013 22:00	1.092	10/16/2013 13:30	1.078	10/18/2013 3:00	1.096
10/9/2013 19:30	1.046	10/11/2013 9:00	1.085	10/12/2013 22:30	1.103	10/16/2013 14:00	1.077	10/18/2013 3:30	1.099
10/9/2013 20:00	1.073	10/11/2013 9:30	1.068	10/12/2013 23:00	1.111	10/16/2013 14:30	1.075	10/18/2013 4:00	1.095
10/9/2013 20:30	1.075	10/11/2013 10:00	1.083	10/12/2013 23:30	1.117	10/16/2013 15:00	1.061	10/18/2013 4:30	1.122
10/9/2013 21:00	1.076	10/11/2013 10:30	1.09	10/13/2013 0:00	1.107	10/16/2013 15:30	1.08	10/18/2013 5:00	1.102
10/9/2013 21:30	1.068	10/11/2013 11:00	1.069	10/13/2013 0:30	1.11	10/16/2013 16:00	1.091	10/18/2013 5:30	1.115
10/9/2013 22:00	1.063	10/11/2013 11:30	1.054	10/13/2013 1:00	1.11	10/16/2013 16:30	1.067	10/18/2013 6:00	1.12
10/9/2013 22:30	1.062	10/11/2013 12:00	1.058	10/13/2013 1:30	1.111	10/16/2013 17:00	1.089	10/18/2013 6:30	1.111
10/9/2013 23:00	1.063	10/11/2013 12:30	1.08	10/13/2013 2:00	1.101	10/16/2013 17:30	1.081	10/18/2013 7:00	1.143
10/9/2013 23:30	1.067	10/11/2013 13:00	1.066	10/13/2013 2:30	1.094	10/16/2013 18:00	1.078	10/18/2013 7:30	1.118
10/10/2013 0:00	1.068	10/11/2013 13:30	1.068	10/13/2013 3:00	1.123	10/16/2013 18:30	1.089	10/18/2013 8:00	1.129
10/10/2013 0:30	1.072	10/11/2013 14:00	1.05	10/13/2013 3:30	1.144	10/16/2013 19:00	1.085	10/18/2013 8:30	1.129
10/10/2013 1:00	1.072	10/11/2013 14:30	1.069	10/13/2013 4:00	1.142	10/16/2013 19:30	1.087	10/18/2013 9:00	1.13
10/10/2013 1:30	1.066	10/11/2013 15:00	1.066	10/13/2013 4:30	1.101	10/16/2013 20:00	1.085	10/18/2013 9:30	1.107
10/10/2013 2:00	1.073	10/11/2013 15:30	1.07	10/13/2013 5:00	1.123	10/16/2013 20:30	1.07	10/18/2013 10:00	1.112
10/10/2013 2:30	1.082	10/11/2013 16:00	1.06	10/13/2013 5:30	1.102	10/16/2013 21:00	1.069	10/18/2013 10:30	1.096
10/10/2013 3:00	1.065	10/11/2013 16:30	1.077	10/13/2013 6:00	1.121	10/16/2013 21:30	1.086	10/18/2013 11:00	1.111
10/10/2013 3:30	1.084	10/11/2013 17:00	1.057	10/13/2013 6:30	1.132	10/16/2013 22:00	1.093	10/18/2013 11:30	1.089
10/10/2013 4:00	1.085	10/11/2013 17:30	1.059	10/13/2013 7:00	1.112	10/16/2013 22:30	1.095	10/18/2013 12:00	1.086
10/10/2013 4:30	1.079	10/11/2013 18:00	1.069	10/13/2013 7:30	1.112	10/16/2013 23:00	1.116	10/18/2013 12:30	1.097
10/10/2013 5:00	1.072	10/11/2013 18:30	1.079	10/13/2013 8:00	1.116	10/16/2013 23:30	1.121	10/18/2013 13:00	1.09
10/10/2013 5:30	1.08	10/11/2013 19:00	1.092	10/13/2013 8:30	1.14	10/17/2013 0:00	1.128	10/18/2013 13:30	1.109
10/10/2013 6:00	1.091	10/11/2013 19:30	1.082	10/13/2013 9:00	1.117	10/17/2013 0:30	1.12	10/18/2013 14:00	1.089
10/10/2013 6:30	1.094	10/11/2013 20:00	1.103	10/13/2013 9:30	1.101	10/17/2013 1:00	1.161	10/18/2013 14:30	1.081
10/10/2013 7:00	1.09	10/11/2013 20:30	1.091	10/13/2013 10:00	1.103	10/17/2013 1:30	1.137	10/18/2013 15:00	1.083
10/10/2013 7:30	1.067	10/11/2013 21:00	1.088	10/13/2013 10:30	1.094	10/17/2013 2:00	1.157	10/18/2013 15:30	1.085
10/10/2013 8:00	1.102	10/11/2013 21:30	1.091	10/13/2013 11:00	1.104	10/17/2013 2:30	1.152	10/18/2013 16:00	1.092
10/10/2013 8:30	1.092	10/11/2013 22:00	1.091	10/13/2013 11:30	1.089	10/17/2013 3:00	1.157	10/18/2013 16:30	1.072
10/10/2013 9:00	1.076	10/11/2013 22:30	1.089	10/13/2013 12:00	1.098	10/17/2013 3:30	1.185	10/18/2013 17:00	1.078
10/10/2013 9:30	1.053	10/11/2013 23:00	1.092	10/13/2013 12:30	1.095	10/17/2013 4:00	1.175	10/18/2013 17:30	1.099
10/10/2013 10:00	1.049	10/11/2013 23:30	1.082	10/13/2013 13:00	1.105	10/17/2013 4:30	1.162	10/18/2013 18:00	1.093
10/10/2013 10:30	1.032	10/12/2013 0:00	1.083	10/13/2013 13:30	1.096	10/17/2013 5:00	1.176	10/18/2013 18:30	1.106
10/10/2013 11:00	1.049	10/12/2013 0:30	1.081	10/13/2013 14:00	1.099	10/17/2013 5:30	1.181	10/18/2013 19:00	1.108

Clark Fork at Gemback Road (CFR-F1) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-1.02 feet).

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
10/18/2013 19:30	1.106	10/20/2013 9:00	1.067	10/21/2013 22:30	1.071	10/23/2013 12:00	1.043		
10/18/2013 20:00	1.137	10/20/2013 9:30	1.068	10/21/2013 23:00	1.064	10/23/2013 12:30	1.035		
10/18/2013 20:30	1.111	10/20/2013 10:00	1.064	10/21/2013 23:30	1.08	10/23/2013 13:00	1.044		
10/18/2013 21:00	1.129	10/20/2013 10:30	1.056	10/22/2013 0:00	1.072	10/23/2013 13:30	1.037		
10/18/2013 21:30	1.116	10/20/2013 11:00	1.068	10/22/2013 0:30	1.064	10/23/2013 14:00	1.149		
10/18/2013 22:00	1.117	10/20/2013 11:30	1.058	10/22/2013 1:00	1.063	10/23/2013 14:30	1.138		
10/18/2013 22:30	1.117	10/20/2013 12:00	1.059	10/22/2013 1:30	1.073	10/23/2013 15:00	1.313		
10/18/2013 23:00	1.137	10/20/2013 12:30	1.061	10/22/2013 2:00	1.066	10/23/2013 15:30	1.165		
10/18/2013 23:30	1.121	10/20/2013 13:00	1.067	10/22/2013 2:30	1.073	10/23/2013 16:00	1.139		
10/19/2013 0:00	1.144	10/20/2013 13:30	1.058	10/22/2013 3:00	1.082	10/23/2013 16:30	1.158		
10/19/2013 0:30	1.131	10/20/2013 14:00	1.055	10/22/2013 3:30	1.076	10/23/2013 17:00	1.13		
10/19/2013 1:00	1.133	10/20/2013 14:30	1.067	10/22/2013 4:00	1.083	10/23/2013 17:30	1.143		
10/19/2013 1:30	1.119	10/20/2013 15:00	1.047	10/22/2013 4:30	1.097	10/23/2013 18:00	1.154		
10/19/2013 2:00	1.125	10/20/2013 15:30	1.075	10/22/2013 5:00	1.092	10/23/2013 18:30	1.163		
10/19/2013 2:30	1.112	10/20/2013 16:00	1.062	10/22/2013 5:30	1.081	10/23/2013 19:00	1.162		
10/19/2013 3:00	1.127	10/20/2013 16:30	1.056	10/22/2013 6:00	1.066	10/23/2013 19:30	1.155		
10/19/2013 3:30	1.105	10/20/2013 17:00	1.049	10/22/2013 6:30	1.076	10/23/2013 20:00	1.167		
10/19/2013 4:00	1.129	10/20/2013 17:30	1.064	10/22/2013 7:00	1.07	10/23/2013 20:30	1.197		
10/19/2013 4:30	1.107	10/20/2013 18:00	1.054	10/22/2013 7:30	1.065	10/23/2013 21:00	1.187		
10/19/2013 5:00	1.115	10/20/2013 18:30	1.061	10/22/2013 8:00	1.073	10/23/2013 21:30	1.177		
10/19/2013 5:30	1.086	10/20/2013 19:00	1.062	10/22/2013 8:30	1.086	10/23/2013 22:00	1.194		
10/19/2013 6:00	1.119	10/20/2013 19:30	1.057	10/22/2013 9:00	1.075	10/23/2013 22:30	1.178		
10/19/2013 6:30	1.106	10/20/2013 20:00	1.083	10/22/2013 9:30	1.053	10/23/2013 23:00	1.183		
10/19/2013 7:00	1.122	10/20/2013 20:30	1.091	10/22/2013 10:00	1.044	10/23/2013 23:30	1.175		
10/19/2013 7:30	1.113	10/20/2013 21:00	1.099	10/22/2013 10:30	1.049	10/24/2013 0:00	1.175		
10/19/2013 8:00	1.106	10/20/2013 21:30	1.083	10/22/2013 11:00	1.054	10/24/2013 0:30	1.168		
10/19/2013 8:30	1.118	10/20/2013 22:00	1.084	10/22/2013 11:30	1.045	10/24/2013 1:00	1.204		
10/19/2013 9:00	1.109	10/20/2013 22:30	1.08	10/22/2013 12:00	1.047	10/24/2013 1:30	1.186		
10/19/2013 9:30	1.091	10/20/2013 23:00	1.086	10/22/2013 12:30	1.029	10/24/2013 2:00	1.166		
10/19/2013 10:00	1.114	10/20/2013 23:30	1.093	10/22/2013 13:00	1.019	10/24/2013 2:30	1.181		
10/19/2013 10:30	1.086	10/21/2013 0:00	1.073	10/22/2013 13:30	1.041	10/24/2013 3:00	1.159		
10/19/2013 11:00	1.077	10/21/2013 0:30	1.081	10/22/2013 14:00	1.021	10/24/2013 3:30	1.194		
10/19/2013 11:30	1.069	10/21/2013 1:00	1.081	10/22/2013 14:30	1.044	10/24/2013 4:00	1.207		
10/19/2013 12:00	1.06	10/21/2013 1:30	1.081	10/22/2013 15:00	1.034	10/24/2013 4:30	1.172		
10/19/2013 12:30	1.067	10/21/2013 2:00	1.069	10/22/2013 15:30	1.007	10/24/2013 5:00	1.166		
10/19/2013 13:00	1.065	10/21/2013 2:30	1.073	10/22/2013 16:00	0.956	10/24/2013 5:30	1.167		
10/19/2013 13:30	1.076	10/21/2013 3:00	1.101	10/22/2013 16:30	0.953	10/24/2013 6:00	1.183		
10/19/2013 14:00	1.084	10/21/2013 3:30	1.104	10/22/2013 17:00	0.969	10/24/2013 6:30	1.182		
10/19/2013 14:30	1.078	10/21/2013 4:00	1.071	10/22/2013 17:30	1.01	10/24/2013 7:00	1.188		
10/19/2013 15:00	1.038	10/21/2013 4:30	1.088	10/22/2013 18:00	1.027	10/24/2013 7:30	1.181		
10/19/2013 15:30	1.078	10/21/2013 5:00	1.058	10/22/2013 18:30	1.047	10/24/2013 8:00	1.197		
10/19/2013 16:00	1.059	10/21/2013 5:30	1.079	10/22/2013 19:00	1.045	10/24/2013 8:30	1.186		
10/19/2013 16:30	1.056	10/21/2013 6:00	1.079	10/22/2013 19:30	1.058	10/24/2013 9:00	1.179		
10/19/2013 17:00	1.071	10/21/2013 6:30	1.069	10/22/2013 20:00	1.069	10/24/2013 9:30	1.157		
10/19/2013 17:30	1.068	10/21/2013 7:00	1.063	10/22/2013 20:30	1.06	10/24/2013 10:00	1.146		
10/19/2013 18:00	1.061	10/21/2013 7:30	1.068	10/22/2013 21:00	1.057	10/24/2013 10:30	1.158		
10/19/2013 18:30	1.072	10/21/2013 8:00	1.079	10/22/2013 21:30	1.075	10/24/2013 11:00	1.137		
10/19/2013 19:00	1.092	10/21/2013 8:30	1.074	10/22/2013 22:00	1.052				
10/19/2013 19:30	1.102	10/21/2013 9:00	1.064	10/22/2013 22:30	1.08				
10/19/2013 20:00	1.08	10/21/2013 9:30	1.065	10/22/2013 23:00	1.074				
10/19/2013 20:30	1.071	10/21/2013 10:00	1.04	10/22/2013 23:30	1.076				
10/19/2013 21:00	1.092	10/21/2013 10:30	1.028	10/23/2013 0:00	1.086				
10/19/2013 21:30	1.085	10/21/2013 11:00	1.053	10/23/2013 0:30	1.078				
10/19/2013 22:00	1.074	10/21/2013 11:30	1.032	10/23/2013 1:00	1.078				
10/19/2013 22:30	1.089	10/21/2013 12:00	1.039	10/23/2013 1:30	1.078				
10/19/2013 23:00	1.081	10/21/2013 12:30	1.022	10/23/2013 2:00	1.077				
10/19/2013 23:30	1.061	10/21/2013 13:00	1.046	10/23/2013 2:30	1.089				
10/20/2013 0:00	1.09	10/21/2013 13:30	1.046	10/23/2013 3:00	1.099				
10/20/2013 0:30	1.05	10/21/2013 14:00	1.055	10/23/2013 3:30	1.09				
10/20/2013 1:00	1.09	10/21/2013 14:30	1.038	10/23/2013 4:00	1.08				
10/20/2013 1:30	1.063	10/21/2013 15:00	1.049	10/23/2013 4:30	1.059				
10/20/2013 2:00	1.081	10/21/2013 15:30	1.021	10/23/2013 5:00	1.078				
10/20/2013 2:30	1.069	10/21/2013 16:00	1.042	10/23/2013 5:30	1.098				
10/20/2013 3:00	1.057	10/21/2013 16:30	1.044	10/23/2013 6:00	1.078				
10/20/2013 3:30	1.068	10/21/2013 17:00	1.013	10/23/2013 6:30	1.093				
10/20/2013 4:00	1.076	10/21/2013 17:30	1.033	10/23/2013 7:00	1.076				
10/20/2013 4:30	1.067	10/21/2013 18:00	1.049	10/23/2013 7:30	1.098				
10/20/2013 5:00	1.077	10/21/2013 18:30	1.043	10/23/2013 8:00	1.078				
10/20/2013 5:30	1.053	10/21/2013 19:00	1.071	10/23/2013 8:30	1.093				
10/20/2013 6:00	1.065	10/21/2013 19:30	1.059	10/23/2013 9:00	1.068				
10/20/2013 6:30	1.069	10/21/2013 20:00	1.041	10/23/2013 9:30	1.074				
10/20/2013 7:00	1.064	10/21/2013 20:30	1.049	10/23/2013 10:00	1.048				
10/20/2013 7:30	1.084	10/21/2013 21:00	1.055	10/23/2013 10:30	1.041				
10/20/2013 8:00	1.089	10/21/2013 21:30	1.063	10/23/2013 11:00	1.035				
10/20/2013 8:30	1.064	10/21/2013 22:00	1.062	10/23/2013 11:30	1.054				

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
6/21/2013 14:00	0.607	6/23/2013 3:30	0.639	6/24/2013 17:00	0.578	6/26/2013 6:30	0.597	6/27/2013 20:00	0.68
6/21/2013 14:30	0.599	6/23/2013 4:00	0.634	6/24/2013 17:30	0.577	6/26/2013 7:00	0.62	6/27/2013 20:30	0.703
6/21/2013 15:00	0.604	6/23/2013 4:30	0.642	6/24/2013 18:00	0.584	6/26/2013 7:30	0.62	6/27/2013 21:00	0.7
6/21/2013 15:30	0.604	6/23/2013 5:00	0.644	6/24/2013 18:30	0.601	6/26/2013 8:00	0.61	6/27/2013 21:30	0.696
6/21/2013 16:00	0.603	6/23/2013 5:30	0.654	6/24/2013 19:00	0.608	6/26/2013 8:30	0.609	6/27/2013 22:00	0.667
6/21/2013 16:30	0.612	6/23/2013 6:00	0.652	6/24/2013 19:30	0.581	6/26/2013 9:00	0.6	6/27/2013 22:30	0.686
6/21/2013 17:00	0.609	6/23/2013 6:30	0.638	6/24/2013 20:00	0.604	6/26/2013 9:30	0.611	6/27/2013 23:00	0.672
6/21/2013 17:30	0.62	6/23/2013 7:00	0.617	6/24/2013 20:30	0.588	6/26/2013 10:00	0.609	6/27/2013 23:30	0.652
6/21/2013 18:00	0.606	6/23/2013 7:30	0.623	6/24/2013 21:00	0.588	6/26/2013 10:30	0.604	6/28/2013 0:00	0.662
6/21/2013 18:30	0.604	6/23/2013 8:00	0.613	6/24/2013 21:30	0.589	6/26/2013 11:00	0.598	6/28/2013 0:30	0.636
6/21/2013 19:00	0.625	6/23/2013 8:30	0.614	6/24/2013 22:00	0.582	6/26/2013 11:30	0.61	6/28/2013 1:00	0.653
6/21/2013 19:30	0.588	6/23/2013 9:00	0.608	6/24/2013 22:30	0.573	6/26/2013 12:00	0.618	6/28/2013 1:30	0.646
6/21/2013 20:00	0.595	6/23/2013 9:30	0.614	6/24/2013 23:00	0.601	6/26/2013 12:30	0.615	6/28/2013 2:00	0.638
6/21/2013 20:30	0.606	6/23/2013 10:00	0.634	6/24/2013 23:30	0.601	6/26/2013 13:00	0.597	6/28/2013 2:30	0.646
6/21/2013 21:00	0.627	6/23/2013 10:30	0.623	6/25/2013 0:00	0.605	6/26/2013 13:30	0.621	6/28/2013 3:00	0.635
6/21/2013 21:30	0.629	6/23/2013 11:00	0.623	6/25/2013 0:30	0.615	6/26/2013 14:00	0.602	6/28/2013 3:30	0.654
6/21/2013 22:00	0.628	6/23/2013 11:30	0.611	6/25/2013 1:00	0.613	6/26/2013 14:30	0.598	6/28/2013 4:00	0.627
6/21/2013 22:30	0.62	6/23/2013 12:00	0.624	6/25/2013 1:30	0.615	6/26/2013 15:00	0.617	6/28/2013 4:30	0.629
6/21/2013 23:00	0.633	6/23/2013 12:30	0.631	6/25/2013 2:00	0.609	6/26/2013 15:30	0.605	6/28/2013 5:00	0.631
6/21/2013 23:30	0.623	6/23/2013 13:00	0.637	6/25/2013 2:30	0.6	6/26/2013 16:00	0.636	6/28/2013 5:30	0.634
6/22/2013 0:00	0.613	6/23/2013 13:30	0.63	6/25/2013 3:00	0.607	6/26/2013 16:30	0.627	6/28/2013 6:00	0.646
6/22/2013 0:30	0.6	6/23/2013 14:00	0.621	6/25/2013 3:30	0.614	6/26/2013 17:00	0.645	6/28/2013 6:30	0.641
6/22/2013 1:00	0.594	6/23/2013 14:30	0.621	6/25/2013 4:00	0.598	6/26/2013 17:30	0.667	6/28/2013 7:00	0.629
6/22/2013 1:30	0.603	6/23/2013 15:00	0.582	6/25/2013 4:30	0.588	6/26/2013 18:00	0.64	6/28/2013 7:30	0.631
6/22/2013 2:00	0.581	6/23/2013 15:30	0.645	6/25/2013 5:00	0.606	6/26/2013 18:30	0.654	6/28/2013 8:00	0.633
6/22/2013 2:30	0.581	6/23/2013 16:00	0.624	6/25/2013 5:30	0.623	6/26/2013 19:00	0.607	6/28/2013 8:30	0.639
6/22/2013 3:00	0.574	6/23/2013 16:30	0.605	6/25/2013 6:00	0.597	6/26/2013 19:30	0.655	6/28/2013 9:00	0.65
6/22/2013 3:30	0.587	6/23/2013 17:00	0.607	6/25/2013 6:30	0.606	6/26/2013 20:00	0.66	6/28/2013 9:30	0.634
6/22/2013 4:00	0.573	6/23/2013 17:30	0.607	6/25/2013 7:00	0.604	6/26/2013 20:30	0.675	6/28/2013 10:00	0.653
6/22/2013 4:30	0.571	6/23/2013 18:00	0.603	6/25/2013 7:30	0.6	6/26/2013 21:00	0.675	6/28/2013 10:30	0.639
6/22/2013 5:00	0.589	6/23/2013 18:30	0.605	6/25/2013 8:00	0.621	6/26/2013 21:30	0.661	6/28/2013 11:00	0.659
6/22/2013 5:30	0.57	6/23/2013 19:00	0.642	6/25/2013 8:30	0.605	6/26/2013 22:00	0.665	6/28/2013 11:30	0.63
6/22/2013 6:00	0.558	6/23/2013 19:30	0.595	6/25/2013 9:00	0.584	6/26/2013 22:30	0.662	6/28/2013 12:00	0.666
6/22/2013 6:30	0.581	6/23/2013 20:00	0.611	6/25/2013 9:30	0.607	6/26/2013 23:00	0.657	6/28/2013 12:30	0.672
6/22/2013 7:00	0.596	6/23/2013 20:30	0.6	6/25/2013 10:00	0.598	6/26/2013 23:30	0.647	6/28/2013 13:00	0.657
6/22/2013 7:30	0.578	6/23/2013 21:00	0.579	6/25/2013 10:30	0.63	6/27/2013 0:00	0.633	6/28/2013 13:30	0.677
6/22/2013 8:00	0.589	6/23/2013 21:30	0.59	6/25/2013 11:00	0.632	6/27/2013 0:30	0.649	6/28/2013 14:00	0.687
6/22/2013 8:30	0.573	6/23/2013 22:00	0.597	6/25/2013 11:30	0.647	6/27/2013 1:00	0.644	6/28/2013 14:30	0.675
6/22/2013 9:00	0.609	6/23/2013 22:30	0.597	6/25/2013 12:00	0.645	6/27/2013 1:30	0.638	6/28/2013 15:00	0.662
6/22/2013 9:30	0.603	6/23/2013 23:00	0.587	6/25/2013 12:30	0.648	6/27/2013 2:00	0.64	6/28/2013 15:30	0.676
6/22/2013 10:00	0.597	6/23/2013 23:30	0.6	6/25/2013 13:00	0.645	6/27/2013 2:30	0.656	6/28/2013 16:00	0.67
6/22/2013 10:30	0.606	6/24/2013 0:00	0.568	6/25/2013 13:30	0.652	6/27/2013 3:00	0.646	6/28/2013 16:30	0.69
6/22/2013 11:00	0.608	6/24/2013 0:30	0.556	6/25/2013 14:00	0.651	6/27/2013 3:30	0.635	6/28/2013 17:00	0.652
6/22/2013 11:30	0.6	6/24/2013 1:00	0.589	6/25/2013 14:30	0.652	6/27/2013 4:00	0.652	6/28/2013 17:30	0.691
6/22/2013 12:00	0.58	6/24/2013 1:30	0.57	6/25/2013 15:00	0.66	6/27/2013 4:30	0.64	6/28/2013 18:00	0.667
6/22/2013 12:30	0.595	6/24/2013 2:00	0.571	6/25/2013 15:30	0.665	6/27/2013 5:00	0.658	6/28/2013 18:30	0.681
6/22/2013 13:00	0.568	6/24/2013 2:30	0.57	6/25/2013 16:00	0.628	6/27/2013 5:30	0.645	6/28/2013 19:00	0.681
6/22/2013 13:30	0.586	6/24/2013 3:00	0.565	6/25/2013 16:30	0.64	6/27/2013 6:00	0.642	6/28/2013 19:30	0.656
6/22/2013 14:00	0.564	6/24/2013 3:30	0.571	6/25/2013 17:00	0.662	6/27/2013 6:30	0.634	6/28/2013 20:00	0.66
6/22/2013 14:30	0.618	6/24/2013 4:00	0.562	6/25/2013 17:30	0.636	6/27/2013 7:00	0.613	6/28/2013 20:30	0.686
6/22/2013 15:00	0.592	6/24/2013 4:30	0.576	6/25/2013 18:00	0.68	6/27/2013 7:30	0.626	6/28/2013 21:00	0.648
6/22/2013 15:30	0.616	6/24/2013 5:00	0.558	6/25/2013 18:30	0.665	6/27/2013 8:00	0.619	6/28/2013 21:30	0.67
6/22/2013 16:00	0.621	6/24/2013 5:30	0.546	6/25/2013 19:00	0.666	6/27/2013 8:30	0.594	6/28/2013 22:00	0.668
6/22/2013 16:30	0.618	6/24/2013 6:00	0.544	6/25/2013 19:30	0.663	6/27/2013 9:00	0.579	6/28/2013 22:30	0.657
6/22/2013 17:00	0.625	6/24/2013 6:30	0.558	6/25/2013 20:00	0.664	6/27/2013 9:30	0.611	6/28/2013 23:00	0.661
6/22/2013 17:30	0.602	6/24/2013 7:00	0.534	6/25/2013 20:30	0.663	6/27/2013 10:00	0.619	6/28/2013 23:30	0.654
6/22/2013 18:00	0.615	6/24/2013 7:30	0.533	6/25/2013 21:00	0.652	6/27/2013 10:30	0.645	6/29/2013 0:00	0.666
6/22/2013 18:30	0.611	6/24/2013 8:00	0.542	6/25/2013 21:30	0.651	6/27/2013 11:00	0.638	6/29/2013 0:30	0.633
6/22/2013 19:00	0.628	6/24/2013 8:30	0.531	6/25/2013 22:00	0.669	6/27/2013 11:30	0.643	6/29/2013 1:00	0.658
6/22/2013 19:30	0.608	6/24/2013 9:00	0.53	6/25/2013 22:30	0.664	6/27/2013 12:00	0.637	6/29/2013 1:30	0.646
6/22/2013 20:00	0.627	6/24/2013 9:30	0.536	6/25/2013 23:00	0.643	6/27/2013 12:30	0.643	6/29/2013 2:00	0.643
6/22/2013 20:30	0.625	6/24/2013 10:00	0.535	6/25/2013 23:30	0.646	6/27/2013 13:00	0.674	6/29/2013 2:30	0.614
6/22/2013 21:00	0.614	6/24/2013 10:30	0.534	6/26/2013 0:00	0.649	6/27/2013 13:30	0.673	6/29/2013 3:00	0.651
6/22/2013 21:30	0.619	6/24/2013 11:00	0.529	6/26/2013 0:30	0.654	6/27/2013 14:00	0.647	6/29/2013 3:30	0.619
6/22/2013 22:00	0.605	6/24/2013 11:30	0.53	6/26/2013 1:00	0.641	6/27/2013 14:30	0.677	6/29/2013 4:00	0.616
6/22/2013 22:30	0.632	6/24/2013 12:00	0.53	6/26/2013 1:30	0.646	6/27/2013 15:00	0.702	6/29/2013 4:30	0.64
6/22/2013 23:00	0.622	6/24/2013 12:30	0.538	6/26/2013 2:00	0.654	6/27/2013 15:30	0.67	6/29/2013 5:00	0.631
6/22/2013 23:30	0.613	6/24/2013 13:00	0.564	6/26/2013 2:30	0.638	6/27/2013 16:00	0.661	6/29/2013 5:30	0.62
6/23/2013 0:00	0.612	6/24/2013 13:30	0.55	6/26/2013 3:00	0.665	6/27/2013 16:30	0.683	6/29/2013 6:00	0.624
6/23/2013 0:30	0.618	6/24/2013 14:00	0.551	6/26/2013 3:30	0.619	6/27/2013 17:00	0.679	6/29/2013 6:30	0.601
6/23/2013 1:00	0.626	6/24/2013 14:30	0.567	6/26/2013 4:00	0.634	6/27/2013 17:30	0.675	6/29/2013 7:00	0.618
6/23/2013 1:30	0.631	6/24/2013 15:00	0.545	6/26/2013 4:30	0.616	6/27/2013 18:00	0.687	6/29/2013 7:30	0.614
6/23/2013 2:00	0.637	6/24/2013 15:30	0.54	6/26/2013 5:00	0.639	6/27/2013 18:30	0.706	6/29/2013 8:00	0.599
6/23/2013 2:30	0.643	6/24/2013 16:00	0.559	6/26/2013 5:30	0.623	6/27/2013 19:00	0.693	6/29/2013 8:30	0.59
6/23/2013 3:00	0.646	6/24/2013 16:30	0.549	6/26/2013 6:00	0.612	6/27/2013 19:30	0.687	6/29/2013 9:00	0.59

