Cascade Earth Sciences
A valmont COMPANY
Conserving Resources. Improving Life.
12720 E. Nora Ave., Ste. A
Spokane, WA 99216
Ph: 509.921.0290
Fax: 509.921.1788

# TECHNICAL MEMORANDUM

DATE: February 8, 2013

TO: Joseph Gibbens, PE – U.S. Forest Service
Region 6 – Washington On-Scene Coordinator

FROM: Ryan Tobias – Cascade Earth Sciences

**SUBJECT: 2012 Annual Aquatic Monitoring Report**
**Monte Cristo Mining Area – Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington**

---

## INTRODUCTION

Cascade Earth Sciences (CES) is pleased to provide this summary of the aquatic sampling activities and analytical results at the U.S. Forest Service (Forest Service) Monte Cristo Mining Area (MCMA; Site) located in the Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington.

- The sampling activities were conducted in general accordance with the June 2011 Data Gap Investigation (DGI) Removal Action Work Plan (CES, 2011a). Variances from the plan included additional samples collected from the Site as discussed below.
- The field activities included collection of surface water and sediment samples at stations previously established during the Site Inspection (SI; CES, 2008); Engineering Evaluation / Cost Estimate (EE/CA) DGI (CES, 2010); and 2010 DGI and Aquatic Monitoring (CES, 2011b) (Plate 1).
- The 2012 aquatic monitoring represents the third year of low flow/high flow sampling at the Site. These data are used to increase the existing pre-Removal Action (RA) baseline data collected at the Site since 2005.

The objectives of the 2012 aquatic sampling include the following:

- Supplement the existing pre-RA baseline data collected at the Site since 2005.
- Compare concentrations of selected constituents in surface water and sediment with previous baseline data.
- Monitor flow variations in Glacier Creek, Seventysix Gulch, South Fork Sauk River (SFSR), and adits/seeps to assess loading from selected constituents.

## BACKGROUND

The MCMA, illustrated in Plate 1, is located in the Mt. Baker-Snoqualmie National Forest in Snohomish County, Washington, near the west-center margin of the Henry M. Jackson Wilderness Area, and approximately 28 air-miles east-southeast of Granite Falls, Washington. The Monte Cristo Townsite (Townsite) is located at an elevation of 2,755 feet above mean sea level (amsl) (USGS, 1982a; 1982b; 1982c). Seventysix Gulch flows northwest about two miles to the confluence with Glacier Creek. Glacier Creek flows west to northwest about two and one-half miles from Upper Glacier Basin to the confluence with Seventysix Gulch near the Townsite. The headwaters of both streams lie at an elevation of over 5,000 feet amsl, and their confluence at the Townsite marks the beginning of SFSR which flows 6.25 miles northwest to Monte Cristo Lake (MCL) and continues into the Sauk River.

## MONITORING ACTIVITIES

The eight mines included in the aquatic monitoring are: Boston American Mine in the Lower MCMA; the Sheridan Mine in Seventysix Gulch; and the Justice, Mystery, New Discovery, Pride of the Mountains, Pride of the Woods, and Rainy Mines in Glacier Creek drainage (Plate 1). Due to low flow conditions during the fall of 2012, the Sidney Mine in Seventysix Gulch was added to the sampling list. Waste rock from the major and minor mines in Glacier Basin is generally located in dumps placed near the mine workings. Seep water samples are collected from the adit portals at each of the aforementioned mines, except Pride of the Woods, which does not have water flowing from the adit. Thus, the sample is collected from the seep at the toe of the waste rock pile. In addition, the Justice Mine Seep (SP-JU-01) is collected downslope from the waste rock pile, adjacent to the Glacier Creek Trail.

Between the 2005 SI and the 2010 DGI, 21 aquatic monitoring stations were established in Glacier Creek, Seventysix Gulch, SFSR, and MCL, as discussed below.

### Glacier Creek

- GC-01 – 2.45 miles upstream from the Townsite, headwaters of Glacier Creek
- GC-02 – 1.95 miles upstream from the Townsite, background station
- GC-02a – 1.85 miles upstream from the Townsite, below the Pride of the Mountains Mine
- GC-03 – 1.75 miles upstream from the Townsite, between Pride of the Woods/New Discovery Mines
- GC-04 – 1.4 miles upstream from the Townsite, above the Glacier Creek waterfall
- GC-04a – 0.75 miles upstream from the Townsite, just below the confluence with the Justice Mine seep
- GC-05 – 0.4 miles upstream from the Townsite, between the Ore Collector and Concentrator

### Seventysix Gulch

- 76G-01 – 1.55 miles upstream from the Townsite, headwaters of Seventysix Gulch
- 76G-01a – 0.85 miles upstream from the Townsite, background station
- 76G-01b –0.5 miles upstream from the Townsite, located just downstream from the Sydney Mine
- 76G-02 – 0.3 miles upstream from the Townsite

### South Fork Sauk River and Monte Cristo Lake

- SFSR-01 – Located just downstream from the Townsite at the bridge across the SFSR
- SFSR-02 – 0.7 miles downstream from the Townsite at the Sauk River Campground
- SFSR-03 – 1.5 miles downstream from the Townsite
- SFSR-04 – 2.7 miles downstream from the Townsite, below the confluence with Weden Creek
- SFSR-05 – 3.25 miles downstream from the Townsite
- SFSR-06 – 4.15 downstream from the Townsite, below Barlow Pass
- SFSR-07 – 4.6 miles downstream from the Townsite, located at the Mowich Camp Bridge
- SFSR-08 – 5.15 miles downstream from the Townsite
- MCL-01 – 6.25 miles downstream from the Townsite, in MCL
- SFSR-09 – 6.4 miles downstream from the Townsite, just downstream from MCL

# MONITORING RESULTS

All surface water, adit discharge, seep, and lake water samples were analyzed for total metals (aluminum, antimony, arsenic, cadmium, chromium, copper, iron, lead, manganese, and zinc), pH, hardness, total dissolved solids (TDS), and total suspended solids (TSS). Adit discharge and seep samples were also analyzed for alkalinity, chloride, calcium, magnesium, sodium, potassium, and sulfate. Sediment and solid waste samples were analyzed for 10 total metals (antimony, arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, and zinc) and pH.

Aquatic sampling performed as part of the RA DGI was completed in June and September of 2012. The timing of the June sampling event was intended to coincide with high flow conditions from spring runoff. The fall sampling event was timed to assess low flow conditions during the fall season. It should be noted, some glacial runoff occurs in the late summer months in the higher reaches of Glacier Creek and Seventysix Gulch. Considering this and the spatial differences between the upper stations and lower stations near the MCL, fieldwork most likely does not capture the precise high and low flow conditions throughout the entirety of the sampling reach. All surface water and sediment sample analyses were performed by Pace Analytical Services in Seattle, Washington. These samples were placed on ice and shipped directly to the laboratory. All analyses are performed in accordance with U.S. Environmental protection Agency (EPA) Level II protocol.

## High Flow Monitoring

During the June (high flow) sampling event, the lower reaches of the SFSR, Glacier Creek, and Seventysix Gulch were generally snow free. However, the upper reaches of Glacier Creek and Seventysix Gulch (i.e., above 3,000 feet amsl) contained residual snow. No samples were obtained from the highest background stations at GC-01 and 76G-01, or the adits seeps at Pride of the Mountains and New Discovery Mines. In addition, unsafe conditions resulting from uneven snowmelt at station GC-04 precluded sample collection. Weather conditions were variable during the spring field event. Climate data from the National Weather Service (NWS) indicated measurable precipitation was recorded at the Diablo Dam weather station (452157 - approximately 50 miles north of the Site) on June 25 (0.07 inches), June 26 (0.01 inches), and June 27 (0.16) (NWS, 2012).

Flow rate measurements during the June 2012 high flow monitoring event generally indicated an increase downstream from the headwaters to SFSR. Flow rate was not measured at the headwaters of Glacier Creek or Seventysix Gulch due to residual snowpack.

## Low Flow Monitoring

All aquatic stations were snow free during the October (low flow) sampling event. However, stations 76G-01 and 76G01a, and the seeps from the Boston American and Sheridan Mines were dry. Weather conditions during the sampling event were variable, with measurable precipitation recorded on September 10 (0.22 inches) and September 11 (0.11 inches) (NWS, 2012). Nonetheless, flow rate measurements observed at the Site generally showed an increase in volume with distance from the headwaters.
Overall, flow rates measured during the spring and fall 2012 sampling events varied as follows:

- Glacier Creek flow rates ranged from 2 cubic feet per second (cfs) at station GC-02 (fall) to 18.3 cfs at station GC-05 (spring).
- Seventysix Gulch flow rates were only measured at station 76G-02. The flow rates ranged from 3.2 cfs (fall) to 25 cfs (spring).
- The upper SFSR flow rates ranged from 14.7 cfs at station SFSR-02 (fall) to 73.9 cfs at station SFSR-05 (spring). Flow measurements were not collected in the lower SFSR stations in 2012.

## Summary of Results – Surface Water

Analytical results for surface water samples collected during the spring and fall sampling events are summarized in Tables 1a-b. Seep water analytical results are presented in Table 2a. Arsenic and lead loading rates are presented in Table 2b. Sediment data are summarized in Tables 3a-b.

Concentrations of metals detected in surface water samples collected at the MCMA were compared to the following:

- Washington Freshwater Aquatic Life Criteria (chronic) – Washington Administrative Code (WAC) 173-201A-240 (Ecology, 2006).
- Washington Criteria for Protection of Human Health – Cleanup Levels and Risk Calculations (CLARC).
- Washington Drinking Water Criteria Maximum Contaminant Levels (WAC 246-290) (WDOH, 2010).
- EPA Recommended Chronic Ambient Water Quality Criteria for Freshwater Aquatic Life (EPA, 2009).
- EPA Recommended Ambient Water Quality Criteria for Protection of Human Consumption of Water and Fish (EPA, 2009).
- ORNL Preliminary Remediation Goals for Ecological Endpoints (ORNL, 1997).

### Glacier Creek

All surface water samples collected from Glacier Creek stations during the spring and fall sampling events contained total arsenic at concentrations exceeding state and federal drinking water and human health standards, although none exceeded state or federal ecological criteria. Concentrations of total zinc and manganese in samples collected from station GC-05 during the spring sampling event were above applicable state and/or federal comparison criteria.

Total arsenic concentrations varied considerably from the headwaters of Glacier Creek at stations GC-01 to GC-05. Results of surface water samples collected from Glacier Creek during the spring 2012 field event identified total arsenic concentrations ranging from 4.2 micrograms per liter (μg/L) at station GC-02a to 10.7 μg/L at station GC-04a. During the fall 2012 sampling event, total arsenic concentrations ranged from 0.96 μg/L at station GC-01 (background) to 7.5 μg/L at station GC-04a.

Chart 1 depicts the temporal (2012 spring and fall events) and spatial variation of arsenic concentrations in surface water with distance from the headwaters at Glacier Creek to MCL. The concentrations of total arsenic in the samples collected from station GC-04a (mile 1.63) were about 2.5 to 4 times higher than the combined background mean of surface water samples collected in Glacier Creek and Seventysix Gulch since 2001 (2.8 μg/L). As such, apparent surface water impacts were identified in Glacier Creek immediately downstream from the confluence with the seep emanating from the Justice Mine area. A sample was also collected from the Justice Mine seep adjacent to the Glacier Creek trail, which identified elevated concentrations of total arsenic in surface water.

### Seventysix Gulch

All surface water samples collected from Seventysix Gulch stations during the spring and fall 2012 sampling events contained total arsenic at concentrations exceeding state and federal drinking water and human health standards. However, none of the total arsenic concentrations exceeded state or federal ecological criteria. These stations did not exhibit concentrations of other metals above state and federal regulatory criteria.

Concentrations of total arsenic in samples collected during the spring event ranged from 7.1 μg/L at station 76G-01b to 20.7 μg/L at station 76G-02. No background samples were collected in June 2012. Fall 2012 sampling results identified total arsenic concentrations ranging from 8.6 μg/L at station76G-01b to 9.8 μg/L at

station 76G-02. As such, the elevated concentration of total arsenic at station 76G-01a during the spring 2012 was about 7 times higher than the combined background mean of surface water samples collected from Glacier Creek and Seventysix Gulch (2.8 μg/L). Furthermore, the concentrations of total arsenic in the samples collected from station 76G-02 during the spring event (7.3 μg/L) and fall event (9.8 μg/L) were about 2.5 to 3.5 times higher than the background mean.

The source of the elevated arsenic concentrations at station 76G-01a is unknown, although surface flow originates from upslope areas to the east. In addition, the former Senate Claim was located in the vicinity of station 76G-01a, and thus, the positioning of the station may not be indicative of background conditions. Nonetheless, there are no obvious surficial features present (e.g., waste rock, buildings, etc.) that would suggest the presence of contaminated media. A geologic map by Tabor and others (1993) shows a north-northwest-trending fault cut the entire length of Seventysix Gulch. Many area faults are mineralized, although the mineralization may be sporadic. Furthermore, the alignment of lode claims near station 76G-01a and upstream (e.g., Ibex claim) are indicative of cross-creek structures, which were likely prospected. Based on this, elevated concentrations of total arsenic in surface water near station 76G-01 could suggest elevated background concentrations of arsenic.

A cabin is located approximately 300 feet downstream from station 76G-01a, upslope of the western bank of Seventysix Gulch. The cabin is located on a patented claim, and appears to be maintained and inhabited intermittently. In addition, water is apparently withdrawn from the creek, as evidenced by a flexible pipe directed toward the building. The elevated concentration of arsenic at station 76G-01a during the spring 2012 sampling event exceeded the EPA drinking water standard of 10 μg/L by a factor of about 2 (EPA, 2003). Thus, intermittent residences of the cabin may be exposed to arsenic in drinking water at concentrations above applicable EPA standards. Based on this, notification of the residents of the cabin of elevated concentrations of arsenic in Seventysix Gulch may be warranted.

### South Fork Sauk River and Monte Cristo Lake

Surface water stations in the SFSR extend from the Townsite, approximately 6.4 miles downstream below MCL. Elevated concentrations of total arsenic, cadmium, copper, iron, and lead were identified in samples collected in this reach of the SFSR and in MCL. Total arsenic was detected at concentrations exceeding state and federal comparison criteria in every sample collected during the spring and fall sampling events. However, none of the arsenic concentrations exceeded state or federal ecological criteria.

During the spring 2012 sampling event, total arsenic concentrations in the SFSR ranged from 5.6 μg/L at stations SFSR-01, SFSR -05, and SFSR-08 to 9 μg/L at station SFSR-09 (downstream from MCL). The fall sampling event identified total arsenic concentrations ranging from 9 μg/L at station SFSR-01 (just downstream from the Townsite) to 26.3 μg/L at station SFSR-09. Therefore, the high concentrations of arsenic at station SFSR-09 were 3 to 9 times higher than the combined mean background concentration for Glacier Creek and Seventysix Gulch.

Concentrations of total arsenic in MCL surface water samples ranged from 19.4 μg/L (spring 2012) to 264 μg/L (fall 2012). These concentrations represent the highest levels of arsenic in stream surface water within the area investigated, which is likely indicative of ongoing metals transport and accumulation in MCL. The concentration of total arsenic identified during the fall 2012 sampling event also exceeds two ecological criteria: the Washington Freshwater Aquatic Life Criterion (chronic) of 190 μg/L and EPA Recommended Chronic Ambient Water Quality Criterion for Freshwater Aquatic Life of 150 μg/L.

Total cadmium concentrations were in excess of the EPA Recommended Chronic Ambient Water Quality Criteria for Freshwater Aquatic Life standard of 0.047 μg/L at stations SFSR-03, SFSR-04, SFSR-06, SFSR-09,

and MCL-01. The highest concentration of total cadmium (0.081 μg/L) was identified in the sample collected at station SFSR-03 during the fall 2012 sampling event.

Concentrations of total lead at station MCL-01, which ranged from 0.32 to 4.9 μg/L, exceeded the State of Washington Aquatic Life criteria (0.15 μg/L); the EPA Recommended Chronic Ambient Water Quality Criteria for Freshwater Aquatic Life standard (0.174 μg/L); and/or the ORNL Surface Water PRG (3.2 μg/L). In addition, the concentration of total manganese at station MCL-01 during the fall sampling event (87 μg/L) was above the State of Washington Drinking Water Criterion and EPA Recommended Ambient Water Quality Criteria for Protection of Human Consumption of Water and Fish of 50 μg/L.

During the fall 2012 sampling event, the concentration of total copper (2.6 μg/L) at station MCL-01 exceeded the State of Washington Aquatic Life criteria of 1.5 μg/L and the EPA Recommended Chronic Ambient Water Quality Criteria for Freshwater Aquatic Life standard of 1.2 μg/L. Moreover, the total iron concentration at station MCL-01 (925 μg/L) during the fall 2012 sampling event was above the State of Washington Drinking Water Criterion and EPA Recommended Ambient Water Quality Criteria for Protection of Human Consumption of Water and Fish of 300 μg/L.

## Summary of Results - Seep Water

Seep water samples were collected from the nine mines and Justice Mine seep located adjacent to the Glacier Creek Trail. Concentrations of metals in adit seeps and waste rock seeps were compared to applicable state and federal surface water quality criteria previously discussed. Concentrations of total aluminum, antimony, arsenic, cadmium, copper, iron, lead, manganese, and zinc exceeded state and federal comparison criteria in samples collected from the mine adits and seeps. The highest concentrations of total arsenic were exhibited at the Mystery Mine adit (1,060 μg/L), the Pride of the Mountains Mine adit (888 μg/L), and the Justice Mine adit (358 μg/L). The sample collected from the Sidney Mine in the fall of 2012 contained total arsenic at a concentration of 25.4 μg/L, which is consistent with the previous sample collected in 2008 that contained arsenic at 28.8 μg/L.

The highest concentrations of total aluminum (1,100 μg/L); total antimony (23.9 μg/L); total cadmium (34.6 μg/L); total copper (747 μg/L); total iron (13,500 μg/L); total manganese (3,570 μg/L); and total zinc (5,980 μg/L) were exhibited in the sample collected from the Mystery Mine adit during the fall 2012 sampling event. The highest concentration of total lead (83.2 μg/L) was observed in the sample collected from the Pride of the Mountains Mine during the fall of 2012.

In general, adit and waste rock seeps were observed infiltrating into surrounding talus and waste material. Water does not emanate from the collapsed Pride of the Woods adit, and therefore, samples are collected from the seep at the toe of the waste rock pile. This seep at the base of the waste rock pile discharges into Glacier Creek. In addition, the seep from the Sidney Mine adit discharges to Seventysix Gulch. Furthermore, seep water originating from the Justice Mine appears to reach Glacier Creek immediately upstream from station GC-04a.

## Arsenic and Lead Loading Rates

Daily arsenic and lead loading rates were estimated based on stream flow measurements and metals concentrations identified in samples collected at established stations (Table 2b). Loading rates at downstream stations were subtracted from background station data to assess inputs from abandoned mines within the MCMA.

### Arsenic Loading Rates

The estimated background arsenic loading rate from data collected at station GC-02 in 2012 was 0.08 pounds per day (lb/day). No samples were available at station 76G-01 and the flow rate was not measured at station GC-01. As such, no loading data were available for these background stations in 2012.

The arsenic loading rate at station SFSR-01 at the bridge near the Townsite was calculated at1.01 lb/day during the spring and 0.92 lb/day in the fall. Therefore, the total loading for station SFSR-01 (loading minus background) was 0.93 lb/day (339.45 pounds per year [lb/yr]) and 0.84 lb/day (306 lb/yr). The highest loading rate was estimated at station SFSR-05 in the spring at 2.23 lb/day. Based on this, the total arsenic loading (minus background) was 2.15 lb/day (784.75 lb/yr).

In Glacier Creek, downstream from the Rainy Mine at station GC-05, arsenic loading was estimated at 0.58 lb/day in the spring. Total loading (minus background) would therefore be 0.50 lb/day (182.50 lb/yr). In Seventysix Gulch at station 76G-02, arsenic loading was estimated at 0.98 lb/day (spring) and 0.17 lb/day (fall). Thus, total loading from Seventysix Gulch would be 0.90 lb/day (328.50 lb/yr) and 0.09 lb/day (32.85 lb/yr).

No loading data were estimated for station SFSR-09 downstream from MCL, which would be considered probable to have the highest loading rates due to high flows and concentrations of arsenic. However, for comparison, in 2010 the arsenic loading rates at station SFSR-09 was estimated at 11.37 lb/day (spring) and 8.42 lb/day (fall). These rates corresponded to 4,151 lb/yr (spring) and 3,071 lb/yr (fall) of total arsenic in 2010 in the SFSR downstream from MCL.

### Lead Loading Rates

The estimated background lead loading rate from data collected at station GC-02 in 2012 was 0.0008 lb/day. The lead loading rate at station SFSR-01 at the bridge near the Townsite was calculated at 0.014 lb/day during the spring and 0.007 lb/day in the fall. Therefore, the total loading for station SFSR-01 (loading minus background) was 0.013 lb/day (4.81 lb/yr) and 0.006 lb/day (2.26 lb/yr). The highest loading rate was estimated at station SFSR-04 in the spring at 0.02 lb/day. Based on this, the total lead loading (minus background) was 0.018 lb/day (6.64 lb/yr).

In Glacier Creek, downstream from the Rainy Mine at station GC-05, lead loading was estimated at 0.007 lb/day in the spring. Total loading (minus background) would therefore be 0.006 lb/day (2.34 lb/yr). In Seventysix Gulch (station 76G-02), lead loading was estimated at 0.009 lb/day (spring) and 0.001 lb/day (fall). Thus, total loading from Seventysix Gulch would be 0.008 lb/day (2.99 lb/yr; spring) and 0.002 lb/day (0.73 lb/yr; fall).

## Summary of Results - Sediment

Metals concentrations in sediment samples collected at the MCMA during the spring and fall 2012 sampling events were compared to the following state and federal comparison criteria.

- Development of Freshwater Sediment Quality Values for use in Washington State (Ecology, 2003)
- Washington Sediment Management Standards - WAC 172-204-320 (Ecology, 1995)
- EPA Threshold Effects Levels (TELs) (NOAA, 1999)
- EPA Probable Effects Levels (PELs) (NOAA, 1999)
- ORNL Ecological Screening Level Values for Freshwater (ORNL, 1997)

Chart 2 depicts temporal (2012 spring and fall events) and spatial trends in sediment quality, as measured by total arsenic concentrations in sediments from the headwaters in the Upper Glacier Basin to MCL.

### Glacier Creek

Sediment samples collected from Glacier Creek stations exhibited concentrations of total antimony, arsenic, cadmium, copper, lead, mercury, and zinc in excess of state and federal comparison criteria. The concentrations of total arsenic identified in samples collected during the spring 2012 event ranged from 153 milligrams per kilogram (mg/kg) at station GC-02 (background) to 1,420 mg/kg at station GC-04a. During the fall 2012 sampling event, total arsenic concentrations ranged from 42.1 mg/kg at station GC-01 (background) to 1,150 mg/kg at station GC-04a. The mean background concentration of arsenic in MCMA sediment is 127.7 mg/kg.

The arsenic concentration of 1,420 mg/kg at station GC-04a is below the high concentration of 2,120 mg/kg exhibited during the fall 2011 sampling event, which represented the highest concentration documented at the MCMA since CERCLA activities were initiated in 2002 (Forest Service, 2002, 2003, 2006a, 2006b). However, the 2012 the concentration is about 11 times higher than the mean background concentration. Based on this, apparent impacts to sediment quality in Glacier Creek were observed during the 2012 sampling events. Therefore, the evidence suggests the seep emanating from the Justice Mine area has adversely affected sediment quality in Glacier Creek.

The highest concentrations of total cadmium (37.5 mg/kg); total copper (888 mg/kg); total lead (282 mg/kg); total mercury (0.56 mg/kg); and total zinc (1.070 mg/kg) were exhibited in the sample collected from station GC-04a during the spring 2012 sampling event. These data provide further evidence of deleterious impacts to sediment quality in Glacier Creek from the Justice Mine Seep.

### Seventysix Gulch

Analysis of sediments in Seventysix Gulch identified concentrations of total antimony, arsenic, cadmium, lead, mercury, and zinc in excess of state and federal comparison criteria. During the spring 2012 event, concentrations of total arsenic ranged from 366 mg/kg at station 76G-02 to 600 mg/kg at station 76G-01b. The fall 2012 event identified total arsenic concentrations ranging from 268 mg/kg at station 76G-01b to 305 mg/kg at station 76G-02. No background samples were collected during spring or fall 2012 sampling events in Seventysix Gulch. Arsenic concentrations in sediment generally increased downstream to the high concentration at station 76G-02 in June 2012.

The high concentration of total arsenic in the samples collected at station 76G-01b (600 mg/kg) was about 5 times higher than the mean background concentration and again suggest impacts or naturally occurring geologic features in the drainage. The high concentration observed in fall 2012 at station 76G-02 is indicative of mobilization of arsenic-contaminated sediment downstream to the lower sections of Seventysix Gulch.

The highest concentrations of total antimony (37.9 mg/kg); cadmium (11.8 mg/kg); lead (184 mg/kg); mercury (0.18 mg/kg) and zinc (750 mg/kg) in Seventysix Gulch were identified in the samples collected from station 76G-01b during the spring and fall 2012 sampling events. These data also suggest mobilization of metals-impacted sediment downstream to the lower sections of Seventysix Gulch.

### South Fork Sauk River and Monte Cristo Lake

Analysis of sediments in SFSR stations identified concentrations of total antimony, arsenic, cadmium, chromium, copper, lead, and zinc in excess of state and federal comparison criteria. Spring 2012 sampling activities identified total arsenic concentrations ranging from 50.3 mg/kg at station SFSR-05 to 502 mg/kg at station SFSR-02. During the fall 2012 event, total arsenic concentrations ranged from 141 mg/kg at station SFSR-01 to 416 mg/kg at station SFSR-09. Moreover, elevated concentrations of antimony (74.7 mg/kg at SFSR-03); cadmium (10.8 mg/kg at SFSR-09); chromium (66.4 mg/kg at SFSR-06); copper (257 mg/kg at SFSR-03); lead (290 mg/kg at SFSR-09); and zinc (635 mg/kg at SFSR-09) were identified during the 2012

sampling events. High arsenic and other metals concentrations downstream from mining areas in the MCMA are likely indicative of continued metals transport and decreasing stream gradient.

Analysis of the samples collected at station MCL-01 identified concentrations of total antimony, arsenic, cadmium, chromium, copper, lead, mercury, and zinc in excess of state and federal comparison criteria. Total arsenic concentrations in the samples collected at station MCL-01 were 323 mg/kg (spring) and 626 mg/kg (fall).

Relatively high concentrations of cadmium (15.5 mg/kg); chromium (68 mg/kg); copper (120 mg/kg); lead (108 mg/kg); mercury (0.22 mg/kg); and zinc 317 mg/kg) were also identified in samples collected from MCL-01 in 2012. As such, probable transport and deposition of arsenic and other metals is occurring from the SFSR and source areas located upstream to the surface sediments of MCL.

### Quality Assurance/Quality Control

Field and laboratory quality assurance / quality control (QA/QC) objectives and procedures for the annual aquatic monitoring are detailed in the Quality Assurance Project Plan, which is located in Section 5.0 of the DGI Work Plan (CES, 2011a). Results of the measurements of field precision, based on the submittal of blind duplicate samples for surface water and sediment are presented in Table 4.

Generally, Relative Percent Difference (RPD) values for the 2012 sampling events were below 25% for duplicate samples. The highest RPDs, which ranged from 26% to 55%, were primarily due to overall low concentrations of the target analyte in the sample and duplicate, which typically yields higher percent differences. As such, all field precision is considered acceptable for the spring and fall sampling events.

Rinsate blank samples collected from decontaminated field equipment (identified as samples MCRA5-SW-EQ-01 and MCRA6-SW-EQ-01) exhibited low concentrations of total aluminum, copper, lead, and zinc. In general, the low concentrations of the metals are not considered probable to significantly impact sediment quality data. Therefore, field decontamination is considered adequate for these sampling events.

No issues were noted with regard to laboratory QA /QC for this sampling event. The holding time for pH is 15 minutes per 40 CFR 136. As such, the holding time was exceeded for all aqueous samples submitted to the laboratory for analysis. However, pH is also measured as a field parameter and thus, pH data are considered valid for this investigation. Please refer to the laboratory analytical report (Attachment A) for further discussion of matrix spike and matrix spike duplicate results, and data qualifier descriptions.

## CONCLUSIONS

Considerable work was accomplished on the aquatic and mine discharge monitoring program. Samples were collected from 21 aquatic stations and 9 adit seeps/discharges to assess high flow and low flow conditions. The sources of high arsenic concentrations in surface water at some aquatic stations (e.g., station 76G-01a) may be caused by natural geological features such as local fault and shear zones that are cut by and contribute metals to the creeks. However, high concentrations of arsenic in surface water were also likely attributable to direct input from seeps (e.g., station GC-04a). The highest concentration of total arsenic in stream/lake surface water was observed at station MCL-01 in fall 2012 at 264 μg/L. This concentration exceeds all applicable state and federal comparison criteria for human and ecological receptors.

Adit and seep water samples were collected from the nine adits and Justice Mine seep adjacent to the Glacier Creek Trail. Concentrations of total aluminum, antimony, arsenic, cadmium, copper, iron, lead, manganese, and zinc exceeded state and federal comparison criteria in samples collected from the mine adits and seeps. The highest concentrations of total arsenic were exhibited at the Mystery Mine adit (1,060 μg/L), the Pride of the Mountains Mine adit (888 μg/L), and the Justice Mine adit (358 μg/L). The highest concentrations of total

antimony, cadmium, copper, iron, manganese, and zinc were exhibited in the sample collected from the Mystery Mine adit during the fall 2012 sampling event. The highest concentration of total lead was observed in the sample collected from the Pride of the Mountains Mine during the fall of 2012.

Total arsenic loading rates near the Townsite were as follows:

- 0.50 lb/day (182.50 lb/yr) in the fall downstream from the Rainy Mine at station GC-05.
- 0.93 lb/day (339.45 lb/yr) in the spring and 0.84 lb/day (306 lb/yr) in the fall at SFSR-01 (bridge near the Townsite).
- 0.90 lb/day (328.50 lb/yr) in the spring and 0.09 lb/day (32.85 lb/yr) in the fall in Seventysix Gulch at station 76G-02.

The highest arsenic loading rate was estimated at station SFSR-05 in the spring at 2.15 lb/day, or 784.75 lb/yr. By comparison, the highest rates estimated to-date at the SFSR was in 2010, when the arsenic loading rates at station SFSR-09 was estimated at 11.37 lb/day (spring) and 8.42 lb/day (fall). These rates corresponded to 4,151 lb/yr (spring) and 3,071 lb/yr (fall) of total arsenic in 2010 in the SFSR downstream from MCL.

Total lead loading rates near the Townsite were as follows:

- 0.006 lb/day (2.34 lb/yr) in the fall downstream from the Rainy Mine at station GC-05.
- 0.01 lb/day (4.81 lb/yr) in the spring and 0.006 lb/day (2.26 lb/yr) in the fall at SFSR-01 (bridge near the Townsite).
- 0.008 lb/day (2.99 lb/yr) in the spring and 0.002 lb/day (0.73 lb/yr) in the fall in Seventysix Gulch at station 76G-02.

The highest lead loading rate was estimated at station SFSR-04 in the spring at 0.0182 lbs/day, or 6.643 lbs/year.

Sediment total arsenic concentrations varied across the stream reaches, with the highest concentration observed at station GC-04a (1,420 mg/kg). The highest concentrations of total cadmium, copper, lead, mercury, and zinc were also exhibited in the sample collected from station GC-04a during the spring 2012 sampling event. These data provide further evidence of deleterious impacts to sediment quality in Glacier Creek from the Justice Mine Seep.

Elevated concentrations of total arsenic were also observed at stations 76G-01b (600 mg/kg) and MCL-01 (626 mg/kg). The highest concentrations of total antimony, cadmium, lead, mercury, and zinc in Seventysix Gulch were also identified in the samples collected from station 76G-01b. Furthermore, relatively high concentrations of cadmium, chromium, copper, lead, mercury, and zinc were identified in samples collected from MCL-01 in 2012. These data suggest mobilization of metals-impacted sediment downstream to the lower sections of Seventysix Gulch and probable transport and deposition of arsenic and other metals from the SFSR and source areas located upstream to the surface sediments of MCL.

## RECOMMENDATIONS

Based on the results of the 2012 aquatic monitoring, CES recommends the following:

- The Forest Service should continue to monitor the existing stations and metal loading in the spring and fall of 2013 to establish water and sediment quality data immediately prior to and after scheduled access route construction and RA activities.
- Notification to the landowner of the cabin in Seventysix Gulch regarding concentrations of arsenic in excess of EPA Drinking Water Standards and the health risks associated with consumption of water in this reach of the stream.

If you have any additional questions or concern regarding this project, please contact me at (503) 931-3157 or Dustin Wasley at (509) 921-0290.

RMT/sjr

| | | |
|---|---|---|
| Att: | Table 1a-b. | Surface Water Analytical Results |
| | Table 2a. | Seep Water Analytical Results |
| | Table 2b. | Arsenic and Lead Concentrations and Loading Results |
| | Tables 3a-b. | Sediment Analytical Results |
| | Table 4. | Quality Assurance/Quality Control Field Precision |
| | Plate 1. | Site Layout Map of Monte Cristo Mining Area |
| | Chart 1. | Arsenic Concentrations in Surface Water |
| | Chart 2. | Arsenic Concentrations in Sediment |
| | Attachment A. | Laboratory Analysis – Pace Analytical Services, Inc. |
| c: | Dustin Wasley – Cascade Earth Sciences | |
| Doc: | 2011230022 MCMA DRAFT 2012 Aquatic Monitoring Report.docx | |

## REFERENCES

CES, 2008. Final Site Inspection Report Monte Cristo Mining Area, Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington. Cascade Earth Sciences.

CES, 2010. Engineering Evaluation / Cost Analysis, Monte Cristo Mining Area. Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington. Cascade Earth Sciences, Spokane, Washington.

CES, 2011a. Work Plan, 2011 Data Gap Investigation, Monte Cristo Mining Area Removal Action, Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington. Cascade Earth Sciences, Spokane, Washington.

CES, 2011b. 2010 Data Gap Investigation and Aquatic Monitoring. Monte Cristo Mining Area Removal Action. Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington. Cascade Earth Sciences, Spokane, Washington.

Ecology, 1995. Sediment Management Standards. Toxics Cleanup Program, Washington Department of Ecology, Olympia, Washington.

Ecology, 2003. Development of Freshwater Sediment Quality Values for use in Washington State. Phase II Report: Development and Recommendations of SQVs for Freshwater Sediments in Washington State. Publication Number 03-09-088. Washington Department of Ecology, Toxics Cleanup Program, Sediment Management Unit, Olympia, Washington.

Ecology, 2006. Water Quality Standards for Surface Waters of the State of Washington. Chapter 173-201A WAC. Publication 06-10-091. Amended November 20, 2006. Washington State Department of Ecology, Olympia, Washington.

EPA, 2003. National Primary Drinking Water Standards. Office of Water (4606M). EPA 816-F-03-016. U.S. Environmental Protection Agency. Washington, D.C.

EPA, 2009. National Recommended Water Quality Criteria. U.S. Environmental Protection Agency, Office of Science and Technology, Washington, D.C.

Forest Service, 2002. Abbreviated Preliminary Assessment - Monte Cristo Concentrator, Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington. October 2002.

Forest Service, 2003. Abbreviated Preliminary Assessment - Mystery Mine, Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington. February 2003.

Forest Service, 2006a. Abbreviated Preliminary Assessment – Sidney Mine in the Monte Cristo Mining District, Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington. September 2006.

Forest Service, 2006b. Abbreviated Preliminary Assessment - Pride of Woods, New Discovery, and Pride of Mountains Mines in the Monte Cristo Mining District, Mt. Baker-Snoqualmie National Forest, Snohomish County, Washington. September 2006.

NOAA, 1999. Screening Quick Reference Tables. Coastal Protection and Restoration Division. NOAA HAZMAT Report No. 99-1. National Oceanic and Atmospheric Administration, Seattle, Washington.

NWS, 2012. National Weather Service Forecast Office, Seattle, Washington. NOWData-NOAA Online Weather. http://www.weather.gov/climate/xmacis.php?wfo=sew. Website accessed November 14, 2012.

ORNL, 1997. Preliminary Remediation Goals for Ecological Endpoints. Oak Ridge National Laboratory, U.S Department of Energy, Oak Ridge, Tennessee.

Tabor, R.W., Frizzell, V.A., Jr., Booth, D.B., Waitt, R.B., Whetten, J.T., and Zartman, R.E. 1993. Geologic map of the Skykomish 60-minute by 30-minute quadrangle, Washington. U.S. Geological Survey Geologic Investigations Series Map I–1963, scale 1:100,000, 42 p. (*http://pubs.usgs.gov/imap/i1963/*)

USGS, 1982a. 7.5 Minute Topographic Map, Bedal, Washington. U.S. Geological Survey.

USGS, 1982b. 7.5 Minute Topographic Map, Blanca Lake, Washington. U.S. Geological Survey.

USGS, 1982c. 7.5 Minute Topographic Map, Monte Cristo, Washington. U.S. Geological Survey.

WDOH, 2010. Group A Public Water Supplies. Chapter 240-296 WAC. DOH Publication #331-101 (Revised 11-09). Washington State Department of Health, Division of Environmental Health, Office of Drinking Water, Olympia, Washington.

# TABLES


| | |
|---|---|
| **Tables 1a-b.** | **Surface Water Analytical Results** |
| **Table 2.** | **Seep Water Analytical Results** |
| **Table s 3a-b.** | **Sediment Analytical Results** |
| **Table 4.** | **Quality Assurance/Quality Control Summary** |