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
6/29/2013 9:30	0.599	6/30/2013 23:00	0.635	7/2/2013 12:30	0.516	7/4/2013 2:00	0.517	7/5/2013 15:30	0.468
6/29/2013 10:00	0.597	6/30/2013 23:30	0.634	7/2/2013 13:00	0.513	7/4/2013 2:30	0.515	7/5/2013 16:00	0.472
6/29/2013 10:30	0.59	7/1/2013 0:00	0.628	7/2/2013 13:30	0.531	7/4/2013 3:00	0.525	7/5/2013 16:30	0.48
6/29/2013 11:00	0.589	7/1/2013 0:30	0.622	7/2/2013 14:00	0.52	7/4/2013 3:30	0.511	7/5/2013 17:00	0.478
6/29/2013 11:30	0.603	7/1/2013 1:00	0.632	7/2/2013 14:30	0.509	7/4/2013 4:00	0.507	7/5/2013 17:30	0.462
6/29/2013 12:00	0.588	7/1/2013 1:30	0.636	7/2/2013 15:00	0.552	7/4/2013 4:30	0.489	7/5/2013 18:00	0.485
6/29/2013 12:30	0.597	7/1/2013 2:00	0.638	7/2/2013 15:30	0.512	7/4/2013 5:00	0.501	7/5/2013 18:30	0.465
6/29/2013 13:00	0.622	7/1/2013 2:30	0.604	7/2/2013 16:00	0.561	7/4/2013 5:30	0.499	7/5/2013 19:00	0.452
6/29/2013 13:30	0.627	7/1/2013 3:00	0.612	7/2/2013 16:30	0.547	7/4/2013 6:00	0.498	7/5/2013 19:30	0.443
6/29/2013 14:00	0.626	7/1/2013 3:30	0.616	7/2/2013 17:00	0.562	7/4/2013 6:30	0.491	7/5/2013 20:00	0.457
6/29/2013 14:30	0.623	7/1/2013 4:00	0.603	7/2/2013 17:30	0.535	7/4/2013 7:00	0.48	7/5/2013 20:30	0.454
6/29/2013 15:00	0.634	7/1/2013 4:30	0.612	7/2/2013 18:00	0.543	7/4/2013 7:30	0.502	7/5/2013 21:00	0.465
6/29/2013 15:30	0.637	7/1/2013 5:00	0.598	7/2/2013 18:30	0.53	7/4/2013 8:00	0.492	7/5/2013 21:30	0.448
6/29/2013 16:00	0.633	7/1/2013 5:30	0.602	7/2/2013 19:00	0.516	7/4/2013 8:30	0.488	7/5/2013 22:00	0.454
6/29/2013 16:30	0.653	7/1/2013 6:00	0.605	7/2/2013 19:30	0.535	7/4/2013 9:00	0.493	7/5/2013 22:30	0.462
6/29/2013 17:00	0.638	7/1/2013 6:30	0.591	7/2/2013 20:00	0.534	7/4/2013 9:30	0.542	7/5/2013 23:00	0.466
6/29/2013 17:30	0.67	7/1/2013 7:00	0.576	7/2/2013 20:30	0.547	7/4/2013 10:00	0.542	7/5/2013 23:30	0.45
6/29/2013 18:00	0.654	7/1/2013 7:30	0.546	7/2/2013 21:00	0.55	7/4/2013 10:30	0.556	7/6/2013 0:00	0.458
6/29/2013 18:30	0.636	7/1/2013 8:00	0.577	7/2/2013 21:30	0.508	7/4/2013 11:00	0.554	7/6/2013 0:30	0.459
6/29/2013 19:00	0.649	7/1/2013 8:30	0.581	7/2/2013 22:00	0.501	7/4/2013 11:30	0.536	7/6/2013 1:00	0.451
6/29/2013 19:30	0.656	7/1/2013 9:00	0.565	7/2/2013 22:30	0.516	7/4/2013 12:00	0.553	7/6/2013 1:30	0.471
6/29/2013 20:00	0.644	7/1/2013 9:30	0.563	7/2/2013 23:00	0.505	7/4/2013 12:30	0.533	7/6/2013 2:00	0.465
6/29/2013 20:30	0.655	7/1/2013 10:00	0.562	7/2/2013 23:30	0.502	7/4/2013 13:00	0.547	7/6/2013 2:30	0.46
6/29/2013 21:00	0.669	7/1/2013 10:30	0.554	7/3/2013 0:00	0.505	7/4/2013 13:30	0.555	7/6/2013 3:00	0.467
6/29/2013 21:30	0.641	7/1/2013 11:00	0.573	7/3/2013 0:30	0.508	7/4/2013 14:00	0.556	7/6/2013 3:30	0.478
6/29/2013 22:00	0.638	7/1/2013 11:30	0.587	7/3/2013 1:00	0.503	7/4/2013 14:30	0.563	7/6/2013 4:00	0.473
6/29/2013 22:30	0.618	7/1/2013 12:00	0.594	7/3/2013 1:30	0.497	7/4/2013 15:00	0.563	7/6/2013 4:30	0.455
6/29/2013 23:00	0.568	7/1/2013 12:30	0.574	7/3/2013 2:00	0.497	7/4/2013 15:30	0.551	7/6/2013 5:00	0.454
6/29/2013 23:30	0.574	7/1/2013 13:00	0.575	7/3/2013 2:30	0.499	7/4/2013 16:00	0.577	7/6/2013 5:30	0.477
6/30/2013 0:00	0.591	7/1/2013 13:30	0.574	7/3/2013 3:00	0.482	7/4/2013 16:30	0.55	7/6/2013 6:00	0.447
6/30/2013 0:30	0.594	7/1/2013 14:00	0.591	7/3/2013 3:30	0.494	7/4/2013 17:00	0.575	7/6/2013 6:30	0.454
6/30/2013 1:00	0.579	7/1/2013 14:30	0.589	7/3/2013 4:00	0.498	7/4/2013 17:30	0.578	7/6/2013 7:00	0.439
6/30/2013 1:30	0.57	7/1/2013 15:00	0.574	7/3/2013 4:30	0.49	7/4/2013 18:00	0.588	7/6/2013 7:30	0.442
6/30/2013 2:00	0.573	7/1/2013 15:30	0.574	7/3/2013 5:00	0.494	7/4/2013 18:30	0.562	7/6/2013 8:00	0.445
6/30/2013 2:30	0.587	7/1/2013 16:00	0.586	7/3/2013 5:30	0.486	7/4/2013 19:00	0.576	7/6/2013 8:30	0.453
6/30/2013 3:00	0.58	7/1/2013 16:30	0.626	7/3/2013 6:00	0.48	7/4/2013 19:30	0.548	7/6/2013 9:00	0.464
6/30/2013 3:30	0.567	7/1/2013 17:00	0.602	7/3/2013 6:30	0.486	7/4/2013 20:00	0.556	7/6/2013 9:30	0.444
6/30/2013 4:00	0.577	7/1/2013 17:30	0.61	7/3/2013 7:00	0.48	7/4/2013 20:30	0.562	7/6/2013 10:00	0.453
6/30/2013 4:30	0.602	7/1/2013 18:00	0.598	7/3/2013 7:30	0.488	7/4/2013 21:00	0.548	7/6/2013 10:30	0.434
6/30/2013 5:00	0.593	7/1/2013 18:30	0.593	7/3/2013 8:00	0.481	7/4/2013 21:30	0.553	7/6/2013 11:00	0.452
6/30/2013 5:30	0.589	7/1/2013 19:00	0.575	7/3/2013 8:30	0.45	7/4/2013 22:00	0.556	7/6/2013 11:30	0.445
6/30/2013 6:00	0.57	7/1/2013 19:30	0.565	7/3/2013 9:00	0.477	7/4/2013 22:30	0.537	7/6/2013 12:00	0.463
6/30/2013 6:30	0.612	7/1/2013 20:00	0.59	7/3/2013 9:30	0.474	7/4/2013 23:00	0.547	7/6/2013 12:30	0.444
6/30/2013 7:00	0.582	7/1/2013 20:30	0.61	7/3/2013 10:00	0.462	7/4/2013 23:30	0.532	7/6/2013 13:00	0.479
6/30/2013 7:30	0.588	7/1/2013 21:00	0.593	7/3/2013 10:30	0.504	7/5/2013 0:00	0.535	7/6/2013 13:30	0.455
6/30/2013 8:00	0.585	7/1/2013 21:30	0.575	7/3/2013 11:00	0.521	7/5/2013 0:30	0.515	7/6/2013 14:00	0.462
6/30/2013 8:30	0.59	7/1/2013 22:00	0.592	7/3/2013 11:30	0.518	7/5/2013 1:00	0.511	7/6/2013 14:30	0.457
6/30/2013 9:00	0.592	7/1/2013 22:30	0.578	7/3/2013 12:00	0.517	7/5/2013 1:30	0.516	7/6/2013 15:00	0.485
6/30/2013 9:30	0.604	7/1/2013 23:00	0.57	7/3/2013 12:30	0.513	7/5/2013 2:00	0.513	7/6/2013 15:30	0.481
6/30/2013 10:00	0.613	7/1/2013 23:30	0.568	7/3/2013 13:00	0.545	7/5/2013 2:30	0.495	7/6/2013 16:00	0.483
6/30/2013 10:30	0.619	7/2/2013 0:00	0.566	7/3/2013 13:30	0.533	7/5/2013 3:00	0.479	7/6/2013 16:30	0.477
6/30/2013 11:00	0.611	7/2/2013 0:30	0.558	7/3/2013 14:00	0.53	7/5/2013 3:30	0.475	7/6/2013 17:00	0.489
6/30/2013 11:30	0.622	7/2/2013 1:00	0.547	7/3/2013 14:30	0.55	7/5/2013 4:00	0.484	7/6/2013 17:30	0.469
6/30/2013 12:00	0.636	7/2/2013 1:30	0.537	7/3/2013 15:00	0.536	7/5/2013 4:30	0.475	7/6/2013 18:00	0.495
6/30/2013 12:30	0.648	7/2/2013 2:00	0.534	7/3/2013 15:30	0.541	7/5/2013 5:00	0.464	7/6/2013 18:30	0.492
6/30/2013 13:00	0.643	7/2/2013 2:30	0.533	7/3/2013 16:00	0.551	7/5/2013 5:30	0.461	7/6/2013 19:00	0.501
6/30/2013 13:30	0.659	7/2/2013 3:00	0.532	7/3/2013 16:30	0.586	7/5/2013 6:00	0.482	7/6/2013 19:30	0.51
6/30/2013 14:00	0.658	7/2/2013 3:30	0.541	7/3/2013 17:00	0.541	7/5/2013 6:30	0.489	7/6/2013 20:00	0.516
6/30/2013 14:30	0.651	7/2/2013 4:00	0.53	7/3/2013 17:30	0.555	7/5/2013 7:00	0.466	7/6/2013 20:30	0.509
6/30/2013 15:00	0.64	7/2/2013 4:30	0.518	7/3/2013 18:00	0.538	7/5/2013 7:30	0.456	7/6/2013 21:00	0.514
6/30/2013 15:30	0.649	7/2/2013 5:00	0.515	7/3/2013 18:30	0.553	7/5/2013 8:00	0.467	7/6/2013 21:30	0.495
6/30/2013 16:00	0.688	7/2/2013 5:30	0.535	7/3/2013 19:00	0.553	7/5/2013 8:30	0.492	7/6/2013 22:00	0.473
6/30/2013 16:30	0.658	7/2/2013 6:00	0.503	7/3/2013 19:30	0.526	7/5/2013 9:00	0.459	7/6/2013 22:30	0.488
6/30/2013 17:00	0.67	7/2/2013 6:30	0.497	7/3/2013 20:00	0.55	7/5/2013 9:30	0.475	7/6/2013 23:00	0.463
6/30/2013 17:30	0.647	7/2/2013 7:00	0.504	7/3/2013 20:30	0.532	7/5/2013 10:00	0.482	7/6/2013 23:30	0.482
6/30/2013 18:00	0.672	7/2/2013 7:30	0.553	7/3/2013 21:00	0.535	7/5/2013 10:30	0.475	7/7/2013 0:00	0.46
6/30/2013 18:30	0.649	7/2/2013 8:00	0.505	7/3/2013 21:30	0.559	7/5/2013 11:00	0.398	7/7/2013 0:30	0.46
6/30/2013 19:00	0.663	7/2/2013 8:30	0.484	7/3/2013 22:00	0.562	7/5/2013 11:30	0.386	7/7/2013 1:00	0.444
6/30/2013 19:30	0.653	7/2/2013 9:00	0.481	7/3/2013 22:30	0.547	7/5/2013 12:00	0.444	7/7/2013 1:30	0.448
6/30/2013 20:00	0.667	7/2/2013 9:30	0.515	7/3/2013 23:00	0.554	7/5/2013 12:30	0.467	7/7/2013 2:00	0.445
6/30/2013 20:30	0.648	7/2/2013 10:00	0.499	7/3/2013 23:30	0.542	7/5/2013 13:00	0.403	7/7/2013 2:30	0.445
6/30/2013 21:00	0.637	7/2/2013 10:30	0.507	7/4/2013 0:00	0.528	7/5/2013 13:30	0.41	7/7/2013 3:00	0.442
6/30/2013 21:30	0.637	7/2/2013 11:00	0.49	7/4/2013 0:30	0.537	7/5/2013 14:00	0.456	7/7/2013 3:30	0.44
6/30/2013 22:00	0.639	7/2/2013 11:30	0.519	7/4/2013 1:00	0.53	7/5/2013 14:30	0.461	7/7/2013 4:00	0.427
6/30/2013 22:30	0.658	7/2/2013 12:00	0.504	7/4/2013 1:30	0.531	7/5/2013 15:00	0.47	7/7/2013 4:30	0.425

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
7/7/2013 5:00	0.416	7/8/2013 18:30	0.382	7/10/2013 8:00	0.295	7/11/2013 21:30	0.307	7/13/2013 11:00	0.289
7/7/2013 5:30	0.413	7/8/2013 19:00	0.375	7/10/2013 8:30	0.323	7/11/2013 22:00	0.288	7/13/2013 11:30	0.284
7/7/2013 6:00	0.427	7/8/2013 19:30	0.379	7/10/2013 9:00	0.313	7/11/2013 22:30	0.324	7/13/2013 12:00	0.275
7/7/2013 6:30	0.414	7/8/2013 20:00	0.42	7/10/2013 9:30	0.315	7/11/2013 23:00	0.319	7/13/2013 12:30	0.295
7/7/2013 7:00	0.412	7/8/2013 20:30	0.389	7/10/2013 10:00	0.318	7/11/2013 23:30	0.319	7/13/2013 13:00	0.311
7/7/2013 7:30	0.4	7/8/2013 21:00	0.377	7/10/2013 10:30	0.312	7/12/2013 0:00	0.3	7/13/2013 13:30	0.299
7/7/2013 8:00	0.408	7/8/2013 21:30	0.383	7/10/2013 11:00	0.312	7/12/2013 0:30	0.318	7/13/2013 14:00	0.304
7/7/2013 8:30	0.404	7/8/2013 22:00	0.397	7/10/2013 11:30	0.308	7/12/2013 1:00	0.312	7/13/2013 14:30	0.298
7/7/2013 9:00	0.406	7/8/2013 22:30	0.378	7/10/2013 12:00	0.32	7/12/2013 1:30	0.307	7/13/2013 15:00	0.284
7/7/2013 9:30	0.399	7/8/2013 23:00	0.382	7/10/2013 12:30	0.312	7/12/2013 2:00	0.295	7/13/2013 15:30	0.275
7/7/2013 10:00	0.387	7/8/2013 23:30	0.357	7/10/2013 13:00	0.322	7/12/2013 2:30	0.304	7/13/2013 16:00	0.316
7/7/2013 10:30	0.406	7/9/2013 0:00	0.374	7/10/2013 13:30	0.31	7/12/2013 3:00	0.302	7/13/2013 16:30	0.308
7/7/2013 11:00	0.424	7/9/2013 0:30	0.393	7/10/2013 14:00	0.331	7/12/2013 3:30	0.304	7/13/2013 17:00	0.278
7/7/2013 11:30	0.406	7/9/2013 1:00	0.384	7/10/2013 14:30	0.338	7/12/2013 4:00	0.326	7/13/2013 17:30	0.299
7/7/2013 12:00	0.402	7/9/2013 1:30	0.375	7/10/2013 15:00	0.323	7/12/2013 4:30	0.322	7/13/2013 18:00	0.301
7/7/2013 12:30	0.412	7/9/2013 2:00	0.403	7/10/2013 15:30	0.339	7/12/2013 5:00	0.31	7/13/2013 18:30	0.283
7/7/2013 13:00	0.398	7/9/2013 2:30	0.397	7/10/2013 16:00	0.328	7/12/2013 5:30	0.313	7/13/2013 19:00	0.296
7/7/2013 13:30	0.423	7/9/2013 3:00	0.398	7/10/2013 16:30	0.35	7/12/2013 6:00	0.325	7/13/2013 19:30	0.299
7/7/2013 14:00	0.416	7/9/2013 3:30	0.39	7/10/2013 17:00	0.353	7/12/2013 6:30	0.309	7/13/2013 20:00	0.292
7/7/2013 14:30	0.418	7/9/2013 4:00	0.392	7/10/2013 17:30	0.35	7/12/2013 7:00	0.305	7/13/2013 20:30	0.288
7/7/2013 15:00	0.429	7/9/2013 4:30	0.392	7/10/2013 18:00	0.316	7/12/2013 7:30	0.308	7/13/2013 21:00	0.29
7/7/2013 15:30	0.42	7/9/2013 5:00	0.401	7/10/2013 18:30	0.317	7/12/2013 8:00	0.308	7/13/2013 21:30	0.286
7/7/2013 16:00	0.446	7/9/2013 5:30	0.398	7/10/2013 19:00	0.317	7/12/2013 8:30	0.312	7/13/2013 22:00	0.287
7/7/2013 16:30	0.429	7/9/2013 6:00	0.405	7/10/2013 19:30	0.327	7/12/2013 9:00	0.324	7/13/2013 22:30	0.278
7/7/2013 17:00	0.426	7/9/2013 6:30	0.402	7/10/2013 20:00	0.332	7/12/2013 9:30	0.325	7/13/2013 23:00	0.277
7/7/2013 17:30	0.451	7/9/2013 7:00	0.372	7/10/2013 20:30	0.359	7/12/2013 10:00	0.316	7/13/2013 23:30	0.276
7/7/2013 18:00	0.446	7/9/2013 7:30	0.379	7/10/2013 21:00	0.294	7/12/2013 10:30	0.307	7/14/2013 0:00	0.248
7/7/2013 18:30	0.433	7/9/2013 8:00	0.371	7/10/2013 21:30	0.307	7/12/2013 11:00	0.319	7/14/2013 0:30	0.261
7/7/2013 19:00	0.431	7/9/2013 8:30	0.37	7/10/2013 22:00	0.319	7/12/2013 11:30	0.28	7/14/2013 1:00	0.255
7/7/2013 19:30	0.447	7/9/2013 9:00	0.389	7/10/2013 22:30	0.317	7/12/2013 12:00	0.32	7/14/2013 1:30	0.273
7/7/2013 20:00	0.439	7/9/2013 9:30	0.382	7/10/2013 23:00	0.315	7/12/2013 12:30	0.266	7/14/2013 2:00	0.262
7/7/2013 20:30	0.404	7/9/2013 10:00	0.382	7/10/2013 23:30	0.289	7/12/2013 13:00	0.34	7/14/2013 2:30	0.274
7/7/2013 21:00	0.427	7/9/2013 10:30	0.375	7/11/2013 0:00	0.33	7/12/2013 13:30	0.285	7/14/2013 3:00	0.274
7/7/2013 21:30	0.431	7/9/2013 11:00	0.432	7/11/2013 0:30	0.31	7/12/2013 14:00	0.361	7/14/2013 3:30	0.254
7/7/2013 22:00	0.419	7/9/2013 11:30	0.398	7/11/2013 1:00	0.311	7/12/2013 14:30	0.29	7/14/2013 4:00	0.267
7/7/2013 22:30	0.417	7/9/2013 12:00	0.419	7/11/2013 1:30	0.333	7/12/2013 15:00	0.359	7/14/2013 4:30	0.259
7/7/2013 23:00	0.402	7/9/2013 12:30	0.395	7/11/2013 2:00	0.298	7/12/2013 15:30	0.316	7/14/2013 5:00	0.25
7/7/2013 23:30	0.403	7/9/2013 13:00	0.389	7/11/2013 2:30	0.294	7/12/2013 16:00	0.342	7/14/2013 5:30	0.24
7/8/2013 0:00	0.433	7/9/2013 13:30	0.445	7/11/2013 3:00	0.301	7/12/2013 16:30	0.328	7/14/2013 6:00	0.259
7/8/2013 0:30	0.416	7/9/2013 14:00	0.413	7/11/2013 3:30	0.307	7/12/2013 17:00	0.338	7/14/2013 6:30	0.27
7/8/2013 1:00	0.396	7/9/2013 14:30	0.408	7/11/2013 4:00	0.3	7/12/2013 17:30	0.325	7/14/2013 7:00	0.243
7/8/2013 1:30	0.384	7/9/2013 15:00	0.406	7/11/2013 4:30	0.299	7/12/2013 18:00	0.317	7/14/2013 7:30	0.232
7/8/2013 2:00	0.386	7/9/2013 15:30	0.41	7/11/2013 5:00	0.293	7/12/2013 18:30	0.324	7/14/2013 8:00	0.248
7/8/2013 2:30	0.388	7/9/2013 16:00	0.426	7/11/2013 5:30	0.3	7/12/2013 19:00	0.33	7/14/2013 8:30	0.263
7/8/2013 3:00	0.389	7/9/2013 16:30	0.417	7/11/2013 6:00	0.285	7/12/2013 19:30	0.341	7/14/2013 9:00	0.246
7/8/2013 3:30	0.401	7/9/2013 17:00	0.41	7/11/2013 6:30	0.306	7/12/2013 20:00	0.336	7/14/2013 9:30	0.262
7/8/2013 4:00	0.38	7/9/2013 17:30	0.412	7/11/2013 7:00	0.3	7/12/2013 20:30	0.327	7/14/2013 10:00	0.263
7/8/2013 4:30	0.396	7/9/2013 18:00	0.434	7/11/2013 7:30	0.292	7/12/2013 21:00	0.323	7/14/2013 10:30	0.232
7/8/2013 5:00	0.395	7/9/2013 18:30	0.409	7/11/2013 8:00	0.292	7/12/2013 21:30	0.315	7/14/2013 11:00	0.245
7/8/2013 5:30	0.382	7/9/2013 19:00	0.409	7/11/2013 8:30	0.323	7/12/2013 22:00	0.32	7/14/2013 11:30	0.243
7/8/2013 6:00	0.38	7/9/2013 19:30	0.418	7/11/2013 9:00	0.31	7/12/2013 22:30	0.318	7/14/2013 12:00	0.275
7/8/2013 6:30	0.37	7/9/2013 20:00	0.385	7/11/2013 9:30	0.35	7/12/2013 23:00	0.305	7/14/2013 12:30	0.241
7/8/2013 7:00	0.361	7/9/2013 20:30	0.381	7/11/2013 10:00	0.325	7/12/2013 23:30	0.291	7/14/2013 13:00	0.206
7/8/2013 7:30	0.353	7/9/2013 21:00	0.364	7/11/2013 10:30	0.344	7/13/2013 0:00	0.297	7/14/2013 13:30	0.273
7/8/2013 8:00	0.372	7/9/2013 21:30	0.367	7/11/2013 11:00	0.256	7/13/2013 0:30	0.287	7/14/2013 14:00	0.246
7/8/2013 8:30	0.352	7/9/2013 22:00	0.362	7/11/2013 11:30	0.326	7/13/2013 1:00	0.289	7/14/2013 14:30	0.256
7/8/2013 9:00	0.346	7/9/2013 22:30	0.361	7/11/2013 12:00	0.303	7/13/2013 1:30	0.295	7/14/2013 15:00	0.257
7/8/2013 9:30	0.374	7/9/2013 23:00	0.346	7/11/2013 12:30	0.283	7/13/2013 2:00	0.281	7/14/2013 15:30	0.239
7/8/2013 10:00	0.357	7/9/2013 23:30	0.362	7/11/2013 13:00	0.294	7/13/2013 2:30	0.301	7/14/2013 16:00	0.17
7/8/2013 10:30	0.371	7/10/2013 0:00	0.344	7/11/2013 13:30	0.283	7/13/2013 3:00	0.287	7/14/2013 16:30	0.154
7/8/2013 11:00	0.36	7/10/2013 0:30	0.344	7/11/2013 14:00	0.293	7/13/2013 3:30	0.291	7/14/2013 17:00	0.163
7/8/2013 11:30	0.358	7/10/2013 1:00	0.335	7/11/2013 14:30	0.26	7/13/2013 4:00	0.271	7/14/2013 17:30	0.135
7/8/2013 12:00	0.359	7/10/2013 1:30	0.324	7/11/2013 15:00	0.32	7/13/2013 4:30	0.267	7/14/2013 18:00	0.169
7/8/2013 12:30	0.335	7/10/2013 2:00	0.338	7/11/2013 15:30	0.312	7/13/2013 5:00	0.277	7/14/2013 18:30	0.159
7/8/2013 13:00	0.381	7/10/2013 2:30	0.328	7/11/2013 16:00	0.336	7/13/2013 5:30	0.292	7/14/2013 19:00	0.148
7/8/2013 13:30	0.375	7/10/2013 3:00	0.337	7/11/2013 16:30	0.301	7/13/2013 6:00	0.292	7/14/2013 19:30	0.152
7/8/2013 14:00	0.383	7/10/2013 3:30	0.338	7/11/2013 17:00	0.272	7/13/2013 6:30	0.29	7/14/2013 20:00	0.14
7/8/2013 14:30	0.37	7/10/2013 4:00	0.333	7/11/2013 17:30	0.301	7/13/2013 7:00	0.268	7/14/2013 20:30	0.173
7/8/2013 15:00	0.367	7/10/2013 4:30	0.311	7/11/2013 18:00	0.317	7/13/2013 7:30	0.28	7/14/2013 21:00	0.171
7/8/2013 15:30	0.398	7/10/2013 5:00	0.32	7/11/2013 18:30	0.301	7/13/2013 8:00	0.247	7/14/2013 21:30	0.137
7/8/2013 16:00	0.396	7/10/2013 5:30	0.322	7/11/2013 19:00	0.312	7/13/2013 8:30	0.275	7/14/2013 22:00	0.147
7/8/2013 16:30	0.369	7/10/2013 6:00	0.315	7/11/2013 19:30	0.307	7/13/2013 9:00	0.281	7/14/2013 22:30	0.141
7/8/2013 17:00	0.404	7/10/2013 6:30	0.336	7/11/2013 20:00	0.297	7/13/2013 9:30	0.281	7/14/2013 23:00	0.166
7/8/2013 17:30	0.384	7/10/2013 7:00	0.325	7/11/2013 20:30	0.273	7/13/2013 10:00	0.283	7/14/2013 23:30	0.137
7/8/2013 18:00	0.409	7/10/2013 7:30	0.305	7/11/2013 21:00	0.293	7/13/2013 10:30	0.285	7/15/2013 0:00	0.159

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
7/15/2013 0:30	0.163	7/16/2013 14:00	0.192	7/18/2013 3:30	0.128	7/19/2013 17:00	0.154	7/21/2013 6:30	0.175
7/15/2013 1:00	0.148	7/16/2013 14:30	0.156	7/18/2013 4:00	0.131	7/19/2013 17:30	0.138	7/21/2013 7:00	0.165
7/15/2013 1:30	0.165	7/16/2013 15:00	0.154	7/18/2013 4:30	0.139	7/19/2013 18:00	0.158	7/21/2013 7:30	0.162
7/15/2013 2:00	0.17	7/16/2013 15:30	0.172	7/18/2013 5:00	0.151	7/19/2013 18:30	0.144	7/21/2013 8:00	0.135
7/15/2013 2:30	0.168	7/16/2013 16:00	0.156	7/18/2013 5:30	0.163	7/19/2013 19:00	0.135	7/21/2013 8:30	0.153
7/15/2013 3:00	0.159	7/16/2013 16:30	0.171	7/18/2013 6:00	0.153	7/19/2013 19:30	0.149	7/21/2013 9:00	0.135
7/15/2013 3:30	0.155	7/16/2013 17:00	0.137	7/18/2013 6:30	0.128	7/19/2013 20:00	0.166	7/21/2013 9:30	0.145
7/15/2013 4:00	0.155	7/16/2013 17:30	0.158	7/18/2013 7:00	0.151	7/19/2013 20:30	0.142	7/21/2013 10:00	0.154
7/15/2013 4:30	0.159	7/16/2013 18:00	0.172	7/18/2013 7:30	0.143	7/19/2013 21:00	0.15	7/21/2013 10:30	0.155
7/15/2013 5:00	0.17	7/16/2013 18:30	0.165	7/18/2013 8:00	0.164	7/19/2013 21:30	0.147	7/21/2013 11:00	0.157
7/15/2013 5:30	0.151	7/16/2013 19:00	0.157	7/18/2013 8:30	0.157	7/19/2013 22:00	0.144	7/21/2013 11:30	0.157
7/15/2013 6:00	0.155	7/16/2013 19:30	0.124	7/18/2013 9:00	0.19	7/19/2013 22:30	0.138	7/21/2013 12:00	0.146
7/15/2013 6:30	0.174	7/16/2013 20:00	0.159	7/18/2013 9:30	0.208	7/19/2013 23:00	0.134	7/21/2013 12:30	0.14
7/15/2013 7:00	0.157	7/16/2013 20:30	0.152	7/18/2013 10:00	0.208	7/19/2013 23:30	0.14	7/21/2013 13:00	0.147
7/15/2013 7:30	0.15	7/16/2013 21:00	0.159	7/18/2013 10:30	0.157	7/20/2013 0:00	0.146	7/21/2013 13:30	0.156
7/15/2013 8:00	0.166	7/16/2013 21:30	0.134	7/18/2013 11:00	0.151	7/20/2013 0:30	0.138	7/21/2013 14:00	0.169
7/15/2013 8:30	0.151	7/16/2013 22:00	0.14	7/18/2013 11:30	0.232	7/20/2013 1:00	0.147	7/21/2013 14:30	0.143
7/15/2013 9:00	0.151	7/16/2013 22:30	0.144	7/18/2013 12:00	0.174	7/20/2013 1:30	0.158	7/21/2013 15:00	0.155
7/15/2013 9:30	0.162	7/16/2013 23:00	0.147	7/18/2013 12:30	0.168	7/20/2013 2:00	0.15	7/21/2013 15:30	0.165
7/15/2013 10:00	0.167	7/16/2013 23:30	0.14	7/18/2013 13:00	0.15	7/20/2013 2:30	0.141	7/21/2013 16:00	0.145
7/15/2013 10:30	0.144	7/17/2013 0:00	0.146	7/18/2013 13:30	0.148	7/20/2013 3:00	0.156	7/21/2013 16:30	0.161
7/15/2013 11:00	0.162	7/17/2013 0:30	0.166	7/18/2013 14:00	0.173	7/20/2013 3:30	0.155	7/21/2013 17:00	0.133
7/15/2013 11:30	0.153	7/17/2013 1:00	0.132	7/18/2013 14:30	0.165	7/20/2013 4:00	0.15	7/21/2013 17:30	0.138
7/15/2013 12:00	0.169	7/17/2013 1:30	0.141	7/18/2013 15:00	0.163	7/20/2013 4:30	0.154	7/21/2013 18:00	0.151
7/15/2013 12:30	0.143	7/17/2013 2:00	0.151	7/18/2013 15:30	0.16	7/20/2013 5:00	0.161	7/21/2013 18:30	0.14
7/15/2013 13:00	0.155	7/17/2013 2:30	0.155	7/18/2013 16:00	0.168	7/20/2013 5:30	0.169	7/21/2013 19:00	0.141
7/15/2013 13:30	0.148	7/17/2013 3:00	0.156	7/18/2013 16:30	0.162	7/20/2013 6:00	0.163	7/21/2013 19:30	0.169
7/15/2013 14:00	0.163	7/17/2013 3:30	0.149	7/18/2013 17:00	0.141	7/20/2013 6:30	0.134	7/21/2013 20:00	0.172
7/15/2013 14:30	0.17	7/17/2013 4:00	0.155	7/18/2013 17:30	0.182	7/20/2013 7:00	0.165	7/21/2013 20:30	0.166
7/15/2013 15:00	0.174	7/17/2013 4:30	0.144	7/18/2013 18:00	0.166	7/20/2013 7:30	0.136	7/21/2013 21:00	0.149
7/15/2013 15:30	0.164	7/17/2013 5:00	0.155	7/18/2013 18:30	0.147	7/20/2013 8:00	0.148	7/21/2013 21:30	0.157
7/15/2013 16:00	0.139	7/17/2013 5:30	0.152	7/18/2013 19:00	0.169	7/20/2013 8:30	0.153	7/21/2013 22:00	0.151
7/15/2013 16:30	0.156	7/17/2013 6:00	0.151	7/18/2013 19:30	0.149	7/20/2013 9:00	0.136	7/21/2013 22:30	0.151
7/15/2013 17:00	0.152	7/17/2013 6:30	0.166	7/18/2013 20:00	0.173	7/20/2013 9:30	0.141	7/21/2013 23:00	0.146
7/15/2013 17:30	0.152	7/17/2013 7:00	0.166	7/18/2013 20:30	0.157	7/20/2013 10:00	0.127	7/21/2013 23:30	0.154
7/15/2013 18:00	0.166	7/17/2013 7:30	0.147	7/18/2013 21:00	0.15	7/20/2013 10:30	0.13	7/22/2013 0:00	0.152
7/15/2013 18:30	0.169	7/17/2013 8:00	0.154	7/18/2013 21:30	0.145	7/20/2013 11:00	0.142	7/22/2013 0:30	0.155
7/15/2013 19:00	0.162	7/17/2013 8:30	0.145	7/18/2013 22:00	0.152	7/20/2013 11:30	0.162	7/22/2013 1:00	0.18
7/15/2013 19:30	0.175	7/17/2013 9:00	0.158	7/18/2013 22:30	0.132	7/20/2013 12:00	0.156	7/22/2013 1:30	0.154
7/15/2013 20:00	0.187	7/17/2013 9:30	0.152	7/18/2013 23:00	0.146	7/20/2013 12:30	0.155	7/22/2013 2:00	0.154
7/15/2013 20:30	0.154	7/17/2013 10:00	0.145	7/18/2013 23:30	0.161	7/20/2013 13:00	0.139	7/22/2013 2:30	0.158
7/15/2013 21:00	0.174	7/17/2013 10:30	0.161	7/19/2013 0:00	0.15	7/20/2013 13:30	0.146	7/22/2013 3:00	0.153
7/15/2013 21:30	0.151	7/17/2013 11:00	0.17	7/19/2013 0:30	0.142	7/20/2013 14:00	0.16	7/22/2013 3:30	0.154
7/15/2013 22:00	0.159	7/17/2013 11:30	0.149	7/19/2013 1:00	0.145	7/20/2013 14:30	0.158	7/22/2013 4:00	0.157
7/15/2013 22:30	0.168	7/17/2013 12:00	0.154	7/19/2013 1:30	0.14	7/20/2013 15:00	0.161	7/22/2013 4:30	0.158
7/15/2013 23:00	0.138	7/17/2013 12:30	0.167	7/19/2013 2:00	0.163	7/20/2013 15:30	0.145	7/22/2013 5:00	0.144
7/15/2013 23:30	0.163	7/17/2013 13:00	0.144	7/19/2013 2:30	0.162	7/20/2013 16:00	0.169	7/22/2013 5:30	0.185
7/16/2013 0:00	0.154	7/17/2013 13:30	0.154	7/19/2013 3:00	0.154	7/20/2013 16:30	0.173	7/22/2013 6:00	0.171
7/16/2013 0:30	0.148	7/17/2013 14:00	0.155	7/19/2013 3:30	0.161	7/20/2013 17:00	0.141	7/22/2013 6:30	0.158
7/16/2013 1:00	0.162	7/17/2013 14:30	0.177	7/19/2013 4:00	0.154	7/20/2013 17:30	0.156	7/22/2013 7:00	0.168
7/16/2013 1:30	0.166	7/17/2013 15:00	0.168	7/19/2013 4:30	0.157	7/20/2013 18:00	0.155	7/22/2013 7:30	0.162
7/16/2013 2:00	0.161	7/17/2013 15:30	0.139	7/19/2013 5:00	0.154	7/20/2013 18:30	0.139	7/22/2013 8:00	0.159
7/16/2013 2:30	0.157	7/17/2013 16:00	0.162	7/19/2013 5:30	0.16	7/20/2013 19:00	0.155	7/22/2013 8:30	0.153
7/16/2013 3:00	0.145	7/17/2013 16:30	0.175	7/19/2013 6:00	0.142	7/20/2013 19:30	0.145	7/22/2013 9:00	0.156
7/16/2013 3:30	0.15	7/17/2013 17:00	0.172	7/19/2013 6:30	0.15	7/20/2013 20:00	0.153	7/22/2013 9:30	0.145
7/16/2013 4:00	0.162	7/17/2013 17:30	0.138	7/19/2013 7:00	0.169	7/20/2013 20:30	0.152	7/22/2013 10:00	0.169
7/16/2013 4:30	0.166	7/17/2013 18:00	0.153	7/19/2013 7:30	0.151	7/20/2013 21:00	0.152	7/22/2013 10:30	0.155
7/16/2013 5:00	0.156	7/17/2013 18:30	0.142	7/19/2013 8:00	0.148	7/20/2013 21:30	0.163	7/22/2013 11:00	0.144
7/16/2013 5:30	0.165	7/17/2013 19:00	0.159	7/19/2013 8:30	0.135	7/20/2013 22:00	0.144	7/22/2013 11:30	0.156
7/16/2013 6:00	0.161	7/17/2013 19:30	0.146	7/19/2013 9:00	0.122	7/20/2013 22:30	0.145	7/22/2013 12:00	0.153
7/16/2013 6:30	0.152	7/17/2013 20:00	0.17	7/19/2013 9:30	0.17	7/20/2013 23:00	0.16	7/22/2013 12:30	0.171
7/16/2013 7:00	0.157	7/17/2013 20:30	0.167	7/19/2013 10:00	0.114	7/20/2013 23:30	0.136	7/22/2013 13:00	0.155
7/16/2013 7:30	0.145	7/17/2013 21:00	0.159	7/19/2013 10:30	0.18	7/21/2013 0:00	0.149	7/22/2013 13:30	0.163
7/16/2013 8:00	0.171	7/17/2013 21:30	0.141	7/19/2013 11:00	0.138	7/21/2013 0:30	0.155	7/22/2013 14:00	0.148
7/16/2013 8:30	0.149	7/17/2013 22:00	0.15	7/19/2013 11:30	0.16	7/21/2013 1:00	0.161	7/22/2013 14:30	0.165
7/16/2013 9:00	0.162	7/17/2013 22:30	0.163	7/19/2013 12:00	0.161	7/21/2013 1:30	0.152	7/22/2013 15:00	0.187
7/16/2013 9:30	0.185	7/17/2013 23:00	0.141	7/19/2013 12:30	0.149	7/21/2013 2:00	0.162	7/22/2013 15:30	0.185
7/16/2013 10:00	0.125	7/17/2013 23:30	0.169	7/19/2013 13:00	0.143	7/21/2013 2:30	0.152	7/22/2013 16:00	0.161
7/16/2013 10:30	0.12	7/18/2013 0:00	0.218	7/19/2013 13:30	0.149	7/21/2013 3:00	0.146	7/22/2013 16:30	0.15
7/16/2013 11:00	0.178	7/18/2013 0:30	0.2	7/19/2013 14:00	0.15	7/21/2013 3:30	0.151	7/22/2013 17:00	0.149
7/16/2013 11:30	0.149	7/18/2013 1:00	0.158	7/19/2013 14:30	0.164	7/21/2013 4:00	0.165	7/22/2013 17:30	0.188
7/16/2013 12:00	0.198	7/18/2013 1:30	0.148	7/19/2013 15:00	0.159	7/21/2013 4:30	0.159	7/22/2013 18:00	0.161
7/16/2013 12:30	0.149	7/18/2013 2:00	0.142	7/19/2013 15:30	0.152	7/21/2013 5:00	0.162	7/22/2013 18:30	0.149
7/16/2013 13:00	0.17	7/18/2013 2:30	0.126	7/19/2013 16:00	0.16	7/21/2013 5:30	0.163	7/22/2013 19:00	0.172
7/16/2013 13:30	0.164	7/18/2013 3:00	0.126	7/19/2013 16:30	0.141	7/21/2013 6:00	0.163	7/22/2013 19:30	0.153

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
7/22/2013 20:00	0.165	7/24/2013 9:30	0.167	7/25/2013 23:00	0.148	7/27/2013 12:30	0.156	7/29/2013 2:00	0.153
7/22/2013 20:30	0.148	7/24/2013 10:00	0.152	7/25/2013 23:30	0.161	7/27/2013 13:00	0.165	7/29/2013 2:30	0.142
7/22/2013 21:00	0.153	7/24/2013 10:30	0.142	7/26/2013 0:00	0.152	7/27/2013 13:30	0.157	7/29/2013 3:00	0.17
7/22/2013 21:30	0.155	7/24/2013 11:00	0.164	7/26/2013 0:30	0.162	7/27/2013 14:00	0.175	7/29/2013 3:30	0.144
7/22/2013 22:00	0.147	7/24/2013 11:30	0.189	7/26/2013 1:00	0.155	7/27/2013 14:30	0.172	7/29/2013 4:00	0.13
7/22/2013 22:30	0.135	7/24/2013 12:00	0.195	7/26/2013 1:30	0.162	7/27/2013 15:00	0.141	7/29/2013 4:30	0.158
7/22/2013 23:00	0.139	7/24/2013 12:30	0.164	7/26/2013 2:00	0.145	7/27/2013 15:30	0.156	7/29/2013 5:00	0.156
7/22/2013 23:30	0.156	7/24/2013 13:00	0.159	7/26/2013 2:30	0.157	7/27/2013 16:00	0.176	7/29/2013 5:30	0.154
7/23/2013 0:00	0.169	7/24/2013 13:30	0.167	7/26/2013 3:00	0.162	7/27/2013 16:30	0.127	7/29/2013 6:00	0.156
7/23/2013 0:30	0.183	7/24/2013 14:00	0.154	7/26/2013 3:30	0.171	7/27/2013 17:00	0.124	7/29/2013 6:30	0.175
7/23/2013 1:00	0.168	7/24/2013 14:30	0.172	7/26/2013 4:00	0.166	7/27/2013 17:30	0.158	7/29/2013 7:00	0.148
7/23/2013 1:30	0.172	7/24/2013 15:00	0.164	7/26/2013 4:30	0.145	7/27/2013 18:00	0.151	7/29/2013 7:30	0.169
7/23/2013 2:00	0.168	7/24/2013 15:30	0.165	7/26/2013 5:00	0.16	7/27/2013 18:30	0.158	7/29/2013 8:00	0.156
7/23/2013 2:30	0.169	7/24/2013 16:00	0.164	7/26/2013 5:30	0.179	7/27/2013 19:00	0.15	7/29/2013 8:30	0.154
7/23/2013 3:00	0.17	7/24/2013 16:30	0.156	7/26/2013 6:00	0.176	7/27/2013 19:30	0.174	7/29/2013 9:00	0.147
7/23/2013 3:30	0.161	7/24/2013 17:00	0.151	7/26/2013 6:30	0.166	7/27/2013 20:00	0.155	7/29/2013 9:30	0.153
7/23/2013 4:00	0.169	7/24/2013 17:30	0.147	7/26/2013 7:00	0.167	7/27/2013 20:30	0.175	7/29/2013 10:00	0.148
7/23/2013 4:30	0.181	7/24/2013 18:00	0.137	7/26/2013 7:30	0.164	7/27/2013 21:00	0.136	7/29/2013 10:30	0.157
7/23/2013 5:00	0.171	7/24/2013 18:30	0.144	7/26/2013 8:00	0.146	7/27/2013 21:30	0.158	7/29/2013 11:00	0.143
7/23/2013 5:30	0.167	7/24/2013 19:00	0.175	7/26/2013 8:30	0.146	7/27/2013 22:00	0.155	7/29/2013 11:30	0.142
7/23/2013 6:00	0.165	7/24/2013 19:30	0.15	7/26/2013 9:00	0.161	7/27/2013 22:30	0.162	7/29/2013 12:00	0.153
7/23/2013 6:30	0.171	7/24/2013 20:00	0.174	7/26/2013 9:30	0.149	7/27/2013 23:00	0.163	7/29/2013 12:30	0.173
7/23/2013 7:00	0.174	7/24/2013 20:30	0.159	7/26/2013 10:00	0.159	7/27/2013 23:30	0.144	7/29/2013 13:00	0.159
7/23/2013 7:30	0.168	7/24/2013 21:00	0.146	7/26/2013 10:30	0.133	7/28/2013 0:00	0.151	7/29/2013 13:30	0.158
7/23/2013 8:00	0.166	7/24/2013 21:30	0.147	7/26/2013 11:00	0.168	7/28/2013 0:30	0.153	7/29/2013 14:00	0.166
7/23/2013 8:30	0.162	7/24/2013 22:00	0.13	7/26/2013 11:30	0.154	7/28/2013 1:00	0.161	7/29/2013 14:30	0.145
7/23/2013 9:00	0.145	7/24/2013 22:30	0.153	7/26/2013 12:00	0.146	7/28/2013 1:30	0.173	7/29/2013 15:00	0.144
7/23/2013 9:30	0.179	7/24/2013 23:00	0.17	7/26/2013 12:30	0.158	7/28/2013 2:00	0.169	7/29/2013 15:30	0.162
7/23/2013 10:00	0.16	7/24/2013 23:30	0.148	7/26/2013 13:00	0.151	7/28/2013 2:30	0.144	7/29/2013 16:00	0.151
7/23/2013 10:30	0.164	7/25/2013 0:00	0.161	7/26/2013 13:30	0.167	7/28/2013 3:00	0.16	7/29/2013 16:30	0.165
7/23/2013 11:00	0.152	7/25/2013 0:30	0.17	7/26/2013 14:00	0.157	7/28/2013 3:30	0.155	7/29/2013 17:00	0.156
7/23/2013 11:30	0.171	7/25/2013 1:00	0.15	7/26/2013 14:30	0.166	7/28/2013 4:00	0.164	7/29/2013 17:30	0.155
7/23/2013 12:00	0.156	7/25/2013 1:30	0.148	7/26/2013 15:00	0.162	7/28/2013 4:30	0.17	7/29/2013 18:00	0.16
7/23/2013 12:30	0.182	7/25/2013 2:00	0.162	7/26/2013 15:30	0.174	7/28/2013 5:00	0.169	7/29/2013 18:30	0.156
7/23/2013 13:00	0.162	7/25/2013 2:30	0.161	7/26/2013 16:00	0.136	7/28/2013 5:30	0.159	7/29/2013 19:00	0.144
7/23/2013 13:30	0.162	7/25/2013 3:00	0.139	7/26/2013 16:30	0.159	7/28/2013 6:00	0.16	7/29/2013 19:30	0.144
7/23/2013 14:00	0.171	7/25/2013 3:30	0.142	7/26/2013 17:00	0.141	7/28/2013 6:30	0.168	7/29/2013 20:00	0.157
7/23/2013 14:30	0.161	7/25/2013 4:00	0.151	7/26/2013 17:30	0.126	7/28/2013 7:00	0.157	7/29/2013 20:30	0.148
7/23/2013 15:00	0.16	7/25/2013 4:30	0.147	7/26/2013 18:00	0.177	7/28/2013 7:30	0.167	7/29/2013 21:00	0.152
7/23/2013 15:30	0.18	7/25/2013 5:00	0.163	7/26/2013 18:30	0.119	7/28/2013 8:00	0.184	7/29/2013 21:30	0.144
7/23/2013 16:00	0.171	7/25/2013 5:30	0.155	7/26/2013 19:00	0.159	7/28/2013 8:30	0.156	7/29/2013 22:00	0.154
7/23/2013 16:30	0.155	7/25/2013 6:00	0.158	7/26/2013 19:30	0.167	7/28/2013 9:00	0.148	7/29/2013 22:30	0.144
7/23/2013 17:00	0.16	7/25/2013 6:30	0.17	7/26/2013 20:00	0.161	7/28/2013 9:30	0.162	7/29/2013 23:00	0.157
7/23/2013 17:30	0.129	7/25/2013 7:00	0.159	7/26/2013 20:30	0.168	7/28/2013 10:00	0.155	7/29/2013 23:30	0.146
7/23/2013 18:00	0.17	7/25/2013 7:30	0.14	7/26/2013 21:00	0.146	7/28/2013 10:30	0.139	7/30/2013 0:00	0.17
7/23/2013 18:30	0.184	7/25/2013 8:00	0.142	7/26/2013 21:30	0.14	7/28/2013 11:00	0.153	7/30/2013 0:30	0.164
7/23/2013 19:00	0.139	7/25/2013 8:30	0.155	7/26/2013 22:00	0.159	7/28/2013 11:30	0.143	7/30/2013 1:00	0.156
7/23/2013 19:30	0.157	7/25/2013 9:00	0.141	7/26/2013 22:30	0.157	7/28/2013 12:00	0.156	7/30/2013 1:30	0.168
7/23/2013 20:00	0.184	7/25/2013 9:30	0.14	7/26/2013 23:00	0.157	7/28/2013 12:30	0.145	7/30/2013 2:00	0.167
7/23/2013 20:30	0.179	7/25/2013 10:00	0.156	7/26/2013 23:30	0.159	7/28/2013 13:00	0.119	7/30/2013 2:30	0.175
7/23/2013 21:00	0.149	7/25/2013 10:30	0.165	7/27/2013 0:00	0.157	7/28/2013 13:30	0.163	7/30/2013 3:00	0.152
7/23/2013 21:30	0.163	7/25/2013 11:00	0.141	7/27/2013 0:30	0.162	7/28/2013 14:00	0.155	7/30/2013 3:30	0.177
7/23/2013 22:00	0.166	7/25/2013 11:30	0.153	7/27/2013 1:00	0.162	7/28/2013 14:30	0.155	7/30/2013 4:00	0.159
7/23/2013 22:30	0.17	7/25/2013 12:00	0.151	7/27/2013 1:30	0.15	7/28/2013 15:00	0.159	7/30/2013 4:30	0.172
7/23/2013 23:00	0.162	7/25/2013 12:30	0.164	7/27/2013 2:00	0.151	7/28/2013 15:30	0.152	7/30/2013 5:00	0.171
7/23/2013 23:30	0.149	7/25/2013 13:00	0.149	7/27/2013 2:30	0.165	7/28/2013 16:00	0.16	7/30/2013 5:30	0.184
7/24/2013 0:00	0.141	7/25/2013 13:30	0.162	7/27/2013 3:00	0.173	7/28/2013 16:30	0.141	7/30/2013 6:00	0.172
7/24/2013 0:30	0.15	7/25/2013 14:00	0.167	7/27/2013 3:30	0.174	7/28/2013 17:00	0.146	7/30/2013 6:30	0.181
7/24/2013 1:00	0.16	7/25/2013 14:30	0.151	7/27/2013 4:00	0.163	7/28/2013 17:30	0.157	7/30/2013 7:00	0.158
7/24/2013 1:30	0.155	7/25/2013 15:00	0.154	7/27/2013 4:30	0.169	7/28/2013 18:00	0.171	7/30/2013 7:30	0.159
7/24/2013 2:00	0.156	7/25/2013 15:30	0.162	7/27/2013 5:00	0.178	7/28/2013 18:30	0.182	7/30/2013 8:00	0.161
7/24/2013 2:30	0.172	7/25/2013 16:00	0.162	7/27/2013 5:30	0.177	7/28/2013 19:00	0.162	7/30/2013 8:30	0.152
7/24/2013 3:00	0.159	7/25/2013 16:30	0.196	7/27/2013 6:00	0.179	7/28/2013 19:30	0.164	7/30/2013 9:00	0.171
7/24/2013 3:30	0.137	7/25/2013 17:00	0.147	7/27/2013 6:30	0.172	7/28/2013 20:00	0.162	7/30/2013 9:30	0.16
7/24/2013 4:00	0.173	7/25/2013 17:30	0.137	7/27/2013 7:00	0.174	7/28/2013 20:30	0.163	7/30/2013 10:00	0.151
7/24/2013 4:30	0.168	7/25/2013 18:00	0.136	7/27/2013 7:30	0.167	7/28/2013 21:00	0.148	7/30/2013 10:30	0.161
7/24/2013 5:00	0.175	7/25/2013 18:30	0.142	7/27/2013 8:00	0.156	7/28/2013 21:30	0.162	7/30/2013 11:00	0.163
7/24/2013 5:30	0.175	7/25/2013 19:00	0.138	7/27/2013 8:30	0.163	7/28/2013 22:00	0.152	7/30/2013 11:30	0.161
7/24/2013 6:00	0.178	7/25/2013 19:30	0.17	7/27/2013 9:00	0.158	7/28/2013 22:30	0.149	7/30/2013 12:00	0.16
7/24/2013 6:30	0.191	7/25/2013 20:00	0.171	7/27/2013 9:30	0.163	7/28/2013 23:00	0.154	7/30/2013 12:30	0.158
7/24/2013 7:00	0.16	7/25/2013 20:30	0.156	7/27/2013 10:00	0.166	7/28/2013 23:30	0.159	7/30/2013 13:00	0.151
7/24/2013 7:30	0.173	7/25/2013 21:00	0.149	7/27/2013 10:30	0.159	7/29/2013 0:00	0.159	7/30/2013 13:30	0.159
7/24/2013 8:00	0.162	7/25/2013 21:30	0.148	7/27/2013 11:00	0.166	7/29/2013 0:30	0.146	7/30/2013 14:00	0.147
7/24/2013 8:30	0.142	7/25/2013 22:00	0.134	7/27/2013 11:30	0.156	7/29/2013 1:00	0.151	7/30/2013 14:30	0.17
7/24/2013 9:00	0.157	7/25/2013 22:30	0.165	7/27/2013 12:00	0.159	7/29/2013 1:30	0.133	7/30/2013 15:00	0.154

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
8/1/2013 5:00	0.184	8/2/2013 18:30	0.146	8/4/2013 8:00	0.155	8/5/2013 21:30	0.149	8/7/2013 11:00	0.144
8/1/2013 5:30	0.146	8/2/2013 19:00	0.156	8/4/2013 8:30	0.161	8/5/2013 22:00	0.157	8/7/2013 11:30	0.156
8/1/2013 6:00	0.164	8/2/2013 19:30	0.167	8/4/2013 9:00	0.153	8/5/2013 22:30	0.154	8/7/2013 12:00	0.135
8/1/2013 6:30	0.16	8/2/2013 20:00	0.165	8/4/2013 9:30	0.139	8/5/2013 23:00	0.168	8/7/2013 12:30	0.172
8/1/2013 7:00	0.17	8/2/2013 20:30	0.144	8/4/2013 10:00	0.147	8/5/2013 23:30	0.154	8/7/2013 13:00	0.135
8/1/2013 7:30	0.149	8/2/2013 21:00	0.153	8/4/2013 10:30	0.156	8/6/2013 0:00	0.15	8/7/2013 13:30	0.16
8/1/2013 8:00	0.171	8/2/2013 21:30	0.158	8/4/2013 11:00	0.146	8/6/2013 0:30	0.155	8/7/2013 14:00	0.167
8/1/2013 8:30	0.172	8/2/2013 22:00	0.158	8/4/2013 11:30	0.146	8/6/2013 1:00	0.16	8/7/2013 14:30	0.175
8/1/2013 9:00	0.161	8/2/2013 22:30	0.155	8/4/2013 12:00	0.162	8/6/2013 1:30	0.175	8/7/2013 15:00	0.163
8/1/2013 9:30	0.153	8/2/2013 23:00	0.151	8/4/2013 12:30	0.16	8/6/2013 2:00	0.157	8/7/2013 15:30	0.163
8/1/2013 10:00	0.141	8/2/2013 23:30	0.159	8/4/2013 13:00	0.16	8/6/2013 2:30	0.166	8/7/2013 16:00	0.147
8/1/2013 10:30	0.165	8/3/2013 0:00	0.163	8/4/2013 13:30	0.161	8/6/2013 3:00	0.169	8/7/2013 16:30	0.144
8/1/2013 11:00	0.164	8/3/2013 0:30	0.15	8/4/2013 14:00	0.18	8/6/2013 3:30	0.163	8/7/2013 17:00	0.169
8/1/2013 11:30	0.145	8/3/2013 1:00	0.154	8/4/2013 14:30	0.176	8/6/2013 4:00	0.147	8/7/2013 17:30	0.158
8/1/2013 12:00	0.143	8/3/2013 1:30	0.146	8/4/2013 15:00	0.169	8/6/2013 4:30	0.159	8/7/2013 18:00	0.148
8/1/2013 12:30	0.146	8/3/2013 2:00	0.153	8/4/2013 15:30	0.166	8/6/2013 5:00	0.16	8/7/2013 18:30	0.16
8/1/2013 13:00	0.157	8/3/2013 2:30	0.147	8/4/2013 16:00	0.163	8/6/2013 5:30	0.19	8/7/2013 19:00	0.131
8/1/2013 13:30	0.151	8/3/2013 3:00	0.154	8/4/2013 16:30	0.165	8/6/2013 6:00	0.162	8/7/2013 19:30	0.162
8/1/2013 14:00	0.161	8/3/2013 3:30	0.154	8/4/2013 17:00	0.162	8/6/2013 6:30	0.168	8/7/2013 20:00	0.163
8/1/2013 14:30	0.147	8/3/2013 4:00	0.157	8/4/2013 17:30	0.148	8/6/2013 7:00	0.174	8/7/2013 20:30	0.164
8/1/2013 15:00	0.158	8/3/2013 4:30	0.156	8/4/2013 18:00	0.169	8/6/2013 7:30	0.16	8/7/2013 21:00	0.152
8/1/2013 15:30	0.156	8/3/2013 5:00	0.164	8/4/2013 18:30	0.147	8/6/2013 8:00	0.174	8/7/2013 21:30	0.152
8/1/2013 16:00	0.131	8/3/2013 5:30	0.172	8/4/2013 19:00	0.152	8/6/2013 8:30	0.149	8/7/2013 22:00	0.153
8/1/2013 16:30	0.146	8/3/2013 6:00	0.151	8/4/2013 19:30	0.164	8/6/2013 9:00	0.155	8/7/2013 22:30	0.162
8/1/2013 17:00	0.175	8/3/2013 6:30	0.152	8/4/2013 20:00	0.157	8/6/2013 9:30	0.132	8/7/2013 23:00	0.156
8/1/2013 17:30	0.16	8/3/2013 7:00	0.152	8/4/2013 20:30	0.168	8/6/2013 10:00	0.151	8/7/2013 23:30	0.173
8/1/2013 18:00	0.166	8/3/2013 7:30	0.151	8/4/2013 21:00	0.137	8/6/2013 10:30	0.151	8/8/2013 0:00	0.154
8/1/2013 18:30	0.162	8/3/2013 8:00	0.144	8/4/2013 21:30	0.154	8/6/2013 11:00	0.153	8/8/2013 0:30	0.164
8/1/2013 19:00	0.158	8/3/2013 8:30	0.166	8/4/2013 22:00	0.156	8/6/2013 11:30	0.149	8/8/2013 1:00	0.169
8/1/2013 19:30	0.149	8/3/2013 9:00	0.154	8/4/2013 22:30	0.153	8/6/2013 12:00	0.191	8/8/2013 1:30	0.176
8/1/2013 20:00	0.149	8/3/2013 9:30	0.16	8/4/2013 23:00	0.152	8/6/2013 12:30	0.154	8/8/2013 2:00	0.172
8/1/2013 20:30	0.152	8/3/2013 10:00	0.14	8/4/2013 23:30	0.172	8/6/2013 13:00	0.174	8/8/2013 2:30	0.168
8/1/2013 21:00	0.143	8/3/2013 10:30	0.145	8/5/2013 0:00	0.176	8/6/2013 13:30	0.152	8/8/2013 3:00	0.183
8/1/2013 21:30	0.162	8/3/2013 11:00	0.145	8/5/2013 0:30	0.167	8/6/2013 14:00	0.157	8/8/2013 3:30	0.165
8/1/2013 22:00	0.171	8/3/2013 11:30	0.15	8/5/2013 1:00	0.166	8/6/2013 14:30	0.156	8/8/2013 4:00	0.175
8/1/2013 22:30	0.145	8/3/2013 12:00	0.148	8/5/2013 1:30	0.172	8/6/2013 15:00	0.157	8/8/2013 4:30	0.165
8/1/2013 23:00	0.163	8/3/2013 12:30	0.142	8/5/2013 2:00	0.153	8/6/2013 15:30	0.153	8/8/2013 5:00	0.178
8/1/2013 23:30	0.164	8/3/2013 13:00	0.17	8/5/2013 2:30	0.154	8/6/2013 16:00	0.148	8/8/2013 5:30	0.158
8/2/2013 0:00	0.17	8/3/2013 13:30	0.153	8/5/2013 3:00	0.176	8/6/2013 16:30	0.167	8/8/2013 6:00	0.162
8/2/2013 0:30	0.155	8/3/2013 14:00	0.14	8/5/2013 3:30	0.16	8/6/2013 17:00	0.161	8/8/2013 6:30	0.168
8/2/2013 1:00	0.175	8/3/2013 14:30	0.174	8/5/2013 4:00	0.162	8/6/2013 17:30	0.161	8/8/2013 7:00	0.163
8/2/2013 1:30	0.153	8/3/2013 15:00	0.166	8/5/2013 4:30	0.161	8/6/2013 18:00	0.161	8/8/2013 7:30	0.164
8/2/2013 2:00	0.167	8/3/2013 15:30	0.185	8/5/2013 5:00	0.153	8/6/2013 18:30	0.144	8/8/2013 8:00	0.164
8/2/2013 2:30	0.162	8/3/2013 16:00	0.187	8/5/2013 5:30	0.156	8/6/2013 19:00	0.147	8/8/2013 8:30	0.162
8/2/2013 3:00	0.149	8/3/2013 16:30	0.154	8/5/2013 6:00	0.155	8/6/2013 19:30	0.173	8/8/2013 9:00	0.157
8/2/2013 3:30	0.175	8/3/2013 17:00	0.147	8/5/2013 6:30	0.162	8/6/2013 20:00	0.167	8/8/2013 9:30	0.151
8/2/2013 4:00	0.167	8/3/2013 17:30	0.152	8/5/2013 7:00	0.159	8/6/2013 20:30	0.157	8/8/2013 10:00	0.157
8/2/2013 4:30	0.181	8/3/2013 18:00	0.145	8/5/2013 7:30	0.147	8/6/2013 21:00	0.149	8/8/2013 10:30	0.143
8/2/2013 5:00	0.175	8/3/2013 18:30	0.153	8/5/2013 8:00	0.153	8/6/2013 21:30	0.149	8/8/2013 11:00	0.174
8/2/2013 5:30	0.178	8/3/2013 19:00	0.158	8/5/2013 8:30	0.16	8/6/2013 22:00	0.145	8/8/2013 11:30	0.156
8/2/2013 6:00	0.179	8/3/2013 19:30	0.154	8/5/2013 9:00	0.163	8/6/2013 22:30	0.14	8/8/2013 12:00	0.165
8/2/2013 6:30	0.189	8/3/2013 20:00	0.173	8/5/2013 9:30	0.15	8/6/2013 23:00	0.142	8/8/2013 12:30	0.182
8/2/2013 7:00	0.159	8/3/2013 20:30	0.151	8/5/2013 10:00	0.168	8/6/2013 23:30	0.154	8/8/2013 13:00	0.17
8/2/2013 7:30	0.17	8/3/2013 21:00	0.186	8/5/2013 10:30	0.151	8/7/2013 0:00	0.139	8/8/2013 13:30	0.181
8/2/2013 8:00	0.155	8/3/2013 21:30	0.16	8/5/2013 11:00	0.159	8/7/2013 0:30	0.142	8/8/2013 14:00	0.169
8/2/2013 8:30	0.15	8/3/2013 22:00	0.161	8/5/2013 11:30	0.161	8/7/2013 1:00	0.148	8/8/2013 14:30	0.154
8/2/2013 9:00	0.156	8/3/2013 22:30	0.152	8/5/2013 12:00	0.172	8/7/2013 1:30	0.171	8/8/2013 15:00	0.154
8/2/2013 9:30	0.156	8/3/2013 23:00	0.176	8/5/2013 12:30	0.162	8/7/2013 2:00	0.146	8/8/2013 15:30	0.155
8/2/2013 10:00	0.162	8/3/2013 23:30	0.159	8/5/2013 13:00	0.149	8/7/2013 2:30	0.147	8/8/2013 16:00	0.167
8/2/2013 10:30	0.157	8/4/2013 0:00	0.163	8/5/2013 13:30	0.185	8/7/2013 3:00	0.164	8/8/2013 16:30	0.186
8/2/2013 11:00	0.156	8/4/2013 0:30	0.168	8/5/2013 14:00	0.162	8/7/2013 3:30	0.166	8/8/2013 17:00	0.172
8/2/2013 11:30	0.168	8/4/2013 1:00	0.151	8/5/2013 14:30	0.164	8/7/2013 4:00	0.152	8/8/2013 17:30	0.165
8/2/2013 12:00	0.172	8/4/2013 1:30	0.158	8/5/2013 15:00	0.166	8/7/2013 4:30	0.162	8/8/2013 18:00	0.143
8/2/2013 12:30	0.155	8/4/2013 2:00	0.166	8/5/2013 15:30	0.159	8/7/2013 5:00	0.156	8/8/2013 18:30	0.144
8/2/2013 13:00	0.143	8/4/2013 2:30	0.158	8/5/2013 16:00	0.149	8/7/2013 5:30	0.169	8/8/2013 19:00	0.159
8/2/2013 13:30	0.159	8/4/2013 3:00	0.167	8/5/2013 16:30	0.164	8/7/2013 6:00	0.166	8/8/2013 19:30	0.154
8/2/2013 14:00	0.177	8/4/2013 3:30	0.171	8/5/2013 17:00	0.145	8/7/2013 6:30	0.15	8/8/2013 20:00	0.164
8/2/2013 14:30	0.164	8/4/2013 4:00	0.188	8/5/2013 17:30	0.165	8/7/2013 7:00	0.157	8/8/2013 20:30	0.153
8/2/2013 15:00	0.171	8/4/2013 4:30	0.164	8/5/2013 18:00	0.131	8/7/2013 7:30	0.146	8/8/2013 21:00	0.166
8/2/2013 15:30	0.155	8/4/2013 5:00	0.166	8/5/2013 18:30	0.139	8/7/2013 8:00	0.15	8/8/2013 21:30	0.155
8/2/2013 16:00	0.156	8/4/2013 5:30	0.18	8/5/2013 19:00	0.14	8/7/2013 8:30	0.153	8/8/2013 22:00	0.144
8/2/2013 16:30	0.141	8/4/2013 6:00	0.165	8/5/2013 19:30	0.169	8/7/2013 9:00	0.139	8/8/2013 22:30	0.153
8/2/2013 17:00	0.145	8/4/2013 6:30	0.168	8/5/2013 20:00	0.147	8/7/2013 9:30	0.16	8/8/2013 23:00	0.155
8/2/2013 17:30	0.147	8/4/2013 7:00	0.168	8/5/2013 20:30	0.151	8/7/2013 10:00	0.147	8/8/2013 23:30	0.142
8/2/2013 18:00	0.157	8/4/2013 7:30	0.167	8/5/2013 21:00	0.146	8/7/2013 10:30	0.155	8/9/2013 0:00	0.155