**Table 1a. Surface Water Analytical Results**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample I.D. | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Aluminum | Antimony | Arsenic (III) | Arsenic (V) Calculated | Arsenic Total | Barium | Beryllium | Cadmium | Calcium | Chromium VI, Total Field | Chromium | Cobalt | Copper | Iron* | Lead | Magnesium | Manganese* | Mercury, Total | Mercury, Total, UltraTrace | Mercury, Methyl, UltraTrace | Nickel | Potassium | Selenium | Silver | Sodium | Thallium | Vanadium | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Results in µg/L | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Surface Water from Glacier Creek, Seventysix Gulch, South Fork Sauk River, and Monte Cristo Lake** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Glacier Creek** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GC-SW1 (Background) | 6/2/2005 | CES-SI | < 30 | < 20 | 0.041 | < 2.959 | < 3.0 | 6.2 | < 2 | < 2 | 2,910 | 10 | < 6 | < 6 | < 10 | < 60 | < 3 | 476 | < 4 | < 0.2 | 0.00289 | NA | < 10 | < 500 | < 3 | < 5 | < 500 | < 2 | < 5 | < 10 |
| MC-GC-9 (Background) | 8/2/2006 | Forest Service | NA | **3.5** | NA | NC | < 0.37 | NA | NA | < 0.037 | NA | NM | NA | NA | 1.0 J | NA | 0.21 J | NA | NA | NA | NA | NA | 0.35 J | NA | NA | NA | NA | NA | NA | **5.2** |
| GC-SW2 (Background) | 6/2/2005 | CES-SI | < 30 | < 20 | NA | NC | < 3.0 | 10.1 | < 2 | < 2 | 3,050 | ND | < 6 | < 6 | < 10 | < 60 | < 3 | 434 | < 4 | < 0.2 | 0.00218 | NA | < 10 | < 500 | < 3 | < 5 | < 500 | < 2 | < 5 | < 10 |
| WADNR - No ID (Background - High Flow) | 6/2001 | WADNR | NA | NA | NA | NC | 0.28 | NA | NA | NA | NA | NM | NA | NA | < 0.02 | NA | < 0.02 | NA | NA | NA | 0.0042 | NA | NA | NA | NA | NA | NA | NA | NA | < 0.2 |
| WADNR - 348072/73 (Background - Low Fl | 8/2001 | WADNR | NA | NA | NA | NC | **4.52** | NA | NA | NA | NA | NM | NA | NA | 0.264 | NA | 0.032 | NA | NA | NA | < 0.002 | NA | NA | NA | NA | NA | NA | NA | NA | 1.8 B |
| SHA-3394090 (Background) | 9/25/2003 | Ecology | NA | 1.8 B | NA | NC | 1.7 | NA | < 0.10 | < 0.10 | NA | NM | < 0.5 | NA | < 0.5 | NA | < 0.10 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | < 5.0 |
| SHA-3394091 (near POTM) | 9/25/2003 | Ecology | NA | 1.9 B | NA | NC | **3.8** | NA | < 0.10 | < 0.10 | NA | NM | < 0.5 | NA | < 0.5 | NA | 0.14 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | < 5.0 |
| SHA-3394094 (near POTM) | 9/25/2003 | Ecology | NA | 1.9 B | NA | NC | **3.6** | NA | < 0.10 | < 0.10 | NA | NM | < 0.5 | NA | < 0.5 | NA | 0.10 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | < 5.0 |
| MC-GC-5 (above New Discovery, below PO | 8/2/2006 | Forest Service | NA | **4.0** | NA | NC | 1.6 J | NA | NA | < 0.037 | NA | NM | NA | NA | 0.44 J | NA | 0.08 J | NA | NA | NA | NA | NA | 0.39 J | NA | NA | NA | NA | NA | NA | 3.1 J |
| MC-GC-3 (above POTW, below New Discov | 8/2/2006 | Forest Service | NA | **5.5** | NA | NC | **6.0** | NA | NA | < 0.037 | NA | NM | NA | NA | 0.53 J | NA | 0.14 J | NA | NA | NA | NA | NA | 0.55 J | NA | NA | NA | NA | NA | NA | **3.7 J** |
| MC-GC-1 (below POTW) | 8/2/2006 | Forest Service | NA | 4.2 | NA | NC | 2.0 | NA | NA | < 0.037 | NA | NM | NA | NA | **1.6** J | NA | 0.14 J | NA | NA | NA | NA | NA | 1.4 J | NA | NA | NA | NA | NA | NA | **4.6 J** |
| GC-SW3 | 6/2/2005 | CES-SI | < 30 | < 20 | **0.125** | **4.375** | **4.5** | **8.5** | < 2 | < 2 | **3,100** | ND | < 6 | < 6 | < 10 | < 60 | < 3 | **415** | < 4 | < 0.2 | 0.00088 | NA | < 10 | < 500 | < 3 | < 5 | < 500 | < 2 | < 5 | < 10 |
| GC-SW4 | 6/2/2005 | CES-SI | < 30 | < 20 | NA | NC | **5.7** | **8.3** | < 2 | < 2 | **2,990** | ND | < 6 | < 6 | < 10 | < 60 | < 3 | **407** | < 4 | < 0.2 | 0.00179 | NA | < 10 | < 500 | < 3 | < 5 | < 500 | < 2 | < 5 | < 10 |
| SHA-3374084 (below Concentrator) | 9/12/2003 | Ecology | NA | 1.3 | NA | NC | **7.89** | NA | < 0.10 | < 0.10 | NA | NM | < 0.5 | NA | 0.67 | NA | 0.13 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | < 5.0 |
| SHA-3394093 (below Concentrator) | 9/25/2003 | Ecology | NA | 1.9 B | NA | NC | **12.2** | NA | < 0.10 | < 0.10 | NA | NM | < 0.5 | NA | 0.55 | NA | 0.29 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | 6.2 |
| GC-SW5 | 6/1/2005 | CES-SI | < 30 | < 20 | NA | NC | **7.7** | 5.9 | < 2 | < 2 | 2,660 | ND | < 6 | < 6 | < 10 | < 60 | < 3 | **357** | < 4 | < 0.2 | 0.00090 | NA | < 10 | < 500 | < 3 | < 5 | < 500 | < 2 | < 5 | < 10 |
| WADNR - No ID (Background - High Flow) | 6/2001 | WADNR | NA | NA | NA | NC | **7.37** | NA | NA | NA | NA | NM | NA | NA | 0.31 | NA | 0.02 | NA | NA | NA | 0.0058 | NA | NA | NA | NA | NA | NA | NA | NA | **5.04** |
| WADNR - 348076/77 (Background - Low Fl | 8/2001 | WADNR | NA | NA | NA | NC | **9.24** | NA | NA | NA | NA | NM | NA | NA | 0.27 | NA | < 0.02 | NA | NA | NA | < 0.002 | NA | NA | NA | NA | NA | NA | NA | NA | **5.58** |
| MCEE-SW-GC-01 | 8/22/2008 | CES-EECA | NA | 0.7 B | NA | NC | 1.6 | NA | NA | < 0.1 | 2,700 | NM | < 10 | NA | < 10 | NA | 0.2 B | 200 B | NA | NA | 0.0039 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-GC-02 | 8/22/2008 | CES-EECA | NA | 1.2 B | NA | NC | 1.3 | NA | NA | < 0.1 | **4,800** | NM | < 10 | NA | < 10 | NA | < 0.1 | **300** B | NA | NA | 0.0015 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-GC-03 | 8/22/2008 | CES-EECA | NA | 1.3 B | NA | NC | **4.0** | NA | NA | < 0.1 | 2,300 | NM | < 10 | NA | < 10 | NA | 0.2 B | < 200 | NA | NA | 0.0012 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-GC-04 | 8/19/2008 | CES-EECA | NA | 1.5 B | NA | NC | **4.0** | NA | NA | < 0.1 | 2,600 | NM | < 10 | NA | < 10 | NA | < 0.1 | 500 B | NA | NA | 0.0016 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-GC-05 | 8/19/2008 | CES-EECA | NA | 1.4 B | NA | NC | **5.3** | NA | NA | < 0.1 | 2,100 | NM | < 10 | NA | < 10 | NA | < 0.1 | < 200 | NA | NA | 0.0011 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCRA1-SW-GC-01 | 6/29/2010 | CES-RA | 20.2 | 1.6 | NA | NC | 0.76 | NA | NA | 0.025 J | NA | NM | < 0.24 | NA | < 0.2 | 12.4 J | 0.039 J | NA | 1.3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.9 J |
| MCRA1-SW-GC-02 | 6/29/2010 | CES-RA | 7.1 | 1.3 | NA | NC | **2.4** | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 5.1 J | 0.059 J | NA | 0.95 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.9 J |
| MCRA1-SW-GC-02a | 6/29/2010 | CES-RA | 7.9 | 1.3 | NA | NC | **4.0** | NA | NA | 0.021 J | NA | NM | < 0.24 | NA | < 0.2 | 5.7 J | 0.054 J | NA | 0.95 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.2 J |
| MCRA1-SW-GC-03 | 6/29/2010 | CES-RA | 13.1 | 1.1 | NA | NC | **3.8** | NA | NA | 0.028 J | NA | NM | < 0.24 | NA | 0.6 | 7.7 J | 0.1 | NA | 1.3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.5 J |
| MCRA1-SW-GC-04 | 6/28/2010 | CES-RA | **28.4** | 1.0 | NA | NC | **4.5** | NA | NA | 0.028 J | NA | NM | < 0.24 | NA | 0.55 | **40.8** J | 0.21 | NA | **3.5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **10.9** |
| MCRA1-SW-GC-04a | 6/28/2010 | CES-RA | 14.3 | 1.2 | NA | NC | **14.6** | NA | NA | 0.11 | NA | NM | < 0.24 | NA | 0.75 | 7.4 J | 0.12 | NA | 1.2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **23.6** |
| MCRA1-SW-GC-05 | 6/28/2010 | CES-RA | **20.7** | 0.85 | NA | NC | **5.4** | NA | NA | 0.039 J | NA | NM | < 0.24 | NA | 0.44 J | 15.7 J | 0.11 | NA | 1.7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **8.2** |
| MCRA2-SW-GC-01 | 9/28/2010 | CES-RA | 19.4 | 1.8 | NA | NC | 1.2 | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 11.9 J | 0.049 J | NA | **2.2** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3 J |
| MCRA2-SW-GC-02 | 9/28/2010 | CES-RA | **23.2** | 1.5 | NA | NC | **14.4** | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 17.2 J | **4.8** | NA | **3.5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **4** J |
| MCRA2-SW-GC-02a | 9/28/2010 | CES-RA | 10 | 1.4 | NA | NC | **4.5** | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 7.2 J | 0.055 J | NA | **3.4** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **5.7** |
| MCRA2-SW-GC-03 | 9/28/2010 | CES-RA | 12.8 | 1.5 | NA | NC | **3.4** | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | 0.42 J | 16.1 J | 0.1 | NA | **2.5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **6.6** |
| MCRA2-SW-GC-04 | 9/28/2010 | CES-RA | 16.3 | 1.5 | NA | NC | **4.5** | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | 0.46 J | 11.3 J | 0.076 J | NA | **2.1** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **5.9** |
| MCRA2-SW-GC-04a | 9/28/2010 | CES-RA | 12.8 | 1.8 | NA | NC | **17.9** | NA | NA | 0.098 | NA | NM | < 0.24 | NA | 0.6 | 8.3 J | 0.091 J | NA | 1.1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **20** |
| MCRA2-SW-GC-05 | 9/28/2010 | CES-RA | 16.9 | 1.4 | NA | NC | **6.5** | NA | NA | 0.037 J | NA | NM | < 0.24 | NA | 0.53 | 14.2 J | 0.12 | NA | **2.3** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **8.9** |
| MCRA3-SW-GC-02 | 6/28/2011 | CES-RA | 10.8 | 1.1 | NA | NC | **5.4** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | < 0.07 | 7.4 J | < 0.05 | NA | 0.97 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.5 |
| MCRA3-SW-GC-02a | 6/28/2011 | CES-RA | 9.2 | 1.3 | NA | NC | **4.2** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | 0.17 J | 9.3 J | < 0.05 | NA | 1.2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **4.2** J |
| MCRA3-SW-GC-03 | 6/28/2011 | CES-RA | **26** | 0.98 | NA | NC | **4.1** | NA | NA | 0.074 J | NA | NM | < 0.1 | NA | **1.6** | 16.6 J | 0.17 | NA | **2.6** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **8.7** |
| MCRA3-SW-GC-04 | 6/28/2011 | CES-RA | **24.8** | 1.2 | NA | NC | **5.5** | NA | NA | 0.038 J | NA | NM | < 0.1 | NA | 0.48 J | **18.5** J | 0.19 | NA | **5.8** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **6.8** |
| MCRA3-SW-GC-04a | 6/27/2011 | CES-RA | 13.6 | 1.1 | NA | NC | **9.7** | NA | NA | 0.13 | NA | NM | < 0.1 | NA | 0.83 | 8.7 J | 0.079 J | NA | 0.89 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **28** |
| MCRA3-SW-GC-05 | 6/27/2011 | CES-RA | 16.3 | 1 | NA | NC | **6.2** | NA | NA | 0.043 J | NA | NM | < 0.1 | NA | 0.54 | 11.3 J | 0.063 J | NA | 0.93 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **12.1** |
| MCRA4-SW-GC-01 | 10/4/2011 | CES-RA | 13.1 | 1.7 | NA | NC | 0.86 | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | < 0.07 | 10 J | < 0.05 | NA | 0.99 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3 J |
| MCRA4-SW-GC-02 | 10/4/2011 | CES-RA | 8.9 | 1.2 | NA | NC | **6.8** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | 0.19 J | 5.9 J | 0.066 J | NA | 1.6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.5 J |
| MCRA4-SW-GC-02a | 10/4/2011 | CES-RA | 7.1 | 1.3 | NA | NC | **4.0** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | < 0.07 | < 4.7 | 0.05 J | NA | 1.2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.5 |
| MCRA4-SW-GC-03 | 10/4/2011 | CES-RA | 8.8 | 1.3 | NA | NC | **3.7** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | 0.32 J | 6.1 J | < 0.05 | NA | 1.5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **4.4** J |
| MCRA4-SW-GC-04 | 10/4/2011 | CES-RA | 14.2 | 1.2 | NA | NC | **4** | NA | NA | < 0.3 | NA | NM | < 0.1 | NA | 0.14 J | 12.7 J | 0.083 J | NA | **2** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.6 J |
| MCRA4-SW-GC-04a | 10/4/2011 | CES-RA | 9 | 1.4 | NA | NC | **11.9** | NA | NA | 0.055 | NA | NM | < 0.1 | NA | 0.38 J | 8 J | < 0.05 | NA | 0.45 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **12.2** |
| MCRA4-SW-GC-05 | 10/5/2011 | CES-RA | 8.8 | 1.1 | NA | NC | **6.9** | NA | NA | 0.031 J | NA | NM | < 0.1 | NA | 0.43 J | 20 J | < 0.05 | NA | 0.64 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **8.2** |
| MCRA5-GC-SW-02 | 6/27/2012 | CES-RA | **35.7** | 1.1 | NA | NC | **8.1** | NA | NA | < 0.028 | NA | NM | 0.1 J | NA | 0.32 J | 39 J | 0.35 | NA | 7.5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **13** |
| MCRA5-GC-SW-02a | 6/27/2012 | CES-RA | 6 | 1.2 | NA | NC | **4.2** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | < 0.18 | < 8.6 | < 0.018 | NA | 0.97 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **5.8** |
| MCRA5-GC-SW-03 | 6/27/2012 | CES-RA | **32.9** | 1.2 | NA | NC | **4.5** | NA | NA | 0.045 J | NA | NM | < 0.094 | NA | 2 | 29.3 J | 0.27 | NA | 6.9 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **13.6** |
| MCRA5-SW-GC-04a | 6/26/2012 | CES-RA | 9 | 1.1 | NA | NC | **10.7** | NA | NA | 0.14 | NA | NM | < 0.094 | NA | 0.74 | < 8.6 | 0.038 J | NA | 0.74 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **26** |
| MCRA5-SW-GC-05 | 6/25/2012 | CES-RA | 12.1 | 0.97 | NA | NC | **5.9** | NA | NA | 0.058 J | NA | NM | 0.1 J | NA | 0.58 | 64.6 | 0.073 J | NA | **58.1** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **31.7** |
| MCRA6-SW-GC-01 | 9/12/2012 | CES-RA | 7.9 | 1.3 | NA | NC | 0.96 | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | < 0.18 | < 10 | 0.019 J | NA | 0.51 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 |
| MCRA6-SW-GC-02 | 9/12/2012 | CES-RA | 8.5 | 1.3 | NA | NC | **7.4** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | < 0.18 | < 10 | 0.039 J | NA | 0.7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 |
| MCRA6-SW-GC-02a | 9/12/2012 | CES-RA | 4.8 | 1.4 | NA | NC | **4** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | < 0.18 | < 10 | 0.032 J | NA | 0.65 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.2 J |
| MCRA6-SW-GC-03 | 9/12/2012 | CES-RA | 8.3 | 1.4 | NA | NC | **3.8** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | < 0.18 | < 10 | 0.066 J | NA | 1.8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 |
| MCRA6-SW-GC-04 | 9/12/2012 | CES-RA | 10.1 | 1.4 | NA | NC | **4** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | 0.24 J | 11.5 J | 0.14 | NA | 3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.7 J |
| MRCA6-SW-GC-04a | 9/11/2012 | CES-RA | 6.8 | 1.4 | NA | NC | **7.5** | NA | NA | 0.056 J | NA | NM | < 0.094 | NA | 0.35 J | < 10 | 0.49 J | NA | 0.55 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **6.8** |
| MCRA6-SW-GC-05 | 9/11/2012 | CES-RA | 5.3 | 1.2 | NA | NC | **5.9** | NA | NA | 0.032 J | NA | NM | < 0.094 | NA | 0.26 J | < 10 | 0.034 J | NA | 0.46 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **5.2** |
| **Seventysix Gulch** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76G-SW1 (Background) | 6/3/2005 | CES-SI | < 30 | < 20 | **0.058** | < 2.942 | < 3 | 3.6 | < 2 | < 2 | 2,270 | NM | < 6 | < 6 | < 10 | < 60 | < 3 | 150 | < 4 | < 0.2 | 0.00078 | NA | < 10 | < 500 | < 3 | < 5 | < 500 | < 2 | < 5 | < 10 |
| 76G-SW1 (200.8) (Background) | 6/3/2005 | CES-SI | NA | < 5 | NA | NC | 0.45 | NA | NA | < 0.12 | NA | NM | NA | NA | < 1 | NA | < 0.55 | NA | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | < 1 | NA | NA |
| MC-76-1 (Background) | 8/3/2006 | Forest Service | NA | 3.8 | NA | NC | **5.8** | NA | NA | < 0.037 | NA | NM | NA | NA | **1.3** J | NA | 0.23 J | NA | NA | NA | NA | NA | 4.7 | NA | NA | NA | NA | NA | NA | 7.9 |
| SHA-3374080 (Background) | 9/11/2003 | Ecology | NA | 0.48 | NA | NC | < 0.5 | NA | < 0.10 | < 0.10 | NA | NM | < 0.5 | NA | 0.18 | NA | 0.12 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | < 5.0 |
| SHA-3374081 (near Sidney Mine) | 9/11/2003 | Ecology | NA | 2.22 | NA | NC | **9.64** | NA | < 0.10 | < 0.10 | NA | NM | < 0.5 | NA | 0.26 | NA | 0.19 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | < 5.0 |
| MC-76-3 (below Sidney Mine) | 8/3/2006 | Forest Service | NA | 3.1 | NA | NC | < 0.37 | NA | NA | < 0.037 | NA | NM | NA | NA | 0.6 J | NA | 0.34 J | NA | NA | NA | NA | NA | 0.28 J | NA | NA | NA | NA | NA | NA | **5.2** |
| 76G-SW2 | 6/3/2005 | CES-SI | < 30 | < 20 | NA | NC | **9.5** | < 2 | < 2 | < 2 | **3,140** | NM | < 6 | < 6 | < 10 | < 60 | < 3 | **279** | < 4 | < 0.2 | 0.00051 | NA | < 10 | < 500 | < 3 | < 5 | < 500 | < 2 | < 5 | < 10 |
| 76G-SW2 (200.8) | 6/3/2005 | CES-SI | NA | < 5 | NA | NC | NA | NA | NA | < 0.12 | NA | NM | NA | NA | < 1 | NA | **0.68** | NA | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | < 1 | NA | NA |
| MCEE-SW-76G-01 | 8/21/2008 | CES-EECA | NA | < 0.4 | NA | NC | < 0.5 | NA | NA | < 0.1 | 1,500 | NM | < 10 | NA | < 10 | NA | 0.2 B | < 200 | NA | NA | 0.0027 | NA | NA | NA | < 0.10 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-76G-02 | 8/21/2008 | CES-EECA | NA | 2.0 | NA | NC | **7.7** | NA | NA | < 0.1 | **2,500** | NM | < 10 | NA | < 10 | NA | 0.3 B | < 200 | NA | NA | 0.0021 | NA | NA | NA | < 0.10 | < 0.05 | NA | NA | NA | < 10 |
| MCRA1-SW-76G-01 | 6/28/2010 | CES-RA | 16.1 | < 0.16 | NA | NC | 0.31 J | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 7.1 J | 0.082 J | NA | 0.68 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.2 J |
| MCRA1-SW-76G-01a | 6/29/2010 | CES-RA | **71.3** | **5.6** | NA | NC | **28.5** | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | 0.36 J | **51.9** | **0.9** | NA | **5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **10.2** |
| MCRA1-SW-76G-01b | 6/29/2010 | CES-RA | **293** | 1.3 | NA | NC | **16** | NA | NA | 0.13 | NA | NM | < 0.24 | NA | **1.4** | **237** | **3.9** | NA | **36.3** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **42.2** |
| MCRA1-SW-76G-02 | 6/28/2010 | CES-RA | 12.8 | 1.2 | NA | NC | **7.5** | NA | NA | 0.024 J | NA | NM | < 0.24 | NA | 0.27 J | 7.2 J | 0.15 | NA | 0.64 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **7.7** |
| MCRA2-SW-76G-01 | 9/28/2010 | CES-RA | **29.7** | < 0.2 | NA | NC | 0.34 J | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | 0.26 | 17 J | 0.3 | NA | 1.6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **4.7** J |
| MCRA2-SW-76G-01a | 9/28/2010 | CES-RA | **1140** | **7.4** | NA | NC | **31.3** | NA | NA | 0.025 J | NA | NM | 0.92 | NA | 1.1 | **649** | **3** | NA | **37.9** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **13** |
| MCRA2-SW-76G-01b | 9/28/2010 | CES-RA | **147** | 2.2 | NA | NC | **10** | NA | NA | < 0.02 | NA | NM | 0.25 J | NA | 0.47 J | **108** | **1.2** | NA | **11.1** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **10.6** |
| MCRA2-SW-76G-02 | 9/28/2010 | CES-RA | 14 | 1.7 | NA | NC | **9.4** | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 7.7 J | 0.096 J | NA | 0.81 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **4.1** J |
| MCRA3-SW-76G-01b | 6/29/2011 | CES-RA | 14 | 1.5 | NA | NC | **7.2** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | 0.24 J | 7.1 J | 0.11 | NA | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **5.8** |
| MCRA3-SW-76G-02 | 6/29/2011 | CES-RA | **25.8** | 1.2 | NA | NC | **7.4** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | 0.32 J | **20.8** J | 0.2 | NA | 1.3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **5.5** |
| MCRA4-SW-76G-01 | 10/5/2011 | CES-RA | **17.8** | 0.2 J | NA | NC | 0.56 | NA | NA | < 0.03 | NA | NM | 0.11 J | NA | 0.26 | 11 J | 0.065 J | NA | 0.58 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3 J |
| MCRA4-SW-76G-01a | 10/5/2011 | CES-RA | **56.2** | **4.9** | NA | NC | **22.6** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | 1.1 | **33** J | **0.54** | NA | **2.9** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **10.5** |
| MCRA4-SW-76G-01b | 10/5/2011 | CES-RA | 10.9 | 1.4 | NA | NC | **7.3** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | 0.22 J | 14.2 | 0.088 J | NA | 0.71 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.9 J |
| MCRA4-SW-76G-02 | 10/5/2011 | CES-RA | 14 | 1.4 | NA | NC | **9.2** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | 0.21 J | 7.1 J | 0.095 J | NA | 0.68 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **4.7** J |
| MCRA5-SW-76G-01a | 6/26/2012 | CES-RA | **31.5** | **4** | NA | NC | **20.7** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | 0.45 J | **34.6** J | 0.64 | NA | **3** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **10.9** |
| MCRA5-SW-76G-01b | 6/26/2012 | CES-RA | **22.6** | 1.2 | NA | NC | **7.1** | NA | NA | 0.028 J | NA | NM | < 0.094 | NA | 0.31 J | 11.8 J | 0.14 | NA | 1.6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **8.3** |
| MCRA5-SW-76G-02 | 6/26/2012 | CES-RA | 14.6 | 1.1 | NA | NC | **7.3** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | 0.23 J | < 8.6 | 0.072 J | NA | 0.85 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **6.3** |
| MCRA6-SW-76G-01b | 9/11/2012 | CES-RA | **24.1** | 1.6 | NA | NC | **8.6** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | 0.18 J | **22.4** J | 0.23 | NA | **1.7** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2 J |
| MCRA5-SW-76G-02 | 9/11/2012 | CES-RA | 8.3 | 1.7 | NA | NC | **9.8** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | < 0.18 | < 10 | 0.061 J | NA | 0.47 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2 J |

**Table 1a. Surface Water Analytical Results**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample I.D. | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Aluminum | Antimony | Arsenic (III) | Arsenic (V) Calculated | Arsenic Total | Barium | Beryllium | Cadmium | Calcium | Chromium VI, Total Field | Chromium | Cobalt | Copper | Iron* | Lead | Magnesium | Manganese* | Mercury, Total | Mercury, Total, UltraTrace | Mercury, Methyl, UltraTrace | Nickel | Potassium | Selenium | Silver | Sodium | Thallium | Vanadium | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Results in µg/L | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **South Fork Sauk River** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SFSR-SW1 | 6/1/2005 | CES-SI | < 30 | < 20 | 0.147 | 9.253 | 9.4 | 4 | < 2 | < 2 | 2,750 | NM | < 6 | < 6 | < 10 | < 60 | < 3 | 309 | < 4 | < 0.2 | 0.00077 | NA | < 10 | < 500 | < 3 | < 5 | < 500 | < 2 | < 5 | < 10 |
| SFSR-SW1 (200.8) | 6/1/2005 | CES-SI | NA | < 5 | NA | NC | NA | NA | NA | < 0.12 | NA | NM | NA | NA | < 1 | NA | < 0.55 | NA | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | < 1 | NA | NA |
| SFSR-SW2 | 6/1/2005 | CES-SI | < 30 | < 20 | NA | NC | 11.3 | 3.7 | < 2 | < 2 | 2,780 | NM | < 6 | < 6 | < 10 | < 60 | < 3 | 313 | < 4 | < 0.2 | 0.00045 | NA | < 10 | < 500 | < 3 | < 5 | 510 | < 2 | < 5 | < 10 |
| SFSR-SW2 (200.8) | 6/1/2005 | CES-SI | NA | < 5 | NA | NC | NA | NA | NA | < 0.12 | NA | NM | NA | NA | < 1 | NA | < 0.55 | NA | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | < 1 | NA | NA |
| SFSR-SW3 | 6/1/2005 | CES-SI | < 30 | < 20 | 0.243 | 12.157 | 12.4 | 3.4 | < 2 | < 2 | 3,280 | NM | < 6 | < 6 | < 10 | < 60 | < 3 | 309 | < 4 | < 0.2 | 0.00042 | < 0.000020 | < 10 | < 500 | < 3 | < 5 | 550 | < 2 | < 5 | < 10 |
| SFSR-SW3 (200.8) | 6/1/2005 | CES-SI | NA | < 5 | NA | NC | NA | NA | NA | < 0.12 | NA | NM | NA | NA | < 1 | NA | < 0.55 | NA | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | < 1 | NA | NA |
| SHA-3374085 (at Lake MC) | 9/12/2003 | Ecology | NA | 5.44 | NA | NC | 27.4 | NA | < 0.10 | < 0.10 | NA | NM | < 0.5 | NA | 1.41 | NA | 0.63 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | < 5.0 |
| MCEE-SW-SFSR-01 | 8/19/2008 | CES-EECA | NA | 1.7 B | NA | NC | 8.6 | NA | NA | < 0.1 | 2,300 | NM | < 10 | NA | < 10 | NA | < 0.1 | < 200 | NA | NA | 0.0007 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-SFSR-02 | 8/19/2008 | CES-EECA | NA | 2.0 B | NA | NC | 10.1 | NA | NA | < 0.1 | 2,300 | NM | < 10 | NA | < 10 | NA | < 0.1 | < 200 | NA | NA | 0.0006 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-SFSR-03 | 8/19/2008 | CES-EECA | NA | 2.3 | NA | NC | 8.0 | NA | NA | < 0.1 | 2,800 | NM | < 10 | NA | < 10 | NA | < 0.1 | < 200 | NA | NA | 0.0005 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-SFSR-04 | 8/27/2008 | CES-EECA | NA | 1.4 B | NA | NC | 5.2 | NA | NA | < 0.1 | 2,400 | NM | < 10 | NA | 10 B | NA | 0.1 B | 400 B | NA | NA | 0.0016 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-SFSR-05 | 8/27/2008 | CES-EECA | NA | 2.3 | NA | NC | 7.3 | NA | NA | < 0.1 | 3,000 | NM | < 10 | NA | < 10 | NA | 0.2 B | 400 B | NA | NA | 0.0014 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-SFSR-06 | 8/26/2008 | CES-EECA | NA | 3.1 | NA | NC | 8.9 | NA | NA | < 0.1 | 3,400 | NM | < 10 | NA | < 10 | NA | < 0.1 | 500 B | NA | NA | 0.0010 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-SFSR-07 | 8/26/2008 | CES-EECA | NA | 3.1 B | NA | NC | 9.0 | NA | NA | < 0.2 | 3,700 | NM | < 10 | NA | < 20 | NA | < 0.2 | 500 B | NA | NA | 0.0010 | NA | NA | NA | < 0.2 | < 0.10 | NA | NA | NA | < 20 |
| MCEE-SW-SFSR-08 | 8/25/2008 | CES-EECA | NA | 2.9 | NA | NC | 8.5 | NA | NA | < 0.1 | 3,700 | NM | < 10 | NA | < 10 | NA | < 0.1 | 500 B | NA | NA | 0.0010 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-SFSR-09 | 8/25/2008 | CES-EECA | NA | 4.4 | NA | NC | 20.0 | NA | NA | < 0.1 | 3,900 | NM | < 10 | NA | < 10 | NA | 0.8 | 600 B | NA | NA | 0.0011 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCRA1-SW-SFSR-01 | 6/28/2010 | CES-RA | 24.8 | 1.4 | NA | NC | 6.4 | NA | NA | 0.1 | NA | NM | < 0.24 | NA | 0.54 | 12.7 J | 0.21 | NA | 1.1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 8.1 |
| MCRA1-SW-SFSR-02 | 6/30/2010 | CES-RA | 15.8 | 1.3 | NA | NC | 8.2 | NA | NA | 0.067 J | NA | NM | < 0.24 | NA | 0.47 J | 6.7 J | 0.11 | NA | 0.68 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 9.2 |
| MCRA1-SW-SFSR-03 | 6/30/2010 | CES-RA | 9.0 | 1.5 | NA | NC | 9.0 | NA | NA | 0.056 J | NA | NM | < 0.24 | NA | 0.87 | 6.8 J | 0.14 | NA | 1.1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 10.5 |
| MCRA1-SW-SFSR-04 | 6/30/2010 | CES-RA | 15.1 | 1.5 | NA | NC | 6.9 | NA | NA | 0.079 J | NA | NM | < 0.24 | NA | 0.72 | 6.9 J | 0.094 J | NA | 0.48 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.7 |
| MCRA1-SW-SFSR-05 | 6/30/2010 | CES-RA | 16.5 | 1.4 | NA | NC | 6.8 | NA | NA | 0.054 J | NA | NM | < 0.24 | NA | 0.73 | 16.4 J | 0.098 J | NA | 0.83 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 12.6 |
| MCRA1-SW-SFSR-06 | 7/1/2010 | CES-RA | 23.7 | 1.8 | NA | NC | 7.9 | NA | NA | 0.047 J | NA | NM | < 0.24 | NA | 0.67 | 21.7 J | 0.092 J | NA | 1.1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.2 |
| MCRA1-SW-SFSR-07 | 7/1/2010 | CES-RA | 36.6 | 1.8 | NA | NC | 7.9 | NA | NA | 0.035 J | NA | NM | < 0.24 | NA | 0.66 | 37.8 J | 0.12 J | NA | 1.4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.1 J |
| MCRA1-SW-SFSR-08 | 7/1/2010 | CES-RA | 22.9 | 1.7 | NA | NC | 7.7 | NA | NA | 0.038 J | NA | NM | < 0.24 | NA | 0.68 | 25.6 J | 0.11 | NA | 1.3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.3 J |
| MCRA1-SW-SFSR-09 | 7/1/2010 | CES-RA | 24.4 | 2.3 | NA | NC | 12.8 | NA | NA | 0.021 J | NA | NM | < 0.24 | NA | 1.5 | 88.8 | 0.37 | NA | 8.8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.6 J |
| MCRA2-SW-SFSR-01 | 9/27/2010 | CES-RA | 10.4 | 2.1 | NA | NC | 9.1 | NA | NA | 0.038 J | NA | NM | < 0.24 | NA | 0.3 J | 5.5 J | 0.14 | NA | 0.84 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.6 |
| MCRA2-SW-SFSR-02 | 9/27/2010 | CES-RA | 10.2 | 1.9 | NA | NC | 10.6 | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | 0.84 | 6.7 J | 0.09 J | NA | 2.8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.9 |
| MCRA2-SW-SFSR-03 | 9/27/2010 | CES-RA | 4.4 | 2.5 | NA | NC | 10.7 | NA | NA | 0.044 J | NA | NM | < 0.24 | NA | 0.41 J | < 4.5 | 0.046 J | NA | 0.15 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.2 |
| MCRA2-SW-SFSR-04 | 9/27/2010 | CES-RA | 6 | 2 | NA | NC | 8.3 | NA | NA | 0.03 J | NA | NM | 0.24 J | NA | 0.45 J | < 4.5 | 0.037 J | NA | 0.28 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.7 J |
| MCRA2-SW-SFSR-05 | 9/27/2010 | CES-RA | 9.4 | 2.3 | NA | NC | 8.8 | NA | NA | 0.04 J | NA | NM | < 0.24 | NA | 0.76 | 9.9 J | 0.086 J | NA | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.6 |
| MCRA2-SW-SFSR-06 | 9/27/2010 | CES-RA | 20.4 | 2.7 | NA | NC | 9.3 | NA | NA | 0.045 J | NA | NM | 0.29 J | NA | 0.64 | 21 J | 0.11 | NA | 1.5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA2-SW-SFSR-07 | 9/27/2010 | CES-RA | 25.1 | 2.6 | NA | NC | 9.3 | NA | NA | 0.022 J | NA | NM | 0.3 J | NA | 0.64 | 29.5 J | 0.11 | NA | 1.4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.8 J |
| MCRA2-SW-SFSR-08 | 9/27/2010 | CES-RA | 13.9 | 2.5 | NA | NC | 8.8 | NA | NA | 0.045 J | NA | NM | < 0.24 | NA | 0.73 | 17.6 J | 0.86 J | NA | 1.3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 10.2 |
| MCRA2-SW-SFSR-09 | 9/27/2010 | CES-RA | 16.3 | 2.9 | NA | NC | 17.8 | NA | NA | 0.042 J | NA | NM | < 0.24 | NA | 0.74 | 122 | 0.28 | NA | 15.4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.9 |
| MCRA3-SW-SFSR-01 | 6/27/2011 | CES-RA | 31 | 0.75 | NA | NC | 4.6 | NA | NA | 0.092 | NA | NM | < 0.1 | NA | 0.58 | 9.4 J | 0.11 | NA | 0.92 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.4 |
| MCRA3-SW-SFSR-02 | 6/27/2011 | CES-RA | 14.4 | 1 | NA | NC | 7.7 | NA | NA | 0.14 | NA | NM | < 0.1 | NA | 0.95 | 24.8 J | 0.098 J | NA | 0.86 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 8.9 |
| MCRA3-SW-SFSR-03 | 6/27/2011 | CES-RA | 9.9 | 1.1 | NA | NC | 7.4 | NA | NA | 0.043 J | NA | NM | < 0.1 | NA | 0.68 | < 4.7 | 0.052 J | NA | 0.31 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA3-SW-SFSR-04 | 6/27/2011 | CES-RA | 17.6 | 1.3 | NA | NC | 6.1 | NA | NA | 0.042 J | NA | NM | 0.12 J | NA | 0.67 | 10.6 J | < 0.05 | NA | 0.39 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.6 J |
| MCRA3-SW-SFSR-05 | 6/27/2011 | CES-RA | 133 | 1 | NA | NC | 5.8 | NA | NA | 0.037 J | NA | NM | 0.52 | NA | 1.5 | 157 | 0.14 | NA | 3.9 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.2 J |
| MCRA3-SW-SFSR-06 | 6/30/2011 | CES-RA | 48.7 | 0.98 | NA | NC | 5.3 | NA | NA | 0.049 J | NA | NM | 0.11 J | NA | 0.76 | 42.2 J | 0.15 | NA | 1.4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5 J |
| MCRA3-SW-SFSR-07 | 6/30/2011 | CES-RA | 65.1 | 1 | NA | NC | 5.6 | NA | NA | 0.033 J | NA | NM | 0.13 J | NA | 0.74 | 59.1 | 0.14 | NA | 2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.7 |
| MCRA3-SW-SFSR-08 | 6/30/2011 | CES-RA | 59.4 | 0.98 | NA | NC | 5.2 | NA | NA | 0.033 J | NA | NM | 0.16 J | NA | 0.9 | 55.8 | 0.19 | NA | 2.5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.6 |
| MCRA3-SW-SFSR-09 | 6/30/2011 | CES-RA | 79.8 | 1.4 | NA | NC | 8.1 | NA | NA | 0.033 J | NA | NM | 0.27 J | NA | 1 | 107 | 0.82 | NA | 6.1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.8 |
| MCRA4-SW-SFSR-01 | 10/5/2011 | CES-RA | 13.2 | 1.2 | NA | NC | 7.6 | NA | NA | 0.036 J | NA | NM | 0.1 J | NA | 0.56 | 173 | 0.097 J | NA | 1.9 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 9.3 |
| MCRA4-SW-SFSR-02 | 10/3/2011 | CES-RA | 14.6 | 1.4 | NA | NC | 8.9 | NA | NA | 0.036 J | NA | NM | 0.34 J | NA | 0.48 J | 31.9 J | 0.093 J | NA | 0.73 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA4-SW-SFSR-03 | 10/3/2011 | CES-RA | 7.1 | 2.2 | NA | NC | 9.9 | NA | NA | 0.06 J | NA | NM | 0.12 J | NA | 0.48 J | 80.3 | 0.068 J | NA | 0.51 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.3 |
| MCRA4-SW-SFSR-04 | 10/3/2011 | CES-RA | 12.9 | 2.8 | NA | NC | 9 | NA | NA | 0.05 J | NA | NM | 0.16 J | NA | 0.46 J | 8.9 J | 0.51 | NA | 0.34 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.1 |
| MCRA4-SW-SFSR-05 | 10/3/2011 | CES-RA | 17.2 | 2.5 | NA | NC | 8.5 | NA | NA | 0.048 J | NA | NM | 0.11 J | NA | 0.68 | 18.5 J | 0.077 J | NA | 1.1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6 |
| MCRA4-SW-SFSR-06 | 10/3/2011 | CES-RA | 19.7 | 2.7 | NA | NC | 9 | NA | NA | 0.049 J | NA | NM | 0.15 J | NA | 0.66 | 22.3 J | 0.13 | NA | 5.4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.9 J |
| MCRA4-SW-SFSR-07 | 10/3/2011 | CES-RA | 16.5 | 2.8 | NA | NC | 9 | NA | NA | 0.042 J | NA | NM | 0.13 J | NA | 0.57 | 43.8 J | 0.12 | NA | 1.6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.3 |
| MCRA4-SW-SFSR-08 | 10/3/2011 | CES-RA | 15.7 | 2.8 | NA | NC | 8.7 | NA | NA | < 0.03 | NA | NM | 0.12 J | NA | 0.5 J | 34.8 J | 0.077 J | NA | 1.7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.6 |
| MCRA4-SW-SFSR-09 | 10/3/2011 | CES-RA | 25.8 | 3.4 | NA | NC | 22.4 | NA | NA | 0.047 J | NA | NM | 0.18 J | NA | 1 | 236 | 0.66 | NA | 18.5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA5-SW-SFSR-01 | 6/25/2012 | CES-RA | 22.4 | 0.82 | NA | NC | 5.6 | NA | NA | 0.043 J | NA | NM | < 0.094 | NA | 0.46 J | < 8.6 | 0.076 J | NA | 0.72 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 9.2 |
| MCRA5-SW-SFSR-02 | 6/25/2012 | CES-RA | 9.7 | 0.9 | NA | NC | 6.6 | NA | NA | 0.05 J | NA | NM | < 0.094 | NA | 0.47 J | < 8.6 | 0.06 J | NA | 0.49 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.8 |
| MCRA5-SW-SFRS-03 | 6/25/2012 | CES-RA | 9.7 | 1.1 | NA | NC | 7 | NA | NA | 0.061 J | NA | NM | < 0.094 | NA | 0.66 | < 8.6 | 0.054 J | NA | 0.27 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 9.3 |
| MCRA5-SW-SFRS-04 | 6/25/2012 | CES-RA | 15 | 1.1 | NA | NC | 5.8 | NA | NA | < 0.028 | NA | NM | 0.15 J | NA | 0.75 | 9 J | 0.06 J | NA | 0.45 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.9 |
| MCRA5-SW-SFRS-05 | 6/25/2012 | CES-RA | 15 | 0.97 | NA | NC | 5.6 | NA | NA | 0.037 J | NA | NM | 0.16 J | NA | 0.6 | 10.8 J | 0.046 J | NA | 0.55 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.1 |
| MCRA5-SW-SFRS-06 | 6/28/2012 | CES-RA | 14.6 | 1 | NA | NC | 5.7 | NA | NA | < 0.028 | NA | NM | 0.14 J | NA | 0.69 | 10.2 J | 0.048 J | NA | 0.57 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.6 J |
| MCRA5-SW-SFRS-07 | 6/28/2012 | CES-RA | 15.3 | 1.1 | NA | NC | 5.7 | NA | NA | < 0.028 | NA | NM | 0.15 J | NA | 0.75 | 10.9 J | 0.052 J | NA | 0.65 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.5 |
| MCRA5-SW-SFRS-08 | 6/28/2012 | CES-RA | 14.8 | 1 | NA | NC | 5.6 | NA | NA | < 0.028 | NA | NM | 0.16 J | NA | 0.66 | 11.6 J | 0.063 J | NA | 0.68 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.5 J |
| MCRA5-SW-SFRS-09 | 6/28/2012 | CES-RA | 18.6 | 1.4 | NA | NC | 9 | NA | NA | < 0.028 | NA | NM | 0.17 J | NA | 0.85 | 50 | 0.26 | NA | 5.1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.6 J |
| MCRA6-SW-SFSR-01 | 9/10/2012 | CES-RA | 8.9 | 1.4 | NA | NC | 9 | NA | NA | 0.36 J | NA | NM | < 0.094 | NA | 0.38 J | < 10 | 0.073 J | NA | 0.76 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.8 J |
| MCRA6-SW-SFSR-02 | 9/10/2012 | CES-RA | 9.5 | 1.8 | NA | NC | 10.4 | NA | NA | 0.039 J | NA | NM | < 0.094 | NA | 0.48 J | < 10 | 0.076 J | NA | 0.37 J | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.2 J |
| MCRA6-SW-SFRS-03 | 9/10/2012 | CES-RA | 5 | 2.9 | NA | NC | 10.3 | NA | NA | 0.081 | NA | NM | < 0.094 | NA | 0.5 | < 10 | 0.061 J | NA | < 0.25 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.2 |
| MCRA6-SW-SFRS-04 | 9/10/2012 | CES-RA | 9.7 | 2.4 | NA | NC | 8.2 | NA | NA | 0.051 J | NA | NM | 0.11 J | NA | 0.57 | < 10 | 0.063 J | NA | 0.52 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.6 J |
| MCRA6-SW-SFRS-05 | 9/10/2012 | CES-RA | 11.3 | 3.1 | NA | NC | 9.3 | NA | NA | 0.038 J | NA | NM | 0.099 J | NA | 0.66 | 14.7 J | 0.089 J | NA | 1.4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.1 |
| MCRA6-SW-SFRS-06 | 9/10/2012 | CES-RA | 12 | 3.5 | NA | NC | 10 | NA | NA | 0.049 J | NA | NM | 0.1 J | NA | 0.66 | 16.6 J | 0.1 | NA | 1.4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.1 J |
| MCRA6-SW-SFRS-07 | 9/10/2012 | CES-RA | 10.2 | 3.3 | NA | NC | 9.4 | NA | NA | 0.045 J | NA | NM | 0.11 J | NA | 0.63 | 15.7 J | 0.09 J | NA | 1.3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.9 J |
| MCRA6-SW-SFRS-08 | 9/10/2012 | CES-RA | 11.4 | 3.5 | NA | NC | 9.7 | NA | NA | 0.04 J | NA | NM | 0.11 J | NA | 0.71 | 17.4 J | 0.087 J | NA | 1.9 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.2 J |
| MCRA6-SW-SFRS-09 | 9/10/2012 | CES-RA | 29.2 | 4.1 | NA | NC | 26.3 | NA | NA | 0.052 J | NA | NM | 0.17 J | NA | 1.3 | 200 | 0.67 | NA | 18.6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.2 |
| **Monte Cristo Lake** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MCEE-SW-MCL-01 | 8/26/2008 | CES-EECA | NA | 2.9 | NA | NC | 68.5 | NA | NA | < 0.10 | 3,500 | NM | < 10 | NA | < 10 | NA | 0.8 | 800 B | NA | NA | 0.0023 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCRA1-SW-MCL-01 | 7/1/2010 | CES-RA | 39.5 | 1.7 | NA | NC | 27.2 | NA | NA | 0.032 J | NA | NM | < 0.24 | NA | 0.98 | 158 | 0.61 | NA | 24.2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.2 J |
| MCRA2-SW-MCL-01 | 9/30/2010 | CES-RA | 51.4 | 2 | NA | NC | 53 | NA | NA | 0.047 J | NA | NM | 0.31 J | NA | 1.5 | 675 | 0.86 | NA | 52.6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.1 |
| MCRA3-SW-MCL-01 | 6/30/2011 | CES-RA | 57.1 | 1.1 | NA | NC | 8.3 | NA | NA | 0.041 J | NA | NM | 0.18 J | NA | 0.93 | 81.8 | 0.3 | NA | 5.7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.5 J |
| MCRA4-SW-MCL-01 | 10/3/2011 | CES-RA | 48.4 | 3 | NA | NC | 132 | NA | NA | 0.057 J | NA | NM | 0.19 J | NA | 1.8 | 1,000 | 2.3 | NA | 82.2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.3 |
| MCRA5-SW-MCL-01 | 6/28/2012 | CES-RA | 19.9 | 1.2 | NA | NC | 19.4 | NA | NA | 0.033 J | NA | NM | 0.16 J | NA | 0.95 | 123 | 0.32 | NA | 17.6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.2 J |
| MCRA6-SW-MCL-01 | 9/10/2012 | CES-RA | 37.1 | 5.4 | NA | NC | 264 | NA | NA | 0.069 J | NA | NM | 0.21 J | NA | 2.6 | 925 | 4.9 | NA | 86.5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.6 J |

**Table 1a. Surface Water Analytical Results**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample I.D. | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Aluminum | Antimony | Arsenic (III) | Arsenic (V) Calculated | Arsenic Total | Barium | Beryllium | Cadmium | Calcium | Chromium VI, Total Field | Chromium | Cobalt | Copper | Iron* | Lead | Magnesium | Manganese* | Mercury, Total | Mercury, Total, UltraTrace | Mercury, Methyl, UltraTrace | Nickel | Potassium | Selenium | Silver | Sodium | Thallium | Vanadium | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Results in µg/L | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Background** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GC-SW1 | 6/2/2005 | CES-SI | < 30 | < *20* | 0.041 | < 2.959 | < *3.0* | 6.2 | < *2* | < *2* | 2,910 | 10 | < 6 | < 6 | < *10* | < 60 | < *3* | 476 | < 4 | < *0.2* | 0.00289 | NA | < *10* | < 500 | < *3* | < *5* | < 500 | < *2* | < 5 | < 10 |
| MC-GC-9 (Background) | 8/2/2006 | Forest Service | NA | 3.5 | NA | NC | < 0.37 | NA | NA | < 0.037 | NA | NM | NA | NA | 1.0 J | NA | 0.21 J | NA | NA | NA | NA | NA | 0.35 J | NA | NA | NA | NA | NA | NA | 5.2 |
| GC-SW2 | 6/2/2005 | CES-SI | < 30 | < *20* | NA | NC | < *3.0* | 10.1 | < *2* | < *2* | 3,050 | NM | < 6 | < 6 | < *10* | < 60 | < *3* | 434 | < 4 | < *0.2* | 0.00218 | NA | < *10* | < 500 | < *3* | < *5* | < 500 | < *2* | < 5 | < 10 |
| WADNR - No ID (Background - High Flow) | 6/2001 | WADNR | NA | NA | NA | NC | 0.28 | NA | NA | NA | NA | NM | NA | NA | < 0.02 | NA | < 0.02 | NA | NA | NA | 0.0042 | NA | NA | NA | NA | NA | NA | NA | NA | < 0.2 |
| WADNR - 348072/73 (Background - Low Flow) | 8/2001 | WADNR | NA | NA | NA | NC | **4.52** | NA | NA | NA | NA | NM | NA | NA | 0.264 | NA | 0.032 | NA | NA | NA | < 0.002 | NA | NA | NA | NA | NA | NA | NA | NA | 1.8 B |
| SHA-3394090 (Background) | 9/25/2003 | Ecology | NA | 1.8 B | NA | NC | 1.7 | NA | < 0.10 | < *0.10* | NA | NM | < 0.5 | NA | < 0.5 | NA | < 0.10 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | < 5.0 |
| SHA-3374080 (Background) | 9/11/2003 | Ecology | NA | 0.48 | NA | NC | < *0.5* | NA | < 0.10 | < *0.10* | NA | NM | < 0.5 | NA | 0.18 | NA | 0.12 | NA | NA | < 0.05 | NA | NA | < 0.5 | NA | NA | < 0.10 | NA | < 0.10 | NA | < 5.0 |
| 76G-SW1 | 6/3/2005 | CES-SI | < 30 | < 5 | 0.058 | 0.392 | 0.45 | 3.6 | < *2* | < *0.12* | 2,270 | NM | < 6 | < 6 | < 1 | < 60 | < *0.55* | 150 | < 4 | < *0.2* | 0.00078 | NA | < 5 | < 500 | < *3* | < *5* | < 500 | < 1 | < 5 | < 10 |
| MC-76-1 (Background) | 8/3/2006 | Forest Service | NA | 3.8 | NA | NC | **5.8** | NA | NA | < 0.037 | NA | NM | NA | NA | **1.3** J | NA | 0.23 J | NA | NA | NA | NA | NA | 4.7 | NA | NA | NA | NA | NA | NA | 7.9 |
| MCEE-SW-GC-01 | 8/22/2008 | CES-EECA | NA | 0.7 B | NA | NC | 1.6 | NA | NA | < 0.1 | 2,700 | NM | < 10 | NA | < *10* | NA | 0.2 B | 200 B | NA | NA | 0.0039 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-GC-02 | 8/22/2008 | CES-EECA | NA | 1.2 B | NA | NC | 1.3 | NA | NA | < *0.1* | 4,800 | NM | < 10 | NA | < *10* | NA | < 0.1 | 300 B | NA | NA | 0.0015 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCEE-SW-76G-01 | 8/21/2008 | CES-EECA | NA | < 0.4 | NA | NC | < 0.5 | NA | NA | < 0.1 | 1,500 | NM | < 10 | NA | < *10* | NA | 0.2 B | < 200 | NA | NA | 0.0027 | NA | NA | NA | < 0.10 | < 0.05 | NA | NA | NA | < 10 |
| MCRA1-SW-GC-01 | 6/29/2010 | CES-RA | 20.2 | 1.6 | NA | NC | 0.76 | NA | NA | 0.025 J | NA | NM | < 0.24 | NA | < 0.2 | 12.4 J | 0.039 J | NA | 1.3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.9 J |
| MCRA1-SW-GC-02 | 6/29/2010 | CES-RA | 7.1 | 1.3 | NA | NC | **2.4** | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 5.1 J | 0.059 J | NA | 0.95 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.9 J |
| MCRA1-SW-76G-01 | 6/28/2010 | CES-RA | 16.1 | < 0.16 | NA | NC | 0.31 J | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 7.1 J | 0.082 J | NA | 0.68 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.2 J |
| MCRA2-SW-GC-01 | 9/28/2010 | CES-RA | 19.4 | 1.8 | NA | NC | 1.2 | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 11.9 J | 0.049 J | NA | **2.2** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3 J |
| MCRA2-SW-GC-02 | 9/28/2010 | CES-RA | **23.2** | 1.5 | NA | NC | **14.4** | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | < 0.2 | 17.2 J | **4.8** | NA | **3.5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **4** J |
| MCRA2-SW-76G-01 | 9/28/2010 | CES-RA | 29.7 | < 0.2 | NA | NC | 0.34 J | NA | NA | < 0.02 | NA | NM | < 0.24 | NA | 0.26 | 17 J | 0.3 | NA | 1.6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **4.7** J |
| MCRA3-SW-GC-02 | 6/28/2011 | CES-RA | 10.8 | 1.1 | NA | NC | **5.4** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | < 0.07 | 7.4 J | < 0.05 | NA | 0.97 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.5 |
| MCRA4-SW-GC-01 | 10/4/2011 | CES-RA | 13.1 | 1.7 | NA | NC | 0.86 | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | < 0.07 | 10 J | < 0.05 | NA | 0.99 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3 J |
| MCRA4-SW-GC-02 | 10/4/2011 | CES-RA | 8.9 | 1.2 | NA | NC | **6.8** | NA | NA | < 0.03 | NA | NM | < 0.1 | NA | 0.19 J | 5.9 J | 0.066 J | NA | 1.6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.5 J |
| MCRA4-SW-76G-01 | 10/5/2011 | CES-RA | **17.8** | 0.2 J | NA | NC | 0.56 | NA | NA | < 0.03 | NA | NM | 0.11 J | NA | 0.26 | 11 J | 0.065 J | NA | 0.58 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3 J |
| MCRA5-SW-GC-02 | 6/27/2012 | CES-RA | **35.7** | 1.1 | NA | NC | **8.1** | NA | NA | < 0.028 | NA | NM | 0.1 J | NA | 0.32 J | 39 J | 0.35 | NA | 7.5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **13** |
| MCRA6-GC-SW-01 | 9/12/2012 | CES-RA | 7.9 | 1.3 | NA | NC | 0.96 | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | < 0.18 | < 10 | 0.019 J | NA | 0.51 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 |
| MCRA6-GC-SW-02 | 9/12/2012 | CES-RA | 8.5 | 1.3 | NA | NC | **7.4** | NA | NA | < 0.028 | NA | NM | < 0.094 | NA | < 0.18 | < 10 | 0.039 J | NA | 0.7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 |
| **Background Mean** | | | 16.5 | 2.1 | 0.0495 | 0.94 | 2.8 | 6.6 | < 1 | 0.1107 | 2,872 | NC | 1.0 | < 3 | 1.2 | 15.3 | 0.41 | 229 | 1.818 | < *0.09* | 0.0025 | NC | 2.58 | < 250 | < 0.78 | 0.96 | < 250 | 0.52 | < 2.5 | 3.8 |
| **Standards, corrected for hardness where applicable (used** | | **9.21** | **mg/L average for surface water samples, includes all stations in Glacier Creek, 76 Gulch, and South Fork Sauk River)** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Washington - Aquatic Life (Chronic) [1] | | | NS | NS | NS | NS | *190* | NS | NS | 0.17 | NS | *10* | NS | NS | 1.5 | NS | 0.15 | NS | NS | 0.012 | 0.012 | NS | 33.9 | NS | 5 | NS | NS | NS | NS | 14.05 |
| Washington - Human Health [2] | | | NS | 14 | NS | NS | 0.018 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.14 | 0.14 | NS | 610 | NS | 170 | NS | NS | 1.7 | NS | NS |
| Washington Drinking Water Criteria [3] | | | NS | 6 | NS | NS | 10 | 2,000 | 4 | 5 | NS | NS | 100 | NS | NS | 300 | NS | NS | 50 | 2 | 2 | NS | 100 | NS | 50 | 100 | NS | 2 | NS | 50,000 |
| EPA - Aquatic Life (CCC) [4] | | | 87 | NS | NS | NS | *150* | NS | NS | 0.047 | NS | 11 | NS | NS | *1.2* | 1,000 | *0.174* | NS | NS | *0.77* | *0.77* | NS | *6.9* | NS | 5 | NS | NS | NS | NS | 15.66 |
| EPA - Human Health (Water+Organism) [5] | | | NS | 5.6 | NS | NS | *0.018* | 1,000 | NS | NS | NS | NS | NS | NS | 1,300 | 300 | NS | NS | 50 | NS | NS | NS | 610 | NS | 170 | NS | NS | 1.7 | NS | 7,400 |
| ORNL - Surface Water PRGs [6] | | | 87 | 30 | 190 | 3.1 | NS | 4 | 0.66 | 1.10 | NS | 11 | NS | 23 | 12 | 1,000 | 3.20 | NS | 120 | 1.3 | 1.3 | 0.0026 | 160 | NS | 0.39 | 0.36 | NS | 9 | 20 | 110 |