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
8/9/2013 0:30	0.15	8/10/2013 14:00	0.133	8/12/2013 3:30	0.158	8/13/2013 17:00	0.17	8/15/2013 6:30	0.168
8/9/2013 1:00	0.156	8/10/2013 14:30	0.162	8/12/2013 4:00	0.171	8/13/2013 17:30	0.159	8/15/2013 7:00	0.172
8/9/2013 1:30	0.153	8/10/2013 15:00	0.157	8/12/2013 4:30	0.145	8/13/2013 18:00	0.175	8/15/2013 7:30	0.152
8/9/2013 2:00	0.163	8/10/2013 15:30	0.17	8/12/2013 5:00	0.174	8/13/2013 18:30	0.166	8/15/2013 8:00	0.167
8/9/2013 2:30	0.154	8/10/2013 16:00	0.199	8/12/2013 5:30	0.16	8/13/2013 19:00	0.159	8/15/2013 8:30	0.154
8/9/2013 3:00	0.151	8/10/2013 16:30	0.172	8/12/2013 6:00	0.172	8/13/2013 19:30	0.161	8/15/2013 9:00	0.151
8/9/2013 3:30	0.151	8/10/2013 17:00	0.168	8/12/2013 6:30	0.172	8/13/2013 20:00	0.176	8/15/2013 9:30	0.151
8/9/2013 4:00	0.15	8/10/2013 17:30	0.15	8/12/2013 7:00	0.168	8/13/2013 20:30	0.196	8/15/2013 10:00	0.133
8/9/2013 4:30	0.169	8/10/2013 18:00	0.158	8/12/2013 7:30	0.159	8/13/2013 21:00	0.166	8/15/2013 10:30	0.177
8/9/2013 5:00	0.165	8/10/2013 18:30	0.181	8/12/2013 8:00	0.178	8/13/2013 21:30	0.171	8/15/2013 11:00	0.164
8/9/2013 5:30	0.148	8/10/2013 19:00	0.15	8/12/2013 8:30	0.17	8/13/2013 22:00	0.15	8/15/2013 11:30	0.199
8/9/2013 6:00	0.159	8/10/2013 19:30	0.164	8/12/2013 9:00	0.167	8/13/2013 22:30	0.168	8/15/2013 12:00	0.172
8/9/2013 6:30	0.163	8/10/2013 20:00	0.154	8/12/2013 9:30	0.183	8/13/2013 23:00	0.153	8/15/2013 12:30	0.159
8/9/2013 7:00	0.155	8/10/2013 20:30	0.134	8/12/2013 10:00	0.136	8/13/2013 23:30	0.16	8/15/2013 13:00	0.162
8/9/2013 7:30	0.167	8/10/2013 21:00	0.16	8/12/2013 10:30	0.134	8/14/2013 0:00	0.158	8/15/2013 13:30	0.157
8/9/2013 8:00	0.157	8/10/2013 21:30	0.165	8/12/2013 11:00	0.168	8/14/2013 0:30	0.152	8/15/2013 14:00	0.165
8/9/2013 8:30	0.151	8/10/2013 22:00	0.156	8/12/2013 11:30	0.147	8/14/2013 1:00	0.164	8/15/2013 14:30	0.155
8/9/2013 9:00	0.164	8/10/2013 22:30	0.155	8/12/2013 12:00	0.182	8/14/2013 1:30	0.157	8/15/2013 15:00	0.153
8/9/2013 9:30	0.159	8/10/2013 23:00	0.174	8/12/2013 12:30	0.163	8/14/2013 2:00	0.158	8/15/2013 15:30	0.161
8/9/2013 10:00	0.146	8/10/2013 23:30	0.145	8/12/2013 13:00	0.161	8/14/2013 2:30	0.176	8/15/2013 16:00	0.104
8/9/2013 10:30	0.167	8/11/2013 0:00	0.154	8/12/2013 13:30	0.152	8/14/2013 3:00	0.161	8/15/2013 16:30	0.159
8/9/2013 11:00	0.157	8/11/2013 0:30	0.16	8/12/2013 14:00	0.119	8/14/2013 3:30	0.156	8/15/2013 17:00	0.152
8/9/2013 11:30	0.152	8/11/2013 1:00	0.176	8/12/2013 14:30	0.165	8/14/2013 4:00	0.171	8/15/2013 17:30	0.174
8/9/2013 12:00	0.163	8/11/2013 1:30	0.165	8/12/2013 15:00	0.165	8/14/2013 4:30	0.179	8/15/2013 18:00	0.177
8/9/2013 12:30	0.151	8/11/2013 2:00	0.164	8/12/2013 15:30	0.158	8/14/2013 5:00	0.169	8/15/2013 18:30	0.159
8/9/2013 13:00	0.164	8/11/2013 2:30	0.15	8/12/2013 16:00	0.158	8/14/2013 5:30	0.173	8/15/2013 19:00	0.159
8/9/2013 13:30	0.131	8/11/2013 3:00	0.162	8/12/2013 16:30	0.15	8/14/2013 6:00	0.167	8/15/2013 19:30	0.172
8/9/2013 14:00	0.161	8/11/2013 3:30	0.18	8/12/2013 17:00	0.168	8/14/2013 6:30	0.165	8/15/2013 20:00	0.176
8/9/2013 14:30	0.16	8/11/2013 4:00	0.169	8/12/2013 17:30	0.169	8/14/2013 7:00	0.17	8/15/2013 20:30	0.141
8/9/2013 15:00	0.161	8/11/2013 4:30	0.18	8/12/2013 18:00	0.141	8/14/2013 7:30	0.176	8/15/2013 21:00	0.157
8/9/2013 15:30	0.159	8/11/2013 5:00	0.153	8/12/2013 18:30	0.111	8/14/2013 8:00	0.152	8/15/2013 21:30	0.148
8/9/2013 16:00	0.158	8/11/2013 5:30	0.17	8/12/2013 19:00	0.135	8/14/2013 8:30	0.15	8/15/2013 22:00	0.149
8/9/2013 16:30	0.158	8/11/2013 6:00	0.169	8/12/2013 19:30	0.145	8/14/2013 9:00	0.159	8/15/2013 22:30	0.16
8/9/2013 17:00	0.168	8/11/2013 6:30	0.169	8/12/2013 20:00	0.172	8/14/2013 9:30	0.167	8/15/2013 23:00	0.158
8/9/2013 17:30	0.196	8/11/2013 7:00	0.156	8/12/2013 20:30	0.154	8/14/2013 10:00	0.143	8/15/2013 23:30	0.166
8/9/2013 18:00	0.149	8/11/2013 7:30	0.166	8/12/2013 21:00	0.154	8/14/2013 10:30	0.159	8/16/2013 0:00	0.178
8/9/2013 18:30	0.15	8/11/2013 8:00	0.167	8/12/2013 21:30	0.155	8/14/2013 11:00	0.157	8/16/2013 0:30	0.17
8/9/2013 19:00	0.129	8/11/2013 8:30	0.162	8/12/2013 22:00	0.144	8/14/2013 11:30	0.157	8/16/2013 1:00	0.162
8/9/2013 19:30	0.153	8/11/2013 9:00	0.155	8/12/2013 22:30	0.158	8/14/2013 12:00	0.154	8/16/2013 1:30	0.173
8/9/2013 20:00	0.164	8/11/2013 9:30	0.142	8/12/2013 23:00	0.154	8/14/2013 12:30	0.157	8/16/2013 2:00	0.151
8/9/2013 20:30	0.162	8/11/2013 10:00	0.155	8/12/2013 23:30	0.167	8/14/2013 13:00	0.165	8/16/2013 2:30	0.171
8/9/2013 21:00	0.16	8/11/2013 10:30	0.152	8/13/2013 0:00	0.168	8/14/2013 13:30	0.166	8/16/2013 3:00	0.152
8/9/2013 21:30	0.159	8/11/2013 11:00	0.161	8/13/2013 0:30	0.172	8/14/2013 14:00	0.179	8/16/2013 3:30	0.158
8/9/2013 22:00	0.156	8/11/2013 11:30	0.148	8/13/2013 1:00	0.171	8/14/2013 14:30	0.168	8/16/2013 4:00	0.16
8/9/2013 22:30	0.167	8/11/2013 12:00	0.177	8/13/2013 1:30	0.184	8/14/2013 15:00	0.171	8/16/2013 4:30	0.162
8/9/2013 23:00	0.18	8/11/2013 12:30	0.148	8/13/2013 2:00	0.165	8/14/2013 15:30	0.175	8/16/2013 5:00	0.152
8/9/2013 23:30	0.16	8/11/2013 13:00	0.167	8/13/2013 2:30	0.17	8/14/2013 16:00	0.158	8/16/2013 5:30	0.174
8/10/2013 0:00	0.165	8/11/2013 13:30	0.143	8/13/2013 3:00	0.163	8/14/2013 16:30	0.172	8/16/2013 6:00	0.168
8/10/2013 0:30	0.161	8/11/2013 14:00	0.201	8/13/2013 3:30	0.169	8/14/2013 17:00	0.167	8/16/2013 6:30	0.156
8/10/2013 1:00	0.154	8/11/2013 14:30	0.18	8/13/2013 4:00	0.167	8/14/2013 17:30	0.16	8/16/2013 7:00	0.167
8/10/2013 1:30	0.146	8/11/2013 15:00	0.125	8/13/2013 4:30	0.164	8/14/2013 18:00	0.162	8/16/2013 7:30	0.168
8/10/2013 2:00	0.15	8/11/2013 15:30	0.184	8/13/2013 5:00	0.159	8/14/2013 18:30	0.159	8/16/2013 8:00	0.156
8/10/2013 2:30	0.171	8/11/2013 16:00	0.172	8/13/2013 5:30	0.168	8/14/2013 19:00	0.181	8/16/2013 8:30	0.169
8/10/2013 3:00	0.161	8/11/2013 16:30	0.172	8/13/2013 6:00	0.18	8/14/2013 19:30	0.184	8/16/2013 9:00	0.152
8/10/2013 3:30	0.175	8/11/2013 17:00	0.149	8/13/2013 6:30	0.173	8/14/2013 20:00	0.173	8/16/2013 9:30	0.154
8/10/2013 4:00	0.159	8/11/2013 17:30	0.163	8/13/2013 7:00	0.186	8/14/2013 20:30	0.154	8/16/2013 10:00	0.14
8/10/2013 4:30	0.148	8/11/2013 18:00	0.162	8/13/2013 7:30	0.161	8/14/2013 21:00	0.152	8/16/2013 10:30	0.155
8/10/2013 5:00	0.172	8/11/2013 18:30	0.151	8/13/2013 8:00	0.173	8/14/2013 21:30	0.158	8/16/2013 11:00	0.154
8/10/2013 5:30	0.178	8/11/2013 19:00	0.166	8/13/2013 8:30	0.161	8/14/2013 22:00	0.147	8/16/2013 11:30	0.155
8/10/2013 6:00	0.17	8/11/2013 19:30	0.163	8/13/2013 9:00	0.158	8/14/2013 22:30	0.16	8/16/2013 12:00	0.147
8/10/2013 6:30	0.169	8/11/2013 20:00	0.149	8/13/2013 9:30	0.152	8/14/2013 23:00	0.167	8/16/2013 12:30	0.161
8/10/2013 7:00	0.161	8/11/2013 20:30	0.152	8/13/2013 10:00	0.163	8/14/2013 23:30	0.15	8/16/2013 13:00	0.17
8/10/2013 7:30	0.168	8/11/2013 21:00	0.162	8/13/2013 10:30	0.149	8/15/2013 0:00	0.178	8/16/2013 13:30	0.15
8/10/2013 8:00	0.162	8/11/2013 21:30	0.147	8/13/2013 11:00	0.153	8/15/2013 0:30	0.168	8/16/2013 14:00	0.155
8/10/2013 8:30	0.15	8/11/2013 22:00	0.165	8/13/2013 11:30	0.14	8/15/2013 1:00	0.168	8/16/2013 14:30	0.16
8/10/2013 9:00	0.142	8/11/2013 22:30	0.159	8/13/2013 12:00	0.151	8/15/2013 1:30	0.173	8/16/2013 15:00	0.155
8/10/2013 9:30	0.155	8/11/2013 23:00	0.151	8/13/2013 12:30	0.166	8/15/2013 2:00	0.159	8/16/2013 15:30	0.154
8/10/2013 10:00	0.166	8/11/2013 23:30	0.168	8/13/2013 13:00	0.13	8/15/2013 2:30	0.158	8/16/2013 16:00	0.168
8/10/2013 10:30	0.154	8/12/2013 0:00	0.147	8/13/2013 13:30	0.156	8/15/2013 3:00	0.163	8/16/2013 16:30	0.139
8/10/2013 11:00	0.159	8/12/2013 0:30	0.154	8/13/2013 14:00	0.166	8/15/2013 3:30	0.173	8/16/2013 17:00	0.129
8/10/2013 11:30	0.168	8/12/2013 1:00	0.162	8/13/2013 14:30	0.163	8/15/2013 4:00	0.155	8/16/2013 17:30	0.139
8/10/2013 12:00	0.172	8/12/2013 1:30	0.177	8/13/2013 15:00	0.178	8/15/2013 4:30	0.17	8/16/2013 18:00	0.099
8/10/2013 12:30	0.149	8/12/2013 2:00	0.169	8/13/2013 15:30	0.177	8/15/2013 5:00	0.171	8/16/2013 18:30	0.157
8/10/2013 13:00	0.161	8/12/2013 2:30	0.16	8/13/2013 16:00	0.169	8/15/2013 5:30	0.182	8/16/2013 19:00	0.179
8/10/2013 13:30	0.178	8/12/2013 3:00	0.146	8/13/2013 16:30	0.176	8/15/2013 6:00	0.164	8/16/2013 19:30	0.166

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
8/16/2013 20:00	0.149	8/18/2013 9:30	0.126	8/19/2013 23:00	0.182	8/21/2013 12:30	0.159	8/23/2013 2:00	0.148
8/16/2013 20:30	0.143	8/18/2013 10:00	0.195	8/19/2013 23:30	0.159	8/21/2013 13:00	0.145	8/23/2013 2:30	0.155
8/16/2013 21:00	0.155	8/18/2013 10:30	0.165	8/20/2013 0:00	0.156	8/21/2013 13:30	0.209	8/23/2013 3:00	0.139
8/16/2013 21:30	0.153	8/18/2013 11:00	0.157	8/20/2013 0:30	0.161	8/21/2013 14:00	0.183	8/23/2013 3:30	0.167
8/16/2013 22:00	0.162	8/18/2013 11:30	0.185	8/20/2013 1:00	0.157	8/21/2013 14:30	0.165	8/23/2013 4:00	0.175
8/16/2013 22:30	0.169	8/18/2013 12:00	0.203	8/20/2013 1:30	0.145	8/21/2013 15:00	0.17	8/23/2013 4:30	0.158
8/16/2013 23:00	0.169	8/18/2013 12:30	0.201	8/20/2013 2:00	0.166	8/21/2013 15:30	0.176	8/23/2013 5:00	0.159
8/16/2013 23:30	0.168	8/18/2013 13:00	0.144	8/20/2013 2:30	0.183	8/21/2013 16:00	0.163	8/23/2013 5:30	0.152
8/17/2013 0:00	0.167	8/18/2013 13:30	0.165	8/20/2013 3:00	0.162	8/21/2013 16:30	0.18	8/23/2013 6:00	0.163
8/17/2013 0:30	0.18	8/18/2013 14:00	0.171	8/20/2013 3:30	0.164	8/21/2013 17:00	0.177	8/23/2013 6:30	0.169
8/17/2013 1:00	0.158	8/18/2013 14:30	0.16	8/20/2013 4:00	0.168	8/21/2013 17:30	0.163	8/23/2013 7:00	0.166
8/17/2013 1:30	0.171	8/18/2013 15:00	0.154	8/20/2013 4:30	0.163	8/21/2013 18:00	0.142	8/23/2013 7:30	0.154
8/17/2013 2:00	0.192	8/18/2013 15:30	0.145	8/20/2013 5:00	0.177	8/21/2013 18:30	0.168	8/23/2013 8:00	0.176
8/17/2013 2:30	0.163	8/18/2013 16:00	0.16	8/20/2013 5:30	0.175	8/21/2013 19:00	0.173	8/23/2013 8:30	0.161
8/17/2013 3:00	0.167	8/18/2013 16:30	0.177	8/20/2013 6:00	0.181	8/21/2013 19:30	0.163	8/23/2013 9:00	0.157
8/17/2013 3:30	0.176	8/18/2013 17:00	0.166	8/20/2013 6:30	0.177	8/21/2013 20:00	0.155	8/23/2013 9:30	0.151
8/17/2013 4:00	0.17	8/18/2013 17:30	0.179	8/20/2013 7:00	0.179	8/21/2013 20:30	0.154	8/23/2013 10:00	0.162
8/17/2013 4:30	0.173	8/18/2013 18:00	0.179	8/20/2013 7:30	0.169	8/21/2013 21:00	0.159	8/23/2013 10:30	0.146
8/17/2013 5:00	0.172	8/18/2013 18:30	0.153	8/20/2013 8:00	0.161	8/21/2013 21:30	0.16	8/23/2013 11:00	0.16
8/17/2013 5:30	0.184	8/18/2013 19:00	0.164	8/20/2013 8:30	0.151	8/21/2013 22:00	0.18	8/23/2013 11:30	0.156
8/17/2013 6:00	0.146	8/18/2013 19:30	0.149	8/20/2013 9:00	0.162	8/21/2013 22:30	0.157	8/23/2013 12:00	0.159
8/17/2013 6:30	0.167	8/18/2013 20:00	0.173	8/20/2013 9:30	0.165	8/21/2013 23:00	0.156	8/23/2013 12:30	0.125
8/17/2013 7:00	0.179	8/18/2013 20:30	0.162	8/20/2013 10:00	0.167	8/21/2013 23:30	0.162	8/23/2013 13:00	0.163
8/17/2013 7:30	0.169	8/18/2013 21:00	0.148	8/20/2013 10:30	0.145	8/22/2013 0:00	0.153	8/23/2013 13:30	0.168
8/17/2013 8:00	0.157	8/18/2013 21:30	0.158	8/20/2013 11:00	0.151	8/22/2013 0:30	0.181	8/23/2013 14:00	0.128
8/17/2013 8:30	0.16	8/18/2013 22:00	0.159	8/20/2013 11:30	0.158	8/22/2013 1:00	0.15	8/23/2013 14:30	0.148
8/17/2013 9:00	0.156	8/18/2013 22:30	0.155	8/20/2013 12:00	0.154	8/22/2013 1:30	0.167	8/23/2013 15:00	0.155
8/17/2013 9:30	0.166	8/18/2013 23:00	0.151	8/20/2013 12:30	0.18	8/22/2013 2:00	0.16	8/23/2013 15:30	0.155
8/17/2013 10:00	0.148	8/18/2013 23:30	0.149	8/20/2013 13:00	0.193	8/22/2013 2:30	0.164	8/23/2013 16:00	0.155
8/17/2013 10:30	0.19	8/19/2013 0:00	0.175	8/20/2013 13:30	0.152	8/22/2013 3:00	0.149	8/23/2013 16:30	0.139
8/17/2013 11:00	0.148	8/19/2013 0:30	0.159	8/20/2013 14:00	0.167	8/22/2013 3:30	0.172	8/23/2013 17:00	0.174
8/17/2013 11:30	0.164	8/19/2013 1:00	0.156	8/20/2013 14:30	0.162	8/22/2013 4:00	0.159	8/23/2013 17:30	0.16
8/17/2013 12:00	0.173	8/19/2013 1:30	0.153	8/20/2013 15:00	0.177	8/22/2013 4:30	0.169	8/23/2013 18:00	0.149
8/17/2013 12:30	0.155	8/19/2013 2:00	0.172	8/20/2013 15:30	0.168	8/22/2013 5:00	0.173	8/23/2013 18:30	0.172
8/17/2013 13:00	0.154	8/19/2013 2:30	0.163	8/20/2013 16:00	0.156	8/22/2013 5:30	0.182	8/23/2013 19:00	0.151
8/17/2013 13:30	0.166	8/19/2013 3:00	0.169	8/20/2013 16:30	0.163	8/22/2013 6:00	0.181	8/23/2013 19:30	0.148
8/17/2013 14:00	0.164	8/19/2013 3:30	0.177	8/20/2013 17:00	0.154	8/22/2013 6:30	0.172	8/23/2013 20:00	0.152
8/17/2013 14:30	0.165	8/19/2013 4:00	0.152	8/20/2013 17:30	0.128	8/22/2013 7:00	0.189	8/23/2013 20:30	0.153
8/17/2013 15:00	0.158	8/19/2013 4:30	0.171	8/20/2013 18:00	0.142	8/22/2013 7:30	0.189	8/23/2013 21:00	0.149
8/17/2013 15:30	0.17	8/19/2013 5:00	0.153	8/20/2013 18:30	0.176	8/22/2013 8:00	0.162	8/23/2013 21:30	0.163
8/17/2013 16:00	0.156	8/19/2013 5:30	0.159	8/20/2013 19:00	0.158	8/22/2013 8:30	0.163	8/23/2013 22:00	0.163
8/17/2013 16:30	0.162	8/19/2013 6:00	0.183	8/20/2013 19:30	0.118	8/22/2013 9:00	0.171	8/23/2013 22:30	0.161
8/17/2013 17:00	0.151	8/19/2013 6:30	0.169	8/20/2013 20:00	0.146	8/22/2013 9:30	0.171	8/23/2013 23:00	0.142
8/17/2013 17:30	0.164	8/19/2013 7:00	0.167	8/20/2013 20:30	0.135	8/22/2013 10:00	0.167	8/23/2013 23:30	0.162
8/17/2013 18:00	0.162	8/19/2013 7:30	0.165	8/20/2013 21:00	0.161	8/22/2013 10:30	0.155	8/24/2013 0:00	0.14
8/17/2013 18:30	0.152	8/19/2013 8:00	0.153	8/20/2013 21:30	0.158	8/22/2013 11:00	0.162	8/24/2013 0:30	0.162
8/17/2013 19:00	0.155	8/19/2013 8:30	0.156	8/20/2013 22:00	0.161	8/22/2013 11:30	0.155	8/24/2013 1:00	0.161
8/17/2013 19:30	0.166	8/19/2013 9:00	0.154	8/20/2013 22:30	0.16	8/22/2013 12:00	0.17	8/24/2013 1:30	0.178
8/17/2013 20:00	0.163	8/19/2013 9:30	0.143	8/20/2013 23:00	0.175	8/22/2013 12:30	0.163	8/24/2013 2:00	0.157
8/17/2013 20:30	0.144	8/19/2013 10:00	0.153	8/20/2013 23:30	0.158	8/22/2013 13:00	0.169	8/24/2013 2:30	0.159
8/17/2013 21:00	0.134	8/19/2013 10:30	0.146	8/21/2013 0:00	0.16	8/22/2013 13:30	0.158	8/24/2013 3:00	0.162
8/17/2013 21:30	0.145	8/19/2013 11:00	0.091	8/21/2013 0:30	0.159	8/22/2013 14:00	0.201	8/24/2013 3:30	0.161
8/17/2013 22:00	0.164	8/19/2013 11:30	0.167	8/21/2013 1:00	0.179	8/22/2013 14:30	0.162	8/24/2013 4:00	0.164
8/17/2013 22:30	0.151	8/19/2013 12:00	0.166	8/21/2013 1:30	0.146	8/22/2013 15:00	0.162	8/24/2013 4:30	0.169
8/17/2013 23:00	0.15	8/19/2013 12:30	0.176	8/21/2013 2:00	0.166	8/22/2013 15:30	0.165	8/24/2013 5:00	0.173
8/17/2013 23:30	0.146	8/19/2013 13:00	0.16	8/21/2013 2:30	0.152	8/22/2013 16:00	0.155	8/24/2013 5:30	0.17
8/18/2013 0:00	0.145	8/19/2013 13:30	0.145	8/21/2013 3:00	0.167	8/22/2013 16:30	0.164	8/24/2013 6:00	0.162
8/18/2013 0:30	0.165	8/19/2013 14:00	0.162	8/21/2013 3:30	0.183	8/22/2013 17:00	0.115	8/24/2013 6:30	0.177
8/18/2013 1:00	0.151	8/19/2013 14:30	0.15	8/21/2013 4:00	0.174	8/22/2013 17:30	0.138	8/24/2013 7:00	0.185
8/18/2013 1:30	0.144	8/19/2013 15:00	0.142	8/21/2013 4:30	0.178	8/22/2013 18:00	0.16	8/24/2013 7:30	0.15
8/18/2013 2:00	0.158	8/19/2013 15:30	0.161	8/21/2013 5:00	0.173	8/22/2013 18:30	0.153	8/24/2013 8:00	0.167
8/18/2013 2:30	0.159	8/19/2013 16:00	0.161	8/21/2013 5:30	0.173	8/22/2013 19:00	0.144	8/24/2013 8:30	0.161
8/18/2013 3:00	0.165	8/19/2013 16:30	0.171	8/21/2013 6:00	0.174	8/22/2013 19:30	0.154	8/24/2013 9:00	0.158
8/18/2013 3:30	0.163	8/19/2013 17:00	0.163	8/21/2013 6:30	0.189	8/22/2013 20:00	0.137	8/24/2013 9:30	0.157
8/18/2013 4:00	0.169	8/19/2013 17:30	0.149	8/21/2013 7:00	0.179	8/22/2013 20:30	0.15	8/24/2013 10:00	0.153
8/18/2013 4:30	0.159	8/19/2013 18:00	0.148	8/21/2013 7:30	0.169	8/22/2013 21:00	0.161	8/24/2013 10:30	0.17
8/18/2013 5:00	0.172	8/19/2013 18:30	0.155	8/21/2013 8:00	0.156	8/22/2013 21:30	0.156	8/24/2013 11:00	0.162
8/18/2013 5:30	0.172	8/19/2013 19:00	0.163	8/21/2013 8:30	0.165	8/22/2013 22:00	0.153	8/24/2013 11:30	0.155
8/18/2013 6:00	0.174	8/19/2013 19:30	0.198	8/21/2013 9:00	0.155	8/22/2013 22:30	0.154	8/24/2013 12:00	0.152
8/18/2013 6:30	0.168	8/19/2013 20:00	0.178	8/21/2013 9:30	0.159	8/22/2013 23:00	0.149	8/24/2013 12:30	0.187
8/18/2013 7:00	0.155	8/19/2013 20:30	0.142	8/21/2013 10:00	0.157	8/22/2013 23:30	0.16	8/24/2013 13:00	0.127
8/18/2013 7:30	0.166	8/19/2013 21:00	0.15	8/21/2013 10:30	0.152	8/23/2013 0:00	0.159	8/24/2013 13:30	0.174
8/18/2013 8:00	0.158	8/19/2013 21:30	0.161	8/21/2013 11:00	0.161	8/23/2013 0:30	0.151	8/24/2013 14:00	0.205
8/18/2013 8:30	0.138	8/19/2013 22:00	0.165	8/21/2013 11:30	0.153	8/23/2013 1:00	0.149	8/24/2013 14:30	0.149
8/18/2013 9:00	0.142	8/19/2013 22:30	0.172	8/21/2013 12:00	0.154	8/23/2013 1:30	0.166	8/24/2013 15:00	0.166

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
8/24/2013 15:30	0.137	8/26/2013 5:00	0.172	8/27/2013 18:30	0.181	8/29/2013 8:00	0.151	8/30/2013 21:30	0.147
8/24/2013 16:00	0.163	8/26/2013 5:30	0.177	8/27/2013 19:00	0.179	8/29/2013 8:30	0.142	8/30/2013 22:00	0.159
8/24/2013 16:30	0.17	8/26/2013 6:00	0.176	8/27/2013 19:30	0.165	8/29/2013 9:00	0.141	8/30/2013 22:30	0.162
8/24/2013 17:00	0.151	8/26/2013 6:30	0.167	8/27/2013 20:00	0.157	8/29/2013 9:30	0.153	8/30/2013 23:00	0.173
8/24/2013 17:30	0.172	8/26/2013 7:00	0.175	8/27/2013 20:30	0.172	8/29/2013 10:00	0.154	8/30/2013 23:30	0.162
8/24/2013 18:00	0.125	8/26/2013 7:30	0.174	8/27/2013 21:00	0.177	8/29/2013 10:30	0.151	8/31/2013 0:00	0.148
8/24/2013 18:30	0.159	8/26/2013 8:00	0.161	8/27/2013 21:30	0.164	8/29/2013 11:00	0.171	8/31/2013 0:30	0.164
8/24/2013 19:00	0.146	8/26/2013 8:30	0.166	8/27/2013 22:00	0.165	8/29/2013 11:30	0.133	8/31/2013 1:00	0.174
8/24/2013 19:30	0.128	8/26/2013 9:00	0.164	8/27/2013 22:30	0.172	8/29/2013 12:00	0.172	8/31/2013 1:30	0.174
8/24/2013 20:00	0.147	8/26/2013 9:30	0.154	8/27/2013 23:00	0.168	8/29/2013 12:30	0.199	8/31/2013 2:00	0.178
8/24/2013 20:30	0.162	8/26/2013 10:00	0.171	8/27/2013 23:30	0.159	8/29/2013 13:00	0.164	8/31/2013 2:30	0.176
8/24/2013 21:00	0.139	8/26/2013 10:30	0.164	8/28/2013 0:00	0.153	8/29/2013 13:30	0.161	8/31/2013 3:00	0.157
8/24/2013 21:30	0.151	8/26/2013 11:00	0.163	8/28/2013 0:30	0.172	8/29/2013 14:00	0.167	8/31/2013 3:30	0.156
8/24/2013 22:00	0.152	8/26/2013 11:30	0.179	8/28/2013 1:00	0.171	8/29/2013 14:30	0.165	8/31/2013 4:00	0.168
8/24/2013 22:30	0.147	8/26/2013 12:00	0.144	8/28/2013 1:30	0.149	8/29/2013 15:00	0.156	8/31/2013 4:30	0.173
8/24/2013 23:00	0.133	8/26/2013 12:30	0.162	8/28/2013 2:00	0.167	8/29/2013 15:30	0.156	8/31/2013 5:00	0.159
8/24/2013 23:30	0.16	8/26/2013 13:00	0.177	8/28/2013 2:30	0.166	8/29/2013 16:00	0.149	8/31/2013 5:30	0.185
8/25/2013 0:00	0.169	8/26/2013 13:30	0.168	8/28/2013 3:00	0.17	8/29/2013 16:30	0.164	8/31/2013 6:00	0.174
8/25/2013 0:30	0.158	8/26/2013 14:00	0.16	8/28/2013 3:30	0.169	8/29/2013 17:00	0.159	8/31/2013 6:30	0.155
8/25/2013 1:00	0.156	8/26/2013 14:30	0.164	8/28/2013 4:00	0.184	8/29/2013 17:30	0.15	8/31/2013 7:00	0.166
8/25/2013 1:30	0.171	8/26/2013 15:00	0.174	8/28/2013 4:30	0.169	8/29/2013 18:00	0.168	8/31/2013 7:30	0.172
8/25/2013 2:00	0.177	8/26/2013 15:30	0.162	8/28/2013 5:00	0.169	8/29/2013 18:30	0.206	8/31/2013 8:00	0.166
8/25/2013 2:30	0.18	8/26/2013 16:00	0.165	8/28/2013 5:30	0.176	8/29/2013 19:00	0.167	8/31/2013 8:30	0.153
8/25/2013 3:00	0.166	8/26/2013 16:30	0.168	8/28/2013 6:00	0.172	8/29/2013 19:30	0.157	8/31/2013 9:00	0.162
8/25/2013 3:30	0.183	8/26/2013 17:00	0.167	8/28/2013 6:30	0.19	8/29/2013 20:00	0.166	8/31/2013 9:30	0.166
8/25/2013 4:00	0.159	8/26/2013 17:30	0.177	8/28/2013 7:00	0.178	8/29/2013 20:30	0.164	8/31/2013 10:00	0.15
8/25/2013 4:30	0.157	8/26/2013 18:00	0.169	8/28/2013 7:30	0.186	8/29/2013 21:00	0.147	8/31/2013 10:30	0.156
8/25/2013 5:00	0.183	8/26/2013 18:30	0.155	8/28/2013 8:00	0.161	8/29/2013 21:30	0.155	8/31/2013 11:00	0.145
8/25/2013 5:30	0.19	8/26/2013 19:00	0.176	8/28/2013 8:30	0.162	8/29/2013 22:00	0.15	8/31/2013 11:30	0.16
8/25/2013 6:00	0.173	8/26/2013 19:30	0.163	8/28/2013 9:00	0.163	8/29/2013 22:30	0.164	8/31/2013 12:00	0.159
8/25/2013 6:30	0.17	8/26/2013 20:00	0.168	8/28/2013 9:30	0.147	8/29/2013 23:00	0.179	8/31/2013 12:30	0.155
8/25/2013 7:00	0.166	8/26/2013 20:30	0.18	8/28/2013 10:00	0.159	8/29/2013 23:30	0.166	8/31/2013 13:00	0.164
8/25/2013 7:30	0.188	8/26/2013 21:00	0.19	8/28/2013 10:30	0.165	8/30/2013 0:00	0.169	8/31/2013 13:30	0.159
8/25/2013 8:00	0.163	8/26/2013 21:30	0.172	8/28/2013 11:00	0.178	8/30/2013 0:30	0.177	8/31/2013 14:00	0.155
8/25/2013 8:30	0.144	8/26/2013 22:00	0.16	8/28/2013 11:30	0.179	8/30/2013 1:00	0.175	8/31/2013 14:30	0.166
8/25/2013 9:00	0.151	8/26/2013 22:30	0.16	8/28/2013 12:00	0.161	8/30/2013 1:30	0.156	8/31/2013 15:00	0.173
8/25/2013 9:30	0.168	8/26/2013 23:00	0.169	8/28/2013 12:30	0.142	8/30/2013 2:00	0.157	8/31/2013 15:30	0.17
8/25/2013 10:00	0.165	8/26/2013 23:30	0.176	8/28/2013 13:00	0.165	8/30/2013 2:30	0.161	8/31/2013 16:00	0.177
8/25/2013 10:30	0.15	8/27/2013 0:00	0.176	8/28/2013 13:30	0.155	8/30/2013 3:00	0.161	8/31/2013 16:30	0.168
8/25/2013 11:00	0.169	8/27/2013 0:30	0.153	8/28/2013 14:00	0.155	8/30/2013 3:30	0.175	8/31/2013 17:00	0.156
8/25/2013 11:30	0.154	8/27/2013 1:00	0.169	8/28/2013 14:30	0.162	8/30/2013 4:00	0.153	8/31/2013 17:30	0.153
8/25/2013 12:00	0.196	8/27/2013 1:30	0.162	8/28/2013 15:00	0.163	8/30/2013 4:30	0.161	8/31/2013 18:00	0.173
8/25/2013 12:30	0.167	8/27/2013 2:00	0.172	8/28/2013 15:30	0.156	8/30/2013 5:00	0.166	8/31/2013 18:30	0.13
8/25/2013 13:00	0.172	8/27/2013 2:30	0.173	8/28/2013 16:00	0.148	8/30/2013 5:30	0.173	8/31/2013 19:00	0.176
8/25/2013 13:30	0.194	8/27/2013 3:00	0.187	8/28/2013 16:30	0.197	8/30/2013 6:00	0.17	8/31/2013 19:30	0.168
8/25/2013 14:00	0.15	8/27/2013 3:30	0.168	8/28/2013 17:00	0.151	8/30/2013 6:30	0.177	8/31/2013 20:00	0.158
8/25/2013 14:30	0.162	8/27/2013 4:00	0.189	8/28/2013 17:30	0.166	8/30/2013 7:00	0.176	8/31/2013 20:30	0.147
8/25/2013 15:00	0.178	8/27/2013 4:30	0.17	8/28/2013 18:00	0.16	8/30/2013 7:30	0.168	8/31/2013 21:00	0.172
8/25/2013 15:30	0.167	8/27/2013 5:00	0.193	8/28/2013 18:30	0.167	8/30/2013 8:00	0.174	8/31/2013 21:30	0.153
8/25/2013 16:00	0.148	8/27/2013 5:30	0.16	8/28/2013 19:00	0.18	8/30/2013 8:30	0.157	8/31/2013 22:00	0.151
8/25/2013 16:30	0.157	8/27/2013 6:00	0.171	8/28/2013 19:30	0.161	8/30/2013 9:00	0.157	8/31/2013 22:30	0.154
8/25/2013 17:00	0.139	8/27/2013 6:30	0.175	8/28/2013 20:00	0.172	8/30/2013 9:30	0.166	8/31/2013 23:00	0.151
8/25/2013 17:30	0.155	8/27/2013 7:00	0.169	8/28/2013 20:30	0.157	8/30/2013 10:00	0.14	8/31/2013 23:30	0.174
8/25/2013 18:00	0.168	8/27/2013 7:30	0.168	8/28/2013 21:00	0.16	8/30/2013 10:30	0.154	9/1/2013 0:00	0.162
8/25/2013 18:30	0.168	8/27/2013 8:00	0.172	8/28/2013 21:30	0.165	8/30/2013 11:00	0.156	9/1/2013 0:30	0.163
8/25/2013 19:00	0.169	8/27/2013 8:30	0.159	8/28/2013 22:00	0.163	8/30/2013 11:30	0.173	9/1/2013 1:00	0.161
8/25/2013 19:30	0.182	8/27/2013 9:00	0.153	8/28/2013 22:30	0.164	8/30/2013 12:00	0.168	9/1/2013 1:30	0.167
8/25/2013 20:00	0.169	8/27/2013 9:30	0.162	8/28/2013 23:00	0.163	8/30/2013 12:30	0.154	9/1/2013 2:00	0.16
8/25/2013 20:30	0.156	8/27/2013 10:00	0.174	8/28/2013 23:30	0.164	8/30/2013 13:00	0.147	9/1/2013 2:30	0.168
8/25/2013 21:00	0.166	8/27/2013 10:30	0.169	8/29/2013 0:00	0.163	8/30/2013 13:30	0.14	9/1/2013 3:00	0.157
8/25/2013 21:30	0.159	8/27/2013 11:00	0.153	8/29/2013 0:30	0.161	8/30/2013 14:00	0.168	9/1/2013 3:30	0.165
8/25/2013 22:00	0.18	8/27/2013 11:30	0.139	8/29/2013 1:00	0.166	8/30/2013 14:30	0.162	9/1/2013 4:00	0.168
8/25/2013 22:30	0.171	8/27/2013 12:00	0.184	8/29/2013 1:30	0.172	8/30/2013 15:00	0.16	9/1/2013 4:30	0.173
8/25/2013 23:00	0.192	8/27/2013 12:30	0.16	8/29/2013 2:00	0.164	8/30/2013 15:30	0.168	9/1/2013 5:00	0.157
8/25/2013 23:30	0.168	8/27/2013 13:00	0.16	8/29/2013 2:30	0.169	8/30/2013 16:00	0.151	9/1/2013 5:30	0.172
8/26/2013 0:00	0.174	8/27/2013 13:30	0.171	8/29/2013 3:00	0.16	8/30/2013 16:30	0.152	9/1/2013 6:00	0.175
8/26/2013 0:30	0.181	8/27/2013 14:00	0.178	8/29/2013 3:30	0.158	8/30/2013 17:00	0.163	9/1/2013 6:30	0.156
8/26/2013 1:00	0.143	8/27/2013 14:30	0.16	8/29/2013 4:00	0.159	8/30/2013 17:30	0.152	9/1/2013 7:00	0.163
8/26/2013 1:30	0.182	8/27/2013 15:00	0.157	8/29/2013 4:30	0.173	8/30/2013 18:00	0.163	9/1/2013 7:30	0.156
8/26/2013 2:00	0.179	8/27/2013 15:30	0.154	8/29/2013 5:00	0.156	8/30/2013 18:30	0.162	9/1/2013 8:00	0.159
8/26/2013 2:30	0.187	8/27/2013 16:00	0.167	8/29/2013 5:30	0.167	8/30/2013 19:00	0.137	9/1/2013 8:30	0.143
8/26/2013 3:00	0.184	8/27/2013 16:30	0.176	8/29/2013 6:00	0.161	8/30/2013 19:30	0.187	9/1/2013 9:00	0.15
8/26/2013 3:30	0.179	8/27/2013 17:00	0.181	8/29/2013 6:30	0.155	8/30/2013 20:00	0.156	9/1/2013 9:30	0.153
8/26/2013 4:00	0.17	8/27/2013 17:30	0.165	8/29/2013 7:00	0.149	8/30/2013 20:30	0.155	9/1/2013 10:00	0.152
8/26/2013 4:30	0.176	8/27/2013 18:00	0.166	8/29/2013 7:30	0.148	8/30/2013 21:00	0.154	9/1/2013 10:30	0.153

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
9/1/2013 11:00	0.157	9/3/2013 0:30	0.154	9/4/2013 14:00	0.162	9/6/2013 3:30	0.186	9/7/2013 17:00	0.143
9/1/2013 11:30	0.148	9/3/2013 1:00	0.161	9/4/2013 14:30	0.164	9/6/2013 4:00	0.159	9/7/2013 17:30	0.145
9/1/2013 12:00	0.113	9/3/2013 1:30	0.155	9/4/2013 15:00	0.169	9/6/2013 4:30	0.151	9/7/2013 18:00	0.134
9/1/2013 12:30	0.155	9/3/2013 2:00	0.152	9/4/2013 15:30	0.158	9/6/2013 5:00	0.16	9/7/2013 18:30	0.161
9/1/2013 13:00	0.166	9/3/2013 2:30	0.158	9/4/2013 16:00	0.161	9/6/2013 5:30	0.158	9/7/2013 19:00	0.178
9/1/2013 13:30	0.159	9/3/2013 3:00	0.167	9/4/2013 16:30	0.168	9/6/2013 6:00	0.172	9/7/2013 19:30	0.161
9/1/2013 14:00	0.156	9/3/2013 3:30	0.156	9/4/2013 17:00	0.164	9/6/2013 6:30	0.176	9/7/2013 20:00	0.164
9/1/2013 14:30	0.155	9/3/2013 4:00	0.178	9/4/2013 17:30	0.16	9/6/2013 7:00	0.162	9/7/2013 20:30	0.152
9/1/2013 15:00	0.156	9/3/2013 4:30	0.159	9/4/2013 18:00	0.156	9/6/2013 7:30	0.169	9/7/2013 21:00	0.167
9/1/2013 15:30	0.168	9/3/2013 5:00	0.169	9/4/2013 18:30	0.146	9/6/2013 8:00	0.179	9/7/2013 21:30	0.171
9/1/2013 16:00	0.19	9/3/2013 5:30	0.156	9/4/2013 19:00	0.179	9/6/2013 8:30	0.158	9/7/2013 22:00	0.171
9/1/2013 16:30	0.175	9/3/2013 6:00	0.164	9/4/2013 19:30	0.164	9/6/2013 9:00	0.146	9/7/2013 22:30	0.165
9/1/2013 17:00	0.173	9/3/2013 6:30	0.162	9/4/2013 20:00	0.163	9/6/2013 9:30	0.139	9/7/2013 23:00	0.146
9/1/2013 17:30	0.184	9/3/2013 7:00	0.174	9/4/2013 20:30	0.159	9/6/2013 10:00	0.156	9/7/2013 23:30	0.161
9/1/2013 18:00	0.157	9/3/2013 7:30	0.17	9/4/2013 21:00	0.158	9/6/2013 10:30	0.159	9/8/2013 0:00	0.156
9/1/2013 18:30	0.165	9/3/2013 8:00	0.175	9/4/2013 21:30	0.157	9/6/2013 11:00	0.163	9/8/2013 0:30	0.165
9/1/2013 19:00	0.172	9/3/2013 8:30	0.154	9/4/2013 22:00	0.148	9/6/2013 11:30	0.159	9/8/2013 1:00	0.168
9/1/2013 19:30	0.161	9/3/2013 9:00	0.151	9/4/2013 22:30	0.162	9/6/2013 12:00	0.167	9/8/2013 1:30	0.166
9/1/2013 20:00	0.15	9/3/2013 9:30	0.162	9/4/2013 23:00	0.15	9/6/2013 12:30	0.149	9/8/2013 2:00	0.162
9/1/2013 20:30	0.146	9/3/2013 10:00	0.159	9/4/2013 23:30	0.173	9/6/2013 13:00	0.189	9/8/2013 2:30	0.166
9/1/2013 21:00	0.143	9/3/2013 10:30	0.151	9/5/2013 0:00	0.157	9/6/2013 13:30	0.146	9/8/2013 3:00	0.184
9/1/2013 21:30	0.139	9/3/2013 11:00	0.177	9/5/2013 0:30	0.152	9/6/2013 14:00	0.177	9/8/2013 3:30	0.17
9/1/2013 22:00	0.157	9/3/2013 11:30	0.141	9/5/2013 1:00	0.142	9/6/2013 14:30	0.145	9/8/2013 4:00	0.174
9/1/2013 22:30	0.148	9/3/2013 12:00	0.154	9/5/2013 1:30	0.163	9/6/2013 15:00	0.133	9/8/2013 4:30	0.155
9/1/2013 23:00	0.155	9/3/2013 12:30	0.165	9/5/2013 2:00	0.141	9/6/2013 15:30	0.145	9/8/2013 5:00	0.177
9/1/2013 23:30	0.152	9/3/2013 13:00	0.146	9/5/2013 2:30	0.146	9/6/2013 16:00	0.156	9/8/2013 5:30	0.166
9/2/2013 0:00	0.147	9/3/2013 13:30	0.2	9/5/2013 3:00	0.148	9/6/2013 16:30	0.146	9/8/2013 6:00	0.157
9/2/2013 0:30	0.141	9/3/2013 14:00	0.153	9/5/2013 3:30	0.164	9/6/2013 17:00	0.129	9/8/2013 6:30	0.169
9/2/2013 1:00	0.142	9/3/2013 14:30	0.162	9/5/2013 4:00	0.158	9/6/2013 17:30	0.163	9/8/2013 7:00	0.167
9/2/2013 1:30	0.151	9/3/2013 15:00	0.186	9/5/2013 4:30	0.156	9/6/2013 18:00	0.162	9/8/2013 7:30	0.186
9/2/2013 2:00	0.162	9/3/2013 15:30	0.144	9/5/2013 5:00	0.161	9/6/2013 18:30	0.16	9/8/2013 8:00	0.152
9/2/2013 2:30	0.177	9/3/2013 16:00	0.169	9/5/2013 5:30	0.164	9/6/2013 19:00	0.156	9/8/2013 8:30	0.164
9/2/2013 3:00	0.164	9/3/2013 16:30	0.171	9/5/2013 6:00	0.157	9/6/2013 19:30	0.148	9/8/2013 9:00	0.171
9/2/2013 3:30	0.163	9/3/2013 17:00	0.152	9/5/2013 6:30	0.171	9/6/2013 20:00	0.141	9/8/2013 9:30	0.166
9/2/2013 4:00	0.159	9/3/2013 17:30	0.173	9/5/2013 7:00	0.152	9/6/2013 20:30	0.16	9/8/2013 10:00	0.155
9/2/2013 4:30	0.152	9/3/2013 18:00	0.153	9/5/2013 7:30	0.166	9/6/2013 21:00	0.168	9/8/2013 10:30	0.147
9/2/2013 5:00	0.17	9/3/2013 18:30	0.154	9/5/2013 8:00	0.162	9/6/2013 21:30	0.145	9/8/2013 11:00	0.17
9/2/2013 5:30	0.178	9/3/2013 19:00	0.17	9/5/2013 8:30	0.153	9/6/2013 22:00	0.163	9/8/2013 11:30	0.173
9/2/2013 6:00	0.169	9/3/2013 19:30	0.159	9/5/2013 9:00	0.145	9/6/2013 22:30	0.143	9/8/2013 12:00	0.165
9/2/2013 6:30	0.175	9/3/2013 20:00	0.156	9/5/2013 9:30	0.136	9/6/2013 23:00	0.151	9/8/2013 12:30	0.192
9/2/2013 7:00	0.151	9/3/2013 20:30	0.154	9/5/2013 10:00	0.157	9/6/2013 23:30	0.163	9/8/2013 13:00	0.165
9/2/2013 7:30	0.173	9/3/2013 21:00	0.147	9/5/2013 10:30	0.16	9/7/2013 0:00	0.149	9/8/2013 13:30	0.177
9/2/2013 8:00	0.182	9/3/2013 21:30	0.156	9/5/2013 11:00	0.169	9/7/2013 0:30	0.152	9/8/2013 14:00	0.165
9/2/2013 8:30	0.174	9/3/2013 22:00	0.158	9/5/2013 11:30	0.138	9/7/2013 1:00	0.145	9/8/2013 14:30	0.168
9/2/2013 9:00	0.148	9/3/2013 22:30	0.157	9/5/2013 12:00	0.165	9/7/2013 1:30	0.158	9/8/2013 15:00	0.151
9/2/2013 9:30	0.148	9/3/2013 23:00	0.149	9/5/2013 12:30	0.133	9/7/2013 2:00	0.16	9/8/2013 15:30	0.162
9/2/2013 10:00	0.16	9/3/2013 23:30	0.156	9/5/2013 13:00	0.159	9/7/2013 2:30	0.147	9/8/2013 16:00	0.167
9/2/2013 10:30	0.162	9/4/2013 0:00	0.158	9/5/2013 13:30	0.151	9/7/2013 3:00	0.151	9/8/2013 16:30	0.172
9/2/2013 11:00	0.153	9/4/2013 0:30	0.162	9/5/2013 14:00	0.13	9/7/2013 3:30	0.165	9/8/2013 17:00	0.16
9/2/2013 11:30	0.162	9/4/2013 1:00	0.142	9/5/2013 14:30	0.148	9/7/2013 4:00	0.159	9/8/2013 17:30	0.158
9/2/2013 12:00	0.166	9/4/2013 1:30	0.164	9/5/2013 15:00	0.142	9/7/2013 4:30	0.156	9/8/2013 18:00	0.17
9/2/2013 12:30	0.172	9/4/2013 2:00	0.162	9/5/2013 15:30	0.163	9/7/2013 5:00	0.153	9/8/2013 18:30	0.172
9/2/2013 13:00	0.161	9/4/2013 2:30	0.167	9/5/2013 16:00	0.157	9/7/2013 5:30	0.144	9/8/2013 19:00	0.175
9/2/2013 13:30	0.171	9/4/2013 3:00	0.145	9/5/2013 16:30	0.153	9/7/2013 6:00	0.144	9/8/2013 19:30	0.168
9/2/2013 14:00	0.158	9/4/2013 3:30	0.166	9/5/2013 17:00	0.211	9/7/2013 6:30	0.138	9/8/2013 20:00	0.173
9/2/2013 14:30	0.166	9/4/2013 4:00	0.153	9/5/2013 17:30	0.154	9/7/2013 7:00	0.146	9/8/2013 20:30	0.154
9/2/2013 15:00	0.155	9/4/2013 4:30	0.166	9/5/2013 18:00	0.174	9/7/2013 7:30	0.147	9/8/2013 21:00	0.164
9/2/2013 15:30	0.167	9/4/2013 5:00	0.168	9/5/2013 18:30	0.165	9/7/2013 8:00	0.145	9/8/2013 21:30	0.148
9/2/2013 16:00	0.175	9/4/2013 5:30	0.172	9/5/2013 19:00	0.158	9/7/2013 8:30	0.151	9/8/2013 22:00	0.137
9/2/2013 16:30	0.155	9/4/2013 6:00	0.165	9/5/2013 19:30	0.149	9/7/2013 9:00	0.146	9/8/2013 22:30	0.165
9/2/2013 17:00	0.2	9/4/2013 6:30	0.173	9/5/2013 20:00	0.17	9/7/2013 9:30	0.157	9/8/2013 23:00	0.159
9/2/2013 17:30	0.156	9/4/2013 7:00	0.151	9/5/2013 20:30	0.165	9/7/2013 10:00	0.142	9/8/2013 23:30	0.171
9/2/2013 18:00	0.167	9/4/2013 7:30	0.169	9/5/2013 21:00	0.16	9/7/2013 10:30	0.157	9/9/2013 0:00	0.178
9/2/2013 18:30	0.158	9/4/2013 8:00	0.16	9/5/2013 21:30	0.166	9/7/2013 11:00	0.153	9/9/2013 0:30	0.18
9/2/2013 19:00	0.172	9/4/2013 8:30	0.158	9/5/2013 22:00	0.158	9/7/2013 11:30	0.159	9/9/2013 1:00	0.168
9/2/2013 19:30	0.164	9/4/2013 9:00	0.154	9/5/2013 22:30	0.153	9/7/2013 12:00	0.148	9/9/2013 1:30	0.161
9/2/2013 20:00	0.151	9/4/2013 9:30	0.158	9/5/2013 23:00	0.145	9/7/2013 12:30	0.173	9/9/2013 2:00	0.184
9/2/2013 20:30	0.151	9/4/2013 10:00	0.152	9/5/2013 23:30	0.18	9/7/2013 13:00	0.15	9/9/2013 2:30	0.167
9/2/2013 21:00	0.164	9/4/2013 10:30	0.163	9/6/2013 0:00	0.17	9/7/2013 13:30	0.165	9/9/2013 3:00	0.174
9/2/2013 21:30	0.157	9/4/2013 11:00	0.162	9/6/2013 0:30	0.155	9/7/2013 14:00	0.157	9/9/2013 3:30	0.178
9/2/2013 22:00	0.147	9/4/2013 11:30	0.146	9/6/2013 1:00	0.166	9/7/2013 14:30	0.156	9/9/2013 4:00	0.166
9/2/2013 22:30	0.151	9/4/2013 12:00	0.148	9/6/2013 1:30	0.163	9/7/2013 15:00	0.163	9/9/2013 4:30	0.175
9/2/2013 23:00	0.157	9/4/2013 12:30	0.155	9/6/2013 2:00	0.163	9/7/2013 15:30	0.161	9/9/2013 5:00	0.164
9/2/2013 23:30	0.171	9/4/2013 13:00	0.212	9/6/2013 2:30	0.152	9/7/2013 16:00	0.152	9/9/2013 5:30	0.158
9/3/2013 0:00	0.18	9/4/2013 13:30	0.183	9/6/2013 3:00	0.18	9/7/2013 16:30	0.151	9/9/2013 6:00	0.179