**GENERAL NOTES:**

All CES-SI sample analyses (except Arsenic (III,) Mercury, UltraTrace, & Mercury, Methyl) were conducted by SVL Analytical, Inc., Kellogg, Idaho by EPA Method 200 Series for total recoverable metals.
All CES-EECA sample analyses were conducted by ACZ Laboratories, Inc., Steamboat Springs, Colorado by EPA Method 200 Series got total recoverable metals.
Arsenic (III), Mercury, UltraTrace, & Mercury-Methyl analyses were conducted by Brooks Rand, Seattle, Washington.
Arsenic (V) was calculated from the difference between Arsenic and Arsenic (III).
All CES-RA analyses were conducted by Pace Analytical Services, Inc., Seattle, Washington per EPA Method 6010/6020 for total metals.
Abbreviations: < value = Analyte not detected above Method Detection Limit (MDL), H = Holding time exceeded., J = Analyte detected between MDL and Practical Quantification Limit (PQL) therefore concentration is estimated,
mg/L = milligrams per liter, NA = not analyzed, NC = not calculated, ND = not detected (no MDL provided), NM = not measured, RA = Removal Action, µg/L = micrograms per liter.
**Bold** indicates an exceedence of background mean (Note - background samples that exceed the mean background concentration are not bolded)
Shaded cells indicate that the value exceeds one or more standard; corresponding criteria also shaded.
Italic values indicate that the MDL exceeds the lowest standard
SHA = Site Hazard Assessment Results (Crofoot and O'Brian, 2004)
WADNR = Washington Department of Natural Resources Results (Wolff, McKay, and Norman, 2003)
Forest Service = USFS Region 6 APAs (Graham, 2006)
(200.8) = Second analyses of selected elements by low level detection ICP-MS

**STANDARD NOTES**

1 State of Washington Aquatic Life criteria (WAC 173-201A), underline - corrected for hardness
2 State of Washington criteria for protection of human health (CLARC-Part IIIf)
3 State of Washington drinking water criteria (WAC 246-290)
4 EPA recommended chronic ambient water quality criteria for freshwater aquatic life used (EPA, 2009), underline - corrected for hardness, *italics* - expressed as Dissolved
5 EPA recommended ambient water quality criteria for protection of human consumption of water and fish (EPA, 2009), *italics* - expressed as Dissolved
6 ORNL Preliminary Remediation Goals for Ecological Endpoints (ORNL, 1997), underline - corrected for an assumed hardness of 100 mg/L
NS = No Standard

**Table 1b. Surface Water Analytical Results (continued)**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample I.D. | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Flow Rate | Temperature (Field) | pH (Field) | pH (Lab) | Turbidity (Field) | Conductivity (Field) | Conductivity @25C (Lab) | Dissolved Oxygen (Field) | Oxygen Reduction Potential (Field) | Hardness as $CaCO_3$ | TDS (Field) | TDS, Residue, Filterable @180C | TSS, Residue, Non-Filterable @105C | Cyanide-Total | Cyanide-WAD | Sulfate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | cfs | °C | s.u. | s.u. | NTU | µS/cm | µS/cm | mg/L | mV | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| **Surface Water from Glacier Creek, Seventysix Gulch, South Fork Sauk River, and Monte Cristo Lake** | | | | | | | | | | | | | | | | | | |
| **Glacier Creek** | | | | | | | | | | | | | | | | | | |
| GC-SW1 (Background) | 6/2/2005 | CES-SI | 3.7 | 2.52 | 6.7 | 7.02 | 20 | 23 | 24 | 11.53 | 243 | 9.15 | 10 | < 10 | < 5.0 | < 0.01 | < 0.01 | 1.57 |
| MC-GC-9 (Background) | 8/2/2006 | Forest Service | NM | 7.9 | 6.91 | NA | 5 | 51 | NA | 11.49 | 178 | 8.0 | 30 | NA | NA | NA | NA | 1.3 |
| GC-SW2 (Background) | 6/2/2005 | CES-SI | 15.1 | 3.4 | 6.9 | 6.99 | 3 | 24 | 24 | 11.45 | 248 | 9.66 | 20 | 13 | < 5.0 | NA | NA | 1.72 |
| WADNR - No ID (Background - High Flow) | 6/2001 | WADNR | 32.0 | 2.2 | 7.33 | NA | NM | 18 | NA | NM | NM | 8.13 | NM | NA | NA | NA | NA | NA |
| WADNR - 348072/73 (Background - Low Flow) | 8/2001 | WADNR | 7.5 | 3.3 | 6.78 | NA | NM | 19 | NA | NM | NM | 6.92 | NM | NA | NA | NA | NA | NA |
| SHA-3394090 (Background) | 9/25/2003 | Ecology | NM | 7.14 | 7.21 | NA | NM | NM | 18 | 10.16 | NM | 8.15 | NM | 12 | NA | NA | NA | 1.16 |
| SHA-3394091 (near POTM Mine) | 9/25/2003 | Ecology | NM | 7.43 | 7.06 | NA | NM | NM | 18 | 9.71 | NM | 8.48 | NM | NA | NA | NA | NA | NA |
| SHA-3394094 (near POTM Mine) | 9/25/2003 | Ecology | NM | 4.74 | 6.91 | NA | NM | NM | 21 | 8.98 | NM | 8.44 | NM | NA | NA | NA | NA | NA |
| MC-GC-5 (above New Discovery, below POTM) | 8/2/2006 | Forest Service | NM | 9.1 | 6.65 | NA | 3 | 36 | NA | 10.96 | 191 | 7.0 | 20 | NA | NA | NA | NA | 1.6 |
| MC-GC-3 (above POTW, below New Discovery) | 8/2/2006 | Forest Service | NM | 9.6 | 6.44 | NA | 2 | 45 | NA | 11.49 | 213 | 8.0 | 30 | NA | NA | NA | NA | 1.7 |
| MC-GC-1 (below POTW) | 8/2/2006 | Forest Service | NM | 6.8 | 7.11 | NA | 3 | 39 | NA | 12.44 | 164 | 9.0 | 30 | NA | NA | NA | NA | 1.8 |
| GC-SW3 | 6/2/2005 | CES-SI | 14.1 | 3.1 | 6.7 | 7.04 | 14 | 25 | 22 | 11.56 | 183 | 9.75 | 20 | < 10 | < 5.0 | NA | NA | 1.82 |
| GC-SW4 | 6/2/2005 | CES-SI | NM | 3.32 | 6.6 | 7.03 | 25 | 24 | 21 | 11.88 | 224 | 9.71 | 20 | < 10 | < 5.0 | NA | NA | 1.92 |
| SHA-3374084 (below Concentrator) | 9/12/2003 | Ecology | NM | NM | NM | NA | NM | NM | NA | NM | NM | 7.92 | NM | NA | NA | NA | NA | NA |
| SHA-3394093 (below Concentrator) | 9/25/2003 | Ecology | NM | NM | NM | NA | NM | NM | NA | NM | NM | 9.46 | NM | NA | NA | NA | NA | NA |
| GC-SW5 | 6/1/2005 | CES-SI | 37.7 | 6.26 | 6.8 | 6.98 | 20 | 22 | 20 | 11.15 | 240 | 8.38 | 10 | < 10 | < 5.0 | NA | NA | 2.48 |
| WADNR - No ID (Background - High Flow) | 6/2001 | WADNR | 83.0 | 7.2 | 7.15 | NA | NM | 19 | NA | NM | NM | 7.38 | NM | NA | NA | NA | NA | NA |
| WADNR - 348076/77 (Background - Low Flow) | 8/2001 | WADNR | 20.0 | 7.2 | 7.02 | NA | NM | 19 | NA | NM | NM | 6.80 | NM | NA | NA | NA | NA | NA |
| MCEE-SW-GC-01 | 8/22/2008 | CES-EECA | 2.5 | 3.76 | 2.38 | 7.5 | NM | IM | 20 | IM | IM | 8 | NM | < 10 | < 5 | NA | NA | 2 B |
| MCEE-SW-GC-02 | 8/22/2008 | CES-EECA | 4.5 | 3.91 | 0.92 | 7.1 | NM | IM | 19 | IM | IM | 13 | NM | 20 | < 5 | NA | NA | < 1 |
| MCEE-SW-GC-03 | 8/22/2008 | CES-EECA | 5.7 | 3.88 | 3.04 | 7.4 | NM | IM | 17 | IM | IM | 6 | NM | < 10 | < 5 | NA | NA | < 1 |
| MCEE-SW-GC-04 | 8/19/2008 | CES-EECA | 13.1 | 4.36 | 4.66 | 7.4 | NM | IM | 16 | IM | IM | 9 | NM | < 10 | < 5 | NA | NA | < 1 |
| MCEE-SW-GC-05 | 8/19/2008 | CES-EECA | 54.3 | 6.85 | 4.36 | 7.3 | NM | IM | 17 | IM | IM | 5 B | NM | 20 B | < 5 | NA | NA | < 1 |
| MCRA1-SW-GC-01 | 6/29/2010 | CES-RA | NM | 2.06 | 6.62 | 3.3 H | NM | 14 | NA | 13.7 | 119.9 | 10.8 | 6 | 26 | 3 | NA | NA | NA |
| MCRA1-SW-GC-02 | 6/29/2010 | CES-RA | NM | 3 | 6.6 | 6.8 H | NM | 11 | NA | 12.96 | 140.6 | 7.68 | 6 | 30 | < 2 | NA | NA | NA |
| MCRA1-SW-GC-02a | 6/29/2010 | CES-RA | NM | 2.83 | 6.78 | 6.6 H | NM | 11 | NA | 12.86 | 152.5 | 8.87 | 6 | 13 | < 2 | NA | NA | NA |
| MCRA1-SW-GC-03 | 6/29/2010 | CES-RA | NM | 2.61 | 6.91 | 6.7 H | NM | 12 | NA | 13.43 | 141.6 | 7.81 | NM | 12 | < 2 | NA | NA | NA |
| MCRA1-SW-GC-04 | 6/28/2010 | CES-RA | 22.3 | 3.89 | 6.75 | 6.8 H | NM | 11 | NA | NM | 75.0 | 11.2 | 5 | 8 J | < 2 | NA | NA | NA |
| MCRA1-SW-GC-04a | 6/28/2010 | CES-RA | 80.6 | 5 | 6.71 | 4.9 H | NM | 15 | NA | 13.4 | 79.0 | 10.2 | 7 | 11 | < 2 | NA | NA | NA |
| MCRA1-SW-GC-05 | 6/28/2010 | CES-RA | 56.4 | 5.62 | 6.85 | 4.9 H | NM | 10 | NA | 12.7 | 116.0 | 6.34 | 4 | 24 | < 2 | NA | NA | NA |
| MCRA2-SW-GC-01 | 9/29/2010 | CES-RA | 8.3 | 5.73 | 6.76 | 6.4 | NM | 18 | NA | 9.95 | 67.7 | 9.11 | NM | 14 | < 2 | NA | NA | NA |
| MCRA2-SW-GC-02 | 9/29/2010 | CES-RA | 18.3 | 5.6 | 6.05 | 6.5 | NM | 30 | NA | 10.25 | 180.0 | 7.61 | NM | 12 | 5 | NA | NA | NA |
| MCRA2-SW-GC-02a | 9/29/2010 | CES-RA | NM | 4.23 | 6.35 | 6.6 | NM | 19 | NA | 10.86 | 146.6 | 8.62 | NM | 14 | 2 | NA | NA | NA |
| MCRA2-SW-GC-03 | 9/27/2010 | CES-RA | NM | 5.65 | 6.21 | 6.7 | NM | 18 | NA | 8.99 | 175.0 | 8.96 | NM | < 5 | < 2 | NA | NA | NA |
| MCRA2-SW-GC-04 | 9/27/2010 | CES-RA | NM | 5.57 | 6.48 | 6.7 | NM | 17 | NA | 10.38 | 167.0 | 8.86 | NM | < 5 | < 2 | NA | NA | NA |
| MCRA2-SW-GC-04a | 9/27/2010 | CES-RA | NM | 6.5 | 6.36 | 6.6 | NM | 22 | NA | 10.41 | 138.0 | 11.8 | NM | 10 | < 2 | NA | NA | NA |
| MCRA2-SW-GC-05 | 9/27/2010 | CES-RA | 37.5 | 8.77 | 6.42 | 6.7 | NM | 22 | NA | 9.11 | 160.0 | 8.13 | NM | 20 | < 2 | NA | NA | NA |
| MCRA3-SW-GC-02 | 6/28/2011 | CES-RA | 50.8 | 1.57 | 6.11 | 6.6 H | NM | 10 | NA | 13.6 | -107.4 | 8.76 | NM | 9 | 1 J | NA | NA | NA |
| MCRA3-SW-GC-02a | 6/28/2011 | CES-RA | 45.0 | 1.73 | 6.4 | 6.7 H | NM | 10 | NA | 13.85 | -127.0 | 8.4 | NM | 13 | 2 | NA | NA | NA |
| MCRA3-SW-GC-03 | 6/28/2011 | CES-RA | NM | 1.86 | 7.6 | 6.6 H | NM | 7 | NA | NM | 157.5 | 7.84 | NM | < 1 | 3 | NA | NA | NA |
| MCRA3-SW-GC-04 | 6/28/2011 | CES-RA | 76.3 | 1.79 | 7.91 | 6.6 H | NM | 9 | NA | 14.4 | -91.5 | 8.31 | NM | 5 | 3 | NA | NA | NA |
| MCRA3-SW-GC-04a | 6/27/2011 | CES-RA | NM | 3.55 | 6.42 | 6.5 H | NM | 12 | NA | 13.46 | -192.4 | 8.95 | NM | 9.1 J | 2 J | NA | NA | NA |
| MCRA3-SW-GC-05 | 6/27/2011 | CES-RA | 126.6 | 4.52 | 7.04 | 6.7 H | NM | 11 | NA | 13.35 | -154.3 | 7.54 | NM | 6 | 2 | NA | NA | NA |
| MCRA4-SW-GC-01 | 10/4/2011 | CES-RA | 9.5 | 2.31 | 5.63 | 6.8 H | NM | 18 | NA | 10.45 | -139.7 | 9.22 | NM | < 1 | 1 J | NA | NA | NA |
| MCRA4-SW-GC-02 | 10/4/2011 | CES-RA | 21.1 | 2.89 | 5.03 | 6.7 H | NM | 17 | NA | 11.65 | -132.3 | 8.02 | NM | < 1 | < 1 | NA | NA | NA |
| MCRA4-SW-GC-02a | 10/4/2011 | CES-RA | NM | 3.22 | 5.27 | 7 H | NM | 18 | NA | 7.95 | -195.6 | 8.24 | NM | 1 | < 1 | NA | NA | NA |
| MCRA4-SW-GC-03 | 10/4/2011 | CES-RA | 1.4 | 2.97 | 5.25 | 6.8 H | NM | 17 | NA | 12.5 | -128.6 | 8.07 | NM | < 1 | < 1 | NA | NA | NA |
| MCRA4-SW-GC-04 | 10/4/2011 | CES-RA | 23.4 | 3.02 | 6.59 | 6.8 H | NM | 16 | NA | 12.21 | -118.0 | 7.48 | NM | 5 | 1 J | NA | NA | NA |
| MCRA4-SW-GC-04a | 10/4/2011 | CES-RA | NM | 4.63 | 4.4 | 6.8 H | NM | 20 | NA | 11.22 | -200.0 | 9.72 | NM | 10 | < 1 | NA | NA | NA |
| MCRA4-SW-GC-05 | 10/5/2011 | CES-RA | 29.2 | 4.99 | 6.3 | 6.9 H | NM | 14 | NA | 11.66 | -129.0 | 9.32 | NM | 5 | < 1 | NA | NA | NA |
| MCRA5-GC-SW-02 | 6/27/2012 | CES-RA | NM | 1.66 | 5.16 | 7.2 H | NM | 13 | NA | 11.98 | -157.8 | 7.87 | NM | 14 | 1 J | NA | NA | NA |
| MCRA5-GC-SW-02a | 6/27/2012 | CES-RA | NM | 2.11 | 4.85 | 7.2 H | NM | 9 | NA | 12.4 | -115.0 | 7.72 | NM | 19 | 1 J | NA | NA | NA |
| MCRA5-GC-SW-03 | 6/27/2012 | CES-RA | NM | 2.65 | 6.66 | 7.1 H | NM | 13 | NA | 13.6 | -130.0 | 7.29 | NM | 21 | < 1 | NA | NA | NA |
| MCRA5-SW-GC-04a | 6/26/2012 | CES-RA | NM | 5 | 6.3 | 7.2 H | NM | 5 | NA | 12.6 | -82.2 | 7.46 | NM | 21 | < 1 | NA | NA | NA |
| MCRA5-SW-GC-05 | 6/25/2012 | CES-RA | 18.3 | 4.57 | 6.54 | 7 H | NM | 11 | NA | 13 | -170.9 | 12.8 | NM | 4 J | 1 J | NA | NA | NA |
| MCRA6-SW-GC-01 | 9/12/2012 | CES-RA | NM | 3.54 | 6.78 | 7.6 H | NM | 17 | NA | 12.15 | 263.2 | 11.4 | NM | 7 | < 1 | NA | NA | NA |
| MCRA6-SW-GC-02 | 9/12/2012 | CES-RA | 2.0 | 4.5 | 6.5 | 7.4 H | NM | 16 | NA | 11.6 | 275.0 | 9.82 | NM | 10 | 1 J | NA | NA | NA |
| MCRA6-SW-GC-02a | 9/12/2012 | CES-RA | 2.8 | 3.67 | 6.3 | 7.4 H | NM | 15 | NA | 12.5 | 300.2 | 9.47 | NM | 9 | < 1 | NA | NA | NA |
| MCRA6-SW-GC-03 | 9/12/2012 | CES-RA | NM | 3.62 | 6.2 | 7.2 H | NM | 14 | NA | 12.6 | 309.0 | 9.42 | NM | 4 J | 2 J | NA | NA | NA |
| MCRA6-SW-GC-04 | 9/12/2012 | CES-RA | 4.2 | 2.89 | 5.73 | 7 H | NM | 14 | NA | 12.32 | 292.5 | 9.4 | NM | 13 | < 1 | NA | NA | NA |
| MRCA6-SW-GC-04a | 9/11/2012 | CES-RA | NM | 4.86 | 7.16 | 7.5 H | NM | 15 | NA | 11.06 | -202.0 | 9.98 | NM | 11 | < 1 | NA | NA | NA |
| MCRA6-SW-GC-05 | 9/11/2012 | CES-RA | NM | 5.25 | 7.16 | 7.4 H | NM | 15 | NA | 10.95 | -187.4 | 8.64 | NM | 13 | 1 J | NA | NA | NA |
| **Seventysix Gulch** | | | | | | | | | | | | | | | | | | |
| 76G-SW1 (Background) | 6/3/2005 | CES-SI | 0.7 | 4.58 | 6.9 | 7.00 | 19 | NM | 16 | 11.08 | 214 | 6.13 | 10 | < 10 | < 5.0 | < 0.01 | < 0.01 | 0.48 |
| MC-76-1 (Background) | 8/3/2006 | Forest Service | NM | 6.4 | 5.98 | NA | 1 | NM | 40 | 11.94 | 288 | 9 | 30 | NA | NA | NA | NA | 1.6 |
| SHA-3374080 (Background) | 9/11/2003 | Ecology | NM | NM | NM | NA | NM | NM | NM | NM | NM | 4.83 | NM | NA | NA | NA | NA | NA |
| SHA-3374081 (near Sidney Mine) | 9/11/2003 | Ecology | NM | NM | NM | NA | NM | NM | NM | NM | NM | 9.48 | NM | NA | NA | NA | NA | NA |
| MC-76-3 (below Sidney Mine) | 8/3/2006 | Forest Service | NM | 7.0 | 6.37 | NA | 1 | NM | 40 | 12.05 | 266 | 8 | 30 | NA | NA | NA | NA | 1.8 |
| 76G-SW2 | 6/3/2005 | CES-SI | 11.2 | 4.88 | 6.6 | 6.69 | 21 | NM | 24 | 12.05 | 217 | 9.19 | 20 | < 10 | < 5.0 | NA | NA | 1.70 |
| MCEE-SW-76G-01 | 8/21/2008 | CES-EECA | 15.2 | 5.43 | 3.65 | 7.2 | NM | IM | 10 | IM | IM | 4 | NM | < 10 | < 5 | NA | NA | < 1 |
| MCEE-SW-76G-02 | 8/21/2008 | CES-EECA | 63.5 | 6.13 | 3.84 | 7.3 | NM | IM | 18 | IM | IM | 6 B | NM | 10 B | < 5 | NA | NA | < 1 |
| MCRA1-SW-76G-01 | 6/28/2010 | CES-RA | 4.4 | 4.13 | 7.4 | 6.7 H | NM | 12 | NA | 16.76 | NM | 5.25 | NM | 21 | < 2 | NA | NA | NA |
| MCRA1-SW-76G-01a | 6/29/2010 | CES-RA | 0.0 | 9.58 | 7.23 | 6.7 H | NM | 25 | NA | 14.59 | -40.3 | 13.2 | NM | < 5 | < 2 | NA | NA | NA |
| MCRA1-SW-76G-01b | 6/29/2010 | CES-RA | 17.0 | 3.95 | 7.2 | 3.4 H | NM | 18 | NA | 17.71 | 247.8 | 10.1 | NM | 16 | 2 | NA | NA | NA |
| MCRA1-SW-76G-02 | 6/28/2010 | CES-RA | 25.8 | 5.09 | 7.03 | 5.9 H | NM | 18 | NA | 16.5 | NM | 8.16 | NM | 23 | < 2 | NA | NA | NA |
| MCRA2-SW-76G-01 | 9/28/2010 | CES-RA | 0.1 | 10.68 | 5.53 | 6.9 H | NM | 7 | NA | 10.99 | -52.2 | 4.90 | NM | < 5 | < 2 | NA | NA | NA |
| MCRA2-SW-76G-01a | 9/28/2010 | CES-RA | 0.0 | 9.08 | 7.77 | 6.7 H | NM | 19 | NA | 11.41 | -140.6 | 13.50 | NM | 27 | < 2 | NA | NA | NA |
| MCRA2-SW-76G-01b | 9/28/2010 | CES-RA | 31.5 | 6.49 | 6.9 | 6.6 H | NM | 14 | NA | 13.04 | -140.2 | 9.66 | NM | 10 | 4 | NA | NA | NA |
| MCRA2-SW-76G-02 | 9/27/2010 | CES-RA | 15.2 | 7.41 | 7.27 | 6.7 H | NM | 15 | NA | 12.44 | -174.9 | 9.85 | NM | 6 J | < 2 | NA | NA | NA |
| MCRA2-SW-76G-01b | 6/29/2011 | CES-RA | NM | 3.34 | 6.82 | 6.4 H | NM | 17 | NA | 13.9 | -110.5 | 8.87 | NM | 1 J | 2 | NA | NA | NA |
| MCRA2-SW-76G-02 | 6/29/2011 | CES-RA | 71.9 | 3.82 | 7.02 | 6.5 H | NM | 10 | NA | 13.75 | 130 | 9.27 | NM | 5 J | 3 | NA | NA | NA |
| MCRA4-SW-76G-01 | 10/5/2011 | CES-RA | NM | 4.31 | NM | 6.9 H | NM | 11 | NA | 10.9 | NM | 8.21 | NM | 7 | 1 J | NA | NA | NA |
| MCRA4-SW-76G-01a | 10/5/2011 | CES-RA | NM | 5.84 | 6.43 | 6.9 H | NM | 22 | NA | 7.74 | NM | 15.40 | NM | 14 | < 1 | NA | NA | NA |
| MCRA4-SW-76G-01b | 10/5/2011 | CES-RA | NM | 5.64 | 4.76 | 6.9 H | NM | 19 | NA | 10.79 | -73.6 | 10.70 | NM | 8 | 1 J | NA | NA | NA |
| MCRA4-SW-76G-02 | 10/5/2011 | CES-RA | 19.0 | 5.94 | 6.29 | 6.9 H | NM | 23 | NA | 11.31 | -131.9 | 10.90 | NM | 10 | < 1 | NA | NA | NA |
| MCRA5-SW-76G-01a | 6/26/2012 | CES-RA | NM | 2.41 | 6.8 | 7.1 H | NM | 13 | NA | 11.71 | -154.1 | 10.10 | NM | 24 | 1 J | NA | NA | NA |
| MCRA5-SW-76G-01b | 6/26/2012 | CES-RA | 20.1 | 3.25 | 7.5 | 7.3 H | NM | 11 | NA | 12.62 | -140.5 | 7.90 | NM | 24 | < 1 | NA | NA | NA |
| MCRA5-SW-76G-02 | 6/26/2012 | CES-RA | 25.0 | 3.59 | 6.65 | 7.2 H | NM | 11 | NA | 11.77 | -130.9 | 7.41 | NM | 27 | 1 J | NA | NA | NA |
| MCRA6-SW-76G-01b | 9/11/2012 | CES-RA | 0.9 | 6.03 | 6.12 | 7.5 H | NM | 17 | NA | 11.33 | 279.8 | 10.10 | NM | 19 | 3 | NA | NA | NA |
| MCRA6-SW-76G-02 | 9/11/2012 | CES-RA | 3.2 | 5.2 | 7.45 | 7.5 H | NM | 21 | NA | 10.98 | 254.4 | 9.88 | NM | 8 | < 1 | NA | NA | NA |
| **South Fork Sauk River** | | | | | | | | | | | | | | | | | | |
| SFSR-SW1 | 6/1/2005 | CES-SI | 54.7 | 6.04 | 6.8 | 6.58 | 57 | NM | 22.0 | 11.29 | 201 | 7.83 | 10 | < 10 | < 5 | < 0.01 | < 0.01 | 2 |
| SFSR-SW2 | 6/1/2005 | CES-SI | 41.2 | 6.42 | 6.7 | 6.72 | 18 | NM | 22.0 | 11.12 | 234 | 8.14 | 10 | < 10 | < 5 | NA | NA | 3 |
| SFSR-SW3 | 6/1/2005 | CES-SI | 76.1 | 6.84 | 6.0 | 6.91 | 72 | NM | 26.0 | 11.69 | 217 | 9.43 | 20 | < 10 | < 5 | < 0.01 | < 0.01 | 3 |
| SHA-3374085 (at Lake MC) | 9/12/2003 | Ecology | NM | 11.19 | 7.04 | NA | NM | NM | NM | 9.44 | NM | 12.1 | NM | NA | NA | NA | NA | NA |
| MCEE-SW-SFSR-01 | 8/19/2008 | CES-EECA | IM | 7.63 | IM | 7.3 | NM | IM | 17 | IM | IM | 6 B | NM | < 10 | < 5 | NA | NA | < 1 |
| MCEE-SW-SFSR-02 | 8/19/2008 | CES-EECA | 48.3 | 8.11 | IM | 7.3 | NM | IM | 17 | IM | IM | 6 B | NM | 10 B | < 5 | NA | NA | < 1 |
| MCEE-SW-SFSR-03 | 8/19/2008 | CES-EECA | 70.1 | 8.03 | IM | 7.3 | NM | IM | 21 | IM | IM | 7 | NM | 10 B | < 5 | NA | NA | 1 B |
| MCEE-SW-SFSR-04 | 8/27/2008 | CES-EECA | 244.9 | IM | IM | 7.1 | NM | IM | 17 | IM | IM | 8 | NM | 210 | < 5 | NA | NA | < 1 |
| MCEE-SW-SFSR-05 | 8/27/2008 | CES-EECA | 341.5 | IM | IM | 7.3 | NM | IM | 21 | IM | IM | 9 | NM | 180 | < 5 | NA | NA | < 1 |
| MCEE-SW-SFSR-06 | 8/26/2008 | CES-EECA | 63.5 | IM | IM | 7.3 | NM | IM | 25 | IM | IM | 11 | NM | 1510 | < 5 | NA | NA | < 1 |
| MCEE-SW-SFSR-07 | 8/26/2008 | CES-EECA | 247.7 | 11.17 | 6.64 | 7.4 | 30.2 | 0.034 | 25 | 8.98 | 117 | 11 | 20 | 2260 | < 5 | NA | NA | 1 B |
| MCEE-SW-SFSR-08 | 8/25/2008 | CES-EECA | 108.2 | 9.55 | 6.24 | 7.4 | 13.6 | 0.032 | 25 | 9.91 | 213 | 11 | 6,020 | 150 | < 5 | NA | NA | < 1 |
| MCEE-SW-SFSR-09 | 8/25/2008 | CES-EECA | 1.7 | 10.53 | 7.4 | 7.5 | 15.5 | 0.04 | 25 | 10.27 | 94 | 12 | 1,000 | 250 | < 5 | NA | NA | < 1 |
| MCRA1-SW-SFSR-01 | 6/28/2010 | CES-RA | 25.8 | 6.2 | 7.32 | 3.7 H | NM | 15 | NA | 16.4 | NM | 7.14 | NM | 13 | < 2 | NA | NA | NA |
| MCRA1-SW-SFSR-02 | 6/30/2010 | CES-RA | 70.7 | 5.65 | 7.32 | 4.4 H | NM | 17 | NA | 17.46 | NM | 8.83 | NM | 56 | < 2 | NA | NA | NA |
| MCRA1-SW-SFSR-03 | 6/30/2010 | CES-RA | 94.2 | 6.06 | 7.08 | 6.8 H | NM | 20 | NA | 15.67 | NM | 9.01 | NM | 19 | < 2 | NA | NA | NA |
| MCRA1-SW-SFSR-04 | 6/30/2010 | CES-RA | 178.3 | 6.43 | 7.27 | 6.7 H | NM | 18 | NA | 16.35 | NM | 7.78 | NM | 17 | < 2 | NA | NA | NA |
| MCRA1-SW-SFSR-05 | 6/30/2010 | CES-RA | 162.1 | 6.26 | 7.43 | 6.5 H | NM | 19 | NA | 16.14 | NM | 8.8 | NM | 22 | 2 | NA | NA | NA |
| MCRA1-SW-SFSR-06 | 7/1/2010 | CES-RA | NM | 6.95 | 6.98 | 6.7 H | NM | 22 | NA | 15.21 | NM | 9.98 | NM | 21 | < 2 | NA | NA | NA |
| MCRA1-SW-SFSR-07 | 7/1/2010 | CES-RA | NM | 7.08 | 6.96 | 6.8 H | NM | 23 | NA | 15.51 | NM | 10.4 | NM | 19 | < 2 | NA | NA | NA |
| MCRA1-SW-SFSR-08 | 7/1/2010 | CES-RA | NM | 7.38 | 6.95 | 6.7 H | NM | 24 | NA | 15.47 | NM | 10.6 | NM | 22 | 3 | NA | NA | NA |
| MCRA1-SW-SFSR-09 | 7/1/2010 | CES-RA | 164.9 | 7.37 | 6.99 | 5.6 H | NM | 25 | NA | 15.55 | NM | 11 | NM | 27 | < 2 | NA | NA | NA |
| MCRA2-SW-SFSR-01 | 9/27/2010 | CES-RA | 39.2 | 8.29 | 6.98 | 7 H | NM | 14 | NA | 12.32 | -128 | 9.54 | NM | < 5 | < 2 | NA | NA | NA |
| MCRA2-SW-SFSR-02 | 9/27/2010 | CES-RA | 47.8 | 8.55 | 6.98 | 7.1 H | NM | 14 | NA | 12.3 | -110.2 | 9.35 | NM | 11 | 2 | NA | NA | NA |
| MCRA2-SW-SFSR-03 | 9/27/2010 | CES-RA | 42.8 | 8.61 | 6.98 | 6.9 H | NM | 17 | NA | 12.23 | -110.3 | 11.1 | NM | 11 | < 2 | NA | NA | NA |
| MCRA2-SW-SFSR-04 | 9/27/2010 | CES-RA | 98.5 | 8.96 | 6.54 | 6.9 H | NM | 17 | NA | 12.04 | -115.6 | 11.5 | NM | 18 | < 2 | NA | NA | NA |
| MCRA2-SW-SFSR-05 | 9/27/2010 | CES-RA | 95.7 | 8.82 | 6.39 | 6.8 H | NM | 19 | NA | 12.08 | 155.7 | 12.4 | NM | 12 | < 2 | NA | NA | NA |
| MCRA2-SW-SFSR-06 | 9/30/2010 | CES-RA | NM | 9.05 | 6.94 | 6.8 H | NM | 30 | NA | 8.91 | 130.3 | 13.4 | NM | 17 | 2 | NA | NA | NA |
| MCRA2-SW-SFSR-07 | 9/30/2010 | CES-RA | 75.3 | 9.42 | 6.84 | 6.9 H | NM | 59 | NA | 9.69 | 118.8 | 14.1 | NM | 30 | 2 | NA | NA | NA |
| MCRA2-SW-SFSR-08 | 9/30/2010 | CES-RA | NM | 10.06 | 6.82 | 7 H | NM | 30 | NA | 9.97 | 121.1 | 14.2 | NM | 25 | < 2 | NA | NA | NA |
| MCRA2-SW-SFSR-09 | 9/30/2010 | CES-RA | 87.7 | 8.4 | 6.76 | 6.9 H | NM | 31 | NA | 10.01 | 38.4 | 14.9 | NM | 22 | < 2 | NA | NA | NA |
| MCRA3-SW-SFSR-01 | 6/27/2011 | CES-RA | 95.7 | 4.82 | 6.47 | 6.6 H | NM | 17 | NA | 11.87 | NM | 6.84 | NM | 8 | 1 J | NA | NA | NA |
| MCRA3-SW-SFSR-02 | 6/27/2011 | CES-RA | 104.3 | 5.33 | 6.6 | 6.7 H | NM | 16 | NA | 12.02 | NM | 7.37 | NM | 12 | 1 J | NA | NA | NA |
| MCRA3-SW-SFSR-03 | 6/27/2011 | CES-RA | 151.5 | 5.71 | 6.49 | 6.6 H | NM | 12 | NA | 11.82 | NM | 8.7 | NM | 11 | 1 J | NA | NA | NA |
| MCRA3-SW-SFSR-04 | 6/27/2011 | CES-RA | 247.3 | 5.77 | 6.57 | 6.7 H | NM | 36 | NA | 12.07 | NM | 9.13 | NM | 8 | 1 J | NA | NA | NA |
| MCRA3-SW-SFSR-05 | 6/27/2011 | CES-RA | 236.2 | 5.58 | 6.48 | 6.7 H | NM | 122 | NA | 12.74 | NM | 9.98 | NM | 21 | 5 | NA | NA | NA |
| MCRA3-SW-SFSR-06 | 6/30/2011 | CES-RA | NM | 5.03 | 6.24 | 6.7 H | NM | 16 | NA | 13 | 139.8 | 8.93 | NM | 13 | 3 | NA | NA | NA |
| MCRA3-SW-SFSR-07 | 6/30/2011 | CES-RA | NM | 5.14 | 6.55 | 6.8 H | NM | 17 | NA | 12.92 | 117 | 9.09 | NM | 5 | 4 | NA | NA | NA |
| MCRA3-SW-SFSR-08 | 6/30/2011 | CES-RA | 384.6 | 5.33 | 6.46 | 6.7 H | NM | 18 | NA | 13.6 | 146.8 | 8.89 | NM | < 1 | 5 | NA | NA | NA |
| MCRA3-SW-SFSR-09 | 6/30/2011 | CES-RA | NM | 5.52 | 6.29 | 6.5 H | NM | 18 | NA | 13.3 | 132.4 | 9.47 | NM | 14 | 2 | NA | NA | NA |
| MCRA4-SW-SFSR-01 | 10/5/2011 | CES-RA | 44.2 | 5.67 | 6.43 | 7.1 H | NM | 18 | NA | 11.17 | -139.2 | 7.87 | NM | 3 J | < 1 | NA | NA | NA |
| MCRA4-SW-SFSR-02 | 10/3/2011 | CES-RA | 25.7 | 6.59 | 5.05 | 6.8 H | NM | 11 | NA | 10.36 | 247.8 | 7.8 | NM | 12 | 2 J | NA | NA | NA |
| MCRA4-SW-SFSR-03 | 10/3/2011 | CES-RA | 43.6 | 7.25 | 5.33 | 6.8 H | NM | 12 | NA | 9.93 | 264.2 | 8.78 | NM | 10 | < 1 | NA | NA | NA |
| MCRA4-SW-SFSR-04 | 10/3/2011 | CES-RA | 55.4 | 7.76 | 6.8 | 6.8 H | NM | 13 | NA | 9.63 | 302.6 | 9.7 | NM | 15 | 1 J | NA | NA | NA |
| MCRA4-SW-SFSR-05 | 10/3/2011 | CES-RA | 77.6 | 7.86 | 6.34 | 6.8 H | NM | 21 | NA | 9.66 | 241.7 | 10.8 | NM | 19 | < 1 | NA | NA | NA |
| MCRA4-SW-SFSR-06 | 10/3/2011 | CES-RA | NM | 8.25 | 6.83 | 6.9 H | NM | 26 | NA | 10.84 | -140.7 | 11.2 | NM | 7 | 4 | NA | NA | NA |
| MCRA4-SW-SFSR-07 | 10/3/2011 | CES-RA | NM | 8.18 | 6.68 | 7 H | NM | 25 | NA | 11.2 | -122.3 | 11.7 | NM | 11 | < 1 | NA | NA | NA |
| MCRA4-SW-SFSR-08 | 10/3/2011 | CES-RA | 80.5 | 8.35 | 6.38 | 7 H | NM | 26 | NA | 11.03 | -104.3 | 12.1 | NM | 9 | 1 J | NA | NA | NA |
| MCRA4-SW-SFSR-09 | 10/3/2011 | CES-RA | NM | 8.44 | 6.63 | 6.9 H | NM | 28 | NA | 10.94 | -79.1 | 12.7 | NM | 12 | 2 J | NA | NA | NA |
| MCRA5-SW-SFSR-01 | 6/25/2012 | CES-RA | 33.5 | 4.85 | 5.03 | 7.1 H | NM | 4 | NA | 12.36 | -20 | 5.99 | NM | 15 | < 1 | NA | NA | NA |
| MCRA5-SW-SFSR-02 | 6/25/2012 | CES-RA | 36.4 | 5.69 | 4.23 | 7.2 H | NM | 5 | NA | 11.69 | 118.9 | 6.26 | NM | 9 | < 1 | NA | NA | NA |
| MCRA5-SW-SFRS-03 | 6/25/2012 | CES-RA | 34.6 | 6.04 | 4.15 | 7.2 H | NM | 6 | NA | 11.53 | 125 | 7.71 | NM | 13 | < 1 | NA | NA | NA |
| MCRA5-SW-SFRS-04 | 6/25/2012 | CES-RA | 58.6 | 5.45 | 4.77 | 7.1 H | NM | 6 | NA | 10.88 | 204.8 | 7.54 | NM | 12 | 1 J | NA | NA | NA |
| MCRA5-SW-SFRS-05 | 6/25/2012 | CES-RA | 73.9 | 5.75 | 4.02 | 7.2 H | NM | 6 | NA | 10.65 | 159 | 8.42 | NM | 11 | 1 J | NA | NA | NA |
| MCRA5-SW-SFRS-06 | 6/28/2012 | CES-RA | NM | 7.45 | 3.74 | 7.2 H | NM | 16 | NA | 11.26 | -55 | 8.1 | NM | 18 | 1 J | NA | NA | NA |
| MCRA5-SW-SFRS-07 | 6/28/2012 | CES-RA | NM | 6.98 | 6.83 | 7.3 H | NM | 17 | NA | 11.6 | -116.9 | 9.06 | NM | 21 | 4 | NA | NA | NA |
| MCRA5-SW-SFRS-08 | 6/28/2012 | CES-RA | NM | 6.92 | 6.94 | 7.4 H | NM | 18 | NA | 11.72 | -99.7 | 9.53 | NM | 24 | < 1 | NA | NA | NA |
| MCRA5-SW-SFRS-09 | 6/28/2012 | CES-RA | NM | 9.3 | 6.07 | 7.3 H | NM | 21.9 | NA | 11.1 | -97 | 10 | NM | 20 | < 1 | NA | NA | NA |
| MCRA6-SW-SFSR-01 | 9/10/2012 | CES-RA | 18.9 | 6.96 | 6.56 | 7.4 H | NM | 19 | NA | 10.52 | -206 | 8.27 | NM | 12 | 2 | NA | NA | NA |
| MCRA6-SW-SFSR-02 | 9/10/2012 | CES-RA | 14.7 | 8.03 | 6.56 | 7.4 H | NM | 21 | NA | 10.23 | -209 | 8.32 | NM | 5 J | < 1 | NA | NA | NA |
| MCRA6-SW-SFRS-03 | 9/10/2012 | CES-RA | 17.7 | 8.47 | 6.99 | 7.4 H | NM | 18 | NA | 10.32 | -203 | 9.78 | NM | 9 | 1 J | NA | NA | NA |
| MCRA6-SW-SFRS-04 | 9/10/2012 | CES-RA | 26.6 | 9 | 6.99 | 7.2 H | NM | 25 | NA | 9.92 | -195 | 10.6 | NM | 9 | < 1 | NA | NA | NA |
| MCRA6-SW-SFRS-05 | 9/10/2012 | CES-RA | 26.8 | 9.3 | 7.15 | 7.5 H | NM | 20 | NA | 9.26 | -199.8 | 11.8 | NM | 19 | 2 | NA | NA | NA |
| MCRA6-SW-SFRS-06 | 9/10/2012 | CES-RA | NM | 9.5 | 7.51 | 7.5 H | NM | 26 | NA | 10.64 | 288 | 12.2 | NM | 17 | 2 | NA | NA | NA |
| MCRA6-SW-SFRS-07 | 9/10/2012 | CES-RA | NM | 9.3 | 7.51 | 7.5 H | NM | 27 | NA | 11.17 | 394 | 12.6 | NM | 18 | 2 | NA | NA | NA |
| MCRA6-SW-SFRS-08 | 9/10/2012 | CES-RA | NM | 9.5 | 7.56 | 7.5 H | NM | 29 | NA | 10.71 | 320 | 13.5 | NM | 19 | 1 J | NA | NA | NA |
| MCRA6-SW-SFRS-09 | 9/10/2012 | CES-RA | NM | 9.7 | 7.34 | 7.6 H | NM | 31 | NA | 11.02 | 438.1 | 15 | NM | 26 | 1 J | NA | NA | NA |

**Table 1b. Surface Water Analytical Results (continued)**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample I.D. | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Flow Rate | Temperature (Field) | pH (Field) | pH (Lab) | Turbidity (Field) | Conductivity (Field) | Conductivity @25C (Lab) | Dissolved Oxygen (Field) | Oxygen Reduction Potential (Field) | Hardness as $CaCO_3$ | TDS (Field) | TDS, Residue, Filterable @180C | TSS, Residue, Non-Filterable @105C | Cyanide-Total | Cyanide-WAD | Sulfate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | cfs | °C | s.u. | s.u. | NTU | mS/cm | mS/cm | mg/L | mV | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| **Monte Cristo Lake** | | | | | | | | | | | | | | | | | | |
| MCEE-SW-MCL-01 | 8/26/2008 | CES-EECA | 0.00 | 13.45 | 7.05 | 7.2 | 26.5 | 0.037 | 26 | 9.37 | 230 | 12 | 20 | 250 | < 5 | NA | NA | < 1 |
| MCRA1-SW-MCL-01 | 7/1/2010 | CES-RA | 0.00 | 11.03 | 7.12 | 6.6 H | NM | 25 | NA | 12.01 | NM | 10.7 | NM | 24 | < 2 | NA | NA | NA |
| MCRA2-SW-MCL-01 | 9/30/2010 | CES-RA | 0.00 | 11.18 | 6.15 | 7.1 H | NM | 29 | NA | 5.62 | 43.7 | 13.6 | NM | 24 | < 2 | NA | NA | NA |
| MCRA3-SW-MCL-01 | 6/30/2011 | CES-RA | 0.00 | 5.81 | 6.45 | 6.6 H | NM | 18 | NA | 11.63 | 88.9 | 8.37 | NM | 10 | 1 J | NA | NA | NA |
| MCRA4-SW-MCL-01 | 10/3/2011 | CES-RA | 0.00 | 10.72 | 7.27 | 6.5 H | NM | 25 | NA | 7.3 | -146 | 11.3 | NM | 186 | 2 | NA | NA | NA |
| MCRA5-SW-MCL-05 | 6/28/2012 | CES-RA | 0.00 | 10 | 6.32 | 7.2 H | NM | 23.4 | NA | 10.65 | -180.2 | 10.1 | NM | 29 | 2 J | NA | NA | NA |
| MCRA6-SW-MCL-01 | 9/10/2012 | CES-RA | 0.00 | 15.3 | 7.12 | 7.3 H | NM | 37 | NA | 5.41 | 244.1 | 11.9 | NM | 22 | 4 | NA | NA | NA |
| **Standards** | | | | | | | | | | | | | | | | | | |
| Washington - Aquatic Life (Chronic) [1] | | | NS | 12 | 6.5-8.5 | 6.5-8.5 | 5x>Bkg | NS | NS | 9.5 | NS | NS | NS | NS | NS | NS | 0.005 | NS |
| Washington - Human Health [2] | | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.7 | NS | NS |
| Washington Drinking Water Criteria [3] | | | NS | NS | 6.5-8.5 | 6.5-8.5 | NS | 700 | 700 | NS | NS | NS | 500 | 500 | NS | 0.2 | NS | 250 |
| EPA - Aquatic Life (CCC) [4] | | | NS | 9-19 | 6.5-9 | 6.5-9 | NS | NS | NS | 9.5 | NS | NS | NS | NS | NS | NS | 0.005 | NS |
| EPA - Human Health (Water+Organism) [5] | | | NS | NS | 5-9 | 5-9 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.7 | NS | NS |
| ORNL - Surface Water PRGs [6] | | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.0052 | NS | NS |

**GENERAL NOTES:**

All CES-SI sample analyses (except Arsenic (III,) Mercury, UltraTrace, & Mercury, Methyl) were conducted by SVL Analytical, Inc., Kellogg, Idaho by EPA Method 200 Series for total recoverable metals.

All CES-EECA sample analyses were conducted by ACZ Laboratories, Inc., Steamboat Springs, Colorado by EPA Method 200 Series for total recoverable metals.

Arsenic (III), Mercury, UltraTrace, & Mercury-Methyl analyses were conducted by Brooks Rand, Seattle, Washington.

Arsenic (V) was calculated from the difference between Arsenic, TR and Arsenic (III).

All CES-RA analyses were conducted by Pace Analytical Services, Inc., Seattle, Washington per EPA Method 6010/6020 for total metals.

Abbreviations: < value = Analyte not detected above Method Detection Limit (MDL), °C = degrees Celsius, cfs = cubic feet per second, H = Holding time exceeded., IM = Instrument malfunction, J = Analyte detected between MDL and the reporting limit, NS = No Standard, NM = not measured, NTU = nephelometric turbidity units, NA = not analyzed, NC = not calculated, ND = not detected (no MDL provided), mg/L = milligrams per liter, mS = microSiemans, mV = millivolts, µg/L = micrograms per liter, s.u. = standard units, RA = Removal Action, concentration is estimated.

Shaded cells indicate that the value exceeds one or more standard; corresponding criteria also shaded.

SHA = Site Hazard Assessment Results (Crofoot and O'Brian, 2004)

WADNR = Washington Department of Natural Resources Results (Wolff, McKay, and Norman, 2003)

Forest Service = USFS Region 6 APAs (Graham, 2006)

**STANDARD NOTES**

1 State of Washington Aquatic Life criteria (WAC 173-201A), underline - corrected for hardness

2 State of Washington criteria for protection of human health (CLARC-Part IIIf)

3 State of Washington drinking water criteria (WAC 246-290)

4 EPA recommended chronic ambient water quality criteria for freshwater aquatic life used (EPA, 2009), underline - corrected for hardness, *italics* - expressed as Dissolved

5 EPA recommended ambient water quality criteria for protection of human consumption of water and fish (EPA, 2009), *italics* - expressed as Dissolved

6 ORNL Preliminary Remediation Goals for Ecological Endpoints (ORNL, 1997), underline - corrected for an assumed hardness of 100 mg/L

**Table 2a. Seep Water Analytical Results**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample I.D. | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Aluminum | Antimony | Arsenic (III) | Arsenic (V) Calculated | Arsenic Total | Barium | Beryllium | Cadmium | Calcium | Chromium VI, Total Field | Chromium | Cobalt | Copper | Iron* | Lead | Magnesium | Manganese* | Mercury, Total | Mercury, Total, UltraTrace | Mercury, Methyl, UltraTrace | Nickel | Potassium | Selenium | Silver | Sodium | Thallium | Vanadium | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Results in µg/L | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Water Samples from Adit Drainage and Waste Rock Dump Seeps** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Boston-American Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MCEE-DW-BA-01 | 8/20/2008 | CES-EECA | NA | 0.7 B | NA | NC | 7.3 | NA | NA | < 0.1 | 61,000 | NM | < 10 | NA | 10 B | 30 B | 0.1 B | 1,900 | < 5 | NA | 0.0039 | NA | NA | NA | 0.2 B | < 0.05 | NA | NA | NA | < 10 |
| MCEE-DW-BA-02 | 8/20/2008 | CES-EECA | NA | < 0.4 | NA | NC | 1.8 | NA | NA | 0.1 B | 3,900 | NM | < 10 | NA | < 10 | 160 | 0.8 | < 200 | 13 B | NA | 0.0210 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MCRA1-DW-BA-01 | 6/28/2010 | CES-RA | 6.6 | 0.48 J | NA | NC | 6.3 | NA | NA | < 0.02 | 59,600 | NM | < 0.24 | NA | 0.3 J | 12.8 J | 0.072 J | 1,790 | 2.6 | NA | NA | NA | NA | 740 | NA | NA | 11,600 | NA | NA | 4 J |
| MCRA2-DW-BA-01 | 9/27/2010 | CES-RA | 9.3 | 0.47 J | NA | NC | 6 | NA | NA | < 0.02 | 56,400 | NM | < 0.24 | NA | 0.26 J | 13.6 J | 0.063 J | 1,800 | 2.6 | NA | NA | NA | NA | 741 | NA | NA | 12,500 | NA | NA | 5.1 |
| MCRA3-DW-BA-01 | 6/28/2011 | CES-RA | 40 | < 0.07 | NA | NC | 0.35 J | NA | NA | < 0.03 | 3,380 J | NM | < 0.1 | NA | 0.74 | 29.4 | 0.18 | 81.2 J | 1.4 | NA | NA | NA | NA | 161 J | NA | NA | 727 J | NA | NA | 3.4 J |
| MCRA4-DW-BA-01 | 10/5/2011 | CES-RA | 8 | 0.83 | NA | NC | 11.5 | NA | NA | < 0.03 | 88,300 | NM | < 0.1 | NA | 0.36 J | 32.8 J | < 0.05 | 2,810 | 5.1 | NA | NA | NA | NA | 1,230 J | NA | NA | 19,300 | NA | NA | 8.5 |
| MCRA5-DW-BA-01 | 6/25/2012 | CES-RA | 18.2 | 0.095 K | NA | NC | 0.33 J | NA | NA | < 0.028 | 5,300 | NM | < 0.094 | NA | 0.45 J | 20.3 J | 0.19 | 117 J | 1 | NA | NA | NA | NA | 265 J | NA | NA | 1,150 J | NA | NA | 7.5 |
| **Justice Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SHA-3374082 (at Justice Mine) | 9/12/2003 | Ecology | NA | 11.3 | NA | NC | 235 | NA | < 0.10 | 0.14 | NA | NM | < 0.5 | NA | 4.22 | NA | 1.26 | NA | NA | < 0.05 | NA | NA | 0.92 | NA | NA | < 0.10 | NA | < 0.10 | NA | 21 |
| SHA-3374083 (below Justice Mine) | 9/12/2003 | Ecology | NA | 11.6 | NA | NC | 264 | NA | < 0.10 | 0.48 | NA | NM | < 0.5 | NA | 2.83 | NA | 0.74 | NA | NA | < 0.05 | NA | NA | 1.19 | NA | NA | < 0.10 | NA | < 0.10 | NA | 56.8 |
| WADNR - WJUS1 (Adit 3 dump) | 4/2003 | WADNR | NA | NA | NA | NC | 200 | NA | NA | NA | NA | NM | NA | NA | < 100 | < 1,000 | < 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 100 |
| JM-AS-01 | 9/10/2005 | CES-SI | < 30 | 10.3 | 1.08 H | 204.9 | 206 | 2.8 | < 0.66 | 0.15 | 33,900 | NM | < 6 | < 6 | < 3 | < 60 | < 0.6 | 4,010 | 12.4 | < 0.2 | NA | NA | < 10 | 630 | < 0.62 | < 0.12 | 4,240 | < 0.24 | < 5 | 19 |
| MCEE-DW-JU-01 | 8/20/2008 | CES-EECA | NA | 9.1 | NA | NC | 196 | NA | NA | 0.4 B | 21,200 | NM | < 10 | NA | < 10 | 60 | 0.9 | 2,200 | 11 B | NA | 0.0010 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | 60 |
| MCEE-DW-JU-02 | 8/20/2008 | CES-EECA | NA | 9.5 | NA | NC | 186 | NA | NA | 0.5 B | 20,400 | NM | < 10 | NA | 10 B | 40 B | 0.5 B | 2,100 | < 5 | NA | 0.0012 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | 40 B |
| MCRA1-DW-JU-01 | 6/30/2010 | CES-RA | 46.2 | 4.8 | NA | NC | 134 | NA | NA | 0.57 | 12,000 | NM | < 0.24 | NA | 9.2 | 37.7 J | 0.7 | 1,220 | 15.5 | NA | NA | NA | NA | 267 | NA | NA | 1,400 | NA | NA | 77.3 |
| MCRA2-DW-JU-01 | 9/28/2010 | CES-RA | 433 | 11.1 | NA | NC | 712 | NA | NA | 1.7 | 17,700 | NM | 0.36 J | NA | 97.2 | 1,700 | 26.5 | 1,950 | 177 | NA | NA | NA | NA | 391 | NA | NA | 2,060 | NA | NA | 169 |
| MCRA2-SP-JU-01 | 9/28/2010 | CES-RA | 31.3 | 7.9 | NA | NC | 241 | NA | NA | 0.32 | NA | NM | < 0.24 | NA | 3.1 | 43 J | 0.96 | NA | 3.1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 47.4 |
| MCRA3-DW-JU-01 | 6/28/2011 | CES-RA | 58.9 | 5.1 | NA | NC | 149 | NA | NA | 0.77 | 12,000 | NM | < 0.1 | NA | 13.2 | 54.7 | 0.92 | 1,130 J | 19.7 | NA | NA | NA | NA | 318 J | NA | NA | 1,390 J | NA | NA | 93.3 |
| MCRA3-SP-JU-01 | 6/27/2011 | CES-RA | 21.8 | 7 | NA | NC | 226 | NA | NA | 0.25 | 11,800 | NM | < 0.1 | NA | 2.1 | 33.6 J | 0.47 | 1,090 J | 2.7 | NA | NA | NA | NA | 299 J | NA | NA | 1,370 J | NA | NA | 38.4 |
| MCRA4-DW-JU-01 | 10/4/2011 | CES-RA | 47.2 | 7.9 | NA | NC | 204 | NA | NA | 0.41 | 20,800 | NM | < 0.1 | NA | 7 | 65.7 | 0.77 | 2,300 J | 17.2 | NA | NA | NA | NA | 507 J | NA | NA | 2,440 J | NA | NA | 58.7 |
| MCRA4-SP-JU-01 | 10/4/2011 | CES-RA | 17.2 | 8.9 | NA | NC | 248 | NA | NA | 0.37 | 20,300 | NM | < 0.1 | NA | 2.2 | 21.2 J | 0.52 | 2,260 J | 2.3 | NA | NA | NA | NA | 547 J | NA | NA | 2,380 J | NA | NA | 56.9 |
| MCRA5-DW-JU-01 | 6/26/2012 | CES-RA | 42.8 | 4.9 | NA | NC | 358 | NA | NA | 0.88 | 10,900 | NM | 0.84 | NA | 33.8 | 900 | 15.7 | 1,100 J | 71.2 | NA | NA | NA | NA | 192 J | NA | NA | 1,350 J | NA | NA | 120 |
| MCRA5-SP-JU-01 | 6/27/2012 | CES-RA | 425 | 7.7 | NA | NC | 140 | NA | NA | 0.6 | 10,900 | NM | 0.22 J | NA | 10.7 | 638 | 0.66 | 1,200 J | 19.3 | NA | NA | NA | NA | 252 J | NA | NA | 1,400 J | NA | NA | 84.2 |
| MCRA6-DW-JU-01 | 9/11/2012 | CES-RA | 8.2 | 9.2 | NA | NC | 204 | NA | NA | 0.11 | 29,100 | NM | < 0.094 | NA | 1 | 34.9 J | 0.12 | 3,530 J | 13.2 | NA | NA | NA | NA | 542 J | NA | NA | 3,490 J | NA | NA | 18.8 |
| MCRA6-SP-JU-01 | 9/11/2012 | CES-RA | 16.8 | 9.2 | NA | NC | 261 | NA | NA | 0.5 | 26,100 | NM | < 0.094 | NA | 2.2 | 24.2 J | 0.54 | 3,160 J | 2.6 | NA | NA | NA | NA | 573 J | NA | NA | 3,300 J | NA | NA | 55.8 |
| **Mystery Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MM-AS-01 | 9/9/2005 | CES-SI | 1,160 | 31.2 | 1.70 H | 1,358.3 | 1,360 | 2.5 | < 0.66 | 30.3 | 69,200 | NM | < 6 | 15 | 675 | 16,400 | 37.5 | 25,200 | 4,230 | < 0.2 | NA | NA | < 10 | 1,210 | < 0.62 | 0.22 | 4,420 | 0.36 | < 5 | 6,590 |
| WADNR - WMYS2 (Adit 3 discharge) | 4/2003 | WADNR | NA | NA | NA | NC | 3,300 | NA | NA | NA | NA | NM | NA | NA | 710 | 48,000 | 110 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6,100 |
| WADNR - WMYS1 (base of WR dump)) | 4/2003 | WADNR | NA | NA | NA | NC | 1,100 | NA | NA | NA | NA | NM | NA | NA | 700 | 12,000 | < 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6,000 |
| MCEE-DW-MY-01 | 8/20/2008 | CES-EECA | NA | 15.4 | NA | NC | 439 | NA | NA | 14.5 | 22,200 | NM | < 10 | NA | 360 | 6,230 | 28.3 | 7,900 | 1,590 | NA | 0.0034 | NA | NA | NA | < 0.2 | 0.20 B | NA | NA | NA | 2,590 |
| MCEE-DW-MY-02 | 8/20/2008 | CES-EECA | NA | 7.5 | NA | NC | 240 | NA | NA | 13.1 | 18,900 | NM | < 10 | NA | 390 | 2,920 | 27.6 | 6,400 | 1,370 | NA | 0.0019 | NA | NA | NA | < 0.1 | 0.18 B | NA | NA | NA | 2,340 |
| MCRA1-DW-MY-01 | 6/30/2010 | CES-RA | 471 | 15.4 | NA | NC | 389 | NA | NA | 10 | 19,300 | NM | < 0.24 | NA | 225 | 4,910 | 22.3 | 6,780 | 1,120 | NA | NA | NA | NA | 426 | NA | NA | 1,130 | NA | NA | 2,030 |
| MCRA2-DW-MY-01 | 9/28/2010 | CES-RA | 404 | 15.6 | NA | NC | 432 | NA | NA | 9.8 | 16,800 | NM | < 0.24 | NA | 244 | 4,910 | 27.3 | 6,220 | 1,030 | NA | NA | NA | NA | 404 | NA | NA | 1,090 | NA | NA | 1,810 |
| MCRA3-DW-MY-01 | 6/28/2011 | CES-RA | 249 | 14.2 | NA | NC | 286 | NA | NA | 6.2 | 9,880 | NM | < 0.1 | NA | 144 | 2,970 | 17.3 | 3,700 J | 548 | NA | NA | NA | NA | 285 J | NA | NA | 682 J | NA | NA | 1,040 |
| MCRA4-DW-MY-01 | 10/4/2011 | CES-RA | 473 | 14.2 | NA | NC | 440 | NA | NA | 14.3 | 21,600 | NM | < 0.1 | NA | 343 | 5,570 | 25.3 | 8,050 | 1,840 | NA | NA | NA | NA | 521 J | NA | NA | 1,190 J | NA | NA | 3,200 |
| MCRA5-DW-MY-01 | 6/26/2012 | CES-RA | 259 | 15 | NA | NC | 318 | NA | NA | 6.6 | 11,200 | NM | NA | NA | 163 | 3,720 | 17.2 | 4,360 J | 652 | NA | NA | NA | NA | 180 J | NA | NA | 773 J | NA | NA | 1,230 |
| MCRA6-DW-MY-01 | 9/11/2012 | CES-RA | 1,100 | 23.9 | NA | NC | 1,060 | NA | NA | 34.6 | 64,000 | NM | NA | NA | 747 | 13,500 | 30.2 | 25,000 | 3,570 | NA | NA | NA | NA | 1,040 J | NA | NA | 3,630 J | NA | NA | 5,980 |
| **New Discovery Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MC-GC-4 (seep along GC, below New Disco | 8/2/2006 | Forest Service | NA | 4.9 | NA | NC | 2.8 | NA | NA | < 0.037 | NA | NM | NA | NA | 0.77 J | NA | 0.05 J | NA | NA | NA | NA | NA | 0.51 J | NA | NA | NA | NA | NA | NA | 7.9 |
| WADNR - NEWDISCH20 (Adit 2 discharge | 4/2003 | WADNR | NA | NA | NA | NC | 30 | NA | NA | < 5 | NA | NM | NA | NA | < 10 | 729 | 11 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 225 |
| MCEE-DW-ND-01 | 8/23/2008 | CES-EECA | NA | 4.2 | NA | NC | 31.6 | NA | NA | 4.5 | 28,400 | NM | < 10 | NA | < 10 | 1,350 | 4.4 | 9,300 | 696 | NA | 0.0111 | NA | NA | NA | < 0.1 | 0.08 B | NA | NA | NA | 850 |
| MCRA1-DW-ND-01 | 6/29/2010 | CES-RA | 56.5 | 1.1 | NA | NC | 17.2 | NA | NA | 1.2 | 6,580 | NM | < 0.24 | NA | 13.8 | 392 | 26.2 | 1,810 | 97.2 | NA | NA | NA | NA | 318 | NA | NA | 750 | NA | NA | 179 |
| MCRA2-DW-ND-01 | 9/29/2010 | CES-RA | 44.5 | 0.86 | NA | NC | 8.2 | NA | NA | 1.3 | 4,880 | NM | < 0.24 | NA | 13.8 | 363 | 99 | 1,720 | 169 | NA | NA | NA | NA | 352 | NA | NA | 647 | NA | NA | 202 |
| MCRA4-DW-ND-01 | 10/4/2011 | CES-RA | 29.6 | 1.5 | NA | NC | 23.4 | NA | NA | 1.2 | 10,800 | NM | < 0.1 | NA | 10.6 | 999 | 8.8 | 3,520 J | 435 | NA | NA | NA | NA | 651 J | NA | NA | 1090 J | NA | NA | 190 |
| MCRA6-DW-ND-01 | 9/12/2012 | CES-RA | 13.9 | 2.8 | NA | NC | 17.2 | NA | NA | 1 | 37,200 | NM | < 0.094 | NA | 5.3 | 635 | 1.7 | 13,200 | 618 | NA | NA | NA | NA | 1,740 J | NA | NA | 3,580 J | NA | NA | 169 |
| **Pride of the Mountains Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MC-GC-6 (Adit 1 discharge) | 8/2/2006 | Forest Service | NA | 30 | NA | NC | 1,100 | NA | NA | 11 | NA | NM | NA | NA | 560 | NA | 100 | NA | NA | NA | NA | NA | 1.3 J | NA | NA | NA | NA | NA | NA | 1,600 |
| WADNR - PR-MTS (Adit 1 discharge) | 4/2003 | WADNR | NA | NA | NA | NC | 6,350 | NA | NA | 40 | NA | NM | NA | NA | 2,640 | 17,700 | 562 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5,170 |
| MCEE-DW-PM-01 | 8/22/2008 | CES-EECA | NA | 12.3 | NA | NC | 162 | NA | NA | 4.2 | 17,000 | NM | < 10 | NA | 90 | 500 | 15.8 | 3,200 | 108 | NA | 0.0038 | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | 830 |
| MCRA1-DW-PM-01 | 6/29/2010 | CES-RA | 20.8 | 5.8 | NA | NC | 78.2 | NA | NA | 1.9 | 7,490 | NM | < 0.24 | NA | 29.3 | 160 | 5.9 | 1,330 | 42.5 | NA | NA | NA | NA | 486 | NA | NA | 604 | NA | NA | 387 |
| MCRA2-DW-PM-01 | 9/29/2010 | CES-RA | 50.7 | 8.6 | NA | NC | 198 | NA | NA | 2.8 | 10,900 | NM | < 0.24 | NA | 75.4 | 396 | 16.1 | 2,130 | 53.5 | NA | NA | NA | NA | 609 | NA | NA | 691 | NA | NA | 609 |
| MCRA4-DW-PM-01 | 10/4/2011 | CES-RA | 199 | 12.8 | NA | NC | 1,020 | NA | NA | 6 | 16,200 | NM | < 0.1 | NA | 378 | 1,920 | 60.5 | 3,220 J | 191 | NA | NA | NA | NA | 821 J | NA | NA | 847 J | NA | NA | 1,520 |
| MCRA6-DW-PM-01 | 9/12/2012 | CES-RA | 220 | 21.7 | NA | NC | 888 | NA | NA | 8.9 | 30,000 | NM | 0.12 J | NA | 452 | 2,780 | 83.2 | 5,990 | 337 | NA | NA | NA | NA | 1,220 J | NA | NA | 1,160 J | NA | NA | 1,520 |
| **Pride of the Woods Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MCEE-DW-PW-01 | 8/23/2008 | CES-EECA | NA | 25.0 | NA | NC | 4060 | NA | NA | 7.7 | 2,800 | NM | < 10 | NA | 410 | 22,900 | 125.0 | 1,100 | 522 | NA | 0.820 | NA | NA | NA | 0.3 B | 3.82 | NA | NA | NA | 1,220 |
| MCRA1-DW-PW-01 | 6/29/2010 | CES-RA | 5,500 | 6.6 | NA | NC | 64.7 | NA | NA | 3.6 | 2,370 | NM | 2.6 | NA | 180 | 5,300 | 32.3 | 1,390 | 606 | NA | NA | NA | NA | 961 | NA | NA | 938 | NA | NA | 522 |
| MCRA2-DW-PW-01 | 9/27/2010 | CES-RA | 6,040 | 6.7 | NA | NC | 910 | NA | NA | 12 | 4,140 | NM | 1.9 | NA | 561 | 5,260 | 50.6 | 2,040 | 652 | NA | NA | NA | NA | 710 | NA | NA | 2,040 | NA | NA | 1,900 |
| MCRA3-DW-PW-01 | 6/28/2011 | CES-RA | 230 | 1.2 | NA | NC | 11.2 | NA | NA | 0.82 | 2,440 J | NM | < 0.1 | NA | 43.9 | 518 | 2.5 | 285 J | 40.9 | NA | NA | NA | NA | < 76.2 | NA | NA | 299 J | NA | NA | 122 |
| MCRA4-DW-PW-01 | 10/4/2011 | CES-RA | 786 | 0.58 | NA | NC | 0.79 | NA | NA | 2.1 | 1,060 J | NM | < 0.1 | NA | 87.9 | 58.1 | 2.8 | 311 J | 124 | NA | NA | NA | NA | 199 J | NA | NA | 527 J | NA | NA | 300 |
| MCRA5-DW-PW-01 | 6/27/2012 | CES-RA | 156 | 0.42 J | NA | NC | 0.35 J | NA | NA | 0.34 | 600 J | NM | < 0.094 | NA | 13.2 | 9.4 J | 0.29 | < 30 | 19.5 | NA | NA | NA | NA | < 76.2 | NA | NA | 414 J | NA | NA | 59.7 |
| **Rainy Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MCEE-DW-RY-01 | 8/21/2008 | CES-EECA | NA | 0.8 B | NA | NC | 14 | NA | NA | < 0.1 | 5,600 | NM | < 10 | NA | < 10 | 140 | 0.9 | 900 B | 17 B | NA | 0.0060 | NA | NA | NA | 0.1 B | < 0.05 | NA | NA | NA | < 10 |
| MCRA1-DW-RY-01 | 6/30/2010 | CES-RA | 137 | 0.16 J | NA | NC | 6 | NA | NA | 0.025 J | 2,570 | NM | < 0.24 | NA | 1.5 | 137 | 1.1 | 540 | 15.6 | NA | NA | NA | NA | 289 | NA | NA | 938 | NA | NA | 3 J |
| MCRA2-DW-RY-01 | 9/27/2010 | CES-RA | 80 | 0.18 J | NA | NC | 10.8 | NA | NA | < 0.2 | 2,890 | NM | < 0.24 | NA | 1.9 | 162 | 1.2 | 565 | 24.8 | NA | NA | NA | NA | 311 | NA | NA | 1,020 | NA | NA | 9.8 |
| MCRA3-DW-RY-01 | 6/27/2011 | CES-RA | 7.2 | 0.14 J | NA | NC | 1.4 | NA | NA | < 0.03 | 2,330 J | NM | < 0.1 | NA | 0.33 J | 73.5 | < 0.05 | 400 J | 1.2 | NA | NA | NA | NA | 248 J | NA | NA | 898 J | NA | NA | < 2.5 |
| MCRA4-DW-RY-01 | 10/5/2011 | CES-RA | 16.1 | 0.43 J | NA | NC | 9.1 | NA | NA | 0.038 J | 5,610 | NM | < 0.1 | NA | 1 | 39.5 J | 0.14 | 988 J | 4.4 | NA | NA | NA | NA | 524 J | NA | NA | 1,580 J | NA | NA | 13.7 |
| MCRA5-DW-RY-01 | 6/26/2012 | CES-RA | 7.7 | 0.14 J | NA | NC | 1.4 | NA | NA | < 0.028 | 2,140 J | NM | < 0.094 | NA | 0.27 | < 8.6 | 0.17 | 461 J | 0.55 | NA | NA | NA | NA | 275 J | NA | NA | 874 J | NA | NA | 4.7 J |
| MCRA6-DW-RY-01 | 9/11/2012 | CES-RA | 31.9 | 0.55 | NA | NC | 10.6 | NA | NA | 0.04 J | 5,320 | NM | 0.13 J | NA | 1.1 | 58.2 | 0.6 | 1,040 J | 9.2 | NA | NA | NA | NA | 293 J | NA | NA | 1,610 J | NA | NA | 10.8 |
| **Sidney Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MC-76-2 (Adit discharge) | 8/3/2006 | Forest Service | NS | 1.5 J | NA | NC | 19 | NA | NA | < 0.037 | NA | NM | NA | NA | 0.74 J | NA | 0.1 J | NA | NA | NA | NA | NA | 0.32 J | NA | NA | NA | NA | NA | NA | 4.9 J |
| MCEE-DW-SY-01 | 9/30/2008 | CES-EECA | NA | 0.6 B | NA | NC | 28.8 | NA | NA | < 0.1 | 5,100 | NM | < 10 | NA | < 10 | 60 | < 0.1 | 300 B | < 5 | < 0.2 | NA | NA | NA | NA | < 0.1 | < 0.05 | NA | NA | NA | < 10 |
| MRCA6-DW-SY-01 | 9/12/2012 | CES-RA | 13 | 0.4 J | NA | NC | 25.4 | NA | NA | < 0.028 | 6,350 | NM | 0.13 J | NA | 0.66 | 49.8 J | 0.12 | 434 J | 3.2 | NA | NA | NA | NA | 295 J | NA | NA | 1,860 J | NA | NA | 2.4 J |
| **Sheridan Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MCRA1-DW-SH-01 | 6/30/2010 | CES-RA | 47.3 | < 0.16 | NA | NC | 15.4 | NA | NA | 0.028 J | 4,400 | NM | < 0.24 | NA | 0.44 J | 75 | 0.28 | 659 | 15.6 | NA | NA | NA | NA | 184 | NA | NA | 2,200 | NA | NA | 23.8 |
| MCRA2-DW-SH-01 | 9/28/2010 | CES-RA | 39.6 | < 0.16 | NA | NC | 10.4 | NA | NA | < 0.2 | 2,870 | NM | < 0.24 | NA | 0.24 J | 44.5 J | 0.087 J | 458 | 6.9 | NA | NA | NA | NA | 162 | NA | NA | 1,330 | NA | NA | 10.1 |
| MCRA3-DW-SH-01 | 6/29/2011 | CES-RA | 35.1 | < 0.07 | NA | NC | 4.6 | NA | NA | < 0.03 | 1,570 J | NM | < 0.1 | NA | 0.57 | 803 | 0.12 | 150 J | 10.7 | NA | NA | NA | NA | < 76.2 | NA | NA | 659 J | NA | NA | 6.5 |
| MCRA4-DW-SH-01 | 10/5/2011 | CES-RA | 38.7 | 1.8 J | NA | NC | 23.5 | NA | NA | 0.045 J | 4,790 J | NM | < 0.1 | NA | 0.5 J | 88.1 | 0.2 | 813 J | 14.7 | NA | NA | NA | NA | 208 J | NA | NA | 2,590 J | NA | NA | 14.6 |
| MCRA5-DW-SH-01 | 6/26/2012 | CES-RA | 144 | 0.096 J | NA | NC | 22.3 | NA | NA | 0.039 J | 1,890 J | NM | < 0.094 | NA | 0.67 | 200 | 0.56 | 161 J | 29.2 | NA | NA | NA | NA | < 76.2 | NA | NA | 937 J | NA | NA | 13.1 |
| **Lincoln Mine** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MCRA2-LM-SP-01 | 9/28/2010 | CES-RA | 87.8 | < 0.16 | NA | NC | 2 | NA | NA | < 0.02 | 1,950 | NM | < 0.24 | NA | 0.23 J | 341 | < 0.02 | 198 | 23.6 | NA | NA | NA | NA | 120 | NA | NA | 962 | NA | NA | 3.5 J |
| **Background Mean** | | | 16.5 | 2.1 | 0.05 | 0.9 | 2.8 | 6.63 | < 0.62 | 0.1 | 2,872 | NC | < 1.0 | < 3 | 1.2 | 15.3 | 0.4 | 228.6 | 1.8 | < 0.09 | 0.00252 | NC | 2.57857 | < 250 | < 0.775 | 0.96 | < 250 | 0.52 | < 2.5 | 3.8 |
| **Standards, corrected for hardness where applicable (used 9.21 mg/L average for surface water samples, includes all stations in Glacier Creek, 76 Gulch, and South Fork Sauk River)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Washington - Aquatic Life (Chronic) [1] | | | NS | NS | NS | NS | 190 | NS | NS | 0.17 | NS | 10 | NS | NS | 1.5 | NS | 0.15 | NS | NS | 0.01 | 0.012 | NS | 33.9 | NS | 5 | NS | NS | NS | NS | 14.05 |
| Washington - Human Health [2] | | | NS | 14 | NS | NS | 0.018 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.14 | 0.14 | NS | 610 | NS | 170 | NS | NS | 1.7 | NS | NS |
| Washington Drinking Water Criteria [3] | | | NS | 6 | NS | NS | 10 | 2,000 | 4 | 5 | NS | NS | 100 | NS | NS | 300 | NS | NS | 50 | 2 | 2 | NS | 100 | NS | 50 | 100 | NS | 2 | NS | 50,000 |
| EPA - Aquatic Life (CCC) [4] | | | 87 | NS | NS | NS | 150 | NS | NS | 0.047 | NS | 11 | NS | NS | 1.2 | 1,000 | 0.174 | NS | NS | 0.77 | 0.77 | NS | 6.9 | NS | 5 | NS | NS | NS | NS | 15.66 |
| EPA - Human Health (Water+Organism) [5] | | | NS | 5.6 | NS | NS | 0.018 | 1,000 | NS | NS | NS | NS | NS | NS | 1,300 | 300 | NS | NS | 50 | NS | NS | NS | 610 | NS | 170 | NS | NS | 1.7 | NS | 7,400 |
| ORNL - Surface Water PRGs [6] | | | 87 | 30 | 190 | 3.1 | NS | 4 | 0.66 | 1.10 | NS | 11 | NS | 23 | 12 | 1,000 | 3.20 | NS | 120 | 1.3 | 1.3 | 0.0026 | 160 | NS | 0.39 | 0.36 | NS | 9 | 20 | 110 |

**GENERAL NOTES:**

All CES-SI sample analyses (except Arsenic (III,) Mercury, UltraTrace, & Mercury, Methyl) were conducted by SVL Analytical, Inc., Kellogg, Idaho by EPA Method 200 Series for total recoverable metals.

All CES-EECA sample analyses were conducted by ACZ Laboratories, Inc., Steamboat Springs, Colorado by EPA Method 200 Series got total recoverable metals.

Arsenic (III), Mercury, UltraTrace, & Mercury-Methyl analyses were conducted by Brooks Rand, Seattle, Washington.

Arsenic (V) was calculated from the difference between Arsenic and Arsenic (III).

All CES-RA analyses were conducted by Pace Analytical Services, Inc., Seattle, Washington per EPA Method 6010/6020 for total metals.

Abbreviations: < value = Analyte not detected above Method Detection Limit (MDL), H = Holding time exceeded., J = Analyte detected between MDL and Practical Quantification Limit (PQL) therefore concentration is estimated, mg/L = milligrams per liter, NA = not analyzed, NC = not calculated, ND = not detected (no MDL provided), NM = not measured, RA = Removal Action, µg/L = micrograms per liter.

**Bold** indicates an exceedence of background mean (Note - background samples that exceed the mean background concentration are not bolded)

Shaded cells indicate that the value exceeds one or more standard; corresponding criteria also shaded.

*Italic* values indicate that the MDL exceeds the lowest standard

SHA = Site Hazard Assessment Results (Crofoot and O'Brian, 2004)

WADNR = Washington Department of Natural Resources Results (Wolff, McKay, and Norman, 2003)

Forest Service = USFS Region 6 APAs (Graham, 2006)

(200.8) = Second analyses of selected elements by low level detection ICP-MS

**STANDARD NOTES**

1 State of Washington Aquatic Life criteria (WAC 173-201A), underline - corrected for hardness

2 State of Washington criteria for protection of human health (CLARC-Part IIIf)

3 State of Washington drinking water criteria (WAC 246-290)

4 EPA recommended chronic ambient water quality criteria for freshwater aquatic life used (EPA, 2002), underline - corrected for hardness, *italics* - expressed as Dissolved

5 EPA recommended ambient water quality criteria for protection of human consumption of water and fish (EPA, 2002 NTR), *italics* - expressed as Dissolved

6 ORNL Preliminary Remediation Goals for Ecological Endpoints (ORNL, 1997), underline - corrected for an assumed hardness of 100 mg/L

NS = No Standard

**Table 2a. Seep Water Analytical Results (continued)**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample I.D. | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Flow Rate | Temperature (Field) | pH (Field) | pH (Lab) | Turbidity (Field) | Conductivity (Field) | Conductivity @25C (Lab) | Dissolved Oxygen (Field) | Oxygen Reduction Potential (Field) | Hardness as $CaCO_3$, TR | TDS (Field) | TDS, Residue, Filterable @180C | TSS, Residue, Non-Filterable @105C | Cyanide-Total | Cyanide-WAD | Sulfate | Chloride | Alkalinity (Total as $CaCO_3$) | Total Acidity | Ferrous Iron (Field) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | cfs | °C | s.u. | s.u. | NTU | mS/cm | mS/cm | mg/L | mV | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| **Water Samples from Adit Drainage and Waste Rock Dump Seeps** | | | | | | | | | | | | | | | | | | | | | | |
| **Boston-American Mine** | | | | | | | | | | | | | | | | | | | | | | |
| MCEE-DW-BA-01 | 8/20/2008 | CES-EECA | 0.003 | 6.34 | 7.71 | 8.1 | NM | IM | 26 | IM | IM | 160 | NM | 240 | 5 B | NA | NA | 129 | NA | NA | NA | NM |
| MCEE-DW-BA-02 | 8/20/2008 | CES-EECA | 0.0003 | 8.01 | 7.36 | 7.1 | NM | IM | 414 | IM | IM | 10 | NM | 20 | < 5 | NA | NA | 7 | NA | NA | NA | NM |
| MCRA1-DW-BA-01 | 6/28/2010 | CES-RA | NM | 8.10 | 6.91 | 7.1 H | NM | 368 | NA | 14.33 | NM | 15.6 | NM | 246 | < 2 | NA | NA | 138 | 2.6 | 52.2 | NA | NM |
| MCRA2-DW-BA-01 | 9/27/2010 | CES-RA | 0.0020 | 9.71 | 6.38 | 6.8 H | NM | 246 | NA | 12.44 | -174.92 | 148 | NM | 348 | < 2 | NA | NA | 171 | 2.7 | 54 H | NA | NM |
| MCRA3-DW-BA-01 | 6/28/2011 | CES-RA | NM | 5.36 | 6.71 | 6.5 H | NM | 27 | NA | 12.55 | 147.2 | 8.36 | NM | 10 | 6 | NA | NA | 5.5 | 0.27 J | 3.6 | NA | NM |
| MCRA4-DW-BA-01 | 10/5/2011 | CES-RA | NM | 6.32 | 7 | 7.4 H | NM | 54 | NA | 9.49 | 154.5 | 331 | NM | 359 | < 1 | NA | NA | 197 | 4.2 | 59 | NA | NM |
| MCRA5-DW-BA-01 | 6/25/2012 | CES-RA | NM | 5.85 | 8.07 | 6.9 H | NM | 32 | NA | 12.89 | -99 | 13.7 | NM | 23 | 1 J | NA | NA | 10.2 | 0.44 J | 6.6 | NA | NM |
| **Justice Mine** | | | | | | | | | | | | | | | | | | | | | | |
| SHA-3374082 (at Justice Mine) | 9/12/2003 | Ecology | NM | 4.87 | 8.12 | NA | NM | NM | NM | 10.85 | NM | 104 | NM | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| SHA-3374083 (below Justice Mine) | 9/12/2003 | Ecology | NM | NM | NM | NA | NM | NM | NM | NM | NM | 99.5 | NM | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| WADNR - WJUS1 (Adit 3 dump) | 4/2003 | WADNR | < 0.01 | 11.70 | 5.0 | NA | NM | NM | NA | NM | NM | 60 | NM | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| JM-AS-01 | 9/10/2005 | CES-SI | 0.10 | 3.20 | 3.81 | 3.5 | NM | NM | NM | NM | 465 | 278 | NM | 470 | 32 | NA | NA | 302 | NA | NA | NA | NM |
| MCEE-DW-JU-01 | 8/20/2008 | CES-EECA | 0.02 | 4.82 | IM | 8.0 | NM | IM | 33 | IM | IM | 62 | NM | 90 | < 5 | NA | NA | 31 | NA | NA | NA | NM |
| MCEE-DW-JU-02 | 8/20/2008 | CES-EECA | 0.006 | 4.15 | IM | 8.1 | NM | IM | 149 | IM | IM | 60 | NM | 60 | < 5 | NA | NA | 30 | NA | NA | NA | NM |
| MCRA1-DW-JU-01 | 6/30/2010 | CES-RA | 0.02 | 4.56 | 7.12 | 5.7 H | NM | 28 | NA | 12.35 | 88.5 | 35 | 36 | 77 | 3 | NA | NA | 16.3 | 0.6 J | 25.6 | NA | NM |
| MCRA2-DW-JU-01 | 9/28/2010 | CES-RA | 0.30 | 4.68 | 7.52 | 6.6 H | NM | 73 | NA | 10.21 | 78.7 | 52.2 | NM | 59 | 5 | NA | NA | 23.3 | 0.66 J | 26 H | NA | NM |
| MCRA3-DW-JU-01 | 6/28/2011 | CES-RA | 0.75 | 4.37 | 7.41 | 6.5 H | NM | 77 | NA | 12.39 | 102.7 | 35.1 | NM | 45 | 3 | NA | NA | 17.1 | 0.52 J | 18 | NA | NM |
| MCRA3-SP-JU-01 | 6/27/2011 | CES-RA | 0.02 | 8.90 | 7.14 | 7.3 H | NM | 63 | NA | 11.33 | -190.3 | 34 | NM | 37 | 2 | NA | NA | 16.9 | 0.45 J | 20.1 | NA | NM |
| MCRA4-DW-JU-01 | 10/4/2011 | CES-RA | NM | 4.78 | 6.8 | 7.1 H | NM | 126 | NA | 10.52 | -93.1 | 82.8 | NM | 77 | < 1 | NA | NA | 31.7 | 1 J | 32.2 | NA | NM |
| MCRA4-SP-JU-01 | 10/4/2011 | CES-RA | NM | 6.39 | 7.36 | 7.3 H | NM | 130 | NA | 10.17 | -50.6 | 69 | NM | 80 | 1 | NA | NA | 32.5 | 0.86 J | 30.7 | NA | NM |
| MCRA5-DW-JU-01 | 6/26/2012 | CES-RA | 0.86 | 5.70 | 6 | 7.6 H | NM | 52 | NA | 11.20 | -150 | 32.1 | NM | 62 | < 1 | NA | NA | 15.1 | 0.51 J | 18 | 2.2 | 0 |
| MCRA5-SP-JU-01 | 6/27/2012 | CES-RA | NM | 9.04 | 7 | 7.6 H | NM | 68 | NA | 9.10 | -133.8 | 31.7 | NM | 53 | 1 J | NA | NA | 15.3 | 0.51 J | 18.5 | NA | 0 |
| MCRA6-DW-JU-01 | 9/11/2012 | CES-RA | NM | 4.80 | IM | 7.9 H | NM | 150 | NA | 11.08 | -203.6 | 87.1 | NM | 124 | < 1 | NA | NA | 39.7 | 1.1 | 44.4 | 2.8 | NM |
| MCRA6-SP-JU-01 | 9/11/2012 | CES-RA | NM | 6.61 | 6.26 | 7.7 H | NM | 175 | NA | 9.88 | -216 | 78.1 | NM | 118 | 3 | NA | NA | 41.1 | 1.2 | 35.6 | NA | NM |
| **Mystery Mine** | | | | | | | | | | | | | | | | | | | | | | |
| MM-AS-01 | 9/9/2005 | CES-SI | 0.01 | 3.2 | 3.81 | 3.5 | NM | NM | NM | 9.1 | 465 | 278 | NM | 470 | 32 | NA | NA | 302 | NA | NA | NA | NM |
| WADNR - WMYS1 (base of WR dump) | 4/2003 | WADNR | 0.01 | 10.5 | 4.4 | NA | NM | NM | 578 | NM | NM | 250 | NM | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| WADNR - WMYS2 (Adit 3 discharge) | 4/2003 | WADNR | 0.09 | 4.4 | 4.4 | NA | NM | NM | 570 | NM | NM | 240 | NM | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| MCEE-DW-MY-01 | 8/20/2008 | CES-EECA | 0.006 | 4.15 | IM | 3.9 | NM | IM | 141 | IM | IM | 88 | NM | 160 | 14 B | NA | NA | 90 | NA | NA | NA | NM |
| MCEE-DW-MY-02 | 8/20/2008 | CES-EECA | 0.0001 | 10.50 | IM | 4.0 | NM | IM | 319 | IM | IM | 74 | NM | 70 | < 5 | NA | NA | 76 | NA | NA | NA | NM |
| MCRA1-DW-MY-01 | 6/30/2010 | CES-RA | 0.0090 | 4.06 | 4.08 | 4.2 H | NM | 217 | NA | 12.45 | 155.5 | 76.2 | 107 | 158 | 9 | NA | NA | 94.5 | 0.31 J | < 2 | NA | NM |
| MCRA2-DW-MY-01 | 9/28/2010 | CES-RA | NM | 4.26 | 3.62 | 4.0 H | NM | 220 | NA | 10.03 | 477.1 | 67.5 | NM | 128 | 13 | NA | NA | 71.5 | 0.39 J | < 2 H | NA | NM |
| MCRA3-DW-MY-01 | 6/28/2011 | CES-RA | 0.75 | 3.38 | 3.98 | 4.4 H | NM | 116 | NA | 12.28 | 357.2 | 40.1 | NM | 54 | 8 | NA | NA | 40.7 | 0.68 J | < 0.1 | NA | NM |
| MCRA4-DW-MY-01 | 10/4/2011 | CES-RA | NM | 4.06 | 3.27 | 3.9 H | NM | 237 | NA | 8.57 | -445.9 | 117 | NM | 184 | 12 | NA | NA | 98.4 | 0.38 J | < 0.1 | NA | NM |
| MCRA5-DW-MY-01 | 6/26/2012 | CES-RA | NM | 3.38 | 4.45 | 5.2 H | NM | 76 | NA | 11.1 | -260.2 | 5.8 | NM | 90 | 8 | NA | NA | 48.6 | 0.49 J | < 0.1 | 8.7 | 0 |
| MCRA6-DW-MY-01 | 9/11/2012 | CES-RA | 0.005 | 3.61 | IM | 3.6 H | NM | 525 | NA | 11.7 | 186.6 | 263 | NM | 474 | 29 | NA | NA | 314 | 0.6 J | < 0.1 | 67.9 | NM |
| **New Discovery Mine** | | | | | | | | | | | | | | | | | | | | | | |
| MC-GC-4 (seep along GC, below New Disco | 8/2/2006 | Forest Service | NM | 6.1 | 6.81 | NA | 3 | NM | 49.0 | 12.94 | 173 | 9.0 | 30 | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| WADNR - NEWDISCH20 (Adit 2 discharge | 4/2003 | WADNR | < 0.01 | 7.8 | 6.7 | NA | NM | NM | NM | NM | NM | 130 | NM | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| MCEE-DW-ND-01 | 8/23/2008 | CES-EECA | NM | NM | NM | 7.0 | NM | NM | 267 | NM | NM | 109 | NM | 180 | < 5 | NA | NA | 99 | NA | NA | NA | NM |
| MCRA1-DW-ND-01 | 6/29/2010 | CES-RA | 0 | 6.49 | 6.97 | 3.0 H | NM | 121 | NA | 9.3 | 48.7 | 23.9 | 63 | 102 | < 2 | NA | NA | 26.2 | 0.74 J | 3.3 | NA | NM |
| MCRA2-DW-ND-01 | 9/29/2010 | CES-RA | 0.0001 | 7.49 | 6.18 | 6.5 H | NM | 185 | NA | 5.01 | 113.6 | 19.3 | NM | 35 | < 2 | NA | NA | 24.3 | 0.26 J | 9.2 | NA | NM |
| MCRA4-DW-ND-01 | 10/4/2011 | CES-RA | 0.0006 | 6.9 | 5.92 | 6.1 H | NM | 334 | NA | 6.15 | -165.7 | 43 | NM | 97 | 3 | NA | NA | 43.3 | 0.39 J | 3.6 | NA | NM |
| MCRA6-DW-ND-01 | 9/12/2012 | CES-RA | NM | 7.44 | 5.99 | 7.1 H | NM | 299 | NA | 6.3 | 186 | 147 | NM | 234 | 1 J | NA | NA | 125 | 0.7 J | 11.9 | NA | NM |
| **Pride of the Mountains** | | | | | | | | | | | | | | | | | | | | | | |
| MC-GC-6 (Adit 1 discharge) | 8/2/2006 | Forest Service | NM | 5.2 | 6.6 | NA | 3 | NM | 316 | 13.25 | 208 | 99 | 200 | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| WADNR - PR-MTS (Adit 1 discharge) | 4/2003 | WADNR | < 0.01 | 7.8 | 7.7 | NA | NM | NM | NM | NM | NM | 160 | NM | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| MCEE-DW-PM-01 | 8/22/2008 | CES-EECA | 0.004 | 4.69 | IM | 7.5 | NM | IM | 201 | IM | IM | 56 | NM | 80 | < 5 | NA | NA | 37 | NA | NA | NA | NM |
| MCRA1-DW-PM-01 | 6/29/2010 | CES-RA | 0.010 | 3.7 | 6.98 | 3.4 H | NM | IM | NA | IM | IM | 24.2 | 24 | 67 | < 2 | NA | NA | 14 | 0.2 J | 6.6 | NA | NM |
| MCRA2-DW-PM-01 | 9/29/2010 | CES-RA | 0.010 | 3.98 | 7.10 | 6.6 H | NM | 89 | NA | 10.5 | 51.1 | 36 | NM | 32 | 3 | NA | NA | 22.8 | 0.23 J | 14.2 | NA | NM |
| MCRA4-DW-PM-01 | 10/4/2011 | CES-RA | 0.007 | 4.55 | 6.22 | 6.9 H | NM | 129 | NA | 7.26 | -158.2 | 66.5 | NM | 75 | 1 J | NA | NA | 36.4 | 0.25 J | 17 | NA | NM |
| MCRA6-DW-PM-01 | 9/12/2012 | CES-RA | 0.001 | 4.28 | 7.39 | 7.6 H | NM | 16 | NA | 10.1 | -242.3 | 99.6 | NM | 165 | 7 | NA | NA | 57.6 | 0.27 J | 39.6 | 4.7 | NM |
| **Pride of the Woods Mine** | | | | | | | | | | | | | | | | | | | | | | |
| MCEE-DW-PW-01 | 8/23/2008 | CES-EECA | 0.00007 | NM | NM | 3.8 | NM | NM | 130 | NM | NM | 12 | NM | 140 | 219 | NA | NA | 40 | NA | NA | NA | NM |
| MCRA1-DW-PW-01 | 6/29/2010 | CES-RA | NM | 3.33 | 4.03 | 4.1 H | NM | 86 | NA | 12.64 | 179.2 | 11.6 | 43 | 31 | 61 | NA | NA | 18.9 | 0.2 J | < 2 | NA | NM |
| MCRA2-DW-PW-01 | 9/27/2010 | CES-RA | NM | 11.46 | 3.42 | 3.5 H | NM | 255 | NA | 5.63 | 302.6 | 19 | NM | 136 | 185 | NA | NA | 73.1 | 0.26 J | < 2 H | NA | NM |
| MCRA3-DW-PW-01 | 6/28/2011 | CES-RA | NM | 1.67 | 6.09 | 6.4 H | NM | 12 | NA | 13.75 | 123.8 | 7.28 | NM | 15 | 3 | NA | NA | 4.9 | 0.17 J | 2.8 | NA | NM |
| MCRA4-DW-PW-01 | 10/4/2011 | CES-RA | 0.002 | 4.72 | 3.93 | 4.4 H | NM | 40 | NA | 10.86 | -95.2 | 4.91 | NM | 16 | < 1 | NA | NA | 10.6 | 0.19 J | < 0.1 | NA | NM |
| MCRA5-DW-PW-01 | 6/27/2012 | CES-RA | 0.017 | 1.42 | 3.42 | 6.4 H | NM | 5 | NA | 11.74 | -34.3 | 1.5 | NM | 13 | < 1 | NA | NA | 2 | 0.24 J | < 0.1 | 3 | 0 |
| **Rainy Mine** | | | | | | | | | | | | | | | | | | | | | | |
| MCEE-DW-RY-01 | 8/21/2008 | CES-EECA | 0.0001 | 5.14 | IM | 7.2 | NM | IM | 198 | IM | IM | 18 | NM | 30 | 5 B | NA | NA | 8 | | | NA | NM |
| MCRA1-DW-RY-01 | 6/30/2010 | CES-RA | NM | 4.89 | 6.97 | 6.3 H | NM | 17 | NA | 12.3 | 94.1 | 8.64 | 8 | 27 | 5 | NA | NA | 3.7 | < 0.076 | 9.5 | NA | NM |
| MCRA2-DW-RY-01 | 9/27/2010 | CES-RA | 0.15 | 5.31 | 5.9 | 6.1 H | NM | 28 | NA | 8.54 | 160 | 9.55 | NM | 18 | 6 | NA | NA | 4 | 0.37 J | 8.9 H | NA | NM |
| MCRA3-DW-RY-01 | 6/27/2011 | CES-RA | 0.004 | 4.52 | 7.04 | 6.4 H | NM | 11 | NA | 13.33 | -154.3 | 7.67 | NM | 12 | < 1 | NA | NA | 0.27 J | 3 | 5.7 | NA | NM |
| MCRA4-DW-RY-01 | 10/5/2011 | CES-RA | 0.0017 | 5.24 | 6.69 | 7 H | NM | 23 | NA | 10.01 | -176.9 | 22.2 | NM | 29 | < 1 | NA | NA | 7.7 | 0.33 J | 12.3 | NA | NM |
| MCRA5-DW-RY-01 | 6/26/2012 | CES-RA | 0.0334 | 4.3 | 6.57 | 6.8 H | NM | 13 | NA | 12.08 | -133 | 7.2 | NM | 25 | 1 J | NA | NA | 2.7 | 0.36 J | 4 | NA | NM |
| MCRA6-DW-RY-01 | 9/11/2012 | CES-RA | 0.00059 | 4.98 | 7.15 | 7 H | NM | 39 | NA | 10.2 | -220.8 | 17.6 | NM | 34 | 4 | NA | NA | 7.7 | 0.38 J | 12.3 | NA | NM |
| **Sidney Mine** | | | | | | | | | | | | | | | | | | | | | | |
| MC-76-2 (Adit discharge) | 8/3/2006 | Forest Service | NM | 5.6 | 6.42 | NA | 7 | 54 | 54 | 12.24 | 263 | 9 | 40 | NA | NA | NA | NA | NA | NA | NA | NA | NM |
| MCEE-DW-SY-01 | 9/30/2008 | CES-EECA | 0.003 | 4.5 | 5.5 | 7.3 | NM | 25 | 25 | 17.7 | NM | 14 | NM | 10 | < 5 H | NA | NA | 3 B | NA | NA | NA | NM |
| MCRA6-DW-SY-01 | 9/12/2012 | CES-RA | 0.0035 | | | 7.2 H | NM | NM | NA | NM | NM | 17.6 | NM | 43 | 3 | NA | NA | 6.2 | 3.4 | 10.1 | NA | NM |
| **Sheridan Mine** | | | | | | | | | | | | | | | | | | | | | | |
| MCRA1-DW-SH-01 | 6/30/2010 | CES-RA | NM | 6.84 | 7.46 | 4.7 H | NM | 51 | NA | 16 | NM | 14 | NM | 38 | 3 | NA | NA | 6 | 0.39 J | < 2 | NA | NM |
| MCRA2-DW-SH-01 | 9/28/2010 | CES-RA | 0.0014 | 7.02 | 7.57 | 6.3 H | NM | 22 | NA | 10.83 | 179.8 | 9.05 | NM | 15 | 4 | NA | NA | 5.3 | 0.26 J | 6.6 H | NA | NM |
| MCRA3-DW-SH-01 | 6/29/2011 | CES-RA | NM | 3.9 | 7.13 | 6.2 H | NM | 8 | NA | 12.73 | -135.2 | 4.66 | NM | 11 | 14 | NA | NA | 0.19 J | 2.4 | 2.3 | NA | NM |
| MCRA4-DW-SH-01 | 10/5/2011 | CES-RA | NM | 6.51 | 6.85 | 6.9 H | NM | 37 | NA | 9.77 | -170.7 | 20.40 | NM | 27 | 2 J | NA | NA | 9.8 | 0.27 J | 9.6 | NA | NM |
| MCRA5-DW-SH-01 | 6/26/2012 | CES-RA | NM | 4.21 | 6.13 | 6.9 H | NM | 12 | NA | 11.07 | -163.2 | 5.40 | NM | 19 | 18 | NA | NA | 3.4 | 0.34 J | 3.1 | NA | NM |
| **Lincoln Mine** | | | | | | | | | | | | | | | | | | | | | | |
| MCRA2-LN-SP-01 | 9/28/2010 | CES-RA | NM | NM | 6.1 | NA | NM | NM | NA | NM | NM | 5,690 | 23 | NA | 2 | NA | NA | 0.95 J | 0.43 J | 6.2 H | NA | NM |
| **Standards** | | | | | | | | | | | | | | | | | | | | | | |
| Washington - Aquatic Life (Chronic) [1] | | | NS | 12 | 6.5-8.5 | 6.5-8.5 | 5x>Bkg | NS | NS | 9.5 | NS | NS | NS | NS | NS | NS | 0.005 | NS | NS | NS | NS | NS |
| Washington - Human Health [2] | | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.7 | NS | NS | NS | NS | NS | NS |
| Washington Drinking Water Criteria [3] | | | NS | NS | 6.5-8.5 | 6.5-8.5 | NS | 700 | 700 | NS | NS | NS | 500 | 500 | NS | 0.2 | NS | 250 | 250 | NS | NS | NS |
| EPA - Aquatic Life (CCC) [4] | | | NS | 9-19 | 6.5-9 | 6.5-9 | NS | NS | NS | 9.5 | NS | NS | NS | NS | NS | NS | 0.005 | NS | NS | NS | NS | NS |
| EPA - Human Health (Water+Organism) [5] | | | NS | NS | 5-9 | 5-9 | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.7 | NS | NS | NS | NS | NS | NS |
| ORNL - Surface Water PRGs [6] | | | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | 0.0052 | NS | NS | NS | NS | NS | NS |