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
9/9/2013 6:30	0.161	9/10/2013 20:00	0.148	9/12/2013 9:30	0.152	9/13/2013 23:00	0.172	9/15/2013 12:30	0.165
9/9/2013 7:00	0.165	9/10/2013 20:30	0.135	9/12/2013 10:00	0.145	9/13/2013 23:30	0.159	9/15/2013 13:00	0.179
9/9/2013 7:30	0.161	9/10/2013 21:00	0.156	9/12/2013 10:30	0.147	9/14/2013 0:00	0.166	9/15/2013 13:30	0.146
9/9/2013 8:00	0.152	9/10/2013 21:30	0.163	9/12/2013 11:00	0.152	9/14/2013 0:30	0.161	9/15/2013 14:00	0.159
9/9/2013 8:30	0.152	9/10/2013 22:00	0.14	9/12/2013 11:30	0.158	9/14/2013 1:00	0.138	9/15/2013 14:30	0.161
9/9/2013 9:00	0.163	9/10/2013 22:30	0.144	9/12/2013 12:00	0.139	9/14/2013 1:30	0.147	9/15/2013 15:00	0.145
9/9/2013 9:30	0.168	9/10/2013 23:00	0.159	9/12/2013 12:30	0.162	9/14/2013 2:00	0.153	9/15/2013 15:30	0.155
9/9/2013 10:00	0.148	9/10/2013 23:30	0.164	9/12/2013 13:00	0.157	9/14/2013 2:30	0.163	9/15/2013 16:00	0.168
9/9/2013 10:30	0.158	9/11/2013 0:00	0.153	9/12/2013 13:30	0.157	9/14/2013 3:00	0.157	9/15/2013 16:30	0.143
9/9/2013 11:00	0.166	9/11/2013 0:30	0.163	9/12/2013 14:00	0.183	9/14/2013 3:30	0.154	9/15/2013 17:00	0.168
9/9/2013 11:30	0.15	9/11/2013 1:00	0.163	9/12/2013 14:30	0.143	9/14/2013 4:00	0.161	9/15/2013 17:30	0.111
9/9/2013 12:00	0.16	9/11/2013 1:30	0.152	9/12/2013 15:00	0.165	9/14/2013 4:30	0.161	9/15/2013 18:00	0.166
9/9/2013 12:30	0.157	9/11/2013 2:00	0.175	9/12/2013 15:30	0.159	9/14/2013 5:00	0.171	9/15/2013 18:30	0.118
9/9/2013 13:00	0.159	9/11/2013 2:30	0.163	9/12/2013 16:00	0.154	9/14/2013 5:30	0.16	9/15/2013 19:00	0.137
9/9/2013 13:30	0.167	9/11/2013 3:00	0.171	9/12/2013 16:30	0.157	9/14/2013 6:00	0.158	9/15/2013 19:30	0.154
9/9/2013 14:00	0.149	9/11/2013 3:30	0.161	9/12/2013 17:00	0.161	9/14/2013 6:30	0.18	9/15/2013 20:00	0.146
9/9/2013 14:30	0.157	9/11/2013 4:00	0.169	9/12/2013 17:30	0.181	9/14/2013 7:00	0.161	9/15/2013 20:30	0.161
9/9/2013 15:00	0.158	9/11/2013 4:30	0.173	9/12/2013 18:00	0.16	9/14/2013 7:30	0.171	9/15/2013 21:00	0.138
9/9/2013 15:30	0.164	9/11/2013 5:00	0.156	9/12/2013 18:30	0.153	9/14/2013 8:00	0.157	9/15/2013 21:30	0.151
9/9/2013 16:00	0.167	9/11/2013 5:30	0.152	9/12/2013 19:00	0.161	9/14/2013 8:30	0.171	9/15/2013 22:00	0.142
9/9/2013 16:30	0.15	9/11/2013 6:00	0.153	9/12/2013 19:30	0.158	9/14/2013 9:00	0.164	9/15/2013 22:30	0.129
9/9/2013 17:00	0.177	9/11/2013 6:30	0.173	9/12/2013 20:00	0.143	9/14/2013 9:30	0.154	9/15/2013 23:00	0.155
9/9/2013 17:30	0.158	9/11/2013 7:00	0.157	9/12/2013 20:30	0.147	9/14/2013 10:00	0.153	9/15/2013 23:30	0.167
9/9/2013 18:00	0.107	9/11/2013 7:30	0.16	9/12/2013 21:00	0.137	9/14/2013 10:30	0.155	9/16/2013 0:00	0.155
9/9/2013 18:30	0.142	9/11/2013 8:00	0.165	9/12/2013 21:30	0.15	9/14/2013 11:00	0.175	9/16/2013 0:30	0.155
9/9/2013 19:00	0.158	9/11/2013 8:30	0.155	9/12/2013 22:00	0.141	9/14/2013 11:30	0.145	9/16/2013 1:00	0.151
9/9/2013 19:30	0.147	9/11/2013 9:00	0.149	9/12/2013 22:30	0.167	9/14/2013 12:00	0.165	9/16/2013 1:30	0.15
9/9/2013 20:00	0.159	9/11/2013 9:30	0.154	9/12/2013 23:00	0.137	9/14/2013 12:30	0.149	9/16/2013 2:00	0.148
9/9/2013 20:30	0.146	9/11/2013 10:00	0.15	9/12/2013 23:30	0.163	9/14/2013 13:00	0.158	9/16/2013 2:30	0.154
9/9/2013 21:00	0.158	9/11/2013 10:30	0.145	9/13/2013 0:00	0.152	9/14/2013 13:30	0.165	9/16/2013 3:00	0.153
9/9/2013 21:30	0.161	9/11/2013 11:00	0.15	9/13/2013 0:30	0.136	9/14/2013 14:00	0.161	9/16/2013 3:30	0.154
9/9/2013 22:00	0.152	9/11/2013 11:30	0.134	9/13/2013 1:00	0.159	9/14/2013 14:30	0.184	9/16/2013 4:00	0.142
9/9/2013 22:30	0.16	9/11/2013 12:00	0.144	9/13/2013 1:30	0.143	9/14/2013 15:00	0.16	9/16/2013 4:30	0.171
9/9/2013 23:00	0.16	9/11/2013 12:30	0.148	9/13/2013 2:00	0.139	9/14/2013 15:30	0.168	9/16/2013 5:00	0.154
9/9/2013 23:30	0.162	9/11/2013 13:00	0.168	9/13/2013 2:30	0.155	9/14/2013 16:00	0.155	9/16/2013 5:30	0.172
9/10/2013 0:00	0.156	9/11/2013 13:30	0.137	9/13/2013 3:00	0.17	9/14/2013 16:30	0.143	9/16/2013 6:00	0.162
9/10/2013 0:30	0.158	9/11/2013 14:00	0.172	9/13/2013 3:30	0.141	9/14/2013 17:00	0.162	9/16/2013 6:30	0.158
9/10/2013 1:00	0.167	9/11/2013 14:30	0.155	9/13/2013 4:00	0.146	9/14/2013 17:30	0.171	9/16/2013 7:00	0.157
9/10/2013 1:30	0.155	9/11/2013 15:00	0.16	9/13/2013 4:30	0.156	9/14/2013 18:00	0.15	9/16/2013 7:30	0.169
9/10/2013 2:00	0.159	9/11/2013 15:30	0.175	9/13/2013 5:00	0.154	9/14/2013 18:30	0.164	9/16/2013 8:00	0.153
9/10/2013 2:30	0.172	9/11/2013 16:00	0.166	9/13/2013 5:30	0.154	9/14/2013 19:00	0.155	9/16/2013 8:30	0.157
9/10/2013 3:00	0.166	9/11/2013 16:30	0.165	9/13/2013 6:00	0.148	9/14/2013 19:30	0.166	9/16/2013 9:00	0.146
9/10/2013 3:30	0.183	9/11/2013 17:00	0.167	9/13/2013 6:30	0.159	9/14/2013 20:00	0.185	9/16/2013 9:30	0.166
9/10/2013 4:00	0.157	9/11/2013 17:30	0.151	9/13/2013 7:00	0.145	9/14/2013 20:30	0.157	9/16/2013 10:00	0.152
9/10/2013 4:30	0.175	9/11/2013 18:00	0.155	9/13/2013 7:30	0.168	9/14/2013 21:00	0.146	9/16/2013 10:30	0.159
9/10/2013 5:00	0.177	9/11/2013 18:30	0.147	9/13/2013 8:00	0.16	9/14/2013 21:30	0.135	9/16/2013 11:00	0.149
9/10/2013 5:30	0.158	9/11/2013 19:00	0.161	9/13/2013 8:30	0.143	9/14/2013 22:00	0.163	9/16/2013 11:30	0.162
9/10/2013 6:00	0.174	9/11/2013 19:30	0.151	9/13/2013 9:00	0.146	9/14/2013 22:30	0.162	9/16/2013 12:00	0.148
9/10/2013 6:30	0.165	9/11/2013 20:00	0.152	9/13/2013 9:30	0.145	9/14/2013 23:00	0.167	9/16/2013 12:30	0.14
9/10/2013 7:00	0.169	9/11/2013 20:30	0.147	9/13/2013 10:00	0.152	9/14/2013 23:30	0.16	9/16/2013 13:00	0.165
9/10/2013 7:30	0.173	9/11/2013 21:00	0.143	9/13/2013 10:30	0.138	9/15/2013 0:00	0.148	9/16/2013 13:30	0.156
9/10/2013 8:00	0.17	9/11/2013 21:30	0.147	9/13/2013 11:00	0.164	9/15/2013 0:30	0.17	9/16/2013 14:00	0.116
9/10/2013 8:30	0.15	9/11/2013 22:00	0.143	9/13/2013 11:30	0.146	9/15/2013 1:00	0.152	9/16/2013 14:30	0.154
9/10/2013 9:00	0.154	9/11/2013 22:30	0.143	9/13/2013 12:00	0.1	9/15/2013 1:30	0.143	9/16/2013 15:00	0.165
9/10/2013 9:30	0.15	9/11/2013 23:00	0.167	9/13/2013 12:30	0.195	9/15/2013 2:00	0.164	9/16/2013 15:30	0.127
9/10/2013 10:00	0.158	9/11/2013 23:30	0.148	9/13/2013 13:00	0.152	9/15/2013 2:30	0.164	9/16/2013 16:00	0.16
9/10/2013 10:30	0.159	9/12/2013 0:00	0.175	9/13/2013 13:30	0.164	9/15/2013 3:00	0.155	9/16/2013 16:30	0.156
9/10/2013 11:00	0.152	9/12/2013 0:30	0.153	9/13/2013 14:00	0.158	9/15/2013 3:30	0.158	9/16/2013 17:00	0.164
9/10/2013 11:30	0.137	9/12/2013 1:00	0.164	9/13/2013 14:30	0.147	9/15/2013 4:00	0.157	9/16/2013 17:30	0.151
9/10/2013 12:00	0.168	9/12/2013 1:30	0.152	9/13/2013 15:00	0.152	9/15/2013 4:30	0.164	9/16/2013 18:00	0.147
9/10/2013 12:30	0.16	9/12/2013 2:00	0.14	9/13/2013 15:30	0.158	9/15/2013 5:00	0.157	9/16/2013 18:30	0.15
9/10/2013 13:00	0.144	9/12/2013 2:30	0.14	9/13/2013 16:00	0.159	9/15/2013 5:30	0.165	9/16/2013 19:00	0.156
9/10/2013 13:30	0.158	9/12/2013 3:00	0.156	9/13/2013 16:30	0.146	9/15/2013 6:00	0.167	9/16/2013 19:30	0.158
9/10/2013 14:00	0.149	9/12/2013 3:30	0.158	9/13/2013 17:00	0.157	9/15/2013 6:30	0.16	9/16/2013 20:00	0.139
9/10/2013 14:30	0.104	9/12/2013 4:00	0.156	9/13/2013 17:30	0.14	9/15/2013 7:00	0.172	9/16/2013 20:30	0.164
9/10/2013 15:00	0.16	9/12/2013 4:30	0.166	9/13/2013 18:00	0.152	9/15/2013 7:30	0.161	9/16/2013 21:00	0.151
9/10/2013 15:30	0.157	9/12/2013 5:00	0.162	9/13/2013 18:30	0.153	9/15/2013 8:00	0.154	9/16/2013 21:30	0.144
9/10/2013 16:00	0.159	9/12/2013 5:30	0.161	9/13/2013 19:00	0.165	9/15/2013 8:30	0.158	9/16/2013 22:00	0.156
9/10/2013 16:30	0.177	9/12/2013 6:00	0.163	9/13/2013 19:30	0.146	9/15/2013 9:00	0.16	9/16/2013 22:30	0.158
9/10/2013 17:00	0.163	9/12/2013 6:30	0.145	9/13/2013 20:00	0.153	9/15/2013 9:30	0.145	9/16/2013 23:00	0.146
9/10/2013 17:30	0.158	9/12/2013 7:00	0.161	9/13/2013 20:30	0.157	9/15/2013 10:00	0.149	9/16/2013 23:30	0.165
9/10/2013 18:00	0.147	9/12/2013 7:30	0.156	9/13/2013 21:00	0.167	9/15/2013 10:30	0.138	9/17/2013 0:00	0.145
9/10/2013 18:30	0.156	9/12/2013 8:00	0.154	9/13/2013 21:30	0.141	9/15/2013 11:00	0.165	9/17/2013 0:30	0.155
9/10/2013 19:00	0.181	9/12/2013 8:30	0.172	9/13/2013 22:00	0.164	9/15/2013 11:30	0.164	9/17/2013 1:00	0.159
9/10/2013 19:30	0.155	9/12/2013 9:00	0.156	9/13/2013 22:30	0.162	9/15/2013 12:00	0.142	9/17/2013 1:30	0.169

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
9/17/2013 2:00	0.166	9/18/2013 15:30	0.164	9/20/2013 5:00	0.154	9/21/2013 18:30	0.181	9/23/2013 8:00	0.185
9/17/2013 2:30	0.164	9/18/2013 16:00	0.157	9/20/2013 5:30	0.14	9/21/2013 19:00	0.166	9/23/2013 8:30	0.156
9/17/2013 3:00	0.17	9/18/2013 16:30	0.155	9/20/2013 6:00	0.15	9/21/2013 19:30	0.168	9/23/2013 9:00	0.181
9/17/2013 3:30	0.167	9/18/2013 17:00	0.14	9/20/2013 6:30	0.16	9/21/2013 20:00	0.181	9/23/2013 9:30	0.163
9/17/2013 4:00	0.173	9/18/2013 17:30	0.155	9/20/2013 7:00	0.167	9/21/2013 20:30	0.145	9/23/2013 10:00	0.175
9/17/2013 4:30	0.167	9/18/2013 18:00	0.146	9/20/2013 7:30	0.166	9/21/2013 21:00	0.158	9/23/2013 10:30	0.177
9/17/2013 5:00	0.183	9/18/2013 18:30	0.153	9/20/2013 8:00	0.15	9/21/2013 21:30	0.171	9/23/2013 11:00	0.192
9/17/2013 5:30	0.168	9/18/2013 19:00	0.165	9/20/2013 8:30	0.134	9/21/2013 22:00	0.167	9/23/2013 11:30	0.183
9/17/2013 6:00	0.15	9/18/2013 19:30	0.166	9/20/2013 9:00	0.139	9/21/2013 22:30	0.164	9/23/2013 12:00	0.169
9/17/2013 6:30	0.168	9/18/2013 20:00	0.16	9/20/2013 9:30	0.142	9/21/2013 23:00	0.177	9/23/2013 12:30	0.194
9/17/2013 7:00	0.164	9/18/2013 20:30	0.163	9/20/2013 10:00	0.134	9/21/2013 23:30	0.174	9/23/2013 13:00	0.219
9/17/2013 7:30	0.166	9/18/2013 21:00	0.165	9/20/2013 10:30	0.142	9/22/2013 0:00	0.16	9/23/2013 13:30	0.212
9/17/2013 8:00	0.183	9/18/2013 21:30	0.177	9/20/2013 11:00	0.154	9/22/2013 0:30	0.161	9/23/2013 14:00	0.541
9/17/2013 8:30	0.148	9/18/2013 22:00	0.155	9/20/2013 11:30	0.132	9/22/2013 1:00	0.163	9/23/2013 14:30	0.344
9/17/2013 9:00	0.176	9/18/2013 22:30	0.158	9/20/2013 12:00	0.123	9/22/2013 1:30	0.175	9/23/2013 15:00	0.359
9/17/2013 9:30	0.145	9/18/2013 23:00	0.155	9/20/2013 12:30	0.136	9/22/2013 2:00	0.159	9/23/2013 15:30	0.333
9/17/2013 10:00	0.157	9/18/2013 23:30	0.168	9/20/2013 13:00	0.137	9/22/2013 2:30	0.171	9/23/2013 16:00	0.347
9/17/2013 10:30	0.159	9/19/2013 0:00	0.169	9/20/2013 13:30	0.137	9/22/2013 3:00	0.164	9/23/2013 16:30	0.358
9/17/2013 11:00	0.132	9/19/2013 0:30	0.157	9/20/2013 14:00	0.149	9/22/2013 3:30	0.157	9/23/2013 17:00	0.357
9/17/2013 11:30	0.161	9/19/2013 1:00	0.173	9/20/2013 14:30	0.151	9/22/2013 4:00	0.166	9/23/2013 17:30	0.372
9/17/2013 12:00	0.158	9/19/2013 1:30	0.172	9/20/2013 15:00	0.136	9/22/2013 4:30	0.156	9/23/2013 18:00	0.354
9/17/2013 12:30	0.152	9/19/2013 2:00	0.161	9/20/2013 15:30	0.159	9/22/2013 5:00	0.15	9/23/2013 18:30	0.354
9/17/2013 13:00	0.152	9/19/2013 2:30	0.178	9/20/2013 16:00	0.148	9/22/2013 5:30	0.153	9/23/2013 19:00	0.362
9/17/2013 13:30	0.136	9/19/2013 3:00	0.164	9/20/2013 16:30	0.149	9/22/2013 6:00	0.154	9/23/2013 19:30	0.358
9/17/2013 14:00	0.147	9/19/2013 3:30	0.181	9/20/2013 17:00	0.164	9/22/2013 6:30	0.162	9/23/2013 20:00	0.381
9/17/2013 14:30	0.138	9/19/2013 4:00	0.171	9/20/2013 17:30	0.161	9/22/2013 7:00	0.17	9/23/2013 20:30	0.367
9/17/2013 15:00	0.174	9/19/2013 4:30	0.17	9/20/2013 18:00	0.139	9/22/2013 7:30	0.17	9/23/2013 21:00	0.372
9/17/2013 15:30	0.154	9/19/2013 5:00	0.169	9/20/2013 18:30	0.143	9/22/2013 8:00	0.155	9/23/2013 21:30	0.365
9/17/2013 16:00	0.144	9/19/2013 5:30	0.186	9/20/2013 19:00	0.146	9/22/2013 8:30	0.169	9/23/2013 22:00	0.362
9/17/2013 16:30	0.151	9/19/2013 6:00	0.18	9/20/2013 19:30	0.124	9/22/2013 9:00	0.162	9/23/2013 22:30	0.376
9/17/2013 17:00	0.147	9/19/2013 6:30	0.163	9/20/2013 20:00	0.133	9/22/2013 9:30	0.166	9/23/2013 23:00	0.364
9/17/2013 17:30	0.15	9/19/2013 7:00	0.166	9/20/2013 20:30	0.143	9/22/2013 10:00	0.162	9/23/2013 23:30	0.348
9/17/2013 18:00	0.157	9/19/2013 7:30	0.168	9/20/2013 21:00	0.132	9/22/2013 10:30	0.165	9/24/2013 0:00	0.362
9/17/2013 18:30	0.15	9/19/2013 8:00	0.16	9/20/2013 21:30	0.122	9/22/2013 11:00	0.168	9/24/2013 0:30	0.363
9/17/2013 19:00	0.153	9/19/2013 8:30	0.166	9/20/2013 22:00	0.141	9/22/2013 11:30	0.168	9/24/2013 1:00	0.379
9/17/2013 19:30	0.155	9/19/2013 9:00	0.16	9/20/2013 22:30	0.133	9/22/2013 12:00	0.159	9/24/2013 1:30	0.363
9/17/2013 20:00	0.148	9/19/2013 9:30	0.152	9/20/2013 23:00	0.145	9/22/2013 12:30	0.164	9/24/2013 2:00	0.363
9/17/2013 20:30	0.165	9/19/2013 10:00	0.155	9/20/2013 23:30	0.142	9/22/2013 13:00	0.162	9/24/2013 2:30	0.356
9/17/2013 21:00	0.143	9/19/2013 10:30	0.175	9/21/2013 0:00	0.142	9/22/2013 13:30	0.177	9/24/2013 3:00	0.367
9/17/2013 21:30	0.149	9/19/2013 11:00	0.159	9/21/2013 0:30	0.135	9/22/2013 14:00	0.162	9/24/2013 3:30	0.348
9/17/2013 22:00	0.157	9/19/2013 11:30	0.165	9/21/2013 1:00	0.126	9/22/2013 14:30	0.164	9/24/2013 4:00	0.355
9/17/2013 22:30	0.179	9/19/2013 12:00	0.172	9/21/2013 1:30	0.138	9/22/2013 15:00	0.156	9/24/2013 4:30	0.349
9/17/2013 23:00	0.158	9/19/2013 12:30	0.145	9/21/2013 2:00	0.161	9/22/2013 15:30	0.149	9/24/2013 5:00	0.349
9/17/2013 23:30	0.166	9/19/2013 13:00	0.175	9/21/2013 2:30	0.151	9/22/2013 16:00	0.174	9/24/2013 5:30	0.381
9/18/2013 0:00	0.157	9/19/2013 13:30	0.168	9/21/2013 3:00	0.153	9/22/2013 16:30	0.174	9/24/2013 6:00	0.344
9/18/2013 0:30	0.158	9/19/2013 14:00	0.164	9/21/2013 3:30	0.167	9/22/2013 17:00	0.158	9/24/2013 6:30	0.357
9/18/2013 1:00	0.174	9/19/2013 14:30	0.17	9/21/2013 4:00	0.156	9/22/2013 17:30	0.151	9/24/2013 7:00	0.365
9/18/2013 1:30	0.154	9/19/2013 15:00	0.159	9/21/2013 4:30	0.176	9/22/2013 18:00	0.169	9/24/2013 7:30	0.348
9/18/2013 2:00	0.15	9/19/2013 15:30	0.192	9/21/2013 5:00	0.165	9/22/2013 18:30	0.159	9/24/2013 8:00	0.353
9/18/2013 2:30	0.147	9/19/2013 16:00	0.187	9/21/2013 5:30	0.171	9/22/2013 19:00	0.165	9/24/2013 8:30	0.351
9/18/2013 3:00	0.166	9/19/2013 16:30	0.172	9/21/2013 6:00	0.157	9/22/2013 19:30	0.153	9/24/2013 9:00	0.334
9/18/2013 3:30	0.178	9/19/2013 17:00	0.17	9/21/2013 6:30	0.174	9/22/2013 20:00	0.166	9/24/2013 9:30	0.351
9/18/2013 4:00	0.161	9/19/2013 17:30	0.164	9/21/2013 7:00	0.154	9/22/2013 20:30	0.165	9/24/2013 10:00	0.36
9/18/2013 4:30	0.162	9/19/2013 18:00	0.148	9/21/2013 7:30	0.156	9/22/2013 21:00	0.174	9/24/2013 10:30	0.338
9/18/2013 5:00	0.165	9/19/2013 18:30	0.158	9/21/2013 8:00	0.171	9/22/2013 21:30	0.171	9/24/2013 11:00	0.382
9/18/2013 5:30	0.164	9/19/2013 19:00	0.17	9/21/2013 8:30	0.158	9/22/2013 22:00	0.155	9/24/2013 11:30	0.352
9/18/2013 6:00	0.164	9/19/2013 19:30	0.132	9/21/2013 9:00	0.159	9/22/2013 22:30	0.169	9/24/2013 12:00	0.357
9/18/2013 6:30	0.162	9/19/2013 20:00	0.154	9/21/2013 9:30	0.141	9/22/2013 23:00	0.161	9/24/2013 12:30	0.356
9/18/2013 7:00	0.17	9/19/2013 20:30	0.135	9/21/2013 10:00	0.144	9/22/2013 23:30	0.168	9/24/2013 13:00	0.341
9/18/2013 7:30	0.165	9/19/2013 21:00	0.143	9/21/2013 10:30	0.165	9/23/2013 0:00	0.176	9/24/2013 13:30	0.359
9/18/2013 8:00	0.16	9/19/2013 21:30	0.151	9/21/2013 11:00	0.165	9/23/2013 0:30	0.17	9/24/2013 14:00	0.348
9/18/2013 8:30	0.161	9/19/2013 22:00	0.168	9/21/2013 11:30	0.152	9/23/2013 1:00	0.162	9/24/2013 14:30	0.35
9/18/2013 9:00	0.174	9/19/2013 22:30	0.161	9/21/2013 12:00	0.155	9/23/2013 1:30	0.16	9/24/2013 15:00	0.382
9/18/2013 9:30	0.157	9/19/2013 23:00	0.167	9/21/2013 12:30	0.174	9/23/2013 2:00	0.166	9/24/2013 15:30	0.37
9/18/2013 10:00	0.17	9/19/2013 23:30	0.162	9/21/2013 13:00	0.153	9/23/2013 2:30	0.155	9/24/2013 16:00	0.373
9/18/2013 10:30	0.14	9/20/2013 0:00	0.15	9/21/2013 13:30	0.169	9/23/2013 3:00	0.157	9/24/2013 16:30	0.384
9/18/2013 11:00	0.162	9/20/2013 0:30	0.16	9/21/2013 14:00	0.155	9/23/2013 3:30	0.164	9/24/2013 17:00	0.367
9/18/2013 11:30	0.15	9/20/2013 1:00	0.142	9/21/2013 14:30	0.162	9/23/2013 4:00	0.158	9/24/2013 17:30	0.376
9/18/2013 12:00	0.171	9/20/2013 1:30	0.147	9/21/2013 15:00	0.167	9/23/2013 4:30	0.165	9/24/2013 18:00	0.405
9/18/2013 12:30	0.167	9/20/2013 2:00	0.164	9/21/2013 15:30	0.165	9/23/2013 5:00	0.142	9/24/2013 18:30	0.398
9/18/2013 13:00	0.146	9/20/2013 2:30	0.149	9/21/2013 16:00	0.164	9/23/2013 5:30	0.175	9/24/2013 19:00	0.408
9/18/2013 13:30	0.167	9/20/2013 3:00	0.145	9/21/2013 16:30	0.145	9/23/2013 6:00	0.174	9/24/2013 19:30	0.429
9/18/2013 14:00	0.155	9/20/2013 3:30	0.143	9/21/2013 17:00	0.158	9/23/2013 6:30	0.171	9/24/2013 20:00	0.397
9/18/2013 14:30	0.151	9/20/2013 4:00	0.166	9/21/2013 17:30	0.17	9/23/2013 7:00	0.179	9/24/2013 20:30	0.421
9/18/2013 15:00	0.157	9/20/2013 4:30	0.154	9/21/2013 18:00	0.178	9/23/2013 7:30	0.176	9/24/2013 21:00	0.405