**GENERAL NOTES:**

All CES-SI sample analyses (except Arsenic (III,) Mercury, UltraTrace, & Mercury, Methyl) were conducted by SVL Analytical, Inc., Kellogg, ID by EPA Method 200 Series.
All CES-EECA sample analyses were conducted by ACZ Laboratories, Inc., Steamboat Springs, CO by EPA Method 200 Series.
Arsenic (III), Mercury, UltraTrace, & Mercury-Methyl analyses were conducted by Brooks Rand, Seattle, WA
Arsenic (V) was calculated from the difference between Arsenic, TR and Arsenic (III), TR
All CES RA 2010 analyses were conducted by Pace Analytical Services, Inc., Seattle, WA per EPA Method 6010/6020

**STANDARD NOTES**

1 State of Washington Aquatic Life criteria (WAC 173-201A), underline - corrected for hardness
2 State of Washington criteria for protection of human health (CLARC-Part IIIf)
3 State of Washington drinking water criteria (WAC 246-290)
4 EPA recommended chronic ambient water quality criteria for freshwater aquatic life used (EPA, 2002), underline - corrected for hardness, *italics* - expressed as Dissolved
5 EPA recommended ambient water quality criteria for protection of human consumption of water and fish (EPA, 2002 NTR), *italics* - expressed as Dissolved
6 ORNL Preliminary Remediation Goals for Ecological Endpoints (ORNL, 1997), underline - corrected for an assumed hardness of 100 mg/L

Abbreviations: < value = Analyte not detected above Method Detection Limit (MDL), °C = degrees Celsius, cfs = cubic feet per second, H = Holding time exceeded., IM = Instrument malfunction, J = Analyte detected between MDL and Practical Quantification L NS = No Standard
mg/L = milligrams per liter, mS = microSiemans, mV = millivolts, NA = not analyzed, NC = not calculated, ND = not detected (no MDL provided), NM = not measured, NTU = nephelometric turbidity units, s.u. = standard units, µg/L = micrograms per liter.
Shaded cells indicate that the value exceeds one or more standard; corresponding criteria also shaded.
SHA = Site Hazard Assessment Results (Crofoot and O'Brian, 2004)
WADNR = Washington Department of Natural Resources Results (Wolff, McKay, and Norman, 2003)
Forest Service = USFS Region 6 APAs (Graham, 2006)

**Table 2b. Arsenic and Lead Concentrations and Loading Results**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012**

| Sample I.D. | Sample Date | Discharge | | Concentration (Total) | | Loading Rate | |
|---|---|---|---|---|---|---|---|
| | | | | Arsenic | Lead | Arsenic | Lead |
| | | cfs | mgd | mg/L | | lb/day | |
| **Surface Water** | | | | | | | |
| **Glacier Creek** | | | | | | | |
| MCRA5-GC-SW-02 | 6/27/2012 | NM | -- | 0.0081 | 0.00035 | NC | NC |
| MCRA5-GC-SW-02a | 6/27/2012 | NM | -- | 0.0042 | < 0.000018 | NC | NC |
| MCRA5-GC-SW-03 | 6/27/2012 | NM | -- | 0.0045 | 0.00027 | NC | NC |
| MCRA5-SW-GC-04a | 6/26/2012 | NM | -- | 0.0107 | 0.000038 J | NC | NC |
| MCRA5-SW-GC-05 | 6/25/2012 | 18.3 | 11.8 | 0.0059 | 0.000073 J | 0.5820 | 0.0072 |
| MCRA6-SW-GC-01 | 9/12/2012 | NM | -- | 0.00096 | 0.000019 J | NC | NC |
| MCRA6-SW-GC-02 | 9/12/2012 | 2.0 | 1.3 | 0.0074 | 0.000039 J | 0.0811 | 0.0004 |
| MCRA6-SW-GC-02a | 9/12/2012 | 2.8 | 1.8 | 0.004 | 0.000032 J | 0.0602 | 0.0005 |
| MCRA6-SW-GC-03 | 9/12/2012 | NM | -- | 0.0038 | 0.000066 J | NC | NC |
| MCRA6-SW-GC-04 | 9/12/2012 | 4.2 | 2.7 | 0.004 | 0.00014 | 0.0911 | 0.0032 |
| MRCA6-SW-GC-04a | 9/11/2012 | NM | -- | 0.0075 | 0.00049 J | NC | NC |
| MCRA6-SW-GC-05 | 9/11/2012 | NM | -- | 0.0059 | 0.000034 J | NC | NC |
| **Seventysix Creek** | | | | | | | |
| MCRA5-SW-76G-01a | 6/26/2012 | NM | -- | 0.0207 | 0.00064 | NC | NC |
| MCRA5-SW-76G-01b | 6/26/2012 | 20.1 | 13.0 | 0.0071 | 0.00014 | 0.7692 | 0.0152 |
| MCRA5-SW-76G-02 | 6/26/2012 | 25.0 | 16.2 | 0.0073 | 0.000072 J | 0.9837 | 0.0097 |
| MCRA6-SW-76G-01b | 9/11/2012 | 0.9 | 0.6 | 0.0086 | 0.00023 | 0.0439 | 0.0012 |
| MCRA5-SW-76G-02 | 9/11/2012 | 3.2 | 2.0 | 0.0098 | 0.000061 J | 0.1665 | 0.0010 |
| **South Fork Sauk River** | | | | | | | |
| MCRA5-SW-SFSR-01 | 6/25/2012 | 33.5 | 21.7 | 0.0056 | 0.000076 J | 1.0112 | 0.0137 |
| MCRA5-SW-SFSR-02 | 6/25/2012 | 36.4 | 23.5 | 0.0066 | 0.00006 J | 1.2950 | 0.0118 |
| MCRA5-SW-SFRS-03 | 6/25/2012 | 34.6 | 22.4 | 0.007 | 0.000054 J | 1.3055 | 0.0101 |
| MCRA5-SW-SFRS-04 | 6/25/2012 | 58.6 | 37.9 | 0.0058 | 0.00006 J | 1.8320 | 0.0190 |
| MCRA5-SW-SFRS-05 | 6/25/2012 | 73.9 | 47.8 | 0.0056 | 0.000046 J | 2.2307 | 0.0183 |
| MCRA5-SW-SFRS-06 | 6/28/2012 | NM | -- | 0.0057 | 0.000048 J | NC | NC |
| MCRA5-SW-SFRS-07 | 6/28/2012 | NM | -- | 0.0057 | 0.000052 J | NC | NC |
| MCRA5-SW-SFRS-08 | 6/28/2012 | NM | -- | 0.0056 | 0.000063 J | NC | NC |
| MCRA5-SW-SFRS-09 | 6/28/2012 | NM | -- | 0.009 | 0.00026 | NC | NC |
| MCRA6-SW-SFSR-01 | 9/10/2012 | 18.9 | 12.2 | 0.009 | 0.000073 J | 0.9169 | 0.0074 |
| MCRA6-SW-SFSR-02 | 9/10/2012 | 14.7 | 9.5 | 0.0104 | 0.000076 J | 0.8252 | 0.0060 |
| MCRA6-SW-SFRS-03 | 9/10/2012 | 17.7 | 11.4 | 0.0103 | 0.000061 J | 0.9808 | 0.0058 |
| MCRA6-SW-SFRS-04 | 9/10/2012 | 26.6 | 17.2 | 0.0082 | 0.000063 J | 1.1764 | 0.0090 |
| MCRA6-SW-SFRS-05 | 9/10/2012 | 26.8 | 17.3 | 0.0093 | 0.000089 J | 1.3455 | 0.0129 |
| MCRA6-SW-SFRS-06 | 9/10/2012 | NM | -- | 0.01 | 0.0001 | NC | NC |
| MCRA6-SW-SFRS-07 | 9/10/2012 | NM | -- | 0.0094 | 0.00009 J | NC | NC |
| MCRA6-SW-SFRS-08 | 9/10/2012 | NM | -- | 0.0097 | 0.000087 J | NC | NC |
| MCRA6-SW-SFRS-09 | 9/10/2012 | NM | -- | 0.0263 | 0.00067 | NC | NC |
| **Boston-American Mine** | | | | | | | |
| MCRA5-DW-BA-01 | 6/25/2012 | NM | -- | 0.00033 J | 0.00019 | | |
| **Justice Mine** | | | | | | | |
| MCRA5-DW-JU-01 | 6/26/2012 | 0.86 | 0.56 | 0.358 | 0.0157 | 1.6576 | 0.0727 |
| MCRA5-SP-JU-01 | 6/27/2012 | NM | -- | 0.14 | 0.00066 | NC | NC |
| MCRA6-DW-JU-01 | 9/11/2012 | NM | -- | 0.204 | 0.00012 | NC | NC |
| MCRA6-SP-JU-01 | 9/11/2012 | NM | -- | 0.261 | 0.00054 | NC | NC |
| **Mystery Mine** | | | | | | | |
| MCRA5-DW-MY-01 | 6/26/2012 | NM | -- | 0.318 | 0.0172 | NC | NC |
| MCRA6-DW-MY-01 | 9/11/2012 | 0.005 | 0.0032 | 1.06 | 0.0302 | 0.0286 | 0.0008 |
| **New Discovery Mine** | | | | | | | |
| MCRA6-DW-ND-01 | 9/12/2012 | NM | -- | 0.0172 | 0.0017 | NC | NC |
| **Pride of the Mountains Mine** | | | | | | | |
| MCRA6-DW-PM-01 | 9/12/2012 | 0.001 | 0.00038 | 0.888 | 0.0832 | 0.0028 | 0.0003 |
| **Pride of the Woods Mine** | | | | | | | |
| MCRA5-DW-PW-01 | 6/27/2012 | 0.017 | 0.011 | 0.00035 J | 0.00029 | 0.00003 | 0.00003 |
| **Rainy Mine** | | | | | | | |
| MCRA5-DW-RY-01 | 6/26/2012 | 0.0334 | 0.022 | 0.0014 | 0.00017 | 0.00025 | 0.00003 |
| MCRA6-DW-RY-01 | 9/11/2012 | 0.00059 | 0.00038 | 0.0106 | 0.0006 | 0.00003 | 0.000002 |
| **Sidney Mine** | | | | | | | |
| MCRA6-DW-SY-01 | 9/12/2012 | 0.0035 | 0.00226 | 0.0254 | 0.00012 | 0.0005 | 0.000002 |
| **Sheridan Mine** | | | | | | | |
| MCRA5-DW-SH-01 | 6/26/2012 | NM | -- | 0.0223 | 0.00056 | NC | NC |

**NOTES:**

Abbreviations: < value = Analyte not detected above Method Detection Limit (MDL), cfs = cubic feet per second, lb/day = pounds per day, mgd = million gallons per day, J = Analyte detected between MDL and Practical Quantification Limit (PQL) therefore concentration is estimated, mg/L = milligrams per liter, NC = not calculated, NM = not measured.

**Table 3a. Sediment Analytical Results**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample ID | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Aluminum, Total | Antimony, Total | Arsenic (III), TR | Arsenic (V), TR Calculated | Arsenic - Total | Barium, Total | Beryllium, Total | Cadmium, Total | Calcium, Total | Chromium, Total | Cobalt, Total | Copper, Total | Cyanide, Total | Cyanide-WAD | Iron, Total | Lead, Total | Magnesium, Total | Manganese, Total | Mercury, Total | Mercury, Methyl, Trace | Nickel, Total | Potassium, Total | Selenium, Total | Silver, Total | Sodium, Total | Thallium, Total | Vanadium, Total | Zinc, Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mg/kg | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Glacier Creek** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GC-SS1 (Background) | 6/2/2005 | CES-SI | 11,500 | 5.7 | 0.000207 | 52.000 | 52 | 96.3 | < 0.20 | 0.96 | 4,110 | 67.1 | 8.62 | 20.6 | < 0.50 | < 0.50 | 24,200 | 8.44 | 6,180 | 1,350 | NA | < 0.000012 | 12.2 | 1,540 | 0.34 | < 0.50 | 649 | < 0.20 | 51.4 | 72.8 |
| GC-SS2 (Background) | 6/2/2005 | CES-SI | 10,800 | 9.9 | 0.001082 | 226.999 | 227 | 109.0 | < 0.20 | 1.55 | 3,030 | 49.6 | 9.39 | 50.0 | < 0.50 | < 0.50 | 24,900 | 104 | 5,760 | 1,600 | NA | NA | 11.2 | 1,910 | 0.36 | < 0.50 | 529 | 0.263 | 47.0 | 163 |
| SHA-3394095 (Background) | 9/25/2003 | WADNR | NA | 0.43 | NA | NC | 122 | NA | 0.18 | 0.65 | NA | 16.4 | NA | 21.7 | NA | NA | NA | 26.3 | NA | NA | 0.874 | NA | 12.1 | NA | < 5.00 | 0.18 | NA | 0.14 | NA | 123 |
| GC-SS3 | 6/2/2005 | CES-SI | 9,960 | 11.6 | 0.00144 | 249.999 | 250 | 98.4 | 0.23 | 1.71 | 3,020 | 48.9 | 9.56 | 41.0 | NA | NA | 25,200 | 84.8 | 5,220 | 1,510 | NA | NA | 11.5 | 1,680 | 0.41 | < 0.50 | 468 | 0.280 | 47.7 | 163 |
| GC-SS4 | 6/2/2005 | CES-SI | 11,900 | 7.9 | 0.003142 | 366.997 | 367 | 94.0 | 0.21 | 1.91 | 3,910 | 48.5 | 10.00 | 67.5 | NA | NA | 25,500 | 69.3 | 5,530 | 1,350 | NA | NA | 11.7 | 1,780 | 0.46 | < 0.50 | 711 | 0.248 | 49.4 | 185 |
| GC-SS5 | 6/2/2005 | CES-SI | 13,400 | 3.8 | 0.001536 | 290.998 | 291 | 88.4 | < 0.20 | 1.79 | 4,230 | 53.5 | 12.50 | 117.0 | < 0.50 | < 0.50 | 28,800 | 48.2 | 7,030 | 959 | NA | NA | 15.8 | 2,360 | < 0.30 | < 0.50 | 628 | < 0.20 | 66.2 | 156 |
| MCEE-SS-GC-01 | 8/22/2008 | CES-EECA | NA | 5.8 | NA | NC | 42.1 | NA | NA | 0.25 B | NA | 15 | NA | 13 | NA | NA | NA | 7.88 | NA | NA | 0.33 | NA | NA | NA | < 0.05 | 0.06 B | NA | NA | NA | 66 |
| MCEE-SS-GC-02 | 8/22/2008 | CES-EECA | NA | 4.8 | NA | NC | 75.1 | NA | NA | 0.44 | NA | 16 | NA | 16 | NA | NA | NA | 19.60 | NA | NA | 0.46 | NA | NA | NA | 0.11 B | 0.18 | NA | NA | NA | 90 |
| MCEE-SS-GC-03 | 8/22/2008 | CES-EECA | NA | 8.3 | NA | NC | 133 | NA | NA | 0.63 | NA | 12 | NA | 26 | NA | NA | NA | 37.5 | NA | NA | 4.6 | NA | NA | NA | 0.08 B | 0.21 | NA | NA | NA | 115 |
| MCEE-SS-GC-04 | 8/19/2008 | CES-EECA | NA | 16.3 | NA | NC | 255 | NA | NA | 1.17 | NA | 15 | NA | 48 | NA | NA | NA | 78.3 | NA | NA | 0.26 | NA | NA | NA | 0.12 B | 0.52 | NA | NA | NA | 174 |
| MCEE-SS-GC-05 | 8/19/2008 | CES-EECA | NA | 3.9 | NA | NC | 210 | NA | NA | 0.89 | NA | 18 | NA | 99 | NA | NA | NA | 33.2 | NA | NA | 0.16 B | NA | NA | NA | 0.14 B | 0.22 | NA | NA | NA | 148 |
| MCRA1-SS-GC-01 | 6/29/2010 | CES-RA | 9,910 | 23.9 | NA | NC | 48.5 | NA | NA | 0.097 J | NA | 16.5 | NA | 14.5 | NA | NA | 24,300 | 6.3 | NA | 1,820 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 66.4 |
| MCRA1-SS-GC-02 | 6/29/2010 | CES-RA | 9,910 | 13.6 J | NA | NC | 153 | NA | NA | 1.5 J | NA | 14.5 | NA | 29 | NA | NA | 25,800 | 48.9 | NA | 1,420 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 123 |
| MCRA1-SS-GC-02a | 6/29/2010 | CES-RA | 12,600 | 17.6 J | NA | NC | 243 | NA | NA | 2 J | NA | 18.4 | NA | 37.1 | NA | NA | 33,600 | 123 | NA | 2,250 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 199 |
| MCRA1-SS-GC-03 | 6/29/2010 | CES-RA | 12,000 | 17.6 J | NA | NC | 294 | NA | NA | 3.4 J | NA | 17.9 | NA | 42.2 | NA | NA | 37,000 | 83.3 | NA | 2,370 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 161 |
| MCRA1-SS-GC-04 | 6/28/2010 | CES-RA | 11,100 | 8.8 J | NA | NC | 429 | NA | NA | 4.8 J | NA | 14.7 | NA | 67.4 | NA | NA | 30,800 | 66.6 | NA | 1,860 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 206 |
| MCRA1-SS-GC-04a | 6/28/2010 | CES-RA | 14,600 | 5.8 J | NA | NC | 271 | NA | NA | 3.3 J | NA | 16 | NA | 103 | NA | NA | 33,700 | 54.3 | NA | 1,030 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 216 |
| MCRA1-SS-GC-05 | 6/28/2010 | CES-RA | 14,100 | 5 J | NA | NC | 146 | NA | NA | 1.4 J | NA | 12.2 | NA | 69.1 | NA | NA | 27,400 | 50.7 | NA | 923 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 232 |
| MCRA2-SS-GC-01 | 9/29/2010 | CES-RA | NA | 8.9 J | NA | NC | 26.3 | NA | NA | < 0.64 | NA | 14.6 | NA | 17.9 | NA | NA | 20,300 | 9.7 | NA | 808 | 0.28 | NA | NA | NA | NA | NA | NA | NA | NA | 90.6 |
| MCRA2-SS-GC-02 | 9/29/2010 | CES-RA | NA | 88.7 | NA | NC | 975 | NA | NA | 4.8 J | NA | 15.2 | NA | 50.9 | NA | NA | 46,300 | 248 | NA | 1,880 | 0.42 | NA | NA | NA | NA | NA | NA | NA | NA | 273 |
| MCRA2-SS-GC-02a | 9/29/2010 | CES-RA | NA | 126 | NA | NC | 271 | NA | NA | 1.4 J | NA | 16.4 | NA | 41.3 | NA | NA | 25,200 | 90 | NA | 1,740 | 0.25 | NA | NA | NA | NA | NA | NA | NA | NA | 200 |
| MCRA2-SS-GC-03 | 9/27/2010 | CES-RA | NA | 16.2 J | NA | NC | 194 | NA | NA | 0.91 J | NA | 13.6 | NA | 48.6 | NA | NA | 28,600 | 54.5 | NA | 1,690 | 0.28 | NA | NA | NA | NA | NA | NA | NA | NA | 184 |
| MCRA2-SS-GC-04 | 9/27/2010 | CES-RA | NA | 29.2 | NA | NC | 402 | NA | NA | 2.4 J | NA | 11.8 | NA | 70.5 | NA | NA | 28,300 | 62.6 | NA | 1,720 | 0.2 | NA | NA | NA | NA | NA | NA | NA | NA | 203 |
| MCRA2-SS-GC-04a | 9/27/2010 | CES-RA | NA | 42.1 | NA | NC | 1,920 | NA | NA | 15.1 | NA | 21.1 | NA | 525 | NA | NA | 37,500 | 280 | NA | 2,320 | 0.53 | NA | NA | NA | NA | NA | NA | NA | NA | 1200 |
| MCRA2-SS-GC-05 | 9/27/2010 | CES-RA | NA | 9.7 J | NA | NC | 284 | NA | NA | 1.6 J | NA | 18.8 | NA | 96.5 | NA | NA | 32,200 | 62 | NA | 1,200 | 0.18 | NA | NA | NA | NA | NA | NA | NA | NA | 237 |
| MCRA3-SS-GC-02 | 6/28/2011 | CES-RA | NA | 18.7 J | NA | NC | 145 | NA | NA | 0.19 J | NA | 16.3 | NA | 33.8 | NA | NA | 27,600 | 37.8 | NA | 1,530 | 0.3 | NA | NA | NA | NA | NA | NA | NA | NA | 133 |
| MCRA3-SS-GC-02a | 6/28/2011 | CES-RA | NA | 17.4 J | NA | NC | 248 | NA | NA | 0.9 J | NA | 13.6 | NA | 40.1 | NA | NA | 26,300 | 70.6 | NA | 1,580 | 0.26 | NA | NA | NA | NA | NA | NA | NA | NA | 203 |
| MCRA3-SS-GC-03 | 6/28/2011 | CES-RA | NA | 9.3 J | NA | NC | 204 | NA | NA | 0.36 J | NA | 16.2 | NA | 35.1 | NA | NA | 26,000 | 71.2 | NA | 1,270 | 0.36 | NA | NA | NA | NA | NA | NA | NA | NA | 199 |
| MCRA3-SS-GC-04 | 6/28/2011 | CES-RA | NA | 6.5 J | NA | NC | 287 | NA | NA | 0.64 J | NA | 14 | NA | 67.8 | NA | NA | 23,000 | 75 | NA | 789 | 0.33 | NA | NA | NA | NA | NA | NA | NA | NA | 189 |
| MCRA3-SS-GC-04a | 6/27/2011 | CES-RA | NA | 24.6 | NA | NC | 1,390 | NA | NA | 17.4 | NA | 18.5 | NA | 439 | NA | NA | 27,100 | 394 | NA | 2,030 | 0.54 | NA | NA | NA | NA | NA | NA | NA | NA | 1,310 |
| MCRA3-SS-GC-05 | 6/27/2011 | CES-RA | NA | 9.5 J | NA | NC | 274 | NA | NA | 0.59 J | NA | 21.2 | NA | 18.5 | NA | NA | 27,200 | 31.8 | NA | 794 | 0.054 J | NA | NA | NA | NA | NA | NA | NA | NA | 163 |
| MCRA4-SS-GC-01 | 10/4/2011 | CES-RA | NA | 5.9 J | NA | NC | 30.5 | NA | NA | 0.59 J | NA | 14.6 | NA | 17.9 | NA | NA | 25,500 | 5.8 | NA | 840 | 0.14 | NA | NA | NA | NA | NA | NA | NA | NA | 63.9 |
| MCRA4-SS-GC-02 | 10/4/2011 | CES-RA | NA | 9.8 J | NA | NC | 146 | NA | NA | 4.4 J | NA | 15.6 | NA | 37.5 | NA | NA | 26,600 | 80.5 | NA | 1,820 | 0.45 | NA | NA | NA | NA | NA | NA | NA | NA | 203 |
| MCRA4-SS-GC-02a | 10/4/2011 | CES-RA | NA | 17 J | NA | NC | 203 | NA | NA | 6.2 | NA | 14.6 | NA | 40.5 | NA | NA | 28,600 | 51.7 | NA | 2,800 | 0.22 | NA | NA | NA | NA | NA | NA | NA | NA | 120 |
| MCRA4-SS-GC-03 | 10/4/2011 | CES-RA | NA | 11.5 J | NA | NC | 220 | NA | NA | 6.8 | NA | 16.9 | NA | 61 | NA | NA | 30,200 | 61.3 | NA | 1,670 | 0.84 | NA | NA | NA | NA | NA | NA | NA | NA | 181 |
| MCRA4-SS-GC-04 | 10/4/2011 | CES-RA | NA | 11.1 J | NA | NC | 565 | NA | NA | 16.7 | NA | 15 | NA | 61.8 | NA | NA | 31,000 | 46.8 | NA | 1,560 | 0.19 | NA | NA | NA | NA | NA | NA | NA | NA | 141 |
| MCRA4-SS-GC-04a | 10/4/2011 | CES-RA | NA | 23.7 | NA | NC | 2,120 | NA | NA | 65.7 | NA | 28.8 | NA | 557 | NA | NA | 33,000 | 988 | NA | 2,080 | 0.6 | NA | NA | NA | NA | NA | NA | NA | NA | 2,080 |
| MCRA4-SS-GC-05 | 10/5/2011 | CES-RA | NA | 6 J | NA | NC | 242 | NA | NA | 7.1 | NA | 21 | NA | 137 | NA | NA | 33,900 | 32 | NA | 1,130 | 0.15 | NA | NA | NA | NA | NA | NA | NA | NA | 165 |
| MCRA5-SS-GC-02 | 6/27/2012 | CES-RA | NA | 9.8 J | NA | NC | 153 | NA | NA | 2.9 | NA | 14.4 | NA | 28.4 | NA | NA | 26,400 | 22.2 | NA | 1,390 | 0.16 | NA | NA | NA | NA | NA | NA | NA | NA | 116 |
| MCRA5-SS-GC-02a | 6/27/2012 | CES-RA | NA | 17.7 | NA | NC | 285 | NA | NA | 5.6 | NA | 14.2 | NA | 48.5 | NA | NA | 29,900 | 74.2 | NA | 2,040 | 0.33 | NA | NA | NA | NA | NA | NA | NA | NA | 166 |
| MCRA5-SS-GC-03 | 6/27/2012 | CES-RA | NA | 9.3 J | NA | NC | 187 | NA | NA | 3.6 | NA | 10.2 | NA | 34.5 | NA | NA | 23,600 | 41.5 | NA | 1,150 | 0.16 | NA | NA | NA | NA | NA | NA | NA | NA | 152 |
| MCRA5-SS-GC-04a | 6/26/2012 | CES-RA | NA | 17.5 | NA | NC | 1,420 | NA | NA | 37.5 | NA | 23.1 | NA | 888 | NA | NA | 35,000 | 282 | NA | 2,900 | 0.56 | NA | NA | NA | NA | NA | NA | NA | NA | 1,070 |
| MCRA5-SS-GC-05 | 6/25/2012 | CES-RA | NA | 3.2 J | NA | NC | 210 | NA | NA | 4.3 | NA | 12.8 | NA | 66.7 | NA | NA | 22,400 | 33 | NA | 735 | 0.099 J | NA | NA | NA | NA | NA | NA | NA | NA | 163 |
| MCRA6-SS-GC-01 | 9/12/2012 | CES-RA | NA | 4.3 J | NA | NC | 42.1 | NA | NA | 0.73 J | NA | 18.3 | NA | 17.5 | NA | NA | 24,000 | 7.1 | NA | 956 | 0.28 | NA | NA | NA | NA | NA | NA | NA | NA | 67.4 |
| MCRA6-SS-GC-02 | 9/12/2012 | CES-RA | NA | 7.7 J | NA | NC | 223 | NA | NA | 5.7 | NA | 14.7 | NA | 34.2 | NA | NA | 24,900 | 43.7 | NA | 1,440 | 0.16 | NA | NA | NA | NA | NA | NA | NA | NA | 126 |
| MCRA6-SS-GC-02a | 9/12/2012 | CES-RA | NA | 9.8 J | NA | NC | 176 | NA | NA | 4.5 | NA | 14.8 | NA | 38.5 | NA | NA | 26,000 | 71.2 | NA | 1,130 | 0.22 | NA | NA | NA | NA | NA | NA | NA | NA | 559 |
| MCRA6-SS-GC-03 | 9/12/2012 | CES-RA | NA | 19.8 | NA | NC | 334 | NA | NA | 9.2 | NA | 16.1 | NA | 67.6 | NA | NA | 29,400 | 123 | NA | 1,600 | 0.37 | NA | NA | NA | NA | NA | NA | NA | NA | 778 |
| MCRA6-SS-GC-04 | 9/12/2012 | CES-RA | NA | 1.1 J | NA | NC | 92.6 | NA | NA | 2.6 | NA | 12.3 | NA | 34.3 | NA | NA | 21,100 | 29.9 | NA | 637 | 0.062 J | NA | NA | NA | NA | NA | NA | NA | NA | 498 |
| MCRA6-SS-GC-04a | 9/11/2012 | CES-RA | NA | 9.5 J | NA | NC | 1,150 | NA | NA | 33.3 | NA | 19.2 | NA | 310 | NA | NA | 27,700 | 82.9 | NA | 1,380 | 0.26 | NA | NA | NA | NA | NA | NA | NA | NA | 1,040 |
| MCRA6-SS-GC-05 | 9/11/2012 | CES-RA | NA | 11.8 J | NA | NC | 241 | NA | NA | 6.4 | NA | 19.7 | NA | 125 | NA | NA | 30,500 | 21.3 | NA | 1,180 | 0.099 | NA | NA | NA | NA | NA | NA | NA | NA | 510 |
| **Glacier Creek near Ore Collector** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COL-SS-01 | 9/10/2005 | CES-SI | NA | 5.19 | NA | NC | 330 | 90.1 | NA | 1.09 | NA | 49.0 | NA | 93.5 | NA | NA | 30,600 | 37.9 | NA | 706 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 143 |
| COL-SS-02 | 9/10/2005 | CES-SI | NA | 5.84 | NA | NC | 294 | 82.6 | NA | 1.23 | NA | 43.6 | NA | 111.0 | NA | NA | 29,400 | 43.6 | NA | 868 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 166 |
| COL-SS-03 | 9/10/2005 | CES-SI | NA | 5.56 | NA | NC | 331 | 85.5 | NA | 1.10 | NA | 43.5 | NA | 93.4 | NA | NA | 30,200 | 37.5 | NA | 705 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 143 |
| COL-SS-04 | 9/10/2005 | CES-SI | NA | 3.92 | NA | NC | 112 | 91.9 | NA | 1.14 | NA | 45.1 | NA | 78.8 | NA | NA | 27,900 | 32.1 | NA | 790 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 120 |
| COL-SS-05 | 9/10/2005 | CES-SI | NA | 14.5 | NA | NC | 469 | 79.5 | NA | 1.22 | NA | 36.7 | NA | 97.6 | NA | NA | 29,100 | 72.6 | NA | 821 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 165 |
| **Glacier Creek near Concentrator** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CON-SS-01 | 9/10/2005 | CES-SI | NA | 10.6 | NA | NC | 160 | 90.6 | NA | 0.89 | NA | 41.2 | NA | 30.5 | NA | NA | 24,500 | 55.3 | NA | 1,230 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 123 |
| CON-SS-02 | 9/10/2005 | CES-SI | NA | 4.01 | NA | NC | 130 | 91.8 | NA | 1.12 | NA | 52.6 | NA | 74.7 | NA | NA | 30,000 | 35.1 | NA | 864 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 138 |
| CON-SS-03 | 9/10/2005 | CES-SI | NA | 5.08 | NA | NC | 282 | 92.4 | NA | 1.23 | NA | 48.6 | NA | 92.1 | NA | NA | 31,200 | 46.1 | NA | 799 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 150 |
| CON-SS-04 | 9/10/2005 | CES-SI | NA | 14.1 | NA | NC | 267 | 106 | NA | 1.19 | NA | 48.2 | NA | 82.8 | NA | NA | 31,400 | 30 | NA | 715 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 143 |
| CON-SS-05 | 9/10/2005 | CES-SI | NA | 3.44 | NA | NC | 197 | 84.6 | NA | 0.92 | NA | 44.9 | NA | 75.8 | NA | NA | 28,800 | 29.5 | NA | 616 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 122 |
| **Seventysix Gulch** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76G-SS1 (Background) | 6/2/2005 | CES-SI | 15,200 | < 2.0 | < 0.000075 | < 16.800 | 16.8 | 39.1 | 0.20 | 1.30 | 3,670 | 42.6 | 10.60 | 15.6 | NA | NA | 28,700 | 9.8 | 10,600 | 657 | NA | NA | 14.6 | 1,020 | 0.39 | < 0.50 | 287 | < 0.20 | 48.9 | 77.4 |
| 76G-SS2 | 6/2/2005 | CES-SI | 17,100 | 11.2 | 0.00082 | 275.999 | 276 | 52.8 | < 0.20 | 2.91 | 4,730 | 41.5 | 10.50 | 34.2 | NA | NA | 30,600 | 89.5 | 9,200 | 950 | NA | < 0.000012 | 10.2 | 1,880 | < 0.30 | < 0.50 | 761 | < 0.20 | 61.9 | 295 |
| MCEE-SS-76G-01 | 8/21/2008 | CES-EECA | NA | 2.6 | NA | NC | 27.3 | NA | NA | 0.33 | NA | 21 | NA | 12 | NA | NA | NA | 20.80 | NA | NA | 0.10 B | NA | NA | NA | 0.08 B | 0.17 | NA | NA | NA | 81.0 |
| MCEE-SS-76G-02 | 8/21/2008 | CES-EECA | NA | 12.1 | NA | NC | 311 | NA | NA | 1.71 | NA | 19 | NA | 29 | NA | NA | NA | 172 | NA | NA | 0.12 B | NA | NA | NA | 0.09 B | 0.58 | NA | NA | NA | 285 |
| MCRA1-SS-76G-01 | 6/28/2010 | CES-RA | 13,200 | 0.81 J | NA | NC | 22.7 | NA | NA | < 0.06 | NA | 24 | NA | 16.5 | NA | NA | 27,500 | 16.1 | NA | 663 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 78.3 |
| MCRA1-SS-76G-01a | 6/29/2010 | CES-RA | 12,200 | 25.4 | NA | NC | 925 | NA | NA | 12.2 | NA | 19.4 | NA | 40.9 | NA | NA | 32,800 | 176 | NA | 1,650 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 350 |
| MCRA1-SS-76G-01b | 6/29/2010 | CES-RA | 15,300 | 13.7 J | NA | NC | 686 | NA | NA | 7.6 | NA | 13.8 | NA | 66.7 | NA | NA | 39,100 | 261 | NA | 971 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 362 |
| MCRA1-SS-76G-02 | 6/28/2010 | CES-RA | 19,300 | 11 J | NA | NC | 430 | NA | NA | 4.7 J | NA | 17.3 | NA | 41.4 | NA | NA | 32,700 | 105 | NA | 1,150 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 255 |
| MCRA2-SS-76G-01 | 9/28/2010 | CES-RA | NA | 1.5 J | NA | NC | 11.4 J | NA | NA | < 0.062 | NA | 23.3 | NA | 12.1 J | NA | NA | 26,500 | 12.7 | NA | 733 | 0.0057 | NA | NA | NA | NA | NA | NA | NA | NA | 90.4 |
| MCRA2-SS-76G-01a | 9/28/2010 | CES-RA | NA | 33.7 | NA | NC | 775 | NA | NA | 3.8 J | NA | 13.9 | NA | 29.6 | NA | NA | 26,100 | 200 | NA | 1,140 | 0.5 | NA | NA | NA | NA | NA | NA | NA | NA | 387 |
| MCRA2-SS-76G-01b | 9/28/2010 | CES-RA | NA | 34.5 | NA | NC | 308 | NA | NA | 1.6 J | NA | 13.2 | NA | 30 | NA | NA | 25,600 | 91.8 | NA | 889 | 0.16 | NA | NA | NA | NA | NA | NA | NA | NA | 292 |
| MCRA2-SS-76G-02 | 9/27/2010 | CES-RA | NA | 32.6 | NA | NC | 391 | NA | NA | 1.6 J | NA | 18.5 | NA | 58.4 | NA | NA | 30,600 | 173 | NA | 920 | 0.17 | NA | NA | NA | NA | NA | NA | NA | NA | 392 |
| MCRA3-SS-76G-01b | 6/29/2011 | CES-RA | NA | 29.1 | NA | NC | 708 | NA | NA | 4.6 | NA | 14.3 | NA | 47.7 | NA | NA | 25,800 | 315 | NA | 1,630 | 0.42 | NA | NA | NA | NA | NA | NA | NA | NA | 473 |
| MCRA3-SS-76G-02 | 6/29/2011 | CES-RA | NA | 13.3 J | NA | NC | 301 | NA | NA | 0.67 J | NA | 19.5 | NA | 36.9 | NA | NA | 35,000 | 96 | NA | 1,410 | 0.16 | NA | NA | NA | NA | NA | NA | NA | NA | 297 |

**Table 3a. Sediment Analytical Results**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample ID | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Aluminum, Total | Antimony, Total | Arsenic (III), TR | Arsenic (V), TR Calculated | Arsenic - Total | Barium, Total | Beryllium, Total | Cadmium, Total | Calcium, Total | Chromium, Total | Cobalt, Total | Copper, Total | Cyanide, Total | Cyanide-WAD | Iron, Total | Lead, Total | Magnesium, Total | Manganese, Total | Mercury, Total | Mercury, Methyl, Trace | Nickel, Total | Potassium, Total | Selenium, Total | Silver, Total | Sodium, Total | Thallium, Total | Vanadium, Total | Zinc, Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mg/kg | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Seventysix Creek (continued)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MCRA4-SS-76G-01 | 10/5/2011 | CES-RA | NA | 2.8 J | NA | NC | 15.1 | NA | NA | < 0.066 | NA | 19.9 | NA | 20.5 | NA | NA | 33,200 | 20.2 | NA | 824 | 0.12 J | NA | NA | NA | NA | NA | NA | NA | NA | 82.2 |
| MCRA4-SS-76G-01a | 10/5/2011 | CES-RA | NA | 12.2 J | NA | NC | 203 | NA | NA | 6.5 | NA | 19 | NA | 23.1 | NA | NA | 29,200 | 98.1 | NA | 1,010 | 0.31 | NA | NA | NA | NA | NA | NA | NA | NA | 159 |
| MCRA4-SS-76G-01b | 10/5/2011 | CES-RA | NA | 17.8 | NA | NC | 267 | NA | NA | 8 | NA | 17.9 | NA | 25 | NA | NA | 30,400 | 70.5 | NA | 795 | 0.056 J | NA | NA | NA | NA | NA | NA | NA | NA | 103 |
| MCRA4-SS-76G-02 | 10/5/2011 | CES-RA | NA | 13.4 J | NA | NC | 635 | NA | NA | 18.3 | NA | 23.4 | NA | 36.5 | NA | NA | 32,500 | 91.3 | NA | 961 | 0.21 | NA | NA | NA | NA | NA | NA | NA | NA | 220 |
| MCRA5-SS-76G-1b | 6/26/2012 | CES-RA | NA | 13.3 J | NA | NC | 600 | NA | NA | 11.8 | NA | 14.3 | NA | 30.6 | NA | NA | 33,900 | 127 | NA | 1,080 | 0.18 | NA | NA | NA | NA | NA | NA | NA | NA | 328 |
| MCRA5-SS-76G-02 | 6/26/2012 | CES-RA | NA | 8.8 J | NA | NC | 366 | NA | NA | 7.8 | NA | 20.6 | NA | 43 | NA | NA | 38,000 | 169 | NA | 1,080 | 0.11 J | NA | NA | NA | NA | NA | NA | NA | NA | 365 |
| MCRA6-SS-76G-01b | 9/11/2012 | CES-RA | NA | 37.9 | NA | NC | 268 | NA | NA | 7.4 | NA | 18.4 | NA | 31.5 | NA | NA | 29,300 | 184 | NA | 950 | 0.13 | NA | NA | NA | NA | NA | NA | NA | NA | 750 |
| MCRA6-SS-76G-02 | 9/11/2012 | CES-RA | NA | 31.5 | NA | NC | 305 | NA | NA | 8.1 | NA | 16.6 | NA | 31.6 | NA | NA | 28,100 | 61.8 | NA | 804 | 0.078 J | NA | NA | NA | NA | NA | NA | NA | NA | 370 |
| **South Fork Sauk River** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SFSR-SS1 | 6/1/2005 | CES-SI | 15,300 | 7.1 | 0.002675 | 268.997 | 269 | 62.8 | 0.20 | 1.90 | 3,510 | 46.1 | 10.60 | 79.5 | < 0.50 | < 0.50 | 29,500 | 65.4 | 8,720 | 688 | NA | 0.000017 B | 16.1 | 1,840 | 0.46 | < 0.50 | 518 | < 0.20 | 58.5 | 177 |
| SFSR-SS2 | 6/1/2005 | CES-SI | 15,300 | 13.5 | 0.002411 | 543.998 | 544 | 66.8 | 0.22 | 1.99 | 3,630 | 56.9 | 11.40 | 115.0 | NA | NA | 28,400 | 136 | 7,740 | 747 | NA | NA | 15.4 | 2,020 | 0.33 | < 0.50 | 624 | < 0.20 | 56.2 | 206 |
| SFSR-SS3 | 6/1/2005 | CES-SI | 15,700 | 17.3 | 0.004274 | 479.996 | 480 | 57.6 | 0.23 | 2.02 | 3,610 | 61.5 | 10.90 | 116.0 | < 0.50 | < 0.50 | 28,400 | 156 | 8,450 | 715 | NA | < 0.000012 | 17.7 | 1,910 | 0.34 | < 0.50 | 618 | < 0.20 | 50.7 | 192 |
| SHA-3374088 (near Lake MC) | 9/12/2003 | WADNR | NA | 15.7 | NA | NC | 1,090 | NA | 0.17 | 3.90 | NA | 36.6 | NA | 207 | NA | NA | NA | 278 | NA | NA | 0.091 | NA | 96.5 | NA | < 0.50 | 6.94 | NA | 0.17 | NA | 806 |
| SHA-3394095 (Background) | 9/25/2003 | Ecology | NA | 0.43 | NA | NC | 122 | NA | 0.18 | 0.65 | NA | 16.4 | NA | 21.7 | NA | NA | NA | 26.3 | NA | NA | 0.874 | NA | 12.1 | NA | < 5.00 | 0.18 | NA | 0.14 | NA | 123 |
| MCEE-SS-SFSR-01 | 8/19/2008 | CES-EECA | NA | 10.5 | NA | NC | 239 | NA | NA | 1.04 | NA | 23 | NA | 56 | NA | NA | NA | 96 | NA | NA | 0.18 B | NA | NA | NA | 0.14 B | 0.27 | NA | NA | NA | 192 |
| MCEE-SS-SFSR-02 | 8/19/2008 | CES-EECA | NA | 12.8 | NA | NC | 453 | NA | NA | 1.17 | NA | 26 | NA | 92 | NA | NA | NA | 101 | NA | NA | 0.23 | NA | NA | NA | 0.19 B | 0.63 | NA | NA | NA | 222 |
| MCEE-SS-SFSR-03 | 8/19/2008 | CES-EECA | NA | 10.3 | NA | NC | 194 | NA | NA | 0.61 | NA | 24 | NA | 68 | NA | NA | NA | 60 | NA | NA | 0.21 | NA | NA | NA | 0.22 B | 0.47 | NA | NA | NA | 127 |
| MCEE-SS-SFSR-04 | 8/27/2008 | CES-EECA | NA | 24.2 | NA | NC | 315 | NA | NA | 0.87 | NA | 41 | NA | 95 | NA | NA | NA | 105 | NA | NA | < 0.05 | NA | NA | NA | 0.18 B | 0.73 | NA | NA | NA | 172 |
| MCEE-SS-SFSR-05 | 8/27/2008 | CES-EECA | NA | 20.7 | NA | NC | 187 | NA | NA | 0.77 | NA | 38 | NA | 89 | NA | NA | NA | 90.9 | NA | NA | < 0.05 | NA | NA | NA | 0.15 B | 0.53 | NA | NA | NA | 165 |
| MCEE-SS-SFSR-06 | 8/26/2008 | CES-EECA | NA | 10.6 | NA | NC | 383 | NA | NA | 0.90 | NA | 49 | NA | 81 | NA | NA | NA | 145 | NA | NA | < 0.05 | NA | NA | NA | 0.25 B | 1.38 | NA | NA | NA | 165 |
| MCEE-SS-SFSR-07 | 8/26/2008 | CES-EECA | NA | 51 | NA | NC | 384 | NA | NA | 1.34 | NA | 45 | NA | 83 | NA | NA | NA | 171 | NA | NA | < 0.05 | NA | NA | NA | 0.25 B | 1.35 | NA | NA | NA | 157 |
| MCEE-SS-SFSR-08 | 8/25/2008 | CES-EECA | NA | 47 | NA | NC | 348 | NA | NA | 0.96 | NA | 54 | NA | 79 | NA | NA | NA | 111 | NA | NA | 0.12 B | NA | NA | NA | 0.23 B | 1.16 | NA | NA | NA | 172 |
| MCEE-SS-SFSR-09 | 8/25/2008 | CES-EECA | NA | 18.0 | NA | NC | 408 | NA | NA | 0.81 | NA | 43 | NA | 70 | NA | NA | NA | 109 | NA | NA | < 0.05 | NA | NA | NA | 0.17 B | 0.99 | NA | NA | NA | 193 |
| MCRA1-SS-SFSR-01 | 6/28/2010 | CES-RA | 19,700 | 8.7 J | NA | NC | 290 | NA | NA | 2.5 J | NA | 21 | NA | 74.4 | NA | NA | 39,000 | 76 | NA | 1,070 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 196 |
| MCRA1-SS-SFSR-02 | 6/30/2010 | CES-RA | 22,500 | 13.2 J | NA | NC | 398 | NA | NA | 3.8 J | NA | 24.7 | NA | 221 | NA | NA | 40,500 | 114 | NA | 854 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 261 |
| MCRA1-SS-SFSR-03 | 6/30/2010 | CES-RA | 22,200 | 18.4 | NA | NC | 305 | NA | NA | 2.8 J | NA | 25.6 | NA | 93.2 | NA | NA | 38,000 | 155 | NA | 982 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 225 |
| MCRA1-SS-SFSR-04 | 6/30/2010 | CES-RA | 23,100 | 16.4 J | NA | NC | 206 | NA | NA | 1.4 J | NA | 40.3 | NA | 102 | NA | NA | 40,200 | 76.1 | NA | 695 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 187 |
| MCRA1-SS-SFSR-05 | 6/30/2010 | CES-RA | 15,800 | 19.7 J | NA | NC | 351 | NA | NA | 3.4 J | NA | 36.5 | NA | 123 | NA | NA | 36,100 | 101 | NA | 765 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 190 |
| MCRA1-SS-SFSR-06 | 7/1/2010 | CES-RA | 18,100 | 33.2 | NA | NC | 425 | NA | NA | 4.5 J | NA | 48.7 | NA | 95.9 | NA | NA | 34,900 | 132 | NA | 789 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 208 |
| MCRA1-SS-SFSR-07 | 7/1/2010 | CES-RA | 18,900 | 8.9 J | NA | NC | 154 | NA | NA | 1.4 J | NA | 60.4 | NA | 90.8 | NA | NA | 34,300 | 76.9 | NA | 609 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 150 |
| MCRA1-SS-SFSR-08 | 7/1/2010 | CES-RA | 16,500 | 22.1 | NA | NC | 275 | NA | NA | 2.9 J | NA | 45.8 | NA | 78.4 | NA | NA | 31,200 | 83.7 | NA | 655 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 162 |
| MCRA1-SS-SFSR-09 | 7/1/2010 | CES-RA | 17,800 | 15.5 J | NA | NC | 508 | NA | NA | 5.1 J | NA | 41.4 | NA | 92.1 | NA | NA | 33,900 | 118 | NA | 634 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 212 |
| MCRA2-SS-SFSR-01 | 9/27/2010 | CES-RA | NA | 10.2 J | NA | NC | 204 | NA | NA | 1.4 J | NA | 14.4 | NA | 64 | NA | NA | 24,900 | 121 | NA | 1,600 | 0.1 | NA | NA | NA | NA | NA | NA | NA | NA | 264 |
| MCRA2-SS-SFSR-02 | 9/27/2010 | CES-RA | NA | 35.6 | NA | NC | 571 | NA | NA | 2.5 J | NA | 26.1 | NA | 116 | NA | NA | 38,900 | 63.5 | NA | 962 | 0.11 | NA | NA | NA | NA | NA | NA | NA | NA | 150 |
| MCRA2-SS-SFSR-03 | 9/27/2010 | CES-RA | NA | 29.5 | NA | NC | 446 | NA | NA | 2 J | NA | 20.2 | NA | 103 | NA | NA | 33,200 | 126 | NA | 925 | 0.065 J | NA | NA | NA | NA | NA | NA | NA | NA | 268 |
| MCRA2-SS-SFSR-04 | 9/27/2010 | CES-RA | NA | 27.4 J | NA | NC | 637 | NA | NA | 2.3 J | NA | 49 | NA | 134 | NA | NA | 39,900 | 141 | NA | 771 | 0.082 J | NA | NA | NA | NA | NA | NA | NA | NA | 267 |
| MCRA2-SS-SFSR-05 | 9/27/2010 | CES-RA | NA | 34.9 | NA | NC | 301 | NA | NA | 1.2 J | NA | 44 | NA | 130 | NA | NA | 40,200 | 81.9 | NA | 956 | 0.057 J | NA | NA | NA | NA | NA | NA | NA | NA | 141 |
| MCRA2-SS-SFSR-06 | 9/30/2010 | CES-RA | NA | 6.6 J | NA | NC | 64.5 | NA | NA | < 0.057 | NA | 65.5 | NA | 56.8 | NA | NA | 31,800 | 53.6 | NA | 681 | 0.035 J | NA | NA | NA | NA | NA | NA | NA | NA | 126 |
| MCRA2-SS-SFSR-07 | 9/30/2010 | CES-RA | NA | 27 | NA | NC | 898 | NA | NA | 4.1 J | NA | 53.1 | NA | 77.6 | NA | NA | 29,900 | 91.6 | NA | 623 | 0.03 J | NA | NA | NA | NA | NA | NA | NA | NA | 148 |
| MCRA2-SS-SFSR-08 | 9/30/2010 | CES-RA | NA | 32.7 | NA | NC | 176 | NA | NA | 0.062 J | NA | 69 | NA | 93.4 | NA | NA | 37,000 | 96.5 | NA | 878 | 0.036 J | NA | NA | NA | NA | NA | NA | NA | NA | 187 |
| MCRA2-SS-SFSR-09 | 9/30/2010 | CES-RA | NA | 23.8 | NA | NC | 423 | NA | NA | 1.7 J | NA | 41.6 | NA | 99.8 | NA | NA | 33,800 | 149 | NA | 701 | 0.059 J | NA | NA | NA | NA | NA | NA | NA | NA | 280 |
| MCRA3-SS-SFSR-01 | 6/27/2011 | CES-RA | NA | 16.2 | NA | NC | 425 | NA | NA | 1.3 J | NA | 22.7 | NA | 77 | NA | NA | 36,500 | 199 | NA | 1,020 | 0.15 | NA | NA | NA | NA | NA | NA | NA | NA | 327 |
| MCRA3-SS-SFSR-02 | 6/27/2011 | CES-RA | NA | 26.1 | NA | NC | 911 | NA | NA | 2.2 J | NA | 27 | NA | 152 | NA | NA | 41,900 | 225 | NA | 1,060 | 0.2 | NA | NA | NA | NA | NA | NA | NA | NA | 416 |
| MCRA3-SS-SFSR-03 | 6/27/2011 | CES-RA | NA | 52.9 | NA | NC | 466 | NA | NA | 1.3 J | NA | 21.4 | NA | 136 | NA | NA | 34,600 | 152 | NA | 856 | 0.21 | NA | NA | NA | NA | NA | NA | NA | NA | 249 |
| MCRA3-SS-SFSR-04 | 6/27/2011 | CES-RA | NA | 21.4 | NA | NC | 398 | NA | NA | 0.64 J | NA | 53.7 | NA | 120 | NA | NA | 39,300 | 124 | NA | 753 | 0.096 | NA | NA | NA | NA | NA | NA | NA | NA | 210 |
| MCRA3-SS-SFSR-05 | 6/27/2011 | CES-RA | NA | 46.3 | NA | NC | 468 | NA | NA | 1 J | NA | 64.4 | NA | 129 | NA | NA | 37,300 | 121 | NA | 911 | 0.046 J | NA | NA | NA | NA | NA | NA | NA | NA | 181 |
| MCRA3-SS-SFSR-06 | 6/30/2011 | CES-RA | NA | 17.1 | NA | NC | 268 | NA | NA | 0.66 J | NA | 40.4 | NA | 75 | NA | NA | 27,900 | 174 | NA | 650 | 0.03 J | NA | NA | NA | NA | NA | NA | NA | NA | 216 |
| MCRA3-SS-SFSR-07 | 6/30/2011 | CES-RA | NA | 27.8 | NA | NC | 283 | NA | NA | 0.63 J | NA | 57.9 | NA | 92.4 | NA | NA | 33,800 | 236 | NA | 1,010 | 0.056 J | NA | NA | NA | NA | NA | NA | NA | NA | 236 |
| MCRA3-SS-SFSR-08 | 6/30/2011 | CES-RA | NA | 16.3 J | NA | NC | 303 | NA | NA | 0.53 J | NA | 58.8 | NA | 96.3 | NA | NA | 32,900 | 112 | NA | 714 | 0.052 J | NA | NA | NA | NA | NA | NA | NA | NA | 225 |
| MCRA3-SS-SFSR-09 | 6/30/2011 | CES-RA | NA | 24.1 | NA | NC | 508 | NA | NA | 1.4 J | NA | 55.3 | NA | 122 | NA | NA | 35,600 | 193 | NA | 599 | 0.1 J | NA | NA | NA | NA | NA | NA | NA | NA | 331 |
| MCRA4-SS-SFSR-01 | 10/5/2011 | CES-RA | NA | 14.8 J | NA | NC | 349 | NA | NA | 9.9 | NA | 33.9 | NA | 64.5 | NA | NA | 36,700 | 76.5 | NA | 1,010 | 0.3 | NA | NA | NA | NA | NA | NA | NA | NA | 154 |
| MCRA4-SS-SFSR-02 | 10/3/2011 | CES-RA | NA | 19.4 | NA | NC | 364 | NA | NA | 10.2 | NA | 26.9 | NA | 96 | NA | NA | 34,600 | 147 | NA | 753 | 0.13 | NA | NA | NA | NA | NA | NA | NA | NA | 154 |
| MCRA4-SS-SFSR-03 | 10/3/2011 | CES-RA | NA | 23.1 | NA | NC | 353 | NA | NA | 10.1 | NA | 33.9 | NA | 93.2 | NA | NA | 33,900 | 69.8 | NA | 760 | 0.064 J | NA | NA | NA | NA | NA | NA | NA | NA | 112 |
| MCRA4-SS-SFSR-04 | 10/3/2011 | CES-RA | NA | 10.6 J | NA | NC | 263 | NA | NA | 7.1 | NA | 53.7 | NA | 105 | NA | NA | 35,700 | 66.7 | NA | 762 | 0.072 J | NA | NA | NA | NA | NA | NA | NA | NA | 134 |
| MCRA4-SS-SFSR-05 | 10/3/2011 | CES-RA | NA | 14.8 J | NA | NC | 333 | NA | NA | 9.4 | NA | 40.2 | NA | 110 | NA | NA | 32,500 | 80.3 | NA | 1,060 | 0.068 J | NA | NA | NA | NA | NA | NA | NA | NA | 137 |
| MCRA4-SS-SFSR-06 | 10/3/2011 | CES-RA | NA | 16.8 | NA | NC | 203 | NA | NA | 5.3 | NA | 48.8 | NA | 129 | NA | NA | 36,100 | 76.8 | NA | 708 | 0.065 J | NA | NA | NA | NA | NA | NA | NA | NA | 128 |
| MCRA4-SS-SFSR-07 | 10/3/2011 | CES-RA | NA | 12.1 J | NA | NC | 301 | NA | NA | 7.8 | NA | 44.6 | NA | 77.5 | NA | NA | 33,300 | 67 | NA | 626 | 0.052 J | NA | NA | NA | NA | NA | NA | NA | NA | 137 |
| MCRA4-SS-SFSR-08 | 10/3/2011 | CES-RA | NA | 97.2 | NA | NC | 251 | NA | NA | 7.1 | NA | 59.7 | NA | 139 | NA | NA | 37,000 | 55.1 | NA | 750 | 0.046 J | NA | NA | NA | NA | NA | NA | NA | NA | 117 |
| MCRA4-SS-SFSR-09 | 10/3/2011 | CES-RA | NA | 24.6 | NA | NC | 433 | NA | NA | 12.1 | NA | 54.6 | NA | 88.5 | NA | NA | 33,500 | 115 | NA | 626 | 0.068 J | NA | NA | NA | NA | NA | NA | NA | NA | 207 |
| MCRA5-SS-SFSR-01 | 6/25/2012 | CES-RA | NA | 6.8 J | NA | NC | 390 | NA | NA | 7.8 | NA | 17 | NA | 67.2 | NA | NA | 32,600 | 80.1 | NA | 1,470 | 0.061 J | NA | NA | NA | NA | NA | NA | NA | NA | 175 |
| MCRA5-SS-SFSR-02 | 6/25/2012 | CES-RA | NA | 22.9 | NA | NC | 502 | NA | NA | 9.3 | NA | 20 | NA | 107 | NA | NA | 29,200 | 133 | NA | 722 | 0.12 | NA | NA | NA | NA | NA | NA | NA | NA | 231 |
| MCRA5-SS-SFSR-03 | 6/25/2012 | CES-RA | NA | 74.7 | NA | NC | 525 | NA | NA | 9.7 | NA | 20.4 | NA | 149 | NA | NA | 34,100 | 182 | NA | 602 | 0.027 J | NA | NA | NA | NA | NA | NA | NA | NA | 223 |
| MCRA5-SS-SFSR-04 | 6/25/2012 | CES-RA | NA | 11.4 J | NA | NC | 257 | NA | NA | 4.9 | NA | 53.5 | NA | 107 | NA | NA | 31,900 | 102 | NA | 715 | 0.094 J | NA | NA | NA | NA | NA | NA | NA | NA | 259 |
| MCRA5-SS-SFSR-05 | 6/25/2012 | CES-RA | NA | 3.3 J | NA | NC | 50.3 | NA | NA | 0.77 J | NA | 30.7 | NA | 32.7 | NA | NA | 22,100 | 36.1 | NA | 386 | 0.013 J | NA | NA | NA | NA | NA | NA | NA | NA | 358 |
| MCRA5-SS-SFSR-06 | 6/28/2012 | CES-RA | NA | 15.7 | NA | NC | 482 | NA | NA | 9 | NA | 47.4 | NA | 144 | NA | NA | 38,900 | 137 | NA | 935 | 0.057 J | NA | NA | NA | NA | NA | NA | NA | NA | 223 |
| MCRA5-SS-SFSR-07 | 6/28/2012 | CES-RA | NA | 29.6 | NA | NC | 236 | NA | NA | 4.5 | NA | 46.6 | NA | 75.8 | NA | NA | 28,800 | 80.4 | NA | 576 | 0.077 J | NA | NA | NA | NA | NA | NA | NA | NA | 181 |
| MCRA5-SS-SFSR-08 | 6/28/2012 | CES-RA | NA | 31.9 | NA | NC | 247 | NA | NA | 4.7 | NA | 55.9 | NA | 72.9 | NA | NA | 30,100 | 91.9 | NA | 678 | 0.031 J | NA | NA | NA | NA | NA | NA | NA | NA | 213 |
| MCRA5-SS-SFSR-09 | 6/28/2012 | CES-RA | NA | 11.9 J | NA | NC | 480 | NA | NA | 9.6 | NA | 57 | NA | 117 | NA | NA | 32,400 | 290 | NA | 602 | 0.12 J | NA | NA | NA | NA | NA | NA | NA | NA | 635 |
| MCRA6-SS-SFSR-01 | 9/10/2012 | CES-RA | NA | 5.1 J | NA | NC | 141 | NA | NA | 3.5 | NA | 26.4 | NA | 62.9 | NA | NA | 32,500 | 41.1 | NA | 452 | 0.017 J | NA | NA | NA | NA | NA | NA | NA | NA | 154 |
| MCRA6-SS-SFSR-02 | 9/10/2012 | CES-RA | NA | 31 | NA | NC | 332 | NA | NA | 8.5 | NA | 24.8 | NA | 93.7 | NA | NA | 30,100 | 99.9 | NA | 533 | 0.047 J | NA | NA | NA | NA | NA | NA | NA | NA | 240 |
| MCRA6-SS-SFSR-03 | 9/10/2012 | CES-RA | NA | 19.5 | NA | NC | 286 | NA | NA | 7.3 | NA | 29.1 | NA | 257 | NA | NA | 32,400 | 112 | NA | 659 | 0.09 J | NA | NA | NA | NA | NA | NA | NA | NA | 205 |
| MCRA6-SS-SFSR-04 | 9/10/2012 | CES-RA | NA | 14.7 J | NA | NC | 158 | NA | NA | 3.8 | NA | 39.8 | NA | 73.6 | NA | NA | 35,600 | 55 | NA | 490 | 0.028 J | NA | NA | NA | NA | NA | NA | NA | NA | 155 |
| MCRA6-SS-SFSR-05 | 9/10/2012 | CES-RA | NA | 15.8 | NA | NC | 316 | NA | NA | 7.9 | NA | 39.5 | NA | 81.1 | NA | NA | 31,000 | 81.7 | NA | 640 | 0.028 J | NA | NA | NA | NA | NA | NA | NA | NA | 145 |
| MCRA6-SS-SFSR-06 | 9/10/2012 | CES-RA | NA | 11.6 J | NA | NC | 377 | NA | NA | 9.6 | NA | 66.4 | NA | 124 | NA | NA | 34,200 | 144 | NA | 743 | 0.12 J | NA | NA | NA | NA | NA | NA | NA | NA | 207 |
| MCRA6-SS-SFSR-07 | 9/10/2012 | CES-RA | NA | 30.1 | NA | NC | 170 | NA | NA | 4.5 | NA | 37.4 | NA | 67.6 | NA | NA | 28,200 | 65.9 | NA | 958 | 0.044 J | NA | NA | NA | NA | NA | NA | NA | NA | 161 |
| MCRA6-SS-SFSR-08 | 9/10/2012 | CES-RA | NA | 14 J | NA | NC | 189 | NA | NA | 4.8 | NA | 46.6 | NA | 98.7 | NA | NA | 25,500 | 78.2 | NA | 464 | 0.028 J | NA | NA | NA | NA | NA | NA | NA | NA | 154 |
| MCRA6-SS-SFSR-09 | 9/10/2012 | CES-RA | NA | 7.4 J | NA | NC | 416 | NA | NA | 10.8 | NA | 39.5 | NA | 78 | NA | NA | 26,700 | 159 | NA | 584 | 0.076 J | NA | NA | NA | NA | NA | NA | NA | NA | 272 |

**Table 3a. Sediment Analytical Results**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample ID | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Aluminum, Total | Antimony, Total | Arsenic (III), TR | Arsenic (V), TR Calculated | Arsenic - Total | Barium, Total | Beryllium, Total | Cadmium, Total | Calcium, Total | Chromium, Total | Cobalt, Total | Copper, Total | Cyanide, Total | Cyanide-WAD | Iron, Total | Lead, Total | Magnesium, Total | Manganese, Total | Mercury, Total | Mercury, Methyl, Trace | Nickel, Total | Potassium, Total | Selenium, Total | Silver, Total | Sodium, Total | Thallium, Total | Vanadium, Total | Zinc, Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mg/kg | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Monte Cristo Lake** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MCEE-SS-MCL-01 | 8/26/2008 | CES-EECA | NA | 10.3 | NA | NC | **338** | NA | NA | **0.99** | NA | **65** | NA | **94** | NA | NA | NA | **89.5** | NA | NA | 0.15 B | NA | NA | NA | 0.46 | **1.44** | NA | NA | NA | **147** |
| MCEE-SS-MCL-02 | 8/26/2008 | CES-EECA | NA | **41** | NA | NC | **541** | NA | NA | **0.95** | NA | **42** | NA | **87** | NA | NA | NA | **158** | NA | NA | < 0.05 | NA | NA | NA | 0.17 B | **3.90** | NA | NA | NA | **197** |
| MCEE-SS-MCL-03 | 8/26/2008 | CES-EECA | NA | **36.0** | NA | NC | **418** | NA | NA | **0.78** | NA | **43** | NA | **69** | NA | NA | NA | **111** | NA | NA | < 0.05 | NA | NA | NA | 0.16 B | **0.83** | NA | NA | NA | **191** |
| MCEE-SS-MCL-04 | 8/26/2008 | CES-EECA | NA | **24.2** | NA | NC | **656** | NA | NA | **1.07** | NA | **40** | NA | **76** | NA | NA | NA | **146** | NA | NA | < 0.05 | NA | NA | NA | 0.14 B | **1.98** | NA | NA | NA | **250** |
| MCEE-SS-MCL-05 | 8/26/2008 | CES-EECA | NA | **16.1** | NA | NC | **413** | NA | NA | **1.22** | NA | **57** | NA | **92** | NA | NA | NA | **111** | NA | NA | 0.11 B | NA | NA | NA | 0.35 | **1.26** | NA | NA | NA | **193** |
| MCEE-SS-MCL-06 | 8/26/2008 | CES-EECA | NA | 0.0085 | NA | NC | 0.2810 | NA | NA | **1.25** | NA | **56** | NA | **100** | NA | NA | NA | **133** | NA | NA | 0.19 B | NA | NA | NA | 0.35 | **2.21** | NA | NA | NA | **202** |
| MCRA2-SS-MCL-02-1 | 9/30/2010 | CES-RA | NA | **42.5** | NA | NC | **696** | NA | NA | **2.7 J** | NA | **43.6** | NA | **113** | NA | NA | **31,900** | **165** | NA | 559 | 0.07 J | NA | NA | NA | NA | NA | NA | NA | NA | **210** |
| MCRA2-SS-MCL-02-2 | 9/30/2010 | CES-RA | NA | **55** | NA | NC | **806** | NA | NA | **3.6 J** | NA | **42** | NA | **92** | NA | NA | **32,600** | **298** | NA | 644 | 0.10 J | NA | NA | NA | NA | NA | NA | NA | NA | **331** |
| MCRA2-SS-MCL-02-3 | 9/30/2010 | CES-RA | NA | **70** | NA | NC | **758** | NA | NA | **3.8 J** | NA | **37** | NA | **111** | NA | NA | **30,700** | **270** | NA | 600 | 0.09 J | NA | NA | NA | NA | NA | NA | NA | NA | **367** |
| MCRA2-SS-MCL-03-1 | 9/30/2010 | CES-RA | NA | **46.7** | NA | NC | **724** | NA | NA | **3.8 J** | NA | **51.3** | NA | **146** | NA | NA | **30,500** | **220** | NA | 508 | 0.14 | NA | NA | NA | NA | NA | NA | NA | NA | **294** |
| MCRA2-SS-MCL-03-2 | 9/30/2010 | CES-RA | NA | **93.4** | NA | NC | **1,270** | NA | NA | **8.5** | NA | **48.9** | NA | **245** | NA | NA | **40,600** | **413** | NA | **1,180** | 0.30 | NA | NA | NA | NA | NA | NA | NA | NA | **646** |
| MCRA2-SS-MCL-03-3 | 9/30/2010 | CES-RA | NA | **164** | NA | NC | **1,310** | NA | NA | **10.2** | NA | **40.7** | NA | **269** | NA | NA | **31,700** | **521** | NA | 1,030 | **0.40** | NA | NA | NA | NA | NA | NA | NA | NA | **1,250** |
| MCRA2-SS-MCL-04-1 | 9/30/2010 | CES-RA | NA | **39.9** | NA | NC | **345** | NA | NA | **1.7 J** | NA | **43.8** | NA | **117** | NA | NA | **29,400** | **145** | NA | 459 | 0.08 J | NA | NA | NA | NA | NA | NA | NA | NA | **210** |
| MCRA2-SS-MCL-04-2 | 9/30/2010 | CES-RA | NA | **84.3** | NA | NC | **1,060** | NA | NA | **7.4** | NA | **49.8** | NA | **227** | NA | NA | **37,400** | **330** | NA | 828 | **0.37** | NA | NA | NA | NA | NA | NA | NA | NA | **1,160** |
| MCRA2-SS-MCL-04-3.5 | 9/30/2010 | CES-RA | NA | **68.3** | NA | NC | **1,010** | NA | NA | **6.2 J** | NA | **50.2** | NA | **189** | NA | NA | **34,500** | **290** | NA | 896 | 0.26 | NA | NA | NA | NA | NA | NA | NA | NA | **395** |
| MCRA3-SS-MCL-01 | 6/30/2011 | CES-RA | NA | 8.2 J | NA | NC | **391** | NA | NA | 0.75 J | NA | **66** | NA | **131** | NA | NA | **40,100** | **129** | NA | 1,010 | 0.22 | NA | NA | NA | NA | NA | NA | NA | NA | **208** |
| MCRA4-SS-MCL-01 | 10/3/2011 | CES-RA | NA | 10.8 J | NA | NC | **555** | NA | NA | **15** | NA | **70.6** | NA | **128** | NA | NA | **41,900** | **99** | NA | 564 | 0.20 | NA | NA | NA | NA | NA | NA | NA | NA | **176** |
| MCRA5-SS-MCL-01 | 6/28/2012 | CES-RA | NA | 5.9 J | NA | NC | **323** | NA | NA | 6.2 | NA | **58.8** | NA | **120** | NA | NA | **33,700** | **108** | NA | 707 | 0.22 | NA | NA | NA | NA | NA | NA | NA | NA | **317** |
| MCRA6-SS-MCL-01 | 9/10/2012 | CES-RA | NA | 5.2 J | NA | NC | **626** | NA | NA | **15.5** | NA | **68** | NA | **101** | NA | NA | **35,500** | **80.7** | NA | 557 | 0.13 J | NA | NA | NA | NA | NA | NA | NA | NA | **150** |
| **Background Mean** | | | 11,464 | 11.33 | 0.00044 | 95.800 | 127.7 | 81.47 | 0.145 | 1.340 | 3603.3 | 20.435 | 9.54 | 22.305 | < 0.25 | < 0.25 | ######## | 36.324 | 7513.33 | 910.850 | 0.2812 | < 0.000006 | 12.53 | 1490 | 0.90 | < 0.233 | 488 | 0.1508 | 49.1 | 100.783 |
| **Standards** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Washington - Freshwater (under development) [1] | | | NS | 0.6 | NS | NS | 51 | NS | NS | 1 | NS | 100 | NS | 830 | NS | NS | NS | 430 | NS | NS | 0.75 | NS | 70 | NS | NS | 2.5 | NS | NS | NS | 160 |
| Washington - Marine [2] | | | NS | NS | NS | NS | 57 | NS | NS | 5.1 | NS | 260 | NS | 390 | NS | NS | NS | 450 | NS | NS | 0.41 | NS | NS | NS | NS | 6.1 | NS | NS | NS | 410 |
| EPA - Freshwater TEL [3] | | | NS | NS | NS | NS | 5.9 | NS | NS | 0.596 | NS | 37.3 | NS | 35.7 | NS | NS | NS | 35 | NS | NS | 0.174 | NS | 18 | NS | NS | NS | NS | NS | NS | 123.1 |
| EPA - Freshwater PEL [4] | | | NS | NS | NS | NS | 17 | NS | NS | 3.53 | NS | 90 | NS | 197 | NS | NS | NS | 91.3 | NS | NS | 0.486 | NS | 35.9 | NS | NS | NS | NS | NS | NS | 315 |
| ORNL - Freshwater [5] | | | NS | NS | NS | NS | 42 | NS | NS | 4.2 | NS | 159 | NS | 77.7 | NS | NS | NS | 110 | NS | NS | 0.7 | NS | 38.5 | NS | NS | 1.8 | NS | NS | NS | 270 |

**GENERAL NOTES:**

All CES-SI samples (except Arsenic (III,) Mercury, UltraTrace, & Mercury, Methyl) were analyzed by SVL Analytical, Inc., Kellogg, Idaho EPA Method 6010/6020.

All CES-EECA sample analyses were conducted by ACZ Laboratories, Inc., Steambo

Arsenic (III), Mercury, UltraTrace, & Mercury, Methyl analyses were conducted by Brooks Rand, Seattle, Washington.

Arsenic (V) was calculated from the difference between Arsenic and Arsenic (III)

All CES-RA analyses were conducted by Pace Analytical Services, Inc., Seattle, Washington per EPA method 6010/6020.

MDL and PQL are not consistent among samples.

Abbreviations: < value = Analyte not detected above the Method Detection Limit (MDL, shown), -- = not applicable, J = Estimated concentration above the adjusted MDL and below the adjusted reporting limit, mg/kg = milligrams per kilogram, NA = not analyzed, RA = Removal Action.

**Bold** indicates an exceedance of a background concentration from the CES (2004) SI; MFG (2005); and CES (2010/2011) RA DGI field investigations.

Shaded values indicate that the value exceeds one or more standard; corresponding criteria also shaded.

SHA = Site Hazard Assessment Results (Crofoot and O'Brian, 2004)

**STANDARD NOTES:**

1 - State of Washington, Development of Freshwater Sediment Quality Values (DOE recommendations, Sept 2003)

2 - State of Washington, Marine Sediment Management Standards (WAC 172-204-320)

3 - EPA Threshold Effects Level (NOAA, 1999)

4 - EPA Probable Effects Level (NOAA, 1999)

5 - ORNL ecological screening level values for freshwater, lowest chronic value used (ORNL, 1997)

NS = No Standard

**Table 3b. Sediment Analytical Results (continued)**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample ID | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Total Organic Carbon | Size Fraction by Hydrometer ASA #9 | | | Solids (Brooks Rand LLC) | Percent Solids | Texture Classification | pH (Saturated Paste) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Clay | Sand | Silt | | | | |
| | | | % | % | | | % | % | | |
| **Glacier Creek** | | | | | | | | | | |
| GC-SS1 (Background) | 6/2/2005 | CES-SI | 0.130 | 0.0 | 100.0 | 0.0 | 82.22 | 83.0 | Sand | NA |
| GC-SS1 (Background) | 6/2/2005 | CES-SI | 0.130 | 0.0 | 98.0 | 2.0 | 74.86 | 78.0 | Sand | NA |
| SHA-3394095 (Background) | 9/25/2003 | WADNR | NA | NA | NA | NA | NA | NA | NA | NA |
| GC-SS3 | 6/2/2005 | CES-SI | 0.300 | 2.0 | 88.0 | 10.0 | 70.81 | 79.0 | Sand | NA |
| GC-SS4 | 6/2/2005 | CES-SI | 0.280 | 2.0 | 90.0 | 8.0 | 77.33 | 85.0 | Sand | NA |
| GC-SS5 | 6/2/2005 | CES-SI | 0.330 | 2.0 | 94.0 | 4.0 | 86.61 | 89.0 | Sand | NA |
| MCEE-SS-GC-01 | 8/22/2008 | CES-EECA | NA | NA | NA | NA | NA | 79.2 | NA | NA |
| MCEE-SS-GC-02 | 8/22/2008 | CES-EECA | NA | NA | NA | NA | NA | 79.7 | NA | NA |
| MCEE-SS-GC-03 | 8/22/2008 | CES-EECA | NA | NA | NA | NA | NA | 82.8 | NA | NA |
| MCEE-SS-GC-04 | 8/19/2008 | CES-EECA | NA | NA | NA | NA | NA | 79.4 | NA | NA |
| MCEE-SS-GC-05 | 8/19/2008 | CES-EECA | NA | NA | NA | NA | NA | 81.7 | NA | NA |
| MCRA1-SS-GC-01 | 6/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 7.3 |
| MCRA1-SS-GC-02 | 6/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA1-SS-GC-02a | 6/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 5.9 |
| MCRA1-SS-GC-03 | 6/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 7 |
| MCRA1-SS-GC-04 | 6/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.1 |
| MCRA1-SS-GC-04a | 6/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA1-SS-GC-05 | 6/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA2-SS-GC-01 | 9/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.1 |
| MCRA2-SS-GC-02 | 9/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA2-SS-GC-02a | 9/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 5.6 |
| MCRA2-SS-GC-03 | 9/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA2-SS-GC-04 | 9/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA2-SS-GC-04a | 9/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA2-SS-GC-05 | 9/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA3-SS-GC-02 | 6/28/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA3-SS-GC-02a | 6/28/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA3-SS-GC-03 | 6/28/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA3-SS-GC-04 | 6/28/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA3-SS-GC-04a | 6/27/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA3-SS-GC-05 | 6/27/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA4-SS-GC-01 | 10/4/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 7.2 |
| MCRA4-SS-GC-02 | 10/4/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA4-SS-GC-02a | 10/4/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA4-SS-GC-03 | 1/10/1900 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA4-SS-GC-04 | 10/4/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA4-SS-GC-04a | 10/4/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA4-SS-GC-05 | 10/5/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA5-SS-GC-02 | 6/27/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA5-SS-GC-02a | 6/27/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA5-SS-GC-03 | 6/27/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA5-SS-GC-04 | 6/26/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA5-SS-GC-04a | 6/25/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA5-SS-GC-05 | 6/25/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | NA |
| MCRA6-SS-GC-01 | 9/12/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA6-SS-GC-02 | 9/12/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 7 |
| MCRA6-SS-GC-02a | 9/12/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA6-SS-GC-03 | 9/12/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.9 |
| MCRA6-SS-GC-04 | 9/12/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 7 |
| MCRA6-SS-GC-04a | 9/11/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA6-SS-GC-05 | 9/11/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| **Glacier Creek near Ore Collector** | | | | | | | | | | |
| COL-SS-01 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 84.5 | NA | NA |
| COL-SS-02 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 76.1 | NA | NA |
| COL-SS-03 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 84.5 | NA | NA |
| COL-SS-04 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 77.5 | NA | NA |
| COL-SS-05 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 89.7 | NA | NA |
| **Glacier Creek near Concentrator** | | | | | | | | | | |
| CON-SS-01 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 81.3 | NA | NA |
| CON-SS-02 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 79.3 | NA | NA |
| CON-SS-03 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 83.2 | NA | NA |
| CON-SS-04 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 81.9 | NA | NA |
| CON-SS-05 | 9/10/2005 | CES-SI | NA | NA | NA | NA | NA | 82.1 | NA | NA |
| **Seventysix Gulch** | | | | | | | | | | |
| 76G-SS1 (Background) | 6/2/2005 | CES-SI | 0.140 | 0.0 | 98.0 | 2.0 | 79.73 | 82.0 | Sand | NA |
| 76G-SS2 | 6/2/2005 | CES-SI | 0.220 | 0.0 | 96.0 | 4.0 | 85.35 | 88.0 | Sand | NA |
| MCEE-SS-76G-01 | 8/21/2008 | CES-EECA | NA | NA | NA | NA | NA | 81.6 | NA | NA |
| MCEE-SS-76G-02 | 8/21/2008 | CES-EECA | NA | NA | NA | NA | NA | 76.7 | NA | NA |
| MCRA1-SS-76G-01 | 6/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA1-SS-76G-01a | 6/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA1-SS-76G-01b | 6/29/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.0 |
| MCRA1-SS-76G-02 | 6/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA2-SS-76G-01 | 9/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA2-SS-76G-01a | 9/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.9 |
| MCRA2-SS-76G-01b | 9/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA2-SS-76G-02 | 9/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA3-SS-76G-01b | 6/29/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA3-SS-76G-02 | 6/29/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |

**Table 3b. Sediment Analytical Results (continued)**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample ID | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Total Organic Carbon | Size Fraction by Hydrometer ASA #9 | | | Solids (Brooks Rand LLC) | Percent Solids | Texture Classification | pH (Saturated Paste) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Clay | Sand | Silt | | | | |
| | | | % | % | | | % | % | | |
| **Seventysix Gulch (continued)** | | | | | | | | | | |
| MCRA4-SS-76G-01 | 10/5/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA4-SS-76G-01a | 10/5/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.2 |
| MCRA4-SS-76G-01b | 10/5/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA4-SS-76G-02 | 10/5/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA5-SS-76G-01b | 6/26/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA5-SS-76G-02 | 6/26/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA6-SS-76G-01b | 9/11/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.9 |
| MCRA6-SS-76G-02 | 9/11/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.9 |
| **South Fork Sauk River** | | | | | | | | | | |
| SFSR-SS1 | 6/1/2005 | CES-SI | 0.340 | 2.0 | 94.0 | 4.0 | 76.63 | 81.0 | Sand | NA |
| SFSR-SS2 | 6/1/2005 | CES-SI | 0.270 | 0.0 | 96.0 | 4.0 | 76.73 | 76.0 | Sand | NA |
| SFSR-SS3 | 6/1/2005 | CES-SI | 0.190 | 0.0 | 98.0 | 2.0 | 81.65 | 80.0 | Sand | NA |
| SHA-3374088 (near Lake MC) | 9/12/2003 | WADNR | NA | NA | NA | NA | NA | NA | NA | NA |
| MCEE-SS-SFSR-01 | 8/19/2008 | CES-EECA | NA | NA | NA | NA | NA | 72.6 | NA | NA |
| MCEE-SS-SFSR-02 | 8/19/2008 | CES-EECA | NA | NA | NA | NA | NA | 82.6 | NA | NA |
| MCEE-SS-SFSR-03 | 8/19/2008 | CES-EECA | NA | NA | NA | NA | NA | 74.8 | NA | NA |
| MCEE-SS-SFSR-04 | 8/27/2008 | CES-EECA | NA | NA | NA | NA | NA | 72.2 | NA | NA |
| MCEE-SS-SFSR-05 | 8/27/2008 | CES-EECA | NA | NA | NA | NA | NA | 73.5 | NA | NA |
| MCEE-SS-SFSR-06 | 8/26/2008 | CES-EECA | NA | NA | NA | NA | NA | 75.1 | NA | NA |
| MCEE-SS-SFSR-07 | 8/26/2008 | CES-EECA | NA | NA | NA | NA | NA | 75.3 | NA | NA |
| MCEE-SS-SFSR-08 | 8/25/2008 | CES-EECA | NA | NA | NA | NA | NA | 73.6 | NA | NA |
| MCEE-SS-SFSR-09 | 8/25/2008 | CES-EECA | NA | NA | NA | NA | NA | 76.7 | NA | NA |
| MCRA1-SS-SFSR-01 | 6/28/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.1 |
| MCRA1-SS-SFSR-02 | 6/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA1-SS-SFSR-03 | 6/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA1-SS-SFSR-04 | 6/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA1-SS-SFSR-05 | 6/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA1-SS-SFSR-06 | 7/1/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA1-SS-SFSR-07 | 7/1/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA1-SS-SFSR-08 | 7/1/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA1-SS-SFSR-09 | 7/1/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA2-SS-SFSR-01 | 9/27/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.2 |
| MCRA2-SS-SFSR-02 | 9/27/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA2-SS-SFSR-03 | 9/27/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA2-SS-SFSR-04 | 9/27/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA2-SS-SFSR-05 | 9/27/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA2-SS-SFSR-06 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA2-SS-SFSR-07 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA2-SS-SFSR-08 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA2-SS-SFSR-09 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA3-SS-SFSR-01 | 6/27/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA3-SS-SFSR-02 | 6/27/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA3-SS-SFSR-03 | 6/27/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA3-SS-SFSR-04 | 6/27/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA3-SS-SFSR-05 | 6/27/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA3-SS-SFSR-06 | 6/30/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA3-SS-SFSR-07 | 6/30/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA3-SS-SFSR-08 | 6/30/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA3-SS-SFSR-09 | 6/30/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.2 |
| MCRA4-SS-SFSR-01 | 10/5/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA4-SS-SFSR-02 | 10/3/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA4-SS-SFSR-03 | 10/3/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA4-SS-SFSR-04 | 10/3/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA4-SS-SFSR-05 | 10/3/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA4-SS-SFSR-06 | 10/3/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA4-SS-SFSR-07 | 10/3/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA4-SS-SFSR-08 | 10/3/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA4-SS-SFSR-09 | 10/3/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA5-SS-SFSR-01 | 6/25/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.5 |
| MCRA5-SS-SFSR-02 | 6/25/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6 |
| MCRA5-SS-SFSR-03 | 6/25/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.9 |
| MCRA5-SS-SFSR-04 | 6/25/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA5-SS-SFSR-05 | 6/25/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 7.1 |
| MCRA5-SS-SFSR-06 | 6/28/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA5-SS-SFSR-07 | 6/28/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 7 |
| MCRA5-SS-SFSR-08 | 6/28/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.9 |
| MCRA5-SS-SFSR-09 | 6/28/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.9 |
| MCRA6-SS-SFSR-01 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA6-SS-SFSR-02 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA6-SS-SFSR-03 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA6-SS-SFSR-04 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.8 |
| MCRA6-SS-SFSR-05 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA6-SS-SFSR-06 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |
| MCRA6-SS-SFSR-07 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.7 |
| MCRA6-SS-SFSR-08 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6 |
| MCRA6-SS-SFSR-09 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.6 |

**Table 3b. Sediment Analytical Results (continued)**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample ID | Sample Date | Sampling Group (CES, WADNR, Forest Service, Ecology) | Total Organic Carbon | Size Fraction by Hydrometer ASA #9 | | | Solids (Brooks Rand LLC) | Percent Solids | Texture Classification | pH (Saturated Paste) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Clay | Sand | Silt | | | | |
| | | | % | % | | | % | % | | |
| **Monte Cristo Lake** | | | | | | | | | | |
| MCEE-SS-MCL-01 | 8/26/2008 | CES-EECA | NA | NA | NA | NA | NA | 51.5 | NA | NA |
| MCEE-SS-MCL-02 | 8/26/2008 | CES-EECA | NA | NA | NA | NA | NA | 61.4 | NA | NA |
| MCEE-SS-MCL-03 | 8/26/2008 | CES-EECA | NA | NA | NA | NA | NA | 74.4 | NA | NA |
| MCEE-SS-MCL-04 | 8/26/2008 | CES-EECA | NA | NA | NA | NA | NA | 72.1 | NA | NA |
| MCEE-SS-MCL-05 | 8/26/2008 | CES-EECA | NA | NA | NA | NA | NA | 58.4 | NA | NA |
| MCEE-SS-MCL-06 | 8/26/2008 | CES-EECA | NA | NA | NA | NA | NA | 53.3 | NA | NA |
| MCRA2-SS-MCL-02-1 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 5.8 |
| MCRA2-SS-MCL-02-2 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA2-SS-MCL-02-3 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.0 |
| MCRA2-SS-MCL-03-1 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA2-SS-MCL-03-2 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA2-SS-MCL-03-3 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA2-SS-MCL-04-1 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |
| MCRA2-SS-MCL-04-2 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA2-SS-MCL-04-3.5 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA3-SS-MCL-01 | 9/30/2010 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.2 |
| MCRA4-SS-MCL-01 | 10/3/2011 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6 |
| MCRA5-SS-MCL-01 | 6/28/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.4 |
| MCRA6-SS-MCL-06 | 9/10/2012 | CES-RA | NA | NA | NA | NA | NA | NA | NA | 6.3 |

**GENERAL NOTES:**

All CES-SI samples (except Arsenic (III,) Mercury, UltraTrace, & Mercury, Methyl) were analyzed by SVL Analytical, Inc., Kellogg, Idaho EPA Method 6010/6020.

All CES-EECA sample analyses were conducted by ACZ Laboratories, Inc., Steamboat Springs, Colorado.

Arsenic (III), Mercury, UltraTrace, & Mercury, Methyl analyses were conducted by Brooks Rand, Seattle, Washington.

Arsenic (V) was calculated from the difference between Arsenic and Arsenic (III).

All CES-RA analyses were conducted by Pace Analytical Services, Inc., Seattle, Washington per EPA method 6010/6020.

Abbreviations: -- = Not applicable., < value = Analyte not detected above Method Detection Limit (MDL, shown), J = Estimated concentration above the adjusted MDL and below the adjusted reporting limit, MDL and PQL are not consistent among samples, NA = not analyzed, SHA = Site Hazard Assessment Results (Crofoot and O'Brian, 2004)

**Table 4. Quality Assurance/Quality Control Summary**
**Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012 Annual Aquatic Monitoring Report**

| Sample I.D. | Sample Date | Aluminum | Antimony | Arsenic Total | Cadmium | Chromium | Copper | Iron | Lead | Manganese | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | | | | |
| **Mystery Mine** | | | | | | | | | | | |
| MCRA5-DW-MY-01 | 6/26/2012 | 259 | 15 | 318 | 6.6 | < 0.094 | 163 | 3,720 | 17.2 | 652 | 1,230 |
| MCRA5-SW-DP-01 | 6/26/2012 | 244 | 14.8 | 308 | 6.7 | < 0.094 | 162 | 3,570 | 16.9 | 640 | 1,200 |
| **% Difference** | | **6%** | **1%** | **3%** | **2%** | **0%** | **1%** | **4%** | **2%** | **2%** | **2%** |
| MCRA6-DW-MY-01 | 9/11/2012 | 1,100 | 23.9 | 1,060 | 34.6 | 0.16 J | 747 | 13,500 | 30.2 | 3,570 | 5,980 |
| MCRA6-SW-DP-01 | 9/11/2012 | 1,190 | 28.1 | 1,100 | 36.1 | 0.23 J | 777 | 15,900 | 37 | 4,110 | 7,840 |
| **% Difference** | | **8%** | **16%** | **4%** | **4%** | **36%** | **4%** | **16%** | **20%** | **14%** | **27%** |
| **Pride of the Woods Mine** | | | | | | | | | | | |
| MCRA5-DW-PW-01 | 6/27/2012 | 156 | 0.42 J | 0.35 J | 0.34 | < 0.094 | 13.2 | 9.4 J | 0.29 | 19.5 | 59.7 |
| MCRA5-SW-DP-02 | 6/27/2012 | 176 | 0.41 J | 0.53 | 0.43 | < 0.094 | 16.3 | 15.6 J | 0.4 | 24.8 | 70.2 |
| **% Difference** | | **12%** | **2%** | **41%** | **23%** | **0%** | **21%** | **50%** | **32%** | **24%** | **16%** |
| **Pride of the Mountains Mine** | | | | | | | | | | | |
| MCRA6-DW-PW-01 | 9/12/2012 | 220 | 21.7 | 888 | 8.9 | 0.12 J | 452 | 2,780 | 83.2 | 337 | 1,520 |
| MCRA6-SW-DP-02 | 9/12/2012 | 188 | 24.2 | 738 | 7.8 | < 0.094 | 379 | 2,490 | 70.3 | 285 | 1,420 |
| **% Difference** | | **16%** | **11%** | **18%** | **13%** | **24%** | **18%** | **11%** | **17%** | **17%** | **7%** |
| **Station SFSR-09** | | | | | | | | | | | |
| MCRA5-SW-SFSR-09 | 6/28/2012 | 18.6 | 1.4 | 9 | < 0.028 | 0.17 J | 0.85 | 50 | 0.26 | 5.1 | 4.6 J |
| MCRA5-SW-DP-03 | 6/28/2012 | 21.2 | 1.3 | 8.9 | < 0.028 | 0.19 J | 0.78 | 59 | 0.28 | 5.2 | 6 |
| **% Difference** | | **13%** | **7%** | **1%** | **0%** | **11%** | **9%** | **17%** | **7%** | **2%** | **26%** |
| MCRA6-SW-SFSR-09 | 9/10/2012 | 29.2 | 4.1 | 26.3 | 0.052 J | 0.17 J | 1.3 | 200 | 0.67 | 18.6 | 5.2 |
| MCRA6-SW-DP-03 | 9/10/2012 | 16.6 | 4.2 | 26.7 | 0.045 J | 0.2 J | 1.3 | 199 | 0.75 | 20.1 | 5.2 |
| **% Difference** | | **55%** | **2%** | **2%** | **14%** | **16%** | **0%** | **1%** | **11%** | **8%** | **0%** |
| **Rinsate Blanks** | | | | | | | | | | | |
| MCRA5-SW-EQ-01 | 6/28/2012 | 2.5 J | < 0.064 | < 0.14 | < 0.028 | < 0.094 | 1.9 | < 8.6 | 0.1 | < 0.25 | 3.2 J |
| MCRA6-SW-EQ-01 | 9/12/2012 | 2.8 J | < 0.1 | < 0.14 | < 0.028 | < 0.094 | 1.8 | < 10 | 0.11 | < 0.25 | < 1 |

**GENERAL NOTES:**

All analyses were conducted by Pace Analytical Services, Inc., Seattle, Washington per EPA Method 6010/6020 for total metals.