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
9/24/2013 21:30	0.413	9/26/2013 11:00	0.566	9/28/2013 0:30	0.551	9/29/2013 14:00	0.502	10/1/2013 3:30	0.622
9/24/2013 22:00	0.409	9/26/2013 11:30	0.564	9/28/2013 1:00	0.544	9/29/2013 14:30	0.514	10/1/2013 4:00	0.646
9/24/2013 22:30	0.394	9/26/2013 12:00	0.564	9/28/2013 1:30	0.549	9/29/2013 15:00	0.512	10/1/2013 4:30	0.637
9/24/2013 23:00	0.427	9/26/2013 12:30	0.563	9/28/2013 2:00	0.575	9/29/2013 15:30	0.501	10/1/2013 5:00	0.628
9/24/2013 23:30	0.43	9/26/2013 13:00	0.551	9/28/2013 2:30	0.575	9/29/2013 16:00	0.521	10/1/2013 5:30	0.635
9/25/2013 0:00	0.42	9/26/2013 13:30	0.548	9/28/2013 3:00	0.572	9/29/2013 16:30	0.507	10/1/2013 6:00	0.629
9/25/2013 0:30	0.42	9/26/2013 14:00	0.572	9/28/2013 3:30	0.559	9/29/2013 17:00	0.512	10/1/2013 6:30	0.647
9/25/2013 1:00	0.425	9/26/2013 14:30	0.586	9/28/2013 4:00	0.571	9/29/2013 17:30	0.516	10/1/2013 7:00	0.671
9/25/2013 1:30	0.437	9/26/2013 15:00	0.601	9/28/2013 4:30	0.551	9/29/2013 18:00	0.528	10/1/2013 7:30	0.646
9/25/2013 2:00	0.44	9/26/2013 15:30	0.579	9/28/2013 5:00	0.558	9/29/2013 18:30	0.535	10/1/2013 8:00	0.655
9/25/2013 2:30	0.441	9/26/2013 16:00	0.582	9/28/2013 5:30	0.553	9/29/2013 19:00	0.534	10/1/2013 8:30	0.637
9/25/2013 3:00	0.438	9/26/2013 16:30	0.588	9/28/2013 6:00	0.538	9/29/2013 19:30	0.543	10/1/2013 9:00	0.662
9/25/2013 3:30	0.448	9/26/2013 17:00	0.591	9/28/2013 6:30	0.563	9/29/2013 20:00	0.535	10/1/2013 9:30	0.639
9/25/2013 4:00	0.46	9/26/2013 17:30	0.589	9/28/2013 7:00	0.549	9/29/2013 20:30	0.538	10/1/2013 10:00	0.626
9/25/2013 4:30	0.462	9/26/2013 18:00	0.585	9/28/2013 7:30	0.569	9/29/2013 21:00	0.543	10/1/2013 10:30	0.615
9/25/2013 5:00	0.475	9/26/2013 18:30	0.59	9/28/2013 8:00	0.55	9/29/2013 21:30	0.544	10/1/2013 11:00	0.635
9/25/2013 5:30	0.483	9/26/2013 19:00	0.607	9/28/2013 8:30	0.541	9/29/2013 22:00	0.552	10/1/2013 11:30	0.609
9/25/2013 6:00	0.464	9/26/2013 19:30	0.601	9/28/2013 9:00	0.559	9/29/2013 22:30	0.55	10/1/2013 12:00	0.62
9/25/2013 6:30	0.48	9/26/2013 20:00	0.6	9/28/2013 9:30	0.53	9/29/2013 23:00	0.553	10/1/2013 12:30	0.631
9/25/2013 7:00	0.467	9/26/2013 20:30	0.597	9/28/2013 10:00	0.517	9/29/2013 23:30	0.552	10/1/2013 13:00	0.623
9/25/2013 7:30	0.48	9/26/2013 21:00	0.597	9/28/2013 10:30	0.538	9/30/2013 0:00	0.554	10/1/2013 13:30	0.633
9/25/2013 8:00	0.485	9/26/2013 21:30	0.583	9/28/2013 11:00	0.535	9/30/2013 0:30	0.54	10/1/2013 14:00	0.618
9/25/2013 8:30	0.484	9/26/2013 22:00	0.6	9/28/2013 11:30	0.53	9/30/2013 1:00	0.568	10/1/2013 14:30	0.619
9/25/2013 9:00	0.484	9/26/2013 22:30	0.6	9/28/2013 12:00	0.532	9/30/2013 1:30	0.569	10/1/2013 15:00	0.646
9/25/2013 9:30	0.487	9/26/2013 23:00	0.581	9/28/2013 12:30	0.56	9/30/2013 2:00	0.557	10/1/2013 15:30	0.675
9/25/2013 10:00	0.481	9/26/2013 23:30	0.599	9/28/2013 13:00	0.558	9/30/2013 2:30	0.57	10/1/2013 16:00	0.676
9/25/2013 10:30	0.47	9/27/2013 0:00	0.592	9/28/2013 13:30	0.54	9/30/2013 3:00	0.574	10/1/2013 16:30	0.676
9/25/2013 11:00	0.461	9/27/2013 0:30	0.609	9/28/2013 14:00	0.554	9/30/2013 3:30	0.562	10/1/2013 17:00	0.676
9/25/2013 11:30	0.484	9/27/2013 1:00	0.576	9/28/2013 14:30	0.543	9/30/2013 4:00	0.551	10/1/2013 17:30	0.683
9/25/2013 12:00	0.477	9/27/2013 1:30	0.585	9/28/2013 15:00	0.538	9/30/2013 4:30	0.555	10/1/2013 18:00	0.701
9/25/2013 12:30	0.496	9/27/2013 2:00	0.582	9/28/2013 15:30	0.53	9/30/2013 5:00	0.551	10/1/2013 18:30	0.692
9/25/2013 13:00	0.502	9/27/2013 2:30	0.576	9/28/2013 16:00	0.551	9/30/2013 5:30	0.566	10/1/2013 19:00	0.698
9/25/2013 13:30	0.509	9/27/2013 3:00	0.59	9/28/2013 16:30	0.547	9/30/2013 6:00	0.564	10/1/2013 19:30	0.686
9/25/2013 14:00	0.485	9/27/2013 3:30	0.576	9/28/2013 17:00	0.546	9/30/2013 6:30	0.575	10/1/2013 20:00	0.68
9/25/2013 14:30	0.515	9/27/2013 4:00	0.577	9/28/2013 17:30	0.534	9/30/2013 7:00	0.552	10/1/2013 20:30	0.693
9/25/2013 15:00	0.511	9/27/2013 4:30	0.579	9/28/2013 18:00	0.546	9/30/2013 7:30	0.614	10/1/2013 21:00	0.692
9/25/2013 15:30	0.531	9/27/2013 5:00	0.587	9/28/2013 18:30	0.523	9/30/2013 8:00	0.601	10/1/2013 21:30	0.71
9/25/2013 16:00	0.534	9/27/2013 5:30	0.573	9/28/2013 19:00	0.545	9/30/2013 8:30	0.599	10/1/2013 22:00	0.697
9/25/2013 16:30	0.526	9/27/2013 6:00	0.58	9/28/2013 19:30	0.556	9/30/2013 9:00	0.597	10/1/2013 22:30	0.708
9/25/2013 17:00	0.544	9/27/2013 6:30	0.58	9/28/2013 20:00	0.562	9/30/2013 9:30	0.606	10/1/2013 23:00	0.691
9/25/2013 17:30	0.522	9/27/2013 7:00	0.59	9/28/2013 20:30	0.554	9/30/2013 10:00	0.612	10/1/2013 23:30	0.713
9/25/2013 18:00	0.514	9/27/2013 7:30	0.587	9/28/2013 21:00	0.558	9/30/2013 10:30	0.604	10/2/2013 0:00	0.709
9/25/2013 18:30	0.529	9/27/2013 8:00	0.582	9/28/2013 21:30	0.556	9/30/2013 11:00	0.585	10/2/2013 0:30	0.704
9/25/2013 19:00	0.513	9/27/2013 8:30	0.569	9/28/2013 22:00	0.528	9/30/2013 11:30	0.621	10/2/2013 1:00	0.715
9/25/2013 19:30	0.536	9/27/2013 9:00	0.563	9/28/2013 22:30	0.563	9/30/2013 12:00	0.596	10/2/2013 1:30	0.705
9/25/2013 20:00	0.534	9/27/2013 9:30	0.535	9/28/2013 23:00	0.56	9/30/2013 12:30	0.598	10/2/2013 2:00	0.7
9/25/2013 20:30	0.537	9/27/2013 10:00	0.539	9/28/2013 23:30	0.545	9/30/2013 13:00	0.594	10/2/2013 2:30	0.725
9/25/2013 21:00	0.539	9/27/2013 10:30	0.549	9/29/2013 0:00	0.544	9/30/2013 13:30	0.62	10/2/2013 3:00	0.699
9/25/2013 21:30	0.52	9/27/2013 11:00	0.53	9/29/2013 0:30	0.54	9/30/2013 14:00	0.603	10/2/2013 3:30	0.699
9/25/2013 22:00	0.549	9/27/2013 11:30	0.546	9/29/2013 1:00	0.537	9/30/2013 14:30	0.609	10/2/2013 4:00	0.704
9/25/2013 22:30	0.525	9/27/2013 12:00	0.537	9/29/2013 1:30	0.528	9/30/2013 15:00	0.592	10/2/2013 4:30	0.697
9/25/2013 23:00	0.532	9/27/2013 12:30	0.552	9/29/2013 2:00	0.528	9/30/2013 15:30	0.596	10/2/2013 5:00	0.719
9/25/2013 23:30	0.529	9/27/2013 13:00	0.533	9/29/2013 2:30	0.514	9/30/2013 16:00	0.592	10/2/2013 5:30	0.702
9/26/2013 0:00	0.534	9/27/2013 13:30	0.53	9/29/2013 3:00	0.509	9/30/2013 16:30	0.573	10/2/2013 6:00	0.706
9/26/2013 0:30	0.552	9/27/2013 14:00	0.534	9/29/2013 3:30	0.512	9/30/2013 17:00	0.583	10/2/2013 6:30	0.709
9/26/2013 1:00	0.544	9/27/2013 14:30	0.532	9/29/2013 4:00	0.498	9/30/2013 17:30	0.577	10/2/2013 7:00	0.703
9/26/2013 1:30	0.541	9/27/2013 15:00	0.531	9/29/2013 4:30	0.494	9/30/2013 18:00	0.582	10/2/2013 7:30	0.717
9/26/2013 2:00	0.549	9/27/2013 15:30	0.532	9/29/2013 5:00	0.484	9/30/2013 18:30	0.587	10/2/2013 8:00	0.705
9/26/2013 2:30	0.528	9/27/2013 16:00	0.527	9/29/2013 5:30	0.49	9/30/2013 19:00	0.602	10/2/2013 8:30	0.701
9/26/2013 3:00	0.528	9/27/2013 16:30	0.525	9/29/2013 6:00	0.489	9/30/2013 19:30	0.606	10/2/2013 9:00	0.711
9/26/2013 3:30	0.529	9/27/2013 17:00	0.517	9/29/2013 6:30	0.474	9/30/2013 20:00	0.617	10/2/2013 9:30	0.688
9/26/2013 4:00	0.528	9/27/2013 17:30	0.546	9/29/2013 7:00	0.464	9/30/2013 20:30	0.586	10/2/2013 10:00	0.688
9/26/2013 4:30	0.532	9/27/2013 18:00	0.539	9/29/2013 7:30	0.465	9/30/2013 21:00	0.623	10/2/2013 10:30	0.704
9/26/2013 5:00	0.53	9/27/2013 18:30	0.536	9/29/2013 8:00	0.479	9/30/2013 21:30	0.597	10/2/2013 11:00	0.674
9/26/2013 5:30	0.527	9/27/2013 19:00	0.54	9/29/2013 8:30	0.495	9/30/2013 22:00	0.623	10/2/2013 11:30	0.696
9/26/2013 6:00	0.542	9/27/2013 19:30	0.548	9/29/2013 9:00	0.505	9/30/2013 22:30	0.604	10/2/2013 12:00	0.676
9/26/2013 6:30	0.545	9/27/2013 20:00	0.533	9/29/2013 9:30	0.519	9/30/2013 23:00	0.604	10/2/2013 12:30	0.697
9/26/2013 7:00	0.561	9/27/2013 20:30	0.553	9/29/2013 10:00	0.484	9/30/2013 23:30	0.604	10/2/2013 13:00	0.681
9/26/2013 7:30	0.55	9/27/2013 21:00	0.562	9/29/2013 10:30	0.516	10/1/2013 0:00	0.625	10/2/2013 13:30	0.687
9/26/2013 8:00	0.56	9/27/2013 21:30	0.551	9/29/2013 11:00	0.529	10/1/2013 0:30	0.64	10/2/2013 14:00	0.672
9/26/2013 8:30	0.553	9/27/2013 22:00	0.563	9/29/2013 11:30	0.534	10/1/2013 1:00	0.646	10/2/2013 14:30	0.685
9/26/2013 9:00	0.554	9/27/2013 22:30	0.56	9/29/2013 12:00	0.503	10/1/2013 1:30	0.643	10/2/2013 15:00	0.68
9/26/2013 9:30	0.556	9/27/2013 23:00	0.572	9/29/2013 12:30	0.53	10/1/2013 2:00	0.631	10/2/2013 15:30	0.672
9/26/2013 10:00	0.56	9/27/2013 23:30	0.578	9/29/2013 13:00	0.527	10/1/2013 2:30	0.624	10/2/2013 16:00	0.685
9/26/2013 10:30	0.535	9/28/2013 0:00	0.584	9/29/2013 13:30	0.501	10/1/2013 3:00	0.634	10/2/2013 16:30	0.691

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
10/2/2013 17:00	0.688	10/4/2013 6:30	0.77	10/5/2013 20:00	0.761	10/7/2013 9:30	0.739	10/8/2013 23:00	0.775
10/2/2013 17:30	0.692	10/4/2013 7:00	0.761	10/5/2013 20:30	0.762	10/7/2013 10:00	0.729	10/8/2013 23:30	0.771
10/2/2013 18:00	0.697	10/4/2013 7:30	0.78	10/5/2013 21:00	0.75	10/7/2013 10:30	0.735	10/9/2013 0:00	0.796
10/2/2013 18:30	0.685	10/4/2013 8:00	0.777	10/5/2013 21:30	0.772	10/7/2013 11:00	0.723	10/9/2013 0:30	0.77
10/2/2013 19:00	0.689	10/4/2013 8:30	0.781	10/5/2013 22:00	0.783	10/7/2013 11:30	0.736	10/9/2013 1:00	0.78
10/2/2013 19:30	0.694	10/4/2013 9:00	0.783	10/5/2013 22:30	0.754	10/7/2013 12:00	0.714	10/9/2013 1:30	0.782
10/2/2013 20:00	0.695	10/4/2013 9:30	0.764	10/5/2013 23:00	0.77	10/7/2013 12:30	0.722	10/9/2013 2:00	0.766
10/2/2013 20:30	0.728	10/4/2013 10:00	0.768	10/5/2013 23:30	0.766	10/7/2013 13:00	0.734	10/9/2013 2:30	0.768
10/2/2013 21:00	0.7	10/4/2013 10:30	0.735	10/6/2013 0:00	0.751	10/7/2013 13:30	0.721	10/9/2013 3:00	0.784
10/2/2013 21:30	0.702	10/4/2013 11:00	0.749	10/6/2013 0:30	0.753	10/7/2013 14:00	0.754	10/9/2013 3:30	0.78
10/2/2013 22:00	0.712	10/4/2013 11:30	0.752	10/6/2013 1:00	0.756	10/7/2013 14:30	0.738	10/9/2013 4:00	0.742
10/2/2013 22:30	0.718	10/4/2013 12:00	0.765	10/6/2013 1:30	0.767	10/7/2013 15:00	0.735	10/9/2013 4:30	0.781
10/2/2013 23:00	0.711	10/4/2013 12:30	0.749	10/6/2013 2:00	0.733	10/7/2013 15:30	0.753	10/9/2013 5:00	0.761
10/2/2013 23:30	0.718	10/4/2013 13:00	0.752	10/6/2013 2:30	0.754	10/7/2013 16:00	0.727	10/9/2013 5:30	0.768
10/3/2013 0:00	0.708	10/4/2013 13:30	0.749	10/6/2013 3:00	0.761	10/7/2013 16:30	0.745	10/9/2013 6:00	0.777
10/3/2013 0:30	0.721	10/4/2013 14:00	0.74	10/6/2013 3:30	0.778	10/7/2013 17:00	0.713	10/9/2013 6:30	0.773
10/3/2013 1:00	0.721	10/4/2013 14:30	0.741	10/6/2013 4:00	0.744	10/7/2013 17:30	0.745	10/9/2013 7:00	0.774
10/3/2013 1:30	0.727	10/4/2013 15:00	0.759	10/6/2013 4:30	0.742	10/7/2013 18:00	0.727	10/9/2013 7:30	0.794
10/3/2013 2:00	0.704	10/4/2013 15:30	0.757	10/6/2013 5:00	0.76	10/7/2013 18:30	0.736	10/9/2013 8:00	0.769
10/3/2013 2:30	0.747	10/4/2013 16:00	0.743	10/6/2013 5:30	0.753	10/7/2013 19:00	0.758	10/9/2013 8:30	0.788
10/3/2013 3:00	0.727	10/4/2013 16:30	0.738	10/6/2013 6:00	0.772	10/7/2013 19:30	0.771	10/9/2013 9:00	0.753
10/3/2013 3:30	0.737	10/4/2013 17:00	0.742	10/6/2013 6:30	0.75	10/7/2013 20:00	0.775	10/9/2013 9:30	0.744
10/3/2013 4:00	0.722	10/4/2013 17:30	0.735	10/6/2013 7:00	0.741	10/7/2013 20:30	0.809	10/9/2013 10:00	0.772
10/3/2013 4:30	0.731	10/4/2013 18:00	0.758	10/6/2013 7:30	0.769	10/7/2013 21:00	0.801	10/9/2013 10:30	0.739
10/3/2013 5:00	0.726	10/4/2013 18:30	0.764	10/6/2013 8:00	0.738	10/7/2013 21:30	0.804	10/9/2013 11:00	0.747
10/3/2013 5:30	0.72	10/4/2013 19:00	0.77	10/6/2013 8:30	0.761	10/7/2013 22:00	0.802	10/9/2013 11:30	0.754
10/3/2013 6:00	0.732	10/4/2013 19:30	0.805	10/6/2013 9:00	0.735	10/7/2013 22:30	0.786	10/9/2013 12:00	0.765
10/3/2013 6:30	0.73	10/4/2013 20:00	0.772	10/6/2013 9:30	0.75	10/7/2013 23:00	0.776	10/9/2013 12:30	0.751
10/3/2013 7:00	0.726	10/4/2013 20:30	0.761	10/6/2013 10:00	0.746	10/7/2013 23:30	0.781	10/9/2013 13:00	0.757
10/3/2013 7:30	0.718	10/4/2013 21:00	0.778	10/6/2013 10:30	0.756	10/8/2013 0:00	0.783	10/9/2013 13:30	0.756
10/3/2013 8:00	0.738	10/4/2013 21:30	0.771	10/6/2013 11:00	0.744	10/8/2013 0:30	0.774	10/9/2013 14:00	0.759
10/3/2013 8:30	0.743	10/4/2013 22:00	0.764	10/6/2013 11:30	0.715	10/8/2013 1:00	0.774	10/9/2013 14:30	0.765
10/3/2013 9:00	0.732	10/4/2013 22:30	0.782	10/6/2013 12:00	0.741	10/8/2013 1:30	0.764	10/9/2013 15:00	0.756
10/3/2013 9:30	0.734	10/4/2013 23:00	0.788	10/6/2013 12:30	0.737	10/8/2013 2:00	0.753	10/9/2013 15:30	0.755
10/3/2013 10:00	0.734	10/4/2013 23:30	0.792	10/6/2013 13:00	0.747	10/8/2013 2:30	0.756	10/9/2013 16:00	0.747
10/3/2013 10:30	0.749	10/5/2013 0:00	0.78	10/6/2013 13:30	0.739	10/8/2013 3:00	0.758	10/9/2013 16:30	0.766
10/3/2013 11:00	0.729	10/5/2013 0:30	0.796	10/6/2013 14:00	0.716	10/8/2013 3:30	0.755	10/9/2013 17:00	0.77
10/3/2013 11:30	0.737	10/5/2013 1:00	0.76	10/6/2013 14:30	0.742	10/8/2013 4:00	0.741	10/9/2013 17:30	0.766
10/3/2013 12:00	0.756	10/5/2013 1:30	0.786	10/6/2013 15:00	0.729	10/8/2013 4:30	0.759	10/9/2013 18:00	0.768
10/3/2013 12:30	0.73	10/5/2013 2:00	0.771	10/6/2013 15:30	0.725	10/8/2013 5:00	0.77	10/9/2013 18:30	0.771
10/3/2013 13:00	0.733	10/5/2013 2:30	0.781	10/6/2013 16:00	0.713	10/8/2013 5:30	0.752	10/9/2013 19:00	0.789
10/3/2013 13:30	0.714	10/5/2013 3:00	0.78	10/6/2013 16:30	0.715	10/8/2013 6:00	0.773	10/9/2013 19:30	0.77
10/3/2013 14:00	0.708	10/5/2013 3:30	0.79	10/6/2013 17:00	0.722	10/8/2013 6:30	0.76	10/9/2013 20:00	0.793
10/3/2013 14:30	0.716	10/5/2013 4:00	0.788	10/6/2013 17:30	0.719	10/8/2013 7:00	0.76	10/9/2013 20:30	0.798
10/3/2013 15:00	0.733	10/5/2013 4:30	0.806	10/6/2013 18:00	0.719	10/8/2013 7:30	0.756	10/9/2013 21:00	0.81
10/3/2013 15:30	0.738	10/5/2013 5:00	0.787	10/6/2013 18:30	0.72	10/8/2013 8:00	0.758	10/9/2013 21:30	0.786
10/3/2013 16:00	0.729	10/5/2013 5:30	0.79	10/6/2013 19:00	0.724	10/8/2013 8:30	0.746	10/9/2013 22:00	0.787
10/3/2013 16:30	0.714	10/5/2013 6:00	0.777	10/6/2013 19:30	0.72	10/8/2013 9:00	0.752	10/9/2013 22:30	0.783
10/3/2013 17:00	0.696	10/5/2013 6:30	0.776	10/6/2013 20:00	0.752	10/8/2013 9:30	0.713	10/9/2013 23:00	0.784
10/3/2013 17:30	0.717	10/5/2013 7:00	0.776	10/6/2013 20:30	0.764	10/8/2013 10:00	0.732	10/9/2013 23:30	0.787
10/3/2013 18:00	0.715	10/5/2013 7:30	0.771	10/6/2013 21:00	0.763	10/8/2013 10:30	0.71	10/10/2013 0:00	0.806
10/3/2013 18:30	0.711	10/5/2013 8:00	0.792	10/6/2013 21:30	0.763	10/8/2013 11:00	0.73	10/10/2013 0:30	0.798
10/3/2013 19:00	0.727	10/5/2013 8:30	0.759	10/6/2013 22:00	0.791	10/8/2013 11:30	0.725	10/10/2013 1:00	0.797
10/3/2013 19:30	0.723	10/5/2013 9:00	0.765	10/6/2013 22:30	0.763	10/8/2013 12:00	0.717	10/10/2013 1:30	0.8
10/3/2013 20:00	0.731	10/5/2013 9:30	0.757	10/6/2013 23:00	0.773	10/8/2013 12:30	0.728	10/10/2013 2:00	0.804
10/3/2013 20:30	0.729	10/5/2013 10:00	0.731	10/6/2013 23:30	0.759	10/8/2013 13:00	0.735	10/10/2013 2:30	0.818
10/3/2013 21:00	0.728	10/5/2013 10:30	0.734	10/7/2013 0:00	0.767	10/8/2013 13:30	0.713	10/10/2013 3:00	0.805
10/3/2013 21:30	0.73	10/5/2013 11:00	0.753	10/7/2013 0:30	0.776	10/8/2013 14:00	0.73	10/10/2013 3:30	0.811
10/3/2013 22:00	0.73	10/5/2013 11:30	0.735	10/7/2013 1:00	0.768	10/8/2013 14:30	0.729	10/10/2013 4:00	0.826
10/3/2013 22:30	0.725	10/5/2013 12:00	0.756	10/7/2013 1:30	0.774	10/8/2013 15:00	0.742	10/10/2013 4:30	0.816
10/3/2013 23:00	0.728	10/5/2013 12:30	0.744	10/7/2013 2:00	0.757	10/8/2013 15:30	0.749	10/10/2013 5:00	0.809
10/3/2013 23:30	0.728	10/5/2013 13:00	0.758	10/7/2013 2:30	0.76	10/8/2013 16:00	0.732	10/10/2013 5:30	0.813
10/4/2013 0:00	0.732	10/5/2013 13:30	0.744	10/7/2013 3:00	0.767	10/8/2013 16:30	0.746	10/10/2013 6:00	0.82
10/4/2013 0:30	0.743	10/5/2013 14:00	0.753	10/7/2013 3:30	0.774	10/8/2013 17:00	0.746	10/10/2013 6:30	0.806
10/4/2013 1:00	0.721	10/5/2013 14:30	0.73	10/7/2013 4:00	0.769	10/8/2013 17:30	0.752	10/10/2013 7:00	0.813
10/4/2013 1:30	0.744	10/5/2013 15:00	0.742	10/7/2013 4:30	0.767	10/8/2013 18:00	0.757	10/10/2013 7:30	0.806
10/4/2013 2:00	0.759	10/5/2013 15:30	0.759	10/7/2013 5:00	0.764	10/8/2013 18:30	0.755	10/10/2013 8:00	0.829
10/4/2013 2:30	0.752	10/5/2013 16:00	0.741	10/7/2013 5:30	0.786	10/8/2013 19:00	0.744	10/10/2013 8:30	0.821
10/4/2013 3:00	0.738	10/5/2013 16:30	0.732	10/7/2013 6:00	0.765	10/8/2013 19:30	0.752	10/10/2013 9:00	0.815
10/4/2013 3:30	0.752	10/5/2013 17:00	0.73	10/7/2013 6:30	0.782	10/8/2013 20:00	0.765	10/10/2013 9:30	0.781
10/4/2013 4:00	0.762	10/5/2013 17:30	0.731	10/7/2013 7:00	0.755	10/8/2013 20:30	0.765	10/10/2013 10:00	0.775
10/4/2013 4:30	0.773	10/5/2013 18:00	0.729	10/7/2013 7:30	0.77	10/8/2013 21:00	0.745	10/10/2013 10:30	0.772
10/4/2013 5:00	0.77	10/5/2013 18:30	0.753	10/7/2013 8:00	0.747	10/8/2013 21:30	0.756	10/10/2013 11:00	0.777
10/4/2013 5:30	0.765	10/5/2013 19:00	0.737	10/7/2013 8:30	0.737	10/8/2013 22:00	0.763	10/10/2013 11:30	0.792
10/4/2013 6:00	0.783	10/5/2013 19:30	0.747	10/7/2013 9:00	0.759	10/8/2013 22:30	0.77	10/10/2013 12:00	0.786

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
10/10/2013 12:30	0.768	10/12/2013 2:00	0.828	10/13/2013 15:30	0.812	10/15/2013 5:00	0.848	10/16/2013 18:30	0.817
10/10/2013 13:00	0.784	10/12/2013 2:30	0.826	10/13/2013 16:00	0.811	10/15/2013 5:30	0.844	10/16/2013 19:00	0.821
10/10/2013 13:30	0.79	10/12/2013 3:00	0.825	10/13/2013 16:30	0.807	10/15/2013 6:00	0.838	10/16/2013 19:30	0.802
10/10/2013 14:00	0.776	10/12/2013 3:30	0.821	10/13/2013 17:00	0.825	10/15/2013 6:30	0.844	10/16/2013 20:00	0.8
10/10/2013 14:30	0.788	10/12/2013 4:00	0.824	10/13/2013 17:30	0.798	10/15/2013 7:00	0.844	10/16/2013 20:30	0.791
10/10/2013 15:00	0.798	10/12/2013 4:30	0.845	10/13/2013 18:00	0.817	10/15/2013 7:30	0.873	10/16/2013 21:00	0.801
10/10/2013 15:30	0.805	10/12/2013 5:00	0.841	10/13/2013 18:30	0.815	10/15/2013 8:00	0.853	10/16/2013 21:30	0.805
10/10/2013 16:00	0.795	10/12/2013 5:30	0.834	10/13/2013 19:00	0.812	10/15/2013 8:30	0.857	10/16/2013 22:00	0.821
10/10/2013 16:30	0.786	10/12/2013 6:00	0.816	10/13/2013 19:30	0.814	10/15/2013 9:00	0.837	10/16/2013 22:30	0.819
10/10/2013 17:00	0.799	10/12/2013 6:30	0.827	10/13/2013 20:00	0.829	10/15/2013 9:30	0.827	10/16/2013 23:00	0.811
10/10/2013 17:30	0.782	10/12/2013 7:00	0.829	10/13/2013 20:30	0.831	10/15/2013 10:00	0.806	10/16/2013 23:30	0.805
10/10/2013 18:00	0.788	10/12/2013 7:30	0.835	10/13/2013 21:00	0.813	10/15/2013 10:30	0.81	10/17/2013 0:00	0.815
10/10/2013 18:30	0.806	10/12/2013 8:00	0.819	10/13/2013 21:30	0.82	10/15/2013 11:00	0.805	10/17/2013 0:30	0.803
10/10/2013 19:00	0.791	10/12/2013 8:30	0.827	10/13/2013 22:00	0.824	10/15/2013 11:30	0.821	10/17/2013 1:00	0.828
10/10/2013 19:30	0.788	10/12/2013 9:00	0.828	10/13/2013 22:30	0.814	10/15/2013 12:00	0.805	10/17/2013 1:30	0.803
10/10/2013 20:00	0.802	10/12/2013 9:30	0.818	10/13/2013 23:00	0.825	10/15/2013 12:30	0.832	10/17/2013 2:00	0.824
10/10/2013 20:30	0.808	10/12/2013 10:00	0.801	10/13/2013 23:30	0.818	10/15/2013 13:00	0.802	10/17/2013 2:30	0.828
10/10/2013 21:00	0.801	10/12/2013 10:30	0.786	10/14/2013 0:00	0.813	10/15/2013 13:30	0.808	10/17/2013 3:00	0.833
10/10/2013 21:30	0.806	10/12/2013 11:00	0.814	10/14/2013 0:30	0.83	10/15/2013 14:00	0.819	10/17/2013 3:30	0.864
10/10/2013 22:00	0.797	10/12/2013 11:30	0.804	10/14/2013 1:00	0.808	10/15/2013 14:30	0.813	10/17/2013 4:00	0.848
10/10/2013 22:30	0.803	10/12/2013 12:00	0.792	10/14/2013 1:30	0.817	10/15/2013 15:00	0.821	10/17/2013 4:30	0.854
10/10/2013 23:00	0.795	10/12/2013 12:30	0.812	10/14/2013 2:00	0.818	10/15/2013 15:30	0.81	10/17/2013 5:00	0.871
10/10/2013 23:30	0.797	10/12/2013 13:00	0.793	10/14/2013 2:30	0.798	10/15/2013 16:00	0.817	10/17/2013 5:30	0.88
10/11/2013 0:00	0.8	10/12/2013 13:30	0.807	10/14/2013 3:00	0.811	10/15/2013 16:30	0.815	10/17/2013 6:00	0.877
10/11/2013 0:30	0.804	10/12/2013 14:00	0.8	10/14/2013 3:30	0.814	10/15/2013 17:00	0.818	10/17/2013 6:30	0.887
10/11/2013 1:00	0.799	10/12/2013 14:30	0.798	10/14/2013 4:00	0.829	10/15/2013 17:30	0.817	10/17/2013 7:00	0.881
10/11/2013 1:30	0.807	10/12/2013 15:00	0.808	10/14/2013 4:30	0.823	10/15/2013 18:00	0.812	10/17/2013 7:30	0.868
10/11/2013 2:00	0.794	10/12/2013 15:30	0.792	10/14/2013 5:00	0.809	10/15/2013 18:30	0.815	10/17/2013 8:00	0.887
10/11/2013 2:30	0.806	10/12/2013 16:00	0.793	10/14/2013 5:30	0.822	10/15/2013 19:00	0.818	10/17/2013 8:30	0.878
10/11/2013 3:00	0.803	10/12/2013 16:30	0.796	10/14/2013 6:00	0.815	10/15/2013 19:30	0.826	10/17/2013 9:00	0.876
10/11/2013 3:30	0.81	10/12/2013 17:00	0.791	10/14/2013 6:30	0.823	10/15/2013 20:00	0.807	10/17/2013 9:30	0.87
10/11/2013 4:00	0.776	10/12/2013 17:30	0.806	10/14/2013 7:00	0.821	10/15/2013 20:30	0.824	10/17/2013 10:00	0.869
10/11/2013 4:30	0.79	10/12/2013 18:00	0.795	10/14/2013 7:30	0.807	10/15/2013 21:00	0.822	10/17/2013 10:30	0.847
10/11/2013 5:00	0.788	10/12/2013 18:30	0.798	10/14/2013 8:00	0.82	10/15/2013 21:30	0.819	10/17/2013 11:00	0.848
10/11/2013 5:30	0.787	10/12/2013 19:00	0.817	10/14/2013 8:30	0.832	10/15/2013 22:00	0.829	10/17/2013 11:30	0.831
10/11/2013 6:00	0.795	10/12/2013 19:30	0.811	10/14/2013 9:00	0.824	10/15/2013 22:30	0.83	10/17/2013 12:00	0.849
10/11/2013 6:30	0.794	10/12/2013 20:00	0.82	10/14/2013 9:30	0.81	10/15/2013 23:00	0.819	10/17/2013 12:30	0.849
10/11/2013 7:00	0.797	10/12/2013 20:30	0.823	10/14/2013 10:00	0.802	10/15/2013 23:30	0.835	10/17/2013 13:00	0.827
10/11/2013 7:30	0.79	10/12/2013 21:00	0.812	10/14/2013 10:30	0.802	10/16/2013 0:00	0.807	10/17/2013 13:30	0.832
10/11/2013 8:00	0.802	10/12/2013 21:30	0.795	10/14/2013 11:00	0.802	10/16/2013 0:30	0.82	10/17/2013 14:00	0.826
10/11/2013 8:30	0.808	10/12/2013 22:00	0.817	10/14/2013 11:30	0.823	10/16/2013 1:00	0.817	10/17/2013 14:30	0.819
10/11/2013 9:00	0.792	10/12/2013 22:30	0.82	10/14/2013 12:00	0.824	10/16/2013 1:30	0.821	10/17/2013 15:00	0.808
10/11/2013 9:30	0.776	10/12/2013 23:00	0.827	10/14/2013 12:30	0.827	10/16/2013 2:00	0.831	10/17/2013 15:30	0.832
10/11/2013 10:00	0.776	10/12/2013 23:30	0.828	10/14/2013 13:00	0.827	10/16/2013 2:30	0.838	10/17/2013 16:00	0.822
10/11/2013 10:30	0.789	10/13/2013 0:00	0.808	10/14/2013 13:30	0.807	10/16/2013 3:00	0.821	10/17/2013 16:30	0.793
10/11/2013 11:00	0.782	10/13/2013 0:30	0.82	10/14/2013 14:00	0.81	10/16/2013 3:30	0.827	10/17/2013 17:00	0.82
10/11/2013 11:30	0.782	10/13/2013 1:00	0.836	10/14/2013 14:30	0.826	10/16/2013 4:00	0.807	10/17/2013 17:30	0.821
10/11/2013 12:00	0.781	10/13/2013 1:30	0.827	10/14/2013 15:00	0.809	10/16/2013 4:30	0.818	10/17/2013 18:00	0.813
10/11/2013 12:30	0.788	10/13/2013 2:00	0.828	10/14/2013 15:30	0.833	10/16/2013 5:00	0.817	10/17/2013 18:30	0.832
10/11/2013 13:00	0.789	10/13/2013 2:30	0.835	10/14/2013 16:00	0.812	10/16/2013 5:30	0.818	10/17/2013 19:00	0.846
10/11/2013 13:30	0.805	10/13/2013 3:00	0.834	10/14/2013 16:30	0.808	10/16/2013 6:00	0.829	10/17/2013 19:30	0.84
10/11/2013 14:00	0.779	10/13/2013 3:30	0.836	10/14/2013 17:00	0.823	10/16/2013 6:30	0.826	10/17/2013 20:00	0.834
10/11/2013 14:30	0.797	10/13/2013 4:00	0.848	10/14/2013 17:30	0.797	10/16/2013 7:00	0.827	10/17/2013 20:30	0.836
10/11/2013 15:00	0.792	10/13/2013 4:30	0.832	10/14/2013 18:00	0.821	10/16/2013 7:30	0.831	10/17/2013 21:00	0.82
10/11/2013 15:30	0.777	10/13/2013 5:00	0.824	10/14/2013 18:30	0.82	10/16/2013 8:00	0.801	10/17/2013 21:30	0.815
10/11/2013 16:00	0.779	10/13/2013 5:30	0.821	10/14/2013 19:00	0.831	10/16/2013 8:30	0.806	10/17/2013 22:00	0.827
10/11/2013 16:30	0.777	10/13/2013 6:00	0.829	10/14/2013 19:30	0.857	10/16/2013 9:00	0.795	10/17/2013 22:30	0.831
10/11/2013 17:00	0.771	10/13/2013 6:30	0.829	10/14/2013 20:00	0.834	10/16/2013 9:30	0.808	10/17/2013 23:00	0.827
10/11/2013 17:30	0.787	10/13/2013 7:00	0.814	10/14/2013 20:30	0.823	10/16/2013 10:00	0.815	10/17/2013 23:30	0.834
10/11/2013 18:00	0.793	10/13/2013 7:30	0.825	10/14/2013 21:00	0.823	10/16/2013 10:30	0.786	10/18/2013 0:00	0.824
10/11/2013 18:30	0.799	10/13/2013 8:00	0.82	10/14/2013 21:30	0.836	10/16/2013 11:00	0.805	10/18/2013 0:30	0.826
10/11/2013 19:00	0.802	10/13/2013 8:30	0.842	10/14/2013 22:00	0.847	10/16/2013 11:30	0.783	10/18/2013 1:00	0.838
10/11/2013 19:30	0.807	10/13/2013 9:00	0.829	10/14/2013 22:30	0.828	10/16/2013 12:00	0.794	10/18/2013 1:30	0.817
10/11/2013 20:00	0.796	10/13/2013 9:30	0.819	10/14/2013 23:00	0.849	10/16/2013 12:30	0.788	10/18/2013 2:00	0.833
10/11/2013 20:30	0.795	10/13/2013 10:00	0.825	10/14/2013 23:30	0.847	10/16/2013 13:00	0.789	10/18/2013 2:30	0.817
10/11/2013 21:00	0.816	10/13/2013 10:30	0.809	10/15/2013 0:00	0.843	10/16/2013 13:30	0.802	10/18/2013 3:00	0.824
10/11/2013 21:30	0.805	10/13/2013 11:00	0.816	10/15/2013 0:30	0.842	10/16/2013 14:00	0.805	10/18/2013 3:30	0.833
10/11/2013 22:00	0.811	10/13/2013 11:30	0.802	10/15/2013 1:00	0.847	10/16/2013 14:30	0.783	10/18/2013 4:00	0.818
10/11/2013 22:30	0.811	10/13/2013 12:00	0.807	10/15/2013 1:30	0.834	10/16/2013 15:00	0.792	10/18/2013 4:30	0.827
10/11/2013 23:00	0.826	10/13/2013 12:30	0.794	10/15/2013 2:00	0.835	10/16/2013 15:30	0.8	10/18/2013 5:00	0.823
10/11/2013 23:30	0.842	10/13/2013 13:00	0.802	10/15/2013 2:30	0.851	10/16/2013 16:00	0.807	10/18/2013 5:30	0.826
10/12/2013 0:00	0.817	10/13/2013 13:30	0.807	10/15/2013 3:00	0.837	10/16/2013 16:30	0.804	10/18/2013 6:00	0.829
10/12/2013 0:30	0.814	10/13/2013 14:00	0.818	10/15/2013 3:30	0.841	10/16/2013 17:00	0.805	10/18/2013 6:30	0.834
10/12/2013 1:00	0.842	10/13/2013 14:30	0.809	10/15/2013 4:00	0.841	10/16/2013 17:30	0.813	10/18/2013 7:00	0.841
10/12/2013 1:30	0.816	10/13/2013 15:00	0.815	10/15/2013 4:30	0.856	10/16/2013 18:00	0.809	10/18/2013 7:30	0.822

Clark Fork at Sager Lane (CFR-F2) continuous stage recorder hourly data. Surface elevation is in feet, adjusted to staff gauge (-0.40 feet). Highlighted cells indicate river stage was below level of stage recording device.

Date and Time	Surface	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.	Date and Time	Surface Elev.
10/18/2013 8:00	0.857	10/19/2013 21:30	0.789	10/21/2013 11:00	0.746	10/23/2013 0:30	0.779		
10/18/2013 8:30	0.845	10/19/2013 22:00	0.79	10/21/2013 11:30	0.736	10/23/2013 1:00	0.797		
10/18/2013 9:00	0.844	10/19/2013 22:30	0.794	10/21/2013 12:00	0.736	10/23/2013 1:30	0.779		
10/18/2013 9:30	0.816	10/19/2013 23:00	0.771	10/21/2013 12:30	0.725	10/23/2013 2:00	0.791		
10/18/2013 10:00	0.83	10/19/2013 23:30	0.784	10/21/2013 13:00	0.733	10/23/2013 2:30	0.786		
10/18/2013 10:30	0.812	10/20/2013 0:00	0.792	10/21/2013 13:30	0.734	10/23/2013 3:00	0.8		
10/18/2013 11:00	0.812	10/20/2013 0:30	0.773	10/21/2013 14:00	0.73	10/23/2013 3:30	0.791		
10/18/2013 11:30	0.784	10/20/2013 1:00	0.787	10/21/2013 14:30	0.738	10/23/2013 4:00	0.801		
10/18/2013 12:00	0.804	10/20/2013 1:30	0.78	10/21/2013 15:00	0.748	10/23/2013 4:30	0.802		
10/18/2013 12:30	0.812	10/20/2013 2:00	0.792	10/21/2013 15:30	0.823	10/23/2013 5:00	0.803		
10/18/2013 13:00	0.804	10/20/2013 2:30	0.792	10/21/2013 16:00	0.766	10/23/2013 5:30	0.797		
10/18/2013 13:30	0.827	10/20/2013 3:00	0.777	10/21/2013 16:30	0.743	10/23/2013 6:00	0.8		
10/18/2013 14:00	0.811	10/20/2013 3:30	0.795	10/21/2013 17:00	0.736	10/23/2013 6:30	0.808		
10/18/2013 14:30	0.807	10/20/2013 4:00	0.772	10/21/2013 17:30	0.737	10/23/2013 7:00	0.805		
10/18/2013 15:00	0.809	10/20/2013 4:30	0.787	10/21/2013 18:00	0.757	10/23/2013 7:30	0.831		
10/18/2013 15:30	0.809	10/20/2013 5:00	0.783	10/21/2013 18:30	0.75	10/23/2013 8:00	0.79		
10/18/2013 16:00	0.816	10/20/2013 5:30	0.777	10/21/2013 19:00	0.779	10/23/2013 8:30	0.804		
10/18/2013 16:30	0.79	10/20/2013 6:00	0.8	10/21/2013 19:30	0.764	10/23/2013 9:00	0.795		
10/18/2013 17:00	0.812	10/20/2013 6:30	0.77	10/21/2013 20:00	0.76	10/23/2013 9:30	0.78		
10/18/2013 17:30	0.817	10/20/2013 7:00	0.786	10/21/2013 20:30	0.768	10/23/2013 10:00	0.76		
10/18/2013 18:00	0.809	10/20/2013 7:30	0.782	10/21/2013 21:00	0.786	10/23/2013 10:30	0.752		
10/18/2013 18:30	0.812	10/20/2013 8:00	0.782	10/21/2013 21:30	0.765	10/23/2013 11:00	0.761		
10/18/2013 19:00	0.805	10/20/2013 8:30	0.776	10/21/2013 22:00	0.779	10/23/2013 11:30	0.77		
10/18/2013 19:30	0.795	10/20/2013 9:00	0.776	10/21/2013 22:30	0.787	10/23/2013 12:00	0.741		
10/18/2013 20:00	0.818	10/20/2013 9:30	0.773	10/21/2013 23:00	0.772	10/23/2013 12:30	0.763		
10/18/2013 20:30	0.813	10/20/2013 10:00	0.773	10/21/2013 23:30	0.781	10/23/2013 13:00	0.744		
10/18/2013 21:00	0.828	10/20/2013 10:30	0.757	10/22/2013 0:00	0.799	10/23/2013 13:30	0.745		
10/18/2013 21:30	0.839	10/20/2013 11:00	0.771	10/22/2013 0:30	0.788	10/23/2013 14:00	0.755		
10/18/2013 22:00	0.821	10/20/2013 11:30	0.761	10/22/2013 1:00	0.786	10/23/2013 14:30	0.739		
10/18/2013 22:30	0.84	10/20/2013 12:00	0.766	10/22/2013 1:30	0.777	10/23/2013 15:00	0.737		
10/18/2013 23:00	0.848	10/20/2013 12:30	0.773	10/22/2013 2:00	0.784	10/23/2013 15:30	0.736		
10/18/2013 23:30	0.85	10/20/2013 13:00	0.77	10/22/2013 2:30	0.786	10/23/2013 16:00	0.731		
10/19/2013 0:00	0.854	10/20/2013 13:30	0.772	10/22/2013 3:00	0.793	10/23/2013 16:30	0.784		
10/19/2013 0:30	0.849	10/20/2013 14:00	0.764	10/22/2013 3:30	0.795	10/23/2013 17:00	0.812		
10/19/2013 1:00	0.841	10/20/2013 14:30	0.762	10/22/2013 4:00	0.78	10/23/2013 17:30	0.853		
10/19/2013 1:30	0.829	10/20/2013 15:00	0.746	10/22/2013 4:30	0.8	10/23/2013 18:00	0.866		
10/19/2013 2:00	0.826	10/20/2013 15:30	0.76	10/22/2013 5:00	0.805	10/23/2013 18:30	0.8		
10/19/2013 2:30	0.819	10/20/2013 16:00	0.739	10/22/2013 5:30	0.798	10/23/2013 19:00	0.788		
10/19/2013 3:00	0.836	10/20/2013 16:30	0.76	10/22/2013 6:00	0.785	10/23/2013 19:30	0.774		
10/19/2013 3:30	0.816	10/20/2013 17:00	0.756	10/22/2013 6:30	0.803	10/23/2013 20:00	0.778		
10/19/2013 4:00	0.83	10/20/2013 17:30	0.766	10/22/2013 7:00	0.803	10/23/2013 20:30	0.802		
10/19/2013 4:30	0.82	10/20/2013 18:00	0.772	10/22/2013 7:30	0.8	10/23/2013 21:00	0.792		
10/19/2013 5:00	0.84	10/20/2013 18:30	0.766	10/22/2013 8:00	0.795	10/23/2013 21:30	0.779		
10/19/2013 5:30	0.803	10/20/2013 19:00	0.76	10/22/2013 8:30	0.799	10/23/2013 22:00	0.788		
10/19/2013 6:00	0.826	10/20/2013 19:30	0.762	10/22/2013 9:00	0.798	10/23/2013 22:30	0.788		
10/19/2013 6:30	0.819	10/20/2013 20:00	0.784	10/22/2013 9:30	0.782	10/23/2013 23:00	0.798		
10/19/2013 7:00	0.815	10/20/2013 20:30	0.785	10/22/2013 10:00	0.763	10/23/2013 23:30	0.786		
10/19/2013 7:30	0.824	10/20/2013 21:00	0.795	10/22/2013 10:30	0.757	10/24/2013 0:00	0.766		
10/19/2013 8:00	0.81	10/20/2013 21:30	0.782	10/22/2013 11:00	0.776	10/24/2013 0:30	0.771		
10/19/2013 8:30	0.823	10/20/2013 22:00	0.785	10/22/2013 11:30	0.771	10/24/2013 1:00	0.795		
10/19/2013 9:00	0.815	10/20/2013 22:30	0.795	10/22/2013 12:00	0.765	10/24/2013 1:30	0.765		
10/19/2013 9:30	0.793	10/20/2013 23:00	0.785	10/22/2013 12:30	0.763	10/24/2013 2:00	0.783		
10/19/2013 10:00	0.794	10/20/2013 23:30	0.801	10/22/2013 13:00	0.757	10/24/2013 2:30	0.782		
10/19/2013 10:30	0.78	10/21/2013 0:00	0.776	10/22/2013 13:30	0.757	10/24/2013 3:00	0.772		
10/19/2013 11:00	0.78	10/21/2013 0:30	0.793	10/22/2013 14:00	0.75	10/24/2013 3:30	0.781		
10/19/2013 11:30	0.783	10/21/2013 1:00	0.792	10/22/2013 14:30	0.764	10/24/2013 4:00	0.79		
10/19/2013 12:00	0.799	10/21/2013 1:30	0.796	10/22/2013 15:00	0.756	10/24/2013 4:30	0.786		
10/19/2013 12:30	0.779	10/21/2013 2:00	0.788	10/22/2013 15:30	0.756	10/24/2013 5:00	0.767		
10/19/2013 13:00	0.766	10/21/2013 2:30	0.792	10/22/2013 16:00	0.741	10/24/2013 5:30	0.784		
10/19/2013 13:30	0.777	10/21/2013 3:00	0.812	10/22/2013 16:30	0.76	10/24/2013 6:00	0.781		
10/19/2013 14:00	0.786	10/21/2013 3:30	0.796	10/22/2013 17:00	0.765	10/24/2013 6:30	0.783		
10/19/2013 14:30	0.793	10/21/2013 4:00	0.802	10/22/2013 17:30	0.748	10/24/2013 7:00	0.793		
10/19/2013 15:00	0.767	10/21/2013 4:30	0.776	10/22/2013 18:00	0.733	10/24/2013 7:30	0.795		
10/19/2013 15:30	0.767	10/21/2013 5:00	0.78	10/22/2013 18:30	0.729	10/24/2013 8:00	0.776		
10/19/2013 16:00	0.776	10/21/2013 5:30	0.788	10/22/2013 19:00	0.699	10/24/2013 8:30	0.788		
10/19/2013 16:30	0.766	10/21/2013 6:00	0.787	10/22/2013 19:30	0.706	10/24/2013 9:00	0.781		
10/19/2013 17:00	0.774	10/21/2013 6:30	0.785	10/22/2013 20:00	0.724	10/24/2013 9:30	0.782		
10/19/2013 17:30	0.762	10/21/2013 7:00	0.771	10/22/2013 20:30	0.737	10/24/2013 10:00	0.783		
10/19/2013 18:00	0.771	10/21/2013 7:30	0.782	10/22/2013 21:00	0.754	10/24/2013 10:30	0.802		
10/19/2013 18:30	0.794	10/21/2013 8:00	0.771	10/22/2013 21:30	0.776	10/24/2013 11:00	0.769		
10/19/2013 19:00	0.783	10/21/2013 8:30	0.778	10/22/2013 22:00	0.77	10/24/2013 11:30	0.77		
10/19/2013 19:30	0.777	10/21/2013 9:00	0.764	10/22/2013 22:30	0.786	10/24/2013 12:00	0.794		
10/19/2013 20:00	0.784	10/21/2013 9:30	0.789	10/22/2013 23:00	0.79				
10/19/2013 20:30	0.777	10/21/2013 10:00	0.774	10/22/2013 23:30	0.791				
10/19/2013 21:00	0.807	10/21/2013 10:30	0.743	10/23/2013 0:00	0.782				

APPENDIX M3

MEAN DAILY DISCHARGE ESTIMATES

Mean daily discharge estimates in the upper Clark Fork River watershed, 2013.

Date	Discharge (cfs)						
	Silver Bow Creek at Warm Springs (USGS 12323750)	Warm Springs Creek at Warm Springs (USGS 12323770)	Lost Creek near Galen (USGS 12323850)	Clark Fork near Galen (USGS 12323800)	Clark Fork at Gemback Road (RESPEC CFR-F1)	Clark Fork at Sager Lane (RESPEC CFR-F2)	Clark Fork at Deer Lodge (USGS 12324200)
6/21/2013	73[A]	80[A]	8.6[A]	158[A]	124	114	185[A]
6/22/2013	70[A]	80[A]	8.7[A]	151[A]	122	112	182[A]
6/23/2013	68[A]	83[A]	8.0[A]	153[A]	125	115	187[A]
6/24/2013	65[A]	72[A]	6.4[A]	140[A]	117	106	181[A]
6/25/2013	72[A]	76[A]	5.8[A]	151[A]	127	117	193[A]
6/26/2013	70[A]	76[A]	5.3[A]	148[A]	127	116	187[A]
6/27/2013	70[A]	79[A]	4.8[A]	147[A]	129	120	187[A]
6/28/2013	67[A]	85[A]	4.0[A]	151[A]	128	120	185[A]
6/29/2013	64[A]	83[A]	3.9[A]	145[A]	122	116	176[A]
6/30/2013	62[A]	89[A]	4.3[A]	148[A]	119	115	173[A]
7/1/2013	59[A]	78[A]	3.8[A]	133[A]	110	111	168[A]
7/2/2013	59[A]	73[A]	3.5[A]	124[A]	102	101	158[A]
7/3/2013	59[A]	69[A]	3.4[A]	119[A]	104	99	150[A]
7/4/2013	57[A]	66[A]	3.6[A]	113[A]	108	102	155[A]
7/5/2013	55[A]	62[A]	3.6[A]	106[A]	97	91	148[A]
7/6/2013	53[A]	62[A]	3.2[A]	105[A]	96	92	144[A]
7/7/2013	51[A]	55[A]	2.8[A]	93[A]	89	84	142[A]
7/8/2013	48[A]	52[A]	3.7[A]	85[A]	85	76	133[A]
7/9/2013	48[A]	51[A]	3.1[A]	85[A]	85	79	131[A]
7/10/2013	47[A]	48[A]	2.6[A]	79[A]	77	65	121[A]
7/11/2013	44[A]	45[A]	2.4[A]	75[A]	75	61	119[A]
7/12/2013	45[A]	45[A]	2.5[A]	75[A]	76	64	120[A]
7/13/2013	42[A]	42[A]	2.5[A]	69[A]	71	58	113[A]
7/14/2013	42[A]	39[A]	2.7[A]	65[A]	66	39	108[A]
7/15/2013	40[A]	36[A]	2.8[A]	62[A]	61	NA	103[A]
7/16/2013	35[A]	35[A]	2.6[A]	56[A]	50	NA	91[A]
7/17/2013	34[A]	44[A]	4.1[A]	60[A]	54	NA	92[A]
7/18/2013	37[A]	46[A]	3.9[A]	71[A]	69	NA	110[A]
7/19/2013	38[A]	40[A]	2.6[A]	64[A]	59	NA	97[A]
7/20/2013	39[A]	37[A]	2.3[A]	61[A]	52	NA	88[A]
7/21/2013	40[A]	34[A]	2.8[A]	61[A]	50	NA	83[A]
7/22/2013	41[A]	29[A]	3.0[A]	58[A]	43	NA	80[A]
7/23/2013	41[A]	22[A]	2.9[A]	52[A]	37	NA	73[A]
7/24/2013	38[A]	20[A]	2.3[A]	48[A]	32	NA	67[A]
7/25/2013	34[A]	20[A]	1.7[A]	45[A]	30	NA	66[A]
7/26/2013	33[A]	20[A]	1.4[A]	44[A]	26	NA	64[A]
7/27/2013	32[A]	20[A]	1.5[A]	42[A]	18	NA	60[A]
7/28/2013	32[A]	19[A]	1.7[A]	42[A]	15	NA	56[A]
7/29/2013	32[A]	17[A]	1.7[A]	41[A]	12	NA	58[A]
7/30/2013	31[A]	16[A]	1.4[A]	40[A]	7	NA	56[A]
7/31/2013	33[A]	16[A]	1.3[A]	42[A]	15	NA	60[A]
8/1/2013	32[A]	17[A]	1.1[A]	44[A]	16	NA	63[A]
8/2/2013	36[A]	24[A]	1.7[A]	57[A]	43	NA	86[A]
8/3/2013	34[A]	20[A]	1.4[A]	52[A]	42	NA	97[A]
8/4/2013	32[A]	17[A]	1.3[A]	46[A]	31	NA	85[A]
8/5/2013	29[A]	14[A]	1.4[A]	42[A]	24	NA	76[A]
8/6/2013	27[A]	11[A]	2.1[A]	38[A]	17	NA	65[A]
8/7/2013	28[A]	10[A]	7.1[A]	37[A]	8	NA	58[A]
8/8/2013	28[A]	9.3[A]	8.9[A]	38[A]	13	NA	55[A]

8/9/2013	28 ^{A}	9.9 ^{A}	9.9 ^{A}	38 ^{A}	11	NA	57 ^{A}
8/10/2013	27 ^{A}	11 ^{A}	10 ^{A}	41 ^{A}	21	NA	64 ^{A}
8/11/2013	26 ^{A}	10 ^{A}	9.5 ^{A}	39 ^{A}	21	NA	66 ^{A}
8/12/2013	24 ^{A}	9.3 ^{A}	9.6 ^{A}	37 ^{A}	17	NA	65 ^{A}
8/13/2013	22 ^{A}	15 ^{A}	9.6 ^{A}	39 ^{A}	17	NA	65 ^{A}
8/14/2013	24 ^{A}	29 ^{A}	9.2 ^{A}	50 ^{A}	34	NA	71 ^{A}
8/15/2013	28 ^{A}	27 ^{A}	8.9 ^{A}	52 ^{A}	34	NA	71 ^{A}
8/16/2013	27 ^{A}	25 ^{A}	8.8 ^{A}	50 ^{A}	29	NA	66 ^{A}
8/17/2013	27 ^{A}	27 ^{A}	9.0 ^{A}	51 ^{A}	29	NA	63 ^{A}
8/18/2013	27 ^{A}	26 ^{A}	8.9 ^{A}	50 ^{A}	27	NA	66 ^{A}
8/19/2013	28 ^{A}	23 ^{A}	8.0 ^{A}	46 ^{A}	19	NA	63 ^{A}
8/20/2013	29 ^{A}	21 ^{A}	7.9 ^{A}	43 ^{A}	14	NA	57 ^{A}
8/21/2013	29 ^{A}	23 ^{A}	7.5 ^{A}	44 ^{A}	12	NA	56 ^{A}
8/22/2013	28 ^{A}	21 ^{A}	5.8 ^{A}	44 ^{A}	10	NA	61 ^{A}
8/23/2013	27 ^{A}	28 ^{A}	4.6 ^{A}	48 ^{A}	13	NA	59 ^{A}
8/24/2013	26 ^{A}	22 ^{A}	3.7 ^{A}	43 ^{A}	13	NA	62 ^{A}
8/25/2013	23 ^{A}	19 ^{A}	4.0 ^{A}	39 ^{A}	4	NA	57 ^{A}
8/26/2013	24 ^{A}	18 ^{A}	3.4 ^{A}	40 ^{A}	12	NA	58 ^{A}
8/27/2013	25 ^{A}	15 ^{A}	2.1 ^{A}	38 ^{A}	10	NA	61 ^{A}
8/28/2013	24 ^{A}	22 ^{A}	1.6 ^{A}	44 ^{A}	13	NA	57 ^{A}
8/29/2013	26 ^{A}	23 ^{A}	1.8 ^{A}	48 ^{A}	25	NA	70 ^{A}
8/30/2013	26 ^{A}	22 ^{A}	2.0 ^{A}	46 ^{A}	21	NA	73 ^{A}
8/31/2013	26 ^{A}	23 ^{A}	1.7 ^{A}	45 ^{A}	23	NA	72 ^{A}
9/1/2013	28 ^{A}	22 ^{A}	1.6 ^{A}	47 ^{A}	25	NA	72 ^{A}
9/2/2013	27 ^{A}	22 ^{A}	1.4 ^{A}	47 ^{A}	27	NA	75 ^{A}
9/3/2013	29 ^{A}	22 ^{A}	0.56 ^{A}	48 ^{A}	27	NA	77 ^{A}
9/4/2013	31 ^{A}	22 ^{A}	0.62 ^{A}	52 ^{A}	33	NA	79 ^{A}
9/5/2013	30 ^{A}	22 ^{A}	0.59 ^{A}	51 ^{A}	34	NA	87 ^{A}
9/6/2013	31 ^{A}	32 ^{A}	0.99 ^{A}	62 ^{A}	47	NA	100 ^{A}
9/7/2013	30 ^{A}	27 ^{A}	0.63 ^{A}	57 ^{A}	48	NA	107 ^{A}
9/8/2013	26 ^{A}	26 ^{A}	0.62 ^{A}	51 ^{A}	41	NA	100 ^{A}
9/9/2013	27 ^{A}	27 ^{A}	0.78 ^{A}	52 ^{A}	44	NA	102 ^{A}
9/10/2013	28 ^{A}	26 ^{A}	0.65 ^{A}	52 ^{A}	44	NA	102 ^{A}
9/11/2013	29 ^{A}	23 ^{A}	0.50 ^{A}	49 ^{A}	44	NA	96 ^{A}
9/12/2013	28 ^{A}	23 ^{A}	0.34 ^{A}	48 ^{A}	47	NA	97 ^{A}
9/13/2013	27 ^{A}	23 ^{A}	0.28 ^{A}	48 ^{A}	47	NA	97 ^{A}
9/14/2013	31 ^{A}	24 ^{A}	0.31 ^{A}	53 ^{A}	53	NA	99 ^{A}
9/15/2013	31 ^{A}	23 ^{A}	0.66 ^{A}	51 ^{A}	51	NA	102 ^{A}
9/16/2013	29 ^{A}	23 ^{A}	0.90 ^{A}	48 ^{A}	47	NA	100 ^{A}
9/17/2013	25 ^{A}	25 ^{A}	0.86 ^{A}	48 ^{A}	50	NA	100 ^{A}
9/18/2013	29 ^{A}	30 ^{A}	0.77 ^{A}	57 ^{A}	61	NA	112 ^{A}
9/19/2013	30 ^{A}	31 ^{A}	0.64 ^{A}	59 ^{A}	65	NA	117 ^{A}
9/20/2013	31 ^{A}	29 ^{A}	0.89 ^{A}	58 ^{A}	64	NA	116 ^{A}
9/21/2013	29 ^{A}	28 ^{A}	1.0 ^{A}	56 ^{A}	60	NA	111 ^{A}
9/22/2013	29 ^{A}	28 ^{A}	0.89 ^{A}	55 ^{A}	59	NA	108 ^{A}
9/23/2013	32 ^{A}	32 ^{A}	0.81 ^{A}	62 ^{A}	71	46	123 ^{A}
9/24/2013	33 ^{A}	34 ^{A}	0.74 ^{A}	66 ^{A}	75	75	131 ^{A}
9/25/2013	39 ^{A}	39 ^{A}	0.95 ^{A}	80 ^{A}	93	95	148 ^{A}
9/26/2013	43 ^{A}	44 ^{A}	1.0 ^{A}	89 ^{A}	102	107	160 ^{A}
9/27/2013	46 ^{A}	41 ^{A}	0.74 ^{A}	88 ^{A}	101	106	160 ^{A}
9/28/2013	45 ^{A}	41 ^{A}	0.79 ^{A}	90 ^{A}	99	105	162 ^{A}
9/29/2013	39 ^{A}	44 ^{A}	1.9 ^{A}	87 ^{A}	96	99	160 ^{A}
9/30/2013	49 ^{A}	51 ^{A}	2.1 ^{A}	103 ^{A}	107	110	172 ^{A}
10/1/2013	48 ^{A}	48 ^{A}	1.7 ^{A}	103 ^{A}	109	120	181 ^{A}
10/2/2013	44 ^{A}	45 ^{A}	1.3 ^{A}	95 ^{A}	105	126	191 ^{A}
10/3/2013	42 ^{A}	45 ^{A}	1.1 ^{A}	92 ^{A}	103	130	196 ^{A}
10/4/2013	45 ^{A}	45 ^{A}	0.98 ^{A}	95 ^{A}	111	134	202 ^{A}
10/5/2013	45 ^{A}	44 ^{A}	0.90 ^{A}	96 ^{A}	111	134	202 ^{A}
10/6/2013	49 ^{A}	43 ^{A}	0.84 ^{A}	99 ^{A}	111	132	201 ^{A}

10/7/2013	50 A	44 A	0.84 A	100 A	113	133	202 A
10/8/2013	46 A	43 A	0.91 A	95 A	110	133	201 A
10/9/2013	52 A	46 A	0.87 A	102 A	114	135	202 A
10/10/2013	55 A	47 A	3.0 A	106 A	117	139	208 A
10/11/2013	54 A	48 A	5.7 A	108 A	118	138	209 A
10/12/2013	55 A	48 A	5.7 A	110 A	120	141	213 A
10/13/2013	56 A	48 A	6.0 A	111 A	122	141	220 A
10/14/2013	56 A	49 A	6.1 A	112 A	122	142	219 A
10/15/2013	57 A	45 A	6.3 A	109 A	122	143	218 A
10/16/2013	57 A	43 A	6.5 A	107 A	120	140	213 A
10/17/2013	59 A	42 A	6.1 A	109 A	124	144	223 A
10/18/2013	63 A	41 A	6.0 A	112 A	122	142	218 A
10/19/2013	61 A	38 A	6.0 A	109 A	120	139	214 A
10/20/2013	58 A	38 A	6.0 A	105 A	117	136	208 A
10/21/2013	58 A	37 A	6.3 A	103 P	116	135	205 A
10/22/2013	60 P	36 P	6.2 P	101 P	115	135	204 A
10/23/2013	61 P	35 P	6.2 P	102 P	123	137	204 P
10/24/2013	60 P	34 P	6.0 P	102 P	131	137	201 P

A	Approved data.
P	Provisional data.
NA	Data not available.

APPENDIX M4

STILLING WELL AND STAFF GAUGE CONSTRUCTION

Stilling wells were constructed from 1.5 inch, UV-resistant, PVC pipe. Each stilling well was capped with a locking PVC cap. Stilling wells were approximately 5 feet in length. An enameled, sheet metal staff gauge, graduated to 0.01 feet, was attached with screws to the side of the stilling well pipe (Figure 4). To reduce exposure of each stilling well to debris, stilling wells were place on the outside of the thalweg approximately 10 feet from the stream bank. Stilling wells were located in approximately 2.5 feet of water at the time of deployment. Steel t-posts (8 foot length) were driven approximately 4 feet into the stream substrate. The stilling well and staff gauge assembly was attached to the fence post such that the open (i.e., bottom) end was located immediately above the substrate. The upper half of the stilling well pipe extended above the water surface (Figure 4).

The stilling well design used in this study differed from the recommended design in the Montana Department of Environmental Quality standard operating procedure for digital stage recorders (Lizon et al. 2010). The stilling well design used in this study was developed through consultation with a hydrological professional experienced with similar designs (Dave Amman, Department of Natural Resources Conservation, *personal communication*).

The height of the top of each staff gauge relative to a benchmark established on a nearby bridge was determined with a laser level and surveying rod at the time of installation and again at the end of the deployment. These measurements served as controls to determine if any vertical shift occurred in the stilling wells and staff gauges over the period of data collection. Data from these measurements are included in Appendix M1.

Digital stage recorders were attached to the inside the of stilling wells using a braided steel cable attached to the inside of the cap. The digital stage recorders were suspended (fully submerged) immediately above the stream bottom. The barometric pressure recording device was suspended above the water near the top of the stilling well. The digital stage recording device was programmed to monitor water level (± 0.001 feet) every 30 minutes. The barometric pressure recording device was programmed to measure atmospheric pressure and water temperature every 30 minutes.