Abbreviations: < value = analyte not detected above method detection limit (MDL), B = analyte detected between MDL and practical quantification limit (PQL), J = Estimated concentration above the adjusted MDL and below the adjusted reporting limit, mg/L = micrograms per liter.

SW-DP-01 is a field duplicate of the surface water sample collected at the Mystery Mine

SW-DP-02 is a field duplicate of the surface water sample collected at the Pride of the Woods Mine. During the Fall 2012 sampling event, the duplicate was collected from the Pride of the Mountains Mine.

MCRA1-SW-DP-03 is a field duplicate of the surface water sample collected at station SFSR-09.

SW-EQ-01 is a rinsate blank collected from a stainless steel trowel.

# PLATE

**Plate 1. Site Layout Map of Monte Cristo Mining Area**

PLATE 1: Site Layout Map of Monte Cristo Mining Area

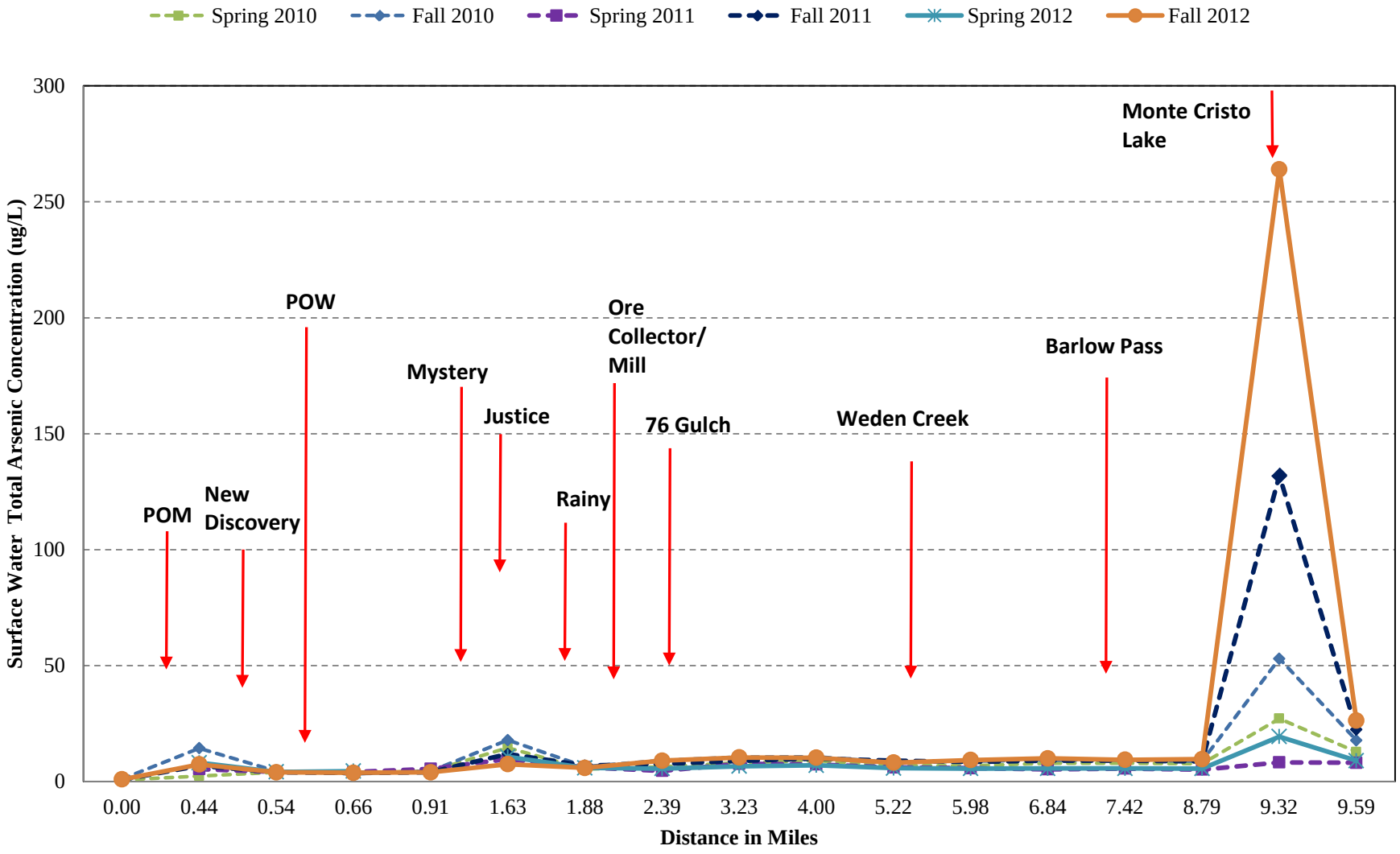
| | |
|---|---|
| PROJECT NUMBER: 2011230022 | Monte Cristo Mining Area<br>2012 Annual Aquatic Monitoring Report |
| DATE: 12/19/2011 | |
| DRAWN BY: GRKB | DRAWING: Plate 1.mxd |
| PROJECT MANAGER: DGW | USDA Forest Service<br>Mt. Baker-Snoqualmie National Forest<br>Monte Cristo, Washington |
| REVISED: | CASCADE EARTH SCIENCES<br>A Valmont Industries Company |

PLATE_1_MCRA DGI 2011_Interium Report.mxd

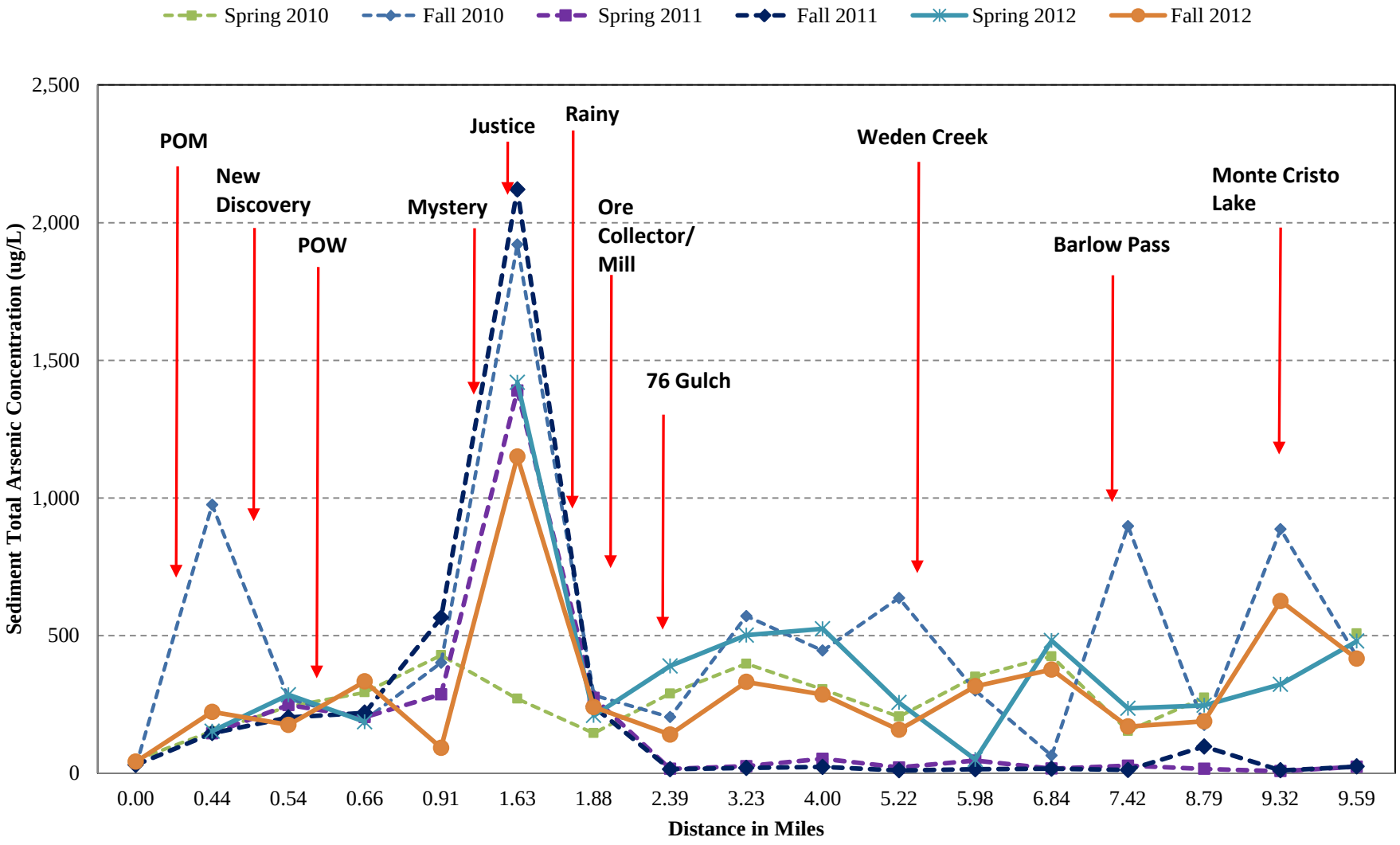
# CHARTS

**Chart 1.** **Arsenic Concentrations in Surface Water**
**Chart 2.** **Arsenic Concentrations in Sediment**

# Chart 1. Arsenic Concentrations in Surface Water
# Glacier Basin to Monte Cristo Lake
# Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012



# Chart 2. Arsenic Concentrations in Sediment
# Glacier Basin to Monte Cristo Lake
# Monte Cristo Mining Area, Removal Action - Data Gap Investigation - 2012



**Attachment A.**

**Laboratory Analysis – Pace Analytical Services, Inc.**

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

July 24, 2012

Ryan Tobias
Cascade Earth Sciences
3511 Pacific Blvd. SW
Albany, OR 97321

RE: Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

Dear Ryan Tobias:
Enclosed are the analytical results for sample(s) received by the laboratory on June 29, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen Jang

karen.jang@pacelabs.com
Project Manager

Enclosures

cc: Sara Rodriguez, Cascade Earth Sciences



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# CERTIFICATIONS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Arizona Certification #: AZ0770
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C555



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE SUMMARY

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **2512758001** | **MCRA5-SW-SFRS-01** | Water | 06/25/12 15:15 | 06/29/12 10:55 |
| **2512758002** | **MCRA5-SW-SFSR-02** | Water | 06/25/12 13:00 | 06/29/12 10:55 |
| **2512758003** | **MCRA5-SW-SFSR-03** | Water | 06/25/12 12:05 | 06/29/12 10:55 |
| **2512758004** | **MCRA5-SW-SFSR-04** | Water | 06/25/12 11:20 | 06/29/12 10:55 |
| **2512758005** | **MCRA5-SW-SFSR-05** | Water | 06/25/12 10:30 | 06/29/12 10:55 |
| **2512758006** | **MCRA5-SW-SFSR-06** | Water | 06/28/12 12:30 | 06/29/12 10:55 |
| **2512758007** | **MCRA5-SW-SFSR-07** | Water | 06/28/12 12:10 | 06/29/12 10:55 |
| **2512758008** | **MCRA5-SW-SFSR-08** | Water | 06/28/12 11:45 | 06/29/12 10:55 |
| **2512758009** | **MCRA5-SW-SFSR-09** | Water | 06/28/12 12:25 | 06/29/12 10:55 |
| **2512758010** | **MCRA5-SW-MCL-01** | Water | 06/28/12 12:05 | 06/29/12 10:55 |
| **2512758011** | **MCRA5-SW-DP-01** | Water | 06/26/12 11:40 | 06/29/12 10:55 |
| **2512758012** | **MCRA5-SW-DP-02** | Water | 06/27/12 12:10 | 06/29/12 10:55 |
| **2512758013** | **MCRA5-SW-DP-03** | Water | 06/28/12 12:25 | 06/29/12 10:55 |
| **2512758014** | **MCRA5-SW-EQ-01** | Water | 06/28/12 13:00 | 06/29/12 10:55 |
| **2512758015** | **MCRA5-SW-GC-02** | Water | 06/27/12 13:40 | 06/29/12 10:55 |
| **2512758016** | **MCRA5-SW-GC-02a** | Water | 06/27/12 12:45 | 06/29/12 10:55 |
| **2512758017** | **MCRA5-SW-GC-03** | Water | 06/27/12 11:55 | 06/29/12 10:55 |
| **2512758018** | **MCRA5-SW-GC-04a** | Water | 06/26/12 14:00 | 06/29/12 10:55 |
| **2512758019** | **MCRA5-SW-GC-05** | Water | 06/25/12 16:35 | 06/29/12 10:55 |
| **2512758020** | **MCRA5-SW-76G-01a** | Water | 06/26/12 12:15 | 06/29/12 10:55 |
| **2512758021** | **MCRA5-SW-76G-01b** | Water | 06/26/12 10:45 | 06/29/12 10:55 |
| **2512758022** | **MCRA5-SW-76G-02** | Water | 06/26/12 08:45 | 06/29/12 10:55 |
| **2512758023** | **MCRA5-DW-MY-01** | Water | 06/26/12 11:35 | 06/29/12 10:55 |
| **2512758024** | **MCRA5-DW-JU-01** | Water | 06/26/12 12:47 | 06/29/12 10:55 |
| **2512758025** | **MCRA5-DW-BA-01** | Water | 06/25/12 15:23 | 06/29/12 10:55 |
| **2512758026** | **MCRA5-DW-PW-01** | Water | 06/27/12 12:05 | 06/29/12 10:55 |
| **2512758027** | **MCRA5-DW-RY-01** | Water | 06/26/12 14:20 | 06/29/12 10:55 |
| **2512758028** | **MCRA5-DW-SH-01** | Water | 06/26/12 11:10 | 06/29/12 10:55 |
| **2512758029** | **MCRA5-SP-JU-01** | Water | 06/27/12 16:20 | 06/29/12 10:55 |
| **2512758030** | **MCRA5-SS-GC-02** | Solid | 06/27/12 13:45 | 06/29/12 10:55 |
| **2512758031** | **MCRA5-SS-GC-02a** | Solid | 06/27/12 12:50 | 06/29/12 10:55 |
| **2512758032** | **MCRA5-SS-GC-03** | Solid | 06/27/12 12:00 | 06/29/12 10:55 |
| **2512758033** | **MCRA5-SS-GC-04a** | Solid | 06/26/12 14:05 | 06/29/12 10:55 |
| **2512758034** | **MCRA5-SS-GC-05** | Solid | 06/25/12 16:30 | 06/29/12 10:55 |
| **2512758035** | **MCRA5-SS-76G-01b** | Solid | 06/26/12 10:30 | 06/29/12 10:55 |
| **2512758036** | **MCRA5-SS-76G-02** | Solid | 06/26/12 08:50 | 06/29/12 10:55 |
| **2512758037** | **MCRA5-SS-SFSR-01** | Solid | 06/25/12 15:20 | 06/29/12 10:55 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE SUMMARY

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **2512758038** | **MCRA5-SS-SFSR-02** | Solid | 06/25/12 13:05 | 06/29/12 10:55 |
| **2512758039** | **MCRA5-SS-SFSR-03** | Solid | 06/25/12 12:10 | 06/29/12 10:55 |
| **2512758040** | **MCRA5-SS-SFSR-04** | Solid | 06/25/12 11:25 | 06/29/12 10:55 |
| **2512758041** | **MCRA5-SS-SFSR-05** | Solid | 06/25/12 10:35 | 06/29/12 10:55 |
| **2512758042** | **MCRA5-SS-SFSR-06** | Solid | 06/28/12 12:35 | 06/29/12 10:55 |
| **2512758043** | **MCRA5-SS-SFSR-07** | Solid | 06/28/12 12:15 | 06/29/12 10:55 |
| **2512758044** | **MCRA5-SS-SFSR-08** | Solid | 06/28/12 11:50 | 06/29/12 10:55 |
| **2512758045** | **MCRA5-SS-SFSR-09** | Solid | 06/28/12 12:30 | 06/29/12 10:55 |
| **2512758046** | **MCRA5-MCL-SS-01** | Solid | 06/28/12 12:20 | 06/29/12 10:55 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **2512758001** | **MCRA5-SW-SFRS-01** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758002** | **MCRA5-SW-SFSR-02** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758003** | **MCRA5-SW-SFSR-03** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758004** | **MCRA5-SW-SFSR-04** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758005** | **MCRA5-SW-SFSR-05** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758006** | **MCRA5-SW-SFSR-06** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758007** | **MCRA5-SW-SFSR-07** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758008** | **MCRA5-SW-SFSR-08** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758009** | **MCRA5-SW-SFSR-09** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758010** | **MCRA5-SW-MCL-01** | EPA 6020 | RR1 | 11 | PASI-M |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758011** | **MCRA5-SW-DP-01** | EPA 6020 | RR1 | 10 | PASI-M |
| **2512758012** | **MCRA5-SW-DP-02** | EPA 6020 | RR1 | 10 | PASI-M |
| **2512758013** | **MCRA5-SW-DP-03** | EPA 6020 | RR1 | 10 | PASI-M |
| **2512758014** | **MCRA5-SW-EQ-01** | EPA 6020 | RR1 | 10 | PASI-M |
| **2512758015** | **MCRA5-SW-GC-02** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758016** | **MCRA5-SW-GC-02a** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758017** | **MCRA5-SW-GC-03** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758018** | **MCRA5-SW-GC-04a** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758019** | **MCRA5-SW-GC-05** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758020** | **MCRA5-SW-76G-01a** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758021** | **MCRA5-SW-76G-01b** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758022** | **MCRA5-SW-76G-02** | EPA 6020 | RR1 | 11 | PASI-M |
| | | SM 2540C | KMT | 1 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2512758023** | **MCRA5-DW-MY-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | RR1 | 10 | PASI-M |
| | | SM 2310B | CMS | 1 | PASI-S |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2512758024** | **MCRA5-DW-JU-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | RR1 | 10 | PASI-M |
| | | SM 2310B | CMS | 1 | PASI-S |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2512758025** | **MCRA5-DW-BA-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | RR1 | 10 | PASI-M |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2512758026** | **MCRA5-DW-PW-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | RR1 | 10 | PASI-M |
| | | SM 2310B | CMS | 1 | PASI-S |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **2512758027** | **MCRA5-DW-RY-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | RR1 | 10 | PASI-M |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2512758028** | **MCRA5-DW-SH-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | RR1 | 10 | PASI-M |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2512758029** | **MCRA5-SP-JU-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | RR1 | 10 | PASI-M |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | KMT | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2512758030** | **MCRA5-SS-GC-02** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2512758031** | **MCRA5-SS-GC-02a** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2512758032** | **MCRA5-SS-GC-03** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2512758033** | **MCRA5-SS-GC-04a** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | KMT | 1 | PASI-S |
| **2512758034** | **MCRA5-SS-GC-05** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | KMT | 1 | PASI-S |
| **2512758035** | **MCRA5-SS-76G-01b** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | KMT | 1 | PASI-S |
| **2512758036** | **MCRA5-SS-76G-02** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | KMT | 1 | PASI-S |
| **2512758037** | **MCRA5-SS-SFSR-01** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | KMT | 1 | PASI-S |
| **2512758038** | **MCRA5-SS-SFSR-02** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | KMT | 1 | PASI-S |
| **2512758039** | **MCRA5-SS-SFSR-03** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | KMT | 1 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **2512758040** | **MCRA5-SS-SFSR-04** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | KMT | 1 | PASI-S |
| **2512758041** | **MCRA5-SS-SFSR-05** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | KMT | 1 | PASI-S |
| **2512758042** | **MCRA5-SS-SFSR-06** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2512758043** | **MCRA5-SS-SFSR-07** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2512758044** | **MCRA5-SS-SFSR-08** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2512758045** | **MCRA5-SS-SFSR-09** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2512758046** | **MCRA5-MCL-SS-01** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AJM | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **SM 2340B**
**Description:** 2340B Hardness, Total (Calc.)
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
7 samples were analyzed for SM 2340B. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**
All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**
All criteria were within method requirements with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 6010**
**Description:** 6010 MET ICP
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
24 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.
The samples were prepared in accordance with EPA 3050 with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**
All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**
All criteria were within method requirements with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/3146

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2512758030

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 121251)
  - Antimony
  - Arsenic
  - Iron
  - Manganese
- MSD (Lab ID: 121252)
  - Antimony
  - Arsenic
  - Chromium
  - Copper
  - Iron
  - Manganese

R1: RPD value was outside control limits.

- MSD (Lab ID: 121252)
  - Arsenic
  - Copper



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 6010**
**Description:** 6010 MET ICP
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

QC Batch: MPRP/3146

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2512758030

R1: RPD value was outside control limits.

- Iron

**Additional Comments:**

Analyte Comments:

QC Batch: MPRP/3144

B: Analyte was detected in the associated method blank.

- MCRA5-DW-BA-01 (Lab ID: 2512758025)
  - Sodium
- MCRA5-DW-JU-01 (Lab ID: 2512758024)
  - Sodium
- MCRA5-DW-MY-01 (Lab ID: 2512758023)
  - Sodium
- MCRA5-DW-PW-01 (Lab ID: 2512758026)
  - Sodium
- MCRA5-DW-RY-01 (Lab ID: 2512758027)
  - Sodium
- MCRA5-DW-SH-01 (Lab ID: 2512758028)
  - Sodium
- MCRA5-SP-JU-01 (Lab ID: 2512758029)
  - Sodium

QC Batch: MPRP/3146

B: Analyte was detected in the associated method blank.

- MCRA5-MCL-SS-01 (Lab ID: 2512758046)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-76G-01b (Lab ID: 2512758035)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-76G-02 (Lab ID: 2512758036)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-GC-02 (Lab ID: 2512758030)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-GC-02a (Lab ID: 2512758031)
  - Chromium
  - Iron



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 6010**
**Description:** 6010 MET ICP
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

Analyte Comments:

QC Batch: MPRP/3146

B: Analyte was detected in the associated method blank.

- MCRA5-SS-GC-02a (Lab ID: 2512758031)
  - Manganese
- MCRA5-SS-GC-03 (Lab ID: 2512758032)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-GC-04a (Lab ID: 2512758033)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-GC-05 (Lab ID: 2512758034)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-SFSR-01 (Lab ID: 2512758037)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-SFSR-02 (Lab ID: 2512758038)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-SFSR-03 (Lab ID: 2512758039)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-SFSR-04 (Lab ID: 2512758040)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-SFSR-05 (Lab ID: 2512758041)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-SFSR-06 (Lab ID: 2512758042)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-SFSR-07 (Lab ID: 2512758043)
  - Chromium
  - Iron
  - Manganese



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 6010**
**Description:** 6010 MET ICP
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

Analyte Comments:

QC Batch: MPRP/3146

B: Analyte was detected in the associated method blank.

- MCRA5-SS-SFSR-08 (Lab ID: 2512758044)
  - Chromium
  - Iron
  - Manganese
- MCRA5-SS-SFSR-09 (Lab ID: 2512758045)
  - Chromium
  - Iron
  - Manganese

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- MCRA5-MCL-SS-01 (Lab ID: 2512758046)
  - Antimony
- MCRA5-SS-76G-01b (Lab ID: 2512758035)
  - Antimony
- MCRA5-SS-76G-02 (Lab ID: 2512758036)
  - Antimony
- MCRA5-SS-GC-02 (Lab ID: 2512758030)
  - Antimony
- MCRA5-SS-GC-02a (Lab ID: 2512758031)
  - Antimony
- MCRA5-SS-GC-03 (Lab ID: 2512758032)
  - Antimony
- MCRA5-SS-GC-04a (Lab ID: 2512758033)
  - Antimony
- MCRA5-SS-GC-05 (Lab ID: 2512758034)
  - Antimony
- MCRA5-SS-SFSR-01 (Lab ID: 2512758037)
  - Antimony
- MCRA5-SS-SFSR-02 (Lab ID: 2512758038)
  - Antimony
- MCRA5-SS-SFSR-03 (Lab ID: 2512758039)
  - Antimony
- MCRA5-SS-SFSR-04 (Lab ID: 2512758040)
  - Antimony
- MCRA5-SS-SFSR-05 (Lab ID: 2512758041)
  - Antimony
- MCRA5-SS-SFSR-06 (Lab ID: 2512758042)
  - Antimony
- MCRA5-SS-SFSR-07 (Lab ID: 2512758043)
  - Antimony
- MCRA5-SS-SFSR-08 (Lab ID: 2512758044)
  - Antimony



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 6010**
**Description:** 6010 MET ICP
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

Analyte Comments:

QC Batch: MPRP/3146

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- MCRA5-SS-SFSR-09 (Lab ID: 2512758045)
  - Antimony

D4: Sample was diluted due to the presence of high levels of target analytes.

- MCRA5-MCL-SS-01 (Lab ID: 2512758046)
  - Iron
- MCRA5-SS-76G-01b (Lab ID: 2512758035)
  - Manganese
- MCRA5-SS-76G-02 (Lab ID: 2512758036)
  - Manganese
- MCRA5-SS-GC-02 (Lab ID: 2512758030)
  - Manganese
- MCRA5-SS-GC-02a (Lab ID: 2512758031)
  - Manganese
- MCRA5-SS-GC-03 (Lab ID: 2512758032)
  - Manganese
- MCRA5-SS-GC-04a (Lab ID: 2512758033)
  - Iron
  - Manganese
- MCRA5-SS-GC-05 (Lab ID: 2512758034)
  - Manganese
- MCRA5-SS-SFSR-01 (Lab ID: 2512758037)
  - Manganese
- MCRA5-SS-SFSR-02 (Lab ID: 2512758038)
  - Manganese
- MCRA5-SS-SFSR-03 (Lab ID: 2512758039)
  - Manganese
- MCRA5-SS-SFSR-04 (Lab ID: 2512758040)
  - Manganese
- MCRA5-SS-SFSR-05 (Lab ID: 2512758041)
  - Iron
- MCRA5-SS-SFSR-06 (Lab ID: 2512758042)
  - Iron
- MCRA5-SS-SFSR-07 (Lab ID: 2512758043)
  - Iron
- MCRA5-SS-SFSR-08 (Lab ID: 2512758044)
  - Iron
- MCRA5-SS-SFSR-09 (Lab ID: 2512758045)
  - Manganese



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 6020**
**Description:** 6020 MET ICPMS
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
46 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**
All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**
All criteria were within method requirements with any exceptions noted below.

**Internal Standards:**
All internal standards were within QC limits with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: ICPM/33419

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10197353011,2512758028

D6: The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

- MSD (Lab ID: 1232597)
  - Iron

QC Batch: ICPM/33418

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2512758001,2512758011

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1232593)
  - Aluminum
  - Zinc

QC Batch: ICPM/33413

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2512758030,2512758040

D6: The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

- MSD (Lab ID: 1232567)
  - Lead
  - Zinc



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 6020**
**Description:** 6020 MET ICPMS
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**Additional Comments:**

Analyte Comments:

QC Batch: ICPM/33418

B: Analyte was detected in the associated method blank.

- MCRA5-SW-76G-01a (Lab ID: 2512758020)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-DP-01 (Lab ID: 2512758011)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-DP-02 (Lab ID: 2512758012)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-DP-03 (Lab ID: 2512758013)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-EQ-01 (Lab ID: 2512758014)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-GC-02 (Lab ID: 2512758015)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-GC-02a (Lab ID: 2512758016)
  - Aluminum
- MCRA5-SW-GC-03 (Lab ID: 2512758017)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-GC-04a (Lab ID: 2512758018)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-GC-05 (Lab ID: 2512758019)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-MCL-01 (Lab ID: 2512758010)
  - Aluminum



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 6020**
**Description:** 6020 MET ICPMS
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

Analyte Comments:

QC Batch: ICPM/33418

B: Analyte was detected in the associated method blank.

- MCRA5-SW-MCL-01 (Lab ID: 2512758010)
  - Copper
  - Lead
- MCRA5-SW-SFRS-01 (Lab ID: 2512758001)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-SFSR-02 (Lab ID: 2512758002)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-SFSR-03 (Lab ID: 2512758003)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-SFSR-04 (Lab ID: 2512758004)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-SFSR-05 (Lab ID: 2512758005)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-SFSR-06 (Lab ID: 2512758006)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-SFSR-07 (Lab ID: 2512758007)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-SFSR-08 (Lab ID: 2512758008)
  - Aluminum
  - Copper
  - Lead
- MCRA5-SW-SFSR-09 (Lab ID: 2512758009)
  - Aluminum
  - Copper
  - Lead



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 7471**
**Description:** 7471 Mercury
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
17 samples were analyzed for EPA 7471. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**
The samples were prepared in accordance with EPA 7471 with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**
All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**
All criteria were within method requirements with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MERP/1718

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2512758030

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 121267)
  - Mercury

**Additional Comments:**



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **SM 2310B**
**Description:** 2310B Acidity, Total
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
3 samples were analyzed for SM 2310B. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **SM 2320B**
**Description:** 2320B Alkalinity
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
7 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **SM 2540C**
**Description:** 2540C Total Dissolved Solids
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
25 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **SM 2540D**
**Description:** 2540D Total Suspended Solids
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
25 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **SM 4500-H+B**
**Description:** 4500H+ pH, Electrometric
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
25 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.
- MCRA5-DW-BA-01 (Lab ID: 2512758025)
- MCRA5-DW-JU-01 (Lab ID: 2512758024)
- MCRA5-DW-MY-01 (Lab ID: 2512758023)
- MCRA5-DW-PW-01 (Lab ID: 2512758026)
- MCRA5-DW-RY-01 (Lab ID: 2512758027)
- MCRA5-DW-SH-01 (Lab ID: 2512758028)
- MCRA5-SP-JU-01 (Lab ID: 2512758029)
- MCRA5-SW-76G-01a (Lab ID: 2512758020)
- MCRA5-SW-76G-01b (Lab ID: 2512758021)
- MCRA5-SW-76G-02 (Lab ID: 2512758022)
- MCRA5-SW-GC-02 (Lab ID: 2512758015)
- MCRA5-SW-GC-02a (Lab ID: 2512758016)
- MCRA5-SW-GC-03 (Lab ID: 2512758017)
- MCRA5-SW-GC-04a (Lab ID: 2512758018)
- MCRA5-SW-GC-05 (Lab ID: 2512758019)
- MCRA5-SW-MCL-01 (Lab ID: 2512758010)
- MCRA5-SW-SFRS-01 (Lab ID: 2512758001)
- MCRA5-SW-SFSR-02 (Lab ID: 2512758002)
- MCRA5-SW-SFSR-03 (Lab ID: 2512758003)
- MCRA5-SW-SFSR-04 (Lab ID: 2512758004)
- MCRA5-SW-SFSR-05 (Lab ID: 2512758005)
- MCRA5-SW-SFSR-06 (Lab ID: 2512758006)
- MCRA5-SW-SFSR-07 (Lab ID: 2512758007)
- MCRA5-SW-SFSR-08 (Lab ID: 2512758008)
- MCRA5-SW-SFSR-09 (Lab ID: 2512758009)

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**
All duplicate sample results were within method acceptance criteria with any exceptions noted below.



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **SM 4500-H+B**
**Description:** 4500H+ pH, Electrometric
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**Additional Comments:**



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 9045**
**Description:** 9045 pH Soil
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
17 samples were analyzed for EPA 9045. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 300.0**
**Description:** 300.0 IC Anions 28 Days
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

**General Information:**
7 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**
All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**
All criteria were within method requirements with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/2650

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2512734003,2512758029

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 121405)
  - Sulfate

**Additional Comments:**

Analyte Comments:

QC Batch: WETA/2650

B: Analyte was detected in the associated method blank.

- MCRA5-DW-BA-01 (Lab ID: 2512758025)
  - Sulfate
- MCRA5-DW-JU-01 (Lab ID: 2512758024)
  - Sulfate
- MCRA5-DW-MY-01 (Lab ID: 2512758023)
  - Sulfate
- MCRA5-DW-PW-01 (Lab ID: 2512758026)
  - Sulfate
- MCRA5-DW-RY-01 (Lab ID: 2512758027)
  - Sulfate
- MCRA5-DW-SH-01 (Lab ID: 2512758028)
  - Sulfate



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# PROJECT NARRATIVE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Method:** **EPA 300.0**
**Description:** 300.0 IC Anions 28 Days
**Client:** Cascade Earth Sciences
**Date:** July 24, 2012

Analyte Comments:

QC Batch: WETA/2650

B: Analyte was detected in the associated method blank.

- MCRA5-SP-JU-01 (Lab ID: 2512758029)
  - Sulfate

This data package has been reviewed for quality and completeness and is approved for release.



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-SFRS-01** **Lab ID: 2512758001** Collected: 06/25/12 15:15 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **22.4** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7429-90-5 | B |
| Antimony | **0.82** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7440-36-0 | |
| Arsenic | **5.6** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7440-38-2 | |
| Cadmium | **0.043J** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7440-47-3 | |
| Copper | **0.46J** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7440-50-8 | B |
| Iron | **<8.6** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7439-89-6 | |
| Lead | **0.076J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7439-92-1 | B |
| Manganese | **0.72** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7439-96-5 | |
| Total Hardness by 2340B | **5990** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | | |
| Zinc | **9.2** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 05:55 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **15.0** | mg/L | 5.0 | 1.0 | 1 | | 07/02/12 17:16 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.1** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 13:53 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-SFSR-02** **Lab ID: 2512758002** Collected: 06/25/12 13:00 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **9.7** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7429-90-5 | B |
| Antimony | **0.90** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7440-36-0 | |
| Arsenic | **6.6** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7440-38-2 | |
| Cadmium | **0.050J** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7440-47-3 | |
| Copper | **0.47J** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7440-50-8 | B |
| Iron | **<8.6** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7439-89-6 | |
| Lead | **0.060J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7439-92-1 | B |
| Manganese | **0.49J** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7439-96-5 | |
| Total Hardness by 2340B | **6260** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | | |
| Zinc | **7.8** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 06:18 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **9.0** | mg/L | 5.0 | 1.0 | 1 | | 07/02/12 17:16 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 13:53 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-SFSR-03** **Lab ID: 2512758003** Collected: 06/25/12 12:05 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **9.7** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7429-90-5 | B |
| Antimony | **1.1** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7440-36-0 | |
| Arsenic | **7.0** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7440-38-2 | |
| Cadmium | **0.061J** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7440-47-3 | |
| Copper | **0.66** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7440-50-8 | B |
| Iron | **<8.6** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7439-89-6 | |
| Lead | **0.054J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7439-92-1 | B |
| Manganese | **0.27J** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7439-96-5 | |
| Total Hardness by 2340B | **7710** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | | |
| Zinc | **9.3** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 07:32 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **13.0** | mg/L | 5.0 | 1.0 | 1 | | 07/02/12 17:16 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 13:53 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-SFSR-04** **Lab ID: 2512758004** Collected: 06/25/12 11:20 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **15.0** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7429-90-5 | B |
| Antimony | **1.1** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7440-36-0 | |
| Arsenic | **5.8** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7440-43-9 | |
| Chromium | **0.15J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7440-47-3 | |
| Copper | **0.75** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7440-50-8 | B |
| Iron | **9.0J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7439-89-6 | |
| Lead | **0.060J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7439-92-1 | B |
| Manganese | **0.45J** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7439-96-5 | |
| Total Hardness by 2340B | **7540** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | | |
| Zinc | **6.9** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 07:41 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **12.0** | mg/L | 5.0 | 1.0 | 1 | | 07/02/12 17:17 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.1** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 13:53 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-SFSR-05** **Lab ID: 2512758005** Collected: 06/25/12 10:30 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **15.0** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7429-90-5 | B |
| Antimony | **0.97** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7440-36-0 | |
| Arsenic | **5.6** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7440-38-2 | |
| Cadmium | **0.037J** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7440-43-9 | |
| Chromium | **0.16J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7440-47-3 | |
| Copper | **0.60** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7440-50-8 | B |
| Iron | **10.8J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7439-89-6 | |
| Lead | **0.046J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7439-92-1 | B |
| Manganese | **0.55** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7439-96-5 | |
| Total Hardness by 2340B | **8420** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | | |
| Zinc | **6.1** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 07:50 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **11.0** | mg/L | 5.0 | 1.0 | 1 | | 07/02/12 17:17 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 13:53 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-SFSR-06** **Lab ID: 2512758006** Collected: 06/28/12 12:30 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **14.6** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7429-90-5 | B |
| Antimony | **1.0** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7440-36-0 | |
| Arsenic | **5.7** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7440-43-9 | |
| Chromium | **0.14J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7440-47-3 | |
| Copper | **0.69** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7440-50-8 | B |
| Iron | **10.2J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7439-89-6 | |
| Lead | **0.048J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7439-92-1 | B |
| Manganese | **0.57** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7439-96-5 | |
| Total Hardness by 2340B | **8100** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | | |
| Zinc | **3.6J** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 07:59 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **18.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:40 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/05/12 16:00 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:44 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-SFSR-07** **Lab ID: 2512758007** Collected: 06/28/12 12:10 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **15.3** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7429-90-5 | B |
| Antimony | **1.1** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7440-36-0 | |
| Arsenic | **5.7** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7440-43-9 | |
| Chromium | **0.15J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7440-47-3 | |
| Copper | **0.75** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7440-50-8 | B |
| Iron | **10.9J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7439-89-6 | |
| Lead | **0.052J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7439-92-1 | B |
| Manganese | **0.65** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7439-96-5 | |
| Total Hardness by 2340B | **9060** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | | |
| Zinc | **5.5** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 08:09 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **21.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:41 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **4.0** | mg/L | 2.0 | 1.0 | 1 | | 07/05/12 16:00 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.3** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:44 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-SFSR-08** **Lab ID: 2512758008** Collected: 06/28/12 11:45 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **14.8** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7429-90-5 | B |
| Antimony | **1.0** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7440-36-0 | |
| Arsenic | **5.6** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7440-43-9 | |
| Chromium | **0.16J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7440-47-3 | |
| Copper | **0.66** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7440-50-8 | B |
| Iron | **11.6J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7439-89-6 | |
| Lead | **0.063J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7439-92-1 | B |
| Manganese | **0.68** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7439-96-5 | |
| Total Hardness by 2340B | **9530** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | | |
| Zinc | **4.5J** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 08:32 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **24.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:41 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/05/12 16:00 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.4** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:44 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-SFSR-09** **Lab ID: 2512758009** Collected: 06/28/12 12:25 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **18.6** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7429-90-5 | B |
| Antimony | **1.4** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7440-36-0 | |
| Arsenic | **9.0** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7440-43-9 | |
| Chromium | **0.17J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7440-47-3 | |
| Copper | **0.85** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7440-50-8 | B |
| Iron | **50.0** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7439-89-6 | |
| Lead | **0.26** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7439-92-1 | B |
| Manganese | **5.1** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7439-96-5 | |
| Total Hardness by 2340B | **10000** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | | |
| Zinc | **4.6J** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 08:41 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **20.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:41 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/05/12 16:00 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.3** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:44 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-MCL-01** **Lab ID: 2512758010** Collected: 06/28/12 12:05 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **19.9** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7429-90-5 | B |
| Antimony | **1.2** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7440-36-0 | |
| Arsenic | **19.4** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7440-38-2 | |
| Cadmium | **0.033J** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7440-43-9 | |
| Chromium | **0.16J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7440-47-3 | |
| Copper | **0.95** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7440-50-8 | B |
| Iron | **123** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7439-89-6 | |
| Lead | **0.32** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7439-92-1 | B |
| Manganese | **17.6** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7439-96-5 | |
| Total Hardness by 2340B | **10100** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | | |
| Zinc | **4.2J** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 08:50 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **29.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:41 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **2.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/05/12 16:00 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:44 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-DP-01** **Lab ID: 2512758011** Collected: 06/26/12 11:40 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **244** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 08:59 | 7429-90-5 | B,M1 |
| Antimony | **14.8** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 08:59 | 7440-36-0 | |
| Arsenic | **308** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 08:59 | 7440-38-2 | |
| Cadmium | **6.7** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 08:59 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 08:59 | 7440-47-3 | |
| Copper | **162** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 08:59 | 7440-50-8 | B |
| Iron | **3570** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 08:59 | 7439-89-6 | |
| Lead | **16.9** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 08:59 | 7439-92-1 | B |
| Manganese | **640** | ug/L | 2.5 | 1.2 | 5 | 07/06/12 18:27 | 07/19/12 09:04 | 7439-96-5 | |
| Zinc | **1200** | ug/L | 25.0 | 5.0 | 5 | 07/06/12 18:27 | 07/19/12 09:04 | 7440-66-6 | M1 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-DP-02** **Lab ID: 2512758012** Collected: 06/27/12 12:10 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **176** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7429-90-5 | B |
| Antimony | **0.41J** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7440-36-0 | |
| Arsenic | **0.53** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7440-38-2 | |
| Cadmium | **0.43** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7440-47-3 | |
| Copper | **16.3** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7440-50-8 | B |
| Iron | **15.6J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7439-89-6 | |
| Lead | **0.40** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7439-92-1 | B |
| Manganese | **24.8** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7439-96-5 | |
| Zinc | **70.2** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 09:13 | 7440-66-6 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-DP-03** **Lab ID: 2512758013** Collected: 06/28/12 12:25 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **21.2** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7429-90-5 | B |
| Antimony | **1.3** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7440-36-0 | |
| Arsenic | **8.9** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7440-43-9 | |
| Chromium | **0.19J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7440-47-3 | |
| Copper | **0.78** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7440-50-8 | B |
| Iron | **59.4** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7439-89-6 | |
| Lead | **0.28** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7439-92-1 | B |
| Manganese | **5.2** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7439-96-5 | |
| Zinc | **6.0** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 09:31 | 7440-66-6 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-EQ-01** **Lab ID: 2512758014** Collected: 06/28/12 13:00 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **2.5J** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7429-90-5 | B |
| Antimony | **<0.064** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7440-36-0 | |
| Arsenic | **<0.14** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7440-47-3 | |
| Copper | **1.9** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7440-50-8 | B |
| Iron | **<8.6** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7439-89-6 | |
| Lead | **0.10** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7439-92-1 | B |
| Manganese | **<0.25** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7439-96-5 | |
| Zinc | **3.2J** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 09:36 | 7440-66-6 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-GC-02** **Lab ID: 2512758015** Collected: 06/27/12 13:40 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **35.7** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7429-90-5 | B |
| Antimony | **1.1** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7440-36-0 | |
| Arsenic | **8.1** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7440-43-9 | |
| Chromium | **0.10J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7440-47-3 | |
| Copper | **0.32J** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7440-50-8 | B |
| Iron | **39.0J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7439-89-6 | |
| Lead | **0.35** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7439-92-1 | B |
| Manganese | **7.5** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7439-96-5 | |
| Total Hardness by 2340B | **7870** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | | |
| Zinc | **13.0** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 09:41 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **14.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:39 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:44 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-GC-02a** **Lab ID: 2512758016** Collected: 06/27/12 12:45 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **6.0** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7429-90-5 | B |
| Antimony | **1.2** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7440-36-0 | |
| Arsenic | **4.2** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7440-47-3 | |
| Copper | **<0.18** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7440-50-8 | |
| Iron | **<8.6** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7439-89-6 | |
| Lead | **<0.018** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7439-92-1 | |
| Manganese | **0.97** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7439-96-5 | |
| Total Hardness by 2340B | **7720** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | | |
| Zinc | **5.8** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 09:50 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **19.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:39 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:17 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-GC-03** **Lab ID: 2512758017** Collected: 06/27/12 11:55 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **32.9** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7429-90-5 | B |
| Antimony | **1.2** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7440-36-0 | |
| Arsenic | **4.5** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7440-38-2 | |
| Cadmium | **0.045J** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7440-47-3 | |
| Copper | **2.0** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7440-50-8 | B |
| Iron | **29.3J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7439-89-6 | |
| Lead | **0.27** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7439-92-1 | B |
| Manganese | **6.9** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7439-96-5 | |
| Total Hardness by 2340B | **7290** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | | |
| Zinc | **13.6** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 09:59 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **21.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:40 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.1** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:17 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-GC-04a** **Lab ID: 2512758018** Collected: 06/26/12 14:00 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **9.0** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7429-90-5 | B |
| Antimony | **1.1** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7440-36-0 | |
| Arsenic | **10.7** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7440-38-2 | |
| Cadmium | **0.14** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7440-47-3 | |
| Copper | **0.74** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7440-50-8 | B |
| Iron | **<8.6** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7439-89-6 | |
| Lead | **0.038J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7439-92-1 | B |
| Manganese | **0.74** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7439-96-5 | |
| Total Hardness by 2340B | **7460** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | | |
| Zinc | **26.0** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 10:08 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **21.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:36 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:17 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-GC-05** **Lab ID: 2512758019** Collected: 06/25/12 16:35 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **12.1** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | 7429-90-5 | B |
| Antimony | **0.97** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | 7440-36-0 | |
| Arsenic | **5.9** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | 7440-38-2 | |
| Cadmium | **0.058J** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | 7440-43-9 | |
| Chromium | **0.10J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | 7440-47-3 | |
| Copper | **0.58** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 14:39 | 7440-50-8 | B |
| Iron | **64.6** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | 7439-89-6 | |
| Lead | **0.073J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | 7439-92-1 | B |
| Manganese | **58.1** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | 7439-96-5 | |
| Total Hardness by 2340B | **12800** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | | |
| Zinc | **13.7** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 10:31 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **4.0J** | mg/L | 5.0 | 1.0 | 1 | | 07/02/12 17:17 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.0** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 13:53 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-76G-01a** **Lab ID: 2512758020** Collected: 06/26/12 12:15 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **31.5** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7429-90-5 | B |
| Antimony | **4.0** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7440-36-0 | |
| Arsenic | **20.7** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7440-47-3 | |
| Copper | **0.45J** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7440-50-8 | B |
| Iron | **34.6J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7439-89-6 | |
| Lead | **0.64** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7439-92-1 | B |
| Manganese | **3.0** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7439-96-5 | |
| Total Hardness by 2340B | **10100** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | | |
| Zinc | **10.9** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 18:27 | 07/19/12 10:40 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **24.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:37 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.1** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:17 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-76G-01b** **Lab ID: 2512758021** Collected: 06/26/12 10:45 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **22.6** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7429-90-5 | |
| Antimony | **1.2** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7440-36-0 | |
| Arsenic | **7.1** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7440-38-2 | |
| Cadmium | **0.028J** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7440-47-3 | |
| Copper | **0.31J** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7440-50-8 | |
| Iron | **11.8J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7439-89-6 | |
| Lead | **0.14** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7439-92-1 | |
| Manganese | **1.6** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7439-96-5 | |
| Total Hardness by 2340B | **7900** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | | |
| Zinc | **8.3** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 17:16 | 07/17/12 20:54 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **24.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:37 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.3** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 13:53 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SW-76G-02** **Lab ID: 2512758022** Collected: 06/26/12 08:45 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **14.6** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7429-90-5 | |
| Antimony | **1.1** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7440-36-0 | |
| Arsenic | **7.3** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7440-47-3 | |
| Copper | **0.23J** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7440-50-8 | |
| Iron | **<8.6** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7439-89-6 | |
| Lead | **0.072J** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7439-92-1 | |
| Manganese | **0.85** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7439-96-5 | |
| Total Hardness by 2340B | **7410** | ug/L | 71.0 | 35.5 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | | |
| Zinc | **6.3** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 17:16 | 07/17/12 21:03 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **27.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:37 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 13:53 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-DW-MY-01** **Lab ID: 2512758023** Collected: 06/26/12 11:35 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **45.8** | mg/L | 1.0 | | 1 | | 07/05/12 11:13 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **11200** | ug/L | 5000 | 37.8 | 1 | 06/30/12 11:00 | 07/05/12 11:13 | 7440-70-2 | |
| Magnesium | **4360J** | ug/L | 5000 | 30.0 | 1 | 06/30/12 11:00 | 07/05/12 11:13 | 7439-95-4 | |
| Potassium | **180J** | ug/L | 5000 | 76.2 | 1 | 06/30/12 11:00 | 07/05/12 11:13 | 7440-09-7 | |
| Sodium | **773J** | ug/L | 5000 | 29.4 | 1 | 06/30/12 11:00 | 07/05/12 11:13 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **259** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 17:16 | 07/17/12 21:12 | 7429-90-5 | |
| Antimony | **15.0** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 17:16 | 07/17/12 21:12 | 7440-36-0 | |
| Arsenic | **318** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 17:16 | 07/17/12 21:12 | 7440-38-2 | |
| Cadmium | **6.6** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 17:16 | 07/17/12 21:12 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 17:16 | 07/17/12 21:12 | 7440-47-3 | |
| Copper | **163** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 17:16 | 07/17/12 21:12 | 7440-50-8 | |
| Iron | **3720** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 17:16 | 07/17/12 21:12 | 7439-89-6 | |
| Lead | **17.2** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 17:16 | 07/17/12 21:12 | 7439-92-1 | |
| Manganese | **652** | ug/L | 2.5 | 1.2 | 5 | 07/06/12 17:16 | 07/17/12 21:17 | 7439-96-5 | |
| Zinc | **1230** | ug/L | 25.0 | 5.0 | 5 | 07/06/12 17:16 | 07/17/12 21:17 | 7440-66-6 | |
| **2310B Acidity, Total** | Analytical Method: SM 2310B | | | | | | | | |
| Acidity, Total | **8.7** | mg/L | 2.0 | 0.20 | 1 | | 07/10/12 14:45 | | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **<0.10** | mg/L | 1.0 | 0.10 | 1 | | 07/06/12 12:00 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **90.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:38 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **8.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **5.2** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:17 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.49J** | mg/L | 1.0 | 0.044 | 1 | | 07/05/12 18:40 | 16887-00-6 | |
| Sulfate | **48.6** | mg/L | 5.0 | 0.12 | 5 | | 07/06/12 15:29 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-DW-JU-01** **Lab ID: 2512758024** Collected: 06/26/12 12:47 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **32.1** | mg/L | 1.0 | | 1 | | 07/05/12 11:17 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **10900** | ug/L | 5000 | 37.8 | 1 | 06/30/12 11:00 | 07/05/12 11:17 | 7440-70-2 | |
| Magnesium | **1200J** | ug/L | 5000 | 30.0 | 1 | 06/30/12 11:00 | 07/05/12 11:17 | 7439-95-4 | |
| Potassium | **252J** | ug/L | 5000 | 76.2 | 1 | 06/30/12 11:00 | 07/05/12 11:17 | 7440-09-7 | |
| Sodium | **1400J** | ug/L | 5000 | 29.4 | 1 | 06/30/12 11:00 | 07/05/12 11:17 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **42.8** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7429-90-5 | |
| Antimony | **4.9** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7440-36-0 | |
| Arsenic | **140** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7440-38-2 | |
| Cadmium | **0.60** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7440-43-9 | |
| Chromium | **0.22J** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7440-47-3 | |
| Copper | **10.7** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7440-50-8 | |
| Iron | **638** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7439-89-6 | |
| Lead | **0.66** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7439-92-1 | |
| Manganese | **19.3** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7439-96-5 | |
| Zinc | **84.2** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 17:16 | 07/17/12 21:21 | 7440-66-6 | |
| **2310B Acidity, Total** | Analytical Method: SM 2310B | | | | | | | | |
| Acidity, Total | **2.2** | mg/L | 2.0 | 0.20 | 1 | | 07/10/12 14:45 | | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **18.0** | mg/L | 1.0 | 0.10 | 1 | | 07/06/12 12:00 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **62.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:38 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.6** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:17 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.51J** | mg/L | 1.0 | 0.044 | 1 | | 07/05/12 18:55 | 16887-00-6 | |
| Sulfate | **15.1** | mg/L | 1.0 | 0.023 | 1 | | 07/05/12 18:55 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-DW-BA-01** **Lab ID: 2512758025** Collected: 06/25/12 15:23 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **13.7** | mg/L | 1.0 | | 1 | | 07/05/12 11:21 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **5300** | ug/L | 5000 | 37.8 | 1 | 06/30/12 11:00 | 07/05/12 11:21 | 7440-70-2 | |
| Magnesium | **117J** | ug/L | 5000 | 30.0 | 1 | 06/30/12 11:00 | 07/05/12 11:21 | 7439-95-4 | |
| Potassium | **265J** | ug/L | 5000 | 76.2 | 1 | 06/30/12 11:00 | 07/05/12 11:21 | 7440-09-7 | |
| Sodium | **1150J** | ug/L | 5000 | 29.4 | 1 | 06/30/12 11:00 | 07/05/12 11:21 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **18.2** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7429-90-5 | |
| Antimony | **0.095J** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7440-36-0 | |
| Arsenic | **0.33J** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7440-47-3 | |
| Copper | **0.45J** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7440-50-8 | |
| Iron | **20.3J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7439-89-6 | |
| Lead | **0.19** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7439-92-1 | |
| Manganese | **1.0** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7439-96-5 | |
| Zinc | **7.5** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 17:16 | 07/17/12 21:31 | 7440-66-6 | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **6.6** | mg/L | 1.0 | 0.10 | 1 | | 07/06/12 12:00 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **23.0** | mg/L | 5.0 | 1.0 | 1 | | 07/02/12 17:17 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 13:53 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.44J** | mg/L | 1.0 | 0.044 | 1 | | 07/05/12 19:10 | 16887-00-6 | |
| Sulfate | **10.2** | mg/L | 1.0 | 0.023 | 1 | | 07/05/12 19:10 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-DW-PW-01** **Lab ID: 2512758026** Collected: 06/27/12 12:05 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **1.5** | mg/L | 1.0 | | 1 | | 07/05/12 11:25 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **600J** | ug/L | 5000 | 37.8 | 1 | 06/30/12 11:00 | 07/05/12 11:25 | 7440-70-2 | |
| Magnesium | **<30.0** | ug/L | 5000 | 30.0 | 1 | 06/30/12 11:00 | 07/05/12 11:25 | 7439-95-4 | |
| Potassium | **<76.2** | ug/L | 5000 | 76.2 | 1 | 06/30/12 11:00 | 07/05/12 11:25 | 7440-09-7 | |
| Sodium | **414J** | ug/L | 5000 | 29.4 | 1 | 06/30/12 11:00 | 07/05/12 11:25 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **156** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7429-90-5 | |
| Antimony | **0.42J** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7440-36-0 | |
| Arsenic | **0.35J** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7440-38-2 | |
| Cadmium | **0.34** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7440-47-3 | |
| Copper | **13.2** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7440-50-8 | |
| Iron | **9.4J** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7439-89-6 | |
| Lead | **0.29** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7439-92-1 | |
| Manganese | **19.5** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7439-96-5 | |
| Zinc | **59.7** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 17:16 | 07/17/12 22:53 | 7440-66-6 | |
| **2310B Acidity, Total** | Analytical Method: SM 2310B | | | | | | | | |
| Acidity, Total | **3.0** | mg/L | 2.0 | 0.20 | 1 | | 07/10/12 14:45 | | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **<0.10** | mg/L | 1.0 | 0.10 | 1 | | 07/06/12 12:00 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **13.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:40 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **6.4** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:17 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.24J** | mg/L | 1.0 | 0.044 | 1 | | 07/05/12 19:26 | 16887-00-6 | |
| Sulfate | **2.0** | mg/L | 1.0 | 0.023 | 1 | | 07/05/12 19:26 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-DW-RY-01** **Lab ID: 2512758027** Collected: 06/26/12 14:20 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **7.2** | mg/L | 1.0 | | 1 | | 07/05/12 11:28 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **2140J** | ug/L | 5000 | 37.8 | 1 | 06/30/12 11:00 | 07/05/12 11:28 | 7440-70-2 | |
| Magnesium | **461J** | ug/L | 5000 | 30.0 | 1 | 06/30/12 11:00 | 07/05/12 11:28 | 7439-95-4 | |
| Potassium | **275J** | ug/L | 5000 | 76.2 | 1 | 06/30/12 11:00 | 07/05/12 11:28 | 7440-09-7 | |
| Sodium | **874J** | ug/L | 5000 | 29.4 | 1 | 06/30/12 11:00 | 07/05/12 11:28 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **7.7** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7429-90-5 | |
| Antimony | **0.14J** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7440-36-0 | |
| Arsenic | **1.4** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7440-47-3 | |
| Copper | **0.27J** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7440-50-8 | |
| Iron | **<8.6** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7439-89-6 | |
| Lead | **0.17** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7439-92-1 | |
| Manganese | **0.55** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7439-96-5 | |
| Zinc | **4.7J** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 17:16 | 07/17/12 23:02 | 7440-66-6 | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **4.0** | mg/L | 1.0 | 0.10 | 1 | | 07/06/12 12:00 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **25.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:38 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:17 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.36J** | mg/L | 1.0 | 0.044 | 1 | | 07/05/12 19:41 | 16887-00-6 | |
| Sulfate | **2.7** | mg/L | 1.0 | 0.023 | 1 | | 07/05/12 19:41 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-DW-SH-01** **Lab ID: 2512758028** Collected: 06/26/12 11:10 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **5.4** | mg/L | 1.0 | | 1 | | 07/05/12 11:32 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **1890J** | ug/L | 5000 | 37.8 | 1 | 06/30/12 11:00 | 07/05/12 11:32 | 7440-70-2 | |
| Magnesium | **161J** | ug/L | 5000 | 30.0 | 1 | 06/30/12 11:00 | 07/05/12 11:32 | 7439-95-4 | |
| Potassium | **<76.2** | ug/L | 5000 | 76.2 | 1 | 06/30/12 11:00 | 07/05/12 11:32 | 7440-09-7 | |
| Sodium | **937J** | ug/L | 5000 | 29.4 | 1 | 06/30/12 11:00 | 07/05/12 11:32 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **144** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7429-90-5 | |
| Antimony | **0.096J** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7440-36-0 | |
| Arsenic | **22.3** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7440-38-2 | |
| Cadmium | **0.039J** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7440-47-3 | |
| Copper | **0.67** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7440-50-8 | |
| Iron | **200** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7439-89-6 | |
| Lead | **0.56** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7439-92-1 | |
| Manganese | **29.2** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7439-96-5 | |
| Zinc | **13.1** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 17:16 | 07/17/12 23:11 | 7440-66-6 | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **3.1** | mg/L | 1.0 | 0.10 | 1 | | 07/06/12 12:00 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **19.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:39 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **18.0** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:17 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.34J** | mg/L | 1.0 | 0.044 | 1 | | 07/05/12 19:56 | 16887-00-6 | |
| Sulfate | **3.4** | mg/L | 1.0 | 0.023 | 1 | | 07/05/12 19:56 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SP-JU-01** **Lab ID: 2512758029** Collected: 06/27/12 16:20 Received: 06/29/12 10:55 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **31.7** | mg/L | 1.0 | | 1 | | 07/05/12 11:36 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **10900** | ug/L | 5000 | 37.8 | 1 | 06/30/12 11:00 | 07/05/12 11:36 | 7440-70-2 | |
| Magnesium | **1100J** | ug/L | 5000 | 30.0 | 1 | 06/30/12 11:00 | 07/05/12 11:36 | 7439-95-4 | |
| Potassium | **192J** | ug/L | 5000 | 76.2 | 1 | 06/30/12 11:00 | 07/05/12 11:36 | 7440-09-7 | |
| Sodium | **1350J** | ug/L | 5000 | 29.4 | 1 | 06/30/12 11:00 | 07/05/12 11:36 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **425** | ug/L | 4.0 | 2.0 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7429-90-5 | |
| Antimony | **7.7** | ug/L | 0.50 | 0.064 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7440-36-0 | |
| Arsenic | **358** | ug/L | 0.50 | 0.14 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7440-38-2 | |
| Cadmium | **0.88** | ug/L | 0.080 | 0.028 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7440-43-9 | |
| Chromium | **0.84** | ug/L | 0.50 | 0.094 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7440-47-3 | |
| Copper | **33.8** | ug/L | 0.50 | 0.18 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7440-50-8 | |
| Iron | **900** | ug/L | 50.0 | 8.6 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7439-89-6 | |
| Lead | **15.7** | ug/L | 0.10 | 0.018 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7439-92-1 | |
| Manganese | **71.2** | ug/L | 0.50 | 0.25 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7439-96-5 | |
| Zinc | **120** | ug/L | 5.0 | 1.0 | 1 | 07/06/12 17:16 | 07/17/12 23:25 | 7440-66-6 | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **18.5** | mg/L | 1.0 | 0.10 | 1 | | 07/06/12 12:00 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **53.0** | mg/L | 5.0 | 1.0 | 1 | | 07/03/12 15:40 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 07/02/12 15:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.6** | Std. Units | 0.10 | 0.10 | 1 | | 07/02/12 14:44 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.51J** | mg/L | 1.0 | 0.044 | 1 | | 07/05/12 20:11 | 16887-00-6 | |
| Sulfate | **15.3** | mg/L | 1.0 | 0.023 | 1 | | 07/05/12 20:11 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-GC-02** **Lab ID: 2512758030** Collected: 06/27/12 13:45 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **9.8J** | mg/kg | 15.3 | 0.89 | 5 | 07/05/12 10:10 | 07/05/12 13:02 | 7440-36-0 | D3 |
| Arsenic | **153** | mg/kg | 10.2 | 1.5 | 5 | 07/05/12 10:10 | 07/05/12 13:02 | 7440-38-2 | |
| Cadmium | **2.9** | mg/kg | 2.0 | 0.056 | 5 | 07/05/12 10:10 | 07/05/12 13:02 | 7440-43-9 | |
| Chromium | **14.4** | mg/kg | 1.0 | 0.016 | 1 | 07/05/12 10:10 | 07/05/12 14:44 | 7440-47-3 | B |
| Copper | **28.4** | mg/kg | 12.8 | 1.7 | 5 | 07/05/12 10:10 | 07/05/12 13:02 | 7440-50-8 | |
| Iron | **26400** | mg/kg | 102 | 2.2 | 5 | 07/05/12 10:10 | 07/05/12 13:02 | 7439-89-6 | B |
| Manganese | **1390** | mg/kg | 7.7 | 0.24 | 5 | 07/05/12 10:10 | 07/05/12 13:02 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **22.2** | mg/kg | 0.46 | 0.14 | 100 | 07/06/12 15:39 | 07/19/12 14:12 | 7439-92-1 | M6 |
| Zinc | **116** | mg/kg | 22.8 | 5.2 | 100 | 07/06/12 15:39 | 07/19/12 14:12 | 7440-66-6 | M6 |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.16** | mg/kg | 0.093 | 0.0020 | 1 | 07/03/12 13:05 | 07/05/12 12:08 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **21.1** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:14 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.7** | Std. Units | | | 1 | | 07/03/12 15:23 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-GC-02a** **Lab ID: 2512758031** Collected: 06/27/12 12:50 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **17.7** | mg/kg | 13.6 | 0.79 | 5 | 07/05/12 10:10 | 07/05/12 13:13 | 7440-36-0 | D3 |
| Arsenic | **285** | mg/kg | 9.1 | 1.3 | 5 | 07/05/12 10:10 | 07/05/12 13:13 | 7440-38-2 | |
| Cadmium | **5.6** | mg/kg | 1.8 | 0.050 | 5 | 07/05/12 10:10 | 07/05/12 13:13 | 7440-43-9 | |
| Chromium | **14.2** | mg/kg | 0.91 | 0.014 | 1 | 07/05/12 10:10 | 07/05/12 15:02 | 7440-47-3 | B |
| Copper | **48.5** | mg/kg | 11.3 | 1.5 | 5 | 07/05/12 10:10 | 07/05/12 13:13 | 7440-50-8 | |
| Iron | **29900** | mg/kg | 90.5 | 1.9 | 5 | 07/05/12 10:10 | 07/05/12 13:13 | 7439-89-6 | B |
| Manganese | **2040** | mg/kg | 6.8 | 0.21 | 5 | 07/05/12 10:10 | 07/05/12 13:13 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **74.2** | mg/kg | 0.60 | 0.18 | 100 | 07/06/12 15:39 | 07/19/12 14:23 | 7439-92-1 | |
| Zinc | **166** | mg/kg | 30.0 | 6.9 | 100 | 07/06/12 15:39 | 07/19/12 14:23 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.33** | mg/kg | 0.091 | 0.0020 | 1 | 07/03/12 13:05 | 07/05/12 12:15 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **24.8** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:17 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.6** | Std. Units | | | 1 | | 07/03/12 15:23 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-GC-03** **Lab ID: 2512758032** Collected: 06/27/12 12:00 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 | | Preparation Method: EPA 3050 | | | | | | |
| Antimony | **9.3J** | mg/kg | 17.8 | 1.0 | 5 | 07/05/12 10:10 | 07/05/12 13:16 | 7440-36-0 | D3 |
| Arsenic | **187** | mg/kg | 11.9 | 1.8 | 5 | 07/05/12 10:10 | 07/05/12 13:16 | 7440-38-2 | |
| Cadmium | **3.6** | mg/kg | 2.4 | 0.065 | 5 | 07/05/12 10:10 | 07/05/12 13:16 | 7440-43-9 | |
| Chromium | **10.2** | mg/kg | 1.2 | 0.019 | 1 | 07/05/12 10:10 | 07/05/12 15:06 | 7440-47-3 | B |
| Copper | **34.5** | mg/kg | 14.9 | 2.0 | 5 | 07/05/12 10:10 | 07/05/12 13:16 | 7440-50-8 | |
| Iron | **23600** | mg/kg | 119 | 2.5 | 5 | 07/05/12 10:10 | 07/05/12 13:16 | 7439-89-6 | B |
| Manganese | **1150** | mg/kg | 8.9 | 0.28 | 5 | 07/05/12 10:10 | 07/05/12 13:16 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **41.5** | mg/kg | 0.50 | 0.15 | 100 | 07/06/12 15:39 | 07/19/12 14:27 | 7439-92-1 | |
| Zinc | **152** | mg/kg | 25.1 | 5.8 | 100 | 07/06/12 15:39 | 07/19/12 14:27 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 | | Preparation Method: EPA 7471 | | | | | | |
| Mercury | **0.16** | mg/kg | 0.11 | 0.0023 | 1 | 07/03/12 13:05 | 07/05/12 12:17 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **23.5** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:20 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | | | 1 | | 07/03/12 15:23 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-GC-04a** **Lab ID: 2512758033** Collected: 06/26/12 14:05 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **17.5** | mg/kg | 14.6 | 0.85 | 2 | 07/05/12 10:10 | 07/05/12 14:26 | 7440-36-0 | D3 |
| Arsenic | **1420** | mg/kg | 9.7 | 1.4 | 2 | 07/05/12 10:10 | 07/05/12 14:26 | 7440-38-2 | |
| Cadmium | **37.5** | mg/kg | 1.9 | 0.053 | 2 | 07/05/12 10:10 | 07/05/12 14:26 | 7440-43-9 | |
| Chromium | **23.1** | mg/kg | 2.4 | 0.039 | 1 | 07/05/12 10:10 | 07/05/12 15:09 | 7440-47-3 | B |
| Copper | **888** | mg/kg | 12.2 | 1.6 | 2 | 07/05/12 10:10 | 07/05/12 14:26 | 7440-50-8 | |
| Iron | **35000** | mg/kg | 97.2 | 2.1 | 2 | 07/05/12 10:10 | 07/05/12 14:26 | 7439-89-6 | B,D4 |
| Manganese | **2900** | mg/kg | 18.2 | 0.57 | 5 | 07/05/12 10:10 | 07/05/12 13:20 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **282** | mg/kg | 1.3 | 0.40 | 100 | 07/06/12 15:39 | 07/19/12 13:06 | 7439-92-1 | |
| Zinc | **1070** | mg/kg | 65.8 | 15.1 | 100 | 07/06/12 15:39 | 07/19/12 13:06 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.56** | mg/kg | 0.19 | 0.0041 | 1 | 07/03/12 13:05 | 07/05/12 12:19 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **64.8** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:22 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.4** | Std. Units | | | 1 | | 07/02/12 16:45 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-GC-05** **Lab ID: 2512758034** Collected: 06/25/12 16:30 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **3.2J** | mg/kg | 13.9 | 0.81 | 5 | 07/05/12 10:10 | 07/05/12 13:24 | 7440-36-0 | D3 |
| Arsenic | **210** | mg/kg | 9.3 | 1.4 | 5 | 07/05/12 10:10 | 07/05/12 13:24 | 7440-38-2 | |
| Cadmium | **4.3** | mg/kg | 1.9 | 0.051 | 5 | 07/05/12 10:10 | 07/05/12 13:24 | 7440-43-9 | |
| Chromium | **12.8** | mg/kg | 0.93 | 0.015 | 1 | 07/05/12 10:10 | 07/05/12 15:13 | 7440-47-3 | B |
| Copper | **66.7** | mg/kg | 11.6 | 1.5 | 5 | 07/05/12 10:10 | 07/05/12 13:24 | 7440-50-8 | |
| Iron | **22400** | mg/kg | 92.7 | 2.0 | 5 | 07/05/12 10:10 | 07/05/12 13:24 | 7439-89-6 | B |
| Manganese | **735** | mg/kg | 7.0 | 0.22 | 5 | 07/05/12 10:10 | 07/05/12 13:24 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **33.0** | mg/kg | 0.52 | 0.16 | 100 | 07/06/12 15:39 | 07/19/12 13:10 | 7439-92-1 | |
| Zinc | **163** | mg/kg | 25.9 | 6.0 | 100 | 07/06/12 15:39 | 07/19/12 13:10 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.099J** | mg/kg | 0.11 | 0.0024 | 1 | 07/03/12 13:05 | 07/05/12 12:21 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **25.1** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:23 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.7** | Std. Units | | | 1 | | 07/02/12 16:45 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-76G-01b** **Lab ID: 2512758035** Collected: 06/26/12 10:30 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **13.3J** | mg/kg | 14.7 | 0.85 | 5 | 07/05/12 10:10 | 07/05/12 13:35 | 7440-36-0 | D3 |
| Arsenic | **600** | mg/kg | 9.8 | 1.5 | 5 | 07/05/12 10:10 | 07/05/12 13:35 | 7440-38-2 | |
| Cadmium | **11.8** | mg/kg | 2.0 | 0.054 | 5 | 07/05/12 10:10 | 07/05/12 13:35 | 7440-43-9 | |
| Chromium | **14.3** | mg/kg | 0.98 | 0.016 | 1 | 07/05/12 10:10 | 07/05/12 15:17 | 7440-47-3 | B |
| Copper | **30.6** | mg/kg | 12.3 | 1.6 | 5 | 07/05/12 10:10 | 07/05/12 13:35 | 7440-50-8 | |
| Iron | **33900** | mg/kg | 98.0 | 2.1 | 5 | 07/05/12 10:10 | 07/05/12 13:35 | 7439-89-6 | B |
| Manganese | **1080** | mg/kg | 7.4 | 0.23 | 5 | 07/05/12 10:10 | 07/05/12 13:35 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **127** | mg/kg | 0.54 | 0.16 | 100 | 07/06/12 15:39 | 07/19/12 13:13 | 7439-92-1 | |
| Zinc | **328** | mg/kg | 27.0 | 6.2 | 100 | 07/06/12 15:39 | 07/19/12 13:13 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.18** | mg/kg | 0.074 | 0.0016 | 1 | 07/03/12 13:05 | 07/05/12 12:23 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **15.0** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:23 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.6** | Std. Units | | | 1 | | 07/02/12 16:45 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-76G-02** **Lab ID: 2512758036** Collected: 06/26/12 08:50 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **8.8J** | mg/kg | 23.0 | 1.3 | 5 | 07/05/12 10:10 | 07/05/12 13:38 | 7440-36-0 | D3 |
| Arsenic | **366** | mg/kg | 15.3 | 2.3 | 5 | 07/05/12 10:10 | 07/05/12 13:38 | 7440-38-2 | |
| Cadmium | **7.8** | mg/kg | 3.1 | 0.084 | 5 | 07/05/12 10:10 | 07/05/12 13:38 | 7440-43-9 | |
| Chromium | **20.6** | mg/kg | 1.5 | 0.025 | 1 | 07/05/12 10:10 | 07/05/12 15:20 | 7440-47-3 | B |
| Copper | **43.0** | mg/kg | 19.2 | 2.5 | 5 | 07/05/12 10:10 | 07/05/12 13:38 | 7440-50-8 | |
| Iron | **38000** | mg/kg | 153 | 3.2 | 5 | 07/05/12 10:10 | 07/05/12 13:38 | 7439-89-6 | B |
| Manganese | **1080** | mg/kg | 11.5 | 0.36 | 5 | 07/05/12 10:10 | 07/05/12 13:38 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **169** | mg/kg | 1.0 | 0.31 | 100 | 07/06/12 15:39 | 07/19/12 13:17 | 7439-92-1 | |
| Zinc | **365** | mg/kg | 52.0 | 12.0 | 100 | 07/06/12 15:39 | 07/19/12 13:17 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.11J** | mg/kg | 0.14 | 0.0029 | 1 | 07/03/12 13:05 | 07/05/12 12:26 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **55.0** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:26 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | | | 1 | | 07/02/12 16:45 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-SFSR-01** **Lab ID: 2512758037** Collected: 06/25/12 15:20 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **6.8J** | mg/kg | 15.0 | 0.87 | 5 | 07/05/12 10:10 | 07/05/12 13:42 | 7440-36-0 | D3 |
| Arsenic | **390** | mg/kg | 10 | 1.5 | 5 | 07/05/12 10:10 | 07/05/12 13:42 | 7440-38-2 | |
| Cadmium | **7.8** | mg/kg | 2.0 | 0.055 | 5 | 07/05/12 10:10 | 07/05/12 13:42 | 7440-43-9 | |
| Chromium | **17.0** | mg/kg | 1.0 | 0.016 | 1 | 07/05/12 10:10 | 07/05/12 15:24 | 7440-47-3 | B |
| Copper | **67.2** | mg/kg | 12.5 | 1.6 | 5 | 07/05/12 10:10 | 07/05/12 13:42 | 7440-50-8 | |
| Iron | **32600** | mg/kg | 99.8 | 2.1 | 5 | 07/05/12 10:10 | 07/05/12 13:42 | 7439-89-6 | B |
| Manganese | **1470** | mg/kg | 7.5 | 0.23 | 5 | 07/05/12 10:10 | 07/05/12 13:42 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **80.1** | mg/kg | 0.62 | 0.19 | 100 | 07/06/12 15:39 | 07/19/12 13:21 | 7439-92-1 | |
| Zinc | **175** | mg/kg | 31.0 | 7.1 | 100 | 07/06/12 15:39 | 07/19/12 13:21 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.061J** | mg/kg | 0.11 | 0.0024 | 1 | 07/03/12 13:05 | 07/05/12 12:32 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **30.4** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:28 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.5** | Std. Units | | | 1 | | 07/02/12 16:45 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-SFSR-02** **Lab ID: 2512758038** Collected: 06/25/12 13:05 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **22.9** | mg/kg | 16.4 | 0.95 | 5 | 07/05/12 10:10 | 07/05/12 13:46 | 7440-36-0 | D3 |
| Arsenic | **502** | mg/kg | 10.9 | 1.6 | 5 | 07/05/12 10:10 | 07/05/12 13:46 | 7440-38-2 | |
| Cadmium | **9.3** | mg/kg | 2.2 | 0.060 | 5 | 07/05/12 10:10 | 07/05/12 13:46 | 7440-43-9 | |
| Chromium | **20.0** | mg/kg | 1.1 | 0.017 | 1 | 07/05/12 10:10 | 07/05/12 15:28 | 7440-47-3 | B |
| Copper | **107** | mg/kg | 13.6 | 1.8 | 5 | 07/05/12 10:10 | 07/05/12 13:46 | 7440-50-8 | |
| Iron | **29200** | mg/kg | 109 | 2.3 | 5 | 07/05/12 10:10 | 07/05/12 13:46 | 7439-89-6 | B |
| Manganese | **772** | mg/kg | 8.2 | 0.26 | 5 | 07/05/12 10:10 | 07/05/12 13:46 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **133** | mg/kg | 0.52 | 0.16 | 100 | 07/06/12 15:39 | 07/19/12 13:24 | 7439-92-1 | |
| Zinc | **231** | mg/kg | 26.0 | 6.0 | 100 | 07/06/12 15:39 | 07/19/12 13:24 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.12** | mg/kg | 0.083 | 0.0018 | 1 | 07/03/12 13:05 | 07/05/12 12:34 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **11.8** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:29 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.0** | Std. Units | | | 1 | | 07/02/12 16:45 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-SFSR-03** **Lab ID: 2512758039** Collected: 06/25/12 12:10 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **74.7** | mg/kg | 15.0 | 0.87 | 5 | 07/05/12 10:10 | 07/05/12 13:49 | 7440-36-0 | D3 |
| Arsenic | **525** | mg/kg | 10.0 | 1.5 | 5 | 07/05/12 10:10 | 07/05/12 13:49 | 7440-38-2 | |
| Cadmium | **9.7** | mg/kg | 2.0 | 0.055 | 5 | 07/05/12 10:10 | 07/05/12 13:49 | 7440-43-9 | |
| Chromium | **20.4** | mg/kg | 1.0 | 0.016 | 1 | 07/05/12 10:10 | 07/05/12 15:31 | 7440-47-3 | B |
| Copper | **149** | mg/kg | 12.5 | 1.7 | 5 | 07/05/12 10:10 | 07/05/12 13:49 | 7440-50-8 | |
| Iron | **34100** | mg/kg | 100 | 2.1 | 5 | 07/05/12 10:10 | 07/05/12 13:49 | 7439-89-6 | B |
| Manganese | **602** | mg/kg | 7.5 | 0.24 | 5 | 07/05/12 10:10 | 07/05/12 13:49 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **182** | mg/kg | 0.46 | 0.14 | 100 | 07/06/12 15:39 | 07/19/12 13:28 | 7439-92-1 | |
| Zinc | **223** | mg/kg | 22.9 | 5.3 | 100 | 07/06/12 15:39 | 07/19/12 13:28 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.027J** | mg/kg | 0.092 | 0.0020 | 1 | 07/03/12 13:05 | 07/05/12 12:37 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **22.1** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:30 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | | | 1 | | 07/02/12 16:45 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-SFSR-04** **Lab ID: 2512758040** Collected: 06/25/12 11:25 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **11.4J** | mg/kg | 15.6 | 0.90 | 5 | 07/05/12 10:10 | 07/05/12 13:53 | 7440-36-0 | D3 |
| Arsenic | **257** | mg/kg | 10.4 | 1.5 | 5 | 07/05/12 10:10 | 07/05/12 13:53 | 7440-38-2 | |
| Cadmium | **4.9** | mg/kg | 2.1 | 0.057 | 5 | 07/05/12 10:10 | 07/05/12 13:53 | 7440-43-9 | |
| Chromium | **53.5** | mg/kg | 1.0 | 0.017 | 1 | 07/05/12 10:10 | 07/05/12 15:35 | 7440-47-3 | B |
| Copper | **107** | mg/kg | 13.0 | 1.7 | 5 | 07/05/12 10:10 | 07/05/12 13:53 | 7440-50-8 | |
| Iron | **31900** | mg/kg | 104 | 2.2 | 5 | 07/05/12 10:10 | 07/05/12 13:53 | 7439-89-6 | B |
| Manganese | **715** | mg/kg | 7.8 | 0.24 | 5 | 07/05/12 10:10 | 07/05/12 13:53 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **102** | mg/kg | 0.61 | 0.18 | 100 | 07/06/12 15:39 | 07/19/12 13:32 | 7439-92-1 | |
| Zinc | **259** | mg/kg | 30.5 | 7.0 | 100 | 07/06/12 15:39 | 07/19/12 13:32 | 7440-66-6 | M6 |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.094J** | mg/kg | 0.10 | 0.0022 | 1 | 07/03/12 13:05 | 07/05/12 12:39 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **34.4** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:32 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.4** | Std. Units | | | 1 | | 07/02/12 16:45 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-SFSR-05** **Lab ID: 2512758041** Collected: 06/25/12 10:35 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **3.3J** | mg/kg | 15.0 | 0.87 | 5 | 07/05/12 10:10 | 07/05/12 13:56 | 7440-36-0 | D3 |
| Arsenic | **50.3** | mg/kg | 10.0 | 1.5 | 5 | 07/05/12 10:10 | 07/05/12 13:56 | 7440-38-2 | |
| Cadmium | **0.77J** | mg/kg | 2.0 | 0.055 | 5 | 07/05/12 10:10 | 07/05/12 13:56 | 7440-43-9 | |
| Chromium | **30.7** | mg/kg | 1.0 | 0.016 | 1 | 07/05/12 10:10 | 07/05/12 15:46 | 7440-47-3 | B |
| Copper | **32.7** | mg/kg | 12.5 | 1.7 | 5 | 07/05/12 10:10 | 07/05/12 13:56 | 7440-50-8 | |
| Iron | **22100** | mg/kg | 100 | 2.1 | 5 | 07/05/12 10:10 | 07/05/12 13:56 | 7439-89-6 | B,D4 |
| Manganese | **386** | mg/kg | 7.5 | 0.24 | 5 | 07/05/12 10:10 | 07/05/12 13:56 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **36.1** | mg/kg | 0.52 | 0.16 | 100 | 07/06/12 15:39 | 07/19/12 13:39 | 7439-92-1 | |
| Zinc | **358** | mg/kg | 26.2 | 6.0 | 100 | 07/06/12 15:39 | 07/19/12 13:39 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.013J** | mg/kg | 0.10 | 0.0022 | 1 | 07/03/12 13:05 | 07/05/12 12:41 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **25.5** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:33 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **7.1** | Std. Units | | | 1 | | 07/02/12 16:45 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-SFSR-06** **Lab ID: 2512758042** Collected: 06/28/12 12:35 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **15.7J** | mg/kg | 20.2 | 1.2 | 5 | 07/05/12 10:10 | 07/05/12 14:00 | 7440-36-0 | D3 |
| Arsenic | **482** | mg/kg | 13.4 | 2.0 | 5 | 07/05/12 10:10 | 07/05/12 14:00 | 7440-38-2 | |
| Cadmium | **9.0** | mg/kg | 2.7 | 0.074 | 5 | 07/05/12 10:10 | 07/05/12 14:00 | 7440-43-9 | |
| Chromium | **47.4** | mg/kg | 1.3 | 0.021 | 1 | 07/05/12 10:10 | 07/05/12 15:49 | 7440-47-3 | B |
| Copper | **144** | mg/kg | 16.8 | 2.2 | 5 | 07/05/12 10:10 | 07/05/12 14:00 | 7440-50-8 | |
| Iron | **38900** | mg/kg | 134 | 2.8 | 5 | 07/05/12 10:10 | 07/05/12 14:00 | 7439-89-6 | B,D4 |
| Manganese | **935** | mg/kg | 10.1 | 0.32 | 5 | 07/05/12 10:10 | 07/05/12 14:00 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **137** | mg/kg | 0.80 | 0.24 | 100 | 07/06/12 15:39 | 07/19/12 13:54 | 7439-92-1 | |
| Zinc | **223** | mg/kg | 80.0 | 18.4 | 200 | 07/06/12 15:39 | 07/20/12 08:21 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.057J** | mg/kg | 0.11 | 0.0025 | 1 | 07/03/12 13:05 | 07/05/12 12:43 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **43.2** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:35 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.6** | Std. Units | | | 1 | | 07/03/12 15:23 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-SFSR-07** **Lab ID: 2512758043** Collected: 06/28/12 12:15 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **29.6** | mg/kg | 15.0 | 0.87 | 5 | 07/05/12 10:10 | 07/05/12 14:04 | 7440-36-0 | D3 |
| Arsenic | **236** | mg/kg | 10.0 | 1.5 | 5 | 07/05/12 10:10 | 07/05/12 14:04 | 7440-38-2 | |
| Cadmium | **4.5** | mg/kg | 2.0 | 0.055 | 5 | 07/05/12 10:10 | 07/05/12 14:04 | 7440-43-9 | |
| Chromium | **46.6** | mg/kg | 1.0 | 0.016 | 1 | 07/05/12 10:10 | 07/05/12 15:53 | 7440-47-3 | B |
| Copper | **75.8** | mg/kg | 12.5 | 1.7 | 5 | 07/05/12 10:10 | 07/05/12 14:04 | 7440-50-8 | |
| Iron | **28800** | mg/kg | 100 | 2.1 | 5 | 07/05/12 10:10 | 07/05/12 14:04 | 7439-89-6 | B,D4 |
| Manganese | **576** | mg/kg | 7.5 | 0.24 | 5 | 07/05/12 10:10 | 07/05/12 14:04 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **80.4** | mg/kg | 0.59 | 0.18 | 100 | 07/06/12 15:39 | 07/19/12 13:57 | 7439-92-1 | |
| Zinc | **181** | mg/kg | 59.2 | 13.6 | 200 | 07/06/12 15:39 | 07/20/12 08:24 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.077J** | mg/kg | 0.085 | 0.0018 | 1 | 07/03/12 13:05 | 07/05/12 12:45 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **26.6** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:36 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **7.0** | Std. Units | | | 1 | | 07/03/12 15:23 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-SFSR-08** **Lab ID: 2512758044** Collected: 06/28/12 11:50 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **31.9** | mg/kg | 15.7 | 0.91 | 5 | 07/05/12 10:10 | 07/05/12 14:07 | 7440-36-0 | D3 |
| Arsenic | **247** | mg/kg | 10.5 | 1.6 | 5 | 07/05/12 10:10 | 07/05/12 14:07 | 7440-38-2 | |
| Cadmium | **4.7** | mg/kg | 2.1 | 0.058 | 5 | 07/05/12 10:10 | 07/05/12 14:07 | 7440-43-9 | |
| Chromium | **55.9** | mg/kg | 1.0 | 0.017 | 1 | 07/05/12 10:10 | 07/05/12 15:57 | 7440-47-3 | B |
| Copper | **72.9** | mg/kg | 13.1 | 1.7 | 5 | 07/05/12 10:10 | 07/05/12 14:07 | 7440-50-8 | |
| Iron | **30100** | mg/kg | 105 | 2.2 | 5 | 07/05/12 10:10 | 07/05/12 14:07 | 7439-89-6 | B,D4 |
| Manganese | **678** | mg/kg | 7.9 | 0.25 | 5 | 07/05/12 10:10 | 07/05/12 14:07 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **91.9** | mg/kg | 0.44 | 0.13 | 100 | 07/06/12 15:39 | 07/19/12 14:01 | 7439-92-1 | |
| Zinc | **213** | mg/kg | 21.8 | 5.0 | 100 | 07/06/12 15:39 | 07/19/12 14:01 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.031J** | mg/kg | 0.077 | 0.0016 | 1 | 07/03/12 13:05 | 07/05/12 12:48 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **10.9** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:37 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | | | 1 | | 07/03/12 15:23 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-SS-SFSR-09** **Lab ID: 2512758045** Collected: 06/28/12 12:30 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **11.9J** | mg/kg | 13.2 | 0.77 | 2 | 07/05/12 10:10 | 07/05/12 14:29 | 7440-36-0 | D3 |
| Arsenic | **480** | mg/kg | 8.8 | 1.3 | 2 | 07/05/12 10:10 | 07/05/12 14:29 | 7440-38-2 | |
| Cadmium | **9.6** | mg/kg | 1.8 | 0.049 | 2 | 07/05/12 10:10 | 07/05/12 14:29 | 7440-43-9 | |
| Chromium | **57.0** | mg/kg | 2.2 | 0.035 | 1 | 07/05/12 10:10 | 07/05/12 16:00 | 7440-47-3 | B |
| Copper | **117** | mg/kg | 11.0 | 1.5 | 2 | 07/05/12 10:10 | 07/05/12 14:29 | 7440-50-8 | |
| Iron | **32400** | mg/kg | 88.3 | 1.9 | 2 | 07/05/12 10:10 | 07/05/12 14:29 | 7439-89-6 | B |
| Manganese | **602** | mg/kg | 6.6 | 0.21 | 2 | 07/05/12 10:10 | 07/05/12 14:29 | 7439-96-5 | B,D4 |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **290** | mg/kg | 0.97 | 0.29 | 100 | 07/06/12 15:39 | 07/19/12 14:42 | 7439-92-1 | |
| Zinc | **635** | mg/kg | 48.6 | 11.2 | 100 | 07/06/12 15:39 | 07/19/12 14:42 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.12J** | mg/kg | 0.23 | 0.0050 | 1 | 07/03/12 13:05 | 07/05/12 12:50 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **65.7** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:39 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | | | 1 | | 07/03/12 15:23 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

**Sample: MCRA5-MCL-SS-01** **Lab ID: 2512758046** Collected: 06/28/12 12:20 Received: 06/29/12 10:55 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **5.9J** | mg/kg | 24.8 | 1.4 | 5 | 07/05/12 10:10 | 07/05/12 14:22 | 7440-36-0 | D3 |
| Arsenic | **323** | mg/kg | 16.6 | 2.5 | 5 | 07/05/12 10:10 | 07/05/12 14:22 | 7440-38-2 | |
| Cadmium | **6.2** | mg/kg | 3.3 | 0.091 | 5 | 07/05/12 10:10 | 07/05/12 14:22 | 7440-43-9 | |
| Chromium | **58.8** | mg/kg | 1.7 | 0.026 | 1 | 07/05/12 10:10 | 07/05/12 16:04 | 7440-47-3 | B |
| Copper | **120** | mg/kg | 20.7 | 2.7 | 5 | 07/05/12 10:10 | 07/05/12 14:22 | 7440-50-8 | |
| Iron | **33700** | mg/kg | 166 | 3.5 | 5 | 07/05/12 10:10 | 07/05/12 14:22 | 7439-89-6 | B,D4 |
| Manganese | **707** | mg/kg | 12.4 | 0.39 | 5 | 07/05/12 10:10 | 07/05/12 14:22 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **108** | mg/kg | 0.93 | 0.28 | 100 | 07/06/12 15:39 | 07/19/12 14:45 | 7439-92-1 | |
| Zinc | **317** | mg/kg | 46.7 | 10.7 | 100 | 07/06/12 15:39 | 07/19/12 14:45 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.22** | mg/kg | 0.13 | 0.0028 | 1 | 07/03/12 13:05 | 07/05/12 12:57 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **47.5** | % | 0.10 | 0.10 | 1 | | 07/05/12 13:41 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.4** | Std. Units | | | 1 | | 07/03/12 15:23 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: ICPM/33413 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 2512758030, 2512758031, 2512758032, 2512758033, 2512758034, 2512758035, 2512758036, 2512758037, 2512758038, 2512758039, 2512758040, 2512758041, 2512758042, 2512758043, 2512758044, 2512758045, 2512758046

METHOD BLANK: 1232564 Matrix: Solid
Associated Lab Samples: 2512758030, 2512758031, 2512758032, 2512758033, 2512758034, 2512758035, 2512758036, 2512758037, 2512758038, 2512758039, 2512758040, 2512758041, 2512758042, 2512758043, 2512758044, 2512758045, 2512758046

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Lead | mg/kg | <0.025 | 0.085 | 07/19/12 14:05 | |
| Zinc | mg/kg | <0.97 | 4.2 | 07/19/12 14:05 | |

LABORATORY CONTROL SAMPLE: 1232565

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Lead | mg/kg | 16.9 | 16.5 | 97 | 80-120 | |
| Zinc | mg/kg | 16.9 | 15.7 | 93 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1232566 1232567

| Parameter | Units | 2512758030 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | mg/kg | 22.2 | 18.1 | 17.4 | 32.6 | 70.7 | 58 | 280 | 75-125 | 74 | 30 | D6,M6 |
| Zinc | mg/kg | 116 | 18.1 | 17.4 | 129 | 186 | 75 | 405 | 75-125 | 36 | 30 | D6,M6 |

MATRIX SPIKE SAMPLE: 1232568

| Parameter | Units | 2512758040 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Lead | mg/kg | 102 | 25 | 131 | 117 | 75-125 | |
| Zinc | mg/kg | 259 | 25 | 526 | 1070 | 75-125 | M6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: ICPM/33418 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 2512758001, 2512758002, 2512758003, 2512758004, 2512758005, 2512758006, 2512758007, 2512758008, 2512758009, 2512758010, 2512758011, 2512758012, 2512758013, 2512758014, 2512758015, 2512758016, 2512758017, 2512758018, 2512758019, 2512758020

METHOD BLANK: 1232589 Matrix: Water
Associated Lab Samples: 2512758001, 2512758002, 2512758003, 2512758004, 2512758005, 2512758006, 2512758007, 2512758008, 2512758009, 2512758010, 2512758011, 2512758012, 2512758013, 2512758014, 2512758015, 2512758016, 2512758017, 2512758018, 2512758019, 2512758020

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Aluminum | ug/L | 2.0J | 4.0 | 07/19/12 05:46 | |
| Antimony | ug/L | <0.064 | 0.50 | 07/19/12 05:46 | |
| Arsenic | ug/L | <0.14 | 0.50 | 07/19/12 05:46 | |
| Cadmium | ug/L | <0.028 | 0.080 | 07/19/12 05:46 | |
| Chromium | ug/L | <0.094 | 0.50 | 07/19/12 05:46 | |
| Copper | ug/L | 0.19J | 0.50 | 07/19/12 05:46 | |
| Iron | ug/L | <8.6 | 50.0 | 07/19/12 05:46 | |
| Lead | ug/L | 0.025J | 0.10 | 07/19/12 05:46 | |
| Manganese | ug/L | <0.25 | 0.50 | 07/19/12 05:46 | |
| Total Hardness by 2340B | ug/L | <35.5 | 71.0 | 07/19/12 05:46 | |
| Zinc | ug/L | <1.0 | 5.0 | 07/19/12 05:46 | |

LABORATORY CONTROL SAMPLE: 1232590

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Aluminum | ug/L | 80 | 68.0 | 85 | 80-120 | |
| Antimony | ug/L | 80 | 79.8 | 100 | 80-120 | |
| Arsenic | ug/L | 80 | 79.2 | 99 | 80-120 | |
| Cadmium | ug/L | 80 | 76.6 | 96 | 80-120 | |
| Chromium | ug/L | 80 | 77.1 | 96 | 80-120 | |
| Copper | ug/L | 80 | 79.4 | 99 | 80-120 | |
| Iron | ug/L | 1000 | 915 | 91 | 80-120 | |
| Lead | ug/L | 80 | 74.0 | 92 | 80-120 | |
| Manganese | ug/L | 80 | 75.0 | 94 | 80-120 | |
| Total Hardness by 2340B | ug/L | 6620 | 6190 | 94 | 80-120 | |
| Zinc | ug/L | 80 | 75.8 | 95 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1232591 1232592

| Parameter | Units | 2512758001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | ug/L | 22.4 | 80 | 80 | 97.4 | 99.4 | 94 | 96 | 75-125 | 2 | 20 | |
| Antimony | ug/L | 0.82 | 80 | 80 | 77.6 | 77.8 | 96 | 96 | 75-125 | .2 | 20 | |
| Arsenic | ug/L | 5.6 | 80 | 80 | 81.9 | 85.0 | 95 | 99 | 75-125 | 4 | 20 | |
| Cadmium | ug/L | 0.043J | 80 | 80 | 78.6 | 79.9 | 98 | 100 | 75-125 | 2 | 20 | |
| Chromium | ug/L | <0.094 | 80 | 80 | 79.4 | 80.6 | 99 | 101 | 75-125 | 2 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1232591 1232592

| Parameter | Units | 2512758001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Copper | ug/L | 0.46J | 80 | 80 | 82.4 | 82.1 | 102 | 102 | 75-125 | .3 | 20 | |
| Iron | ug/L | <8.6 | 1000 | 1000 | 934 | 964 | 93 | 96 | 75-125 | 3 | 20 | |
| Lead | ug/L | 0.076J | 80 | 80 | 77.0 | 78.4 | 96 | 98 | 75-125 | 2 | 20 | |
| Manganese | ug/L | 0.72 | 80 | 80 | 77.8 | 80.0 | 96 | 99 | 75-125 | 3 | 20 | |
| Total Hardness by 2340B | ug/L | 5990 | 6620 | 6620 | 12100 | 12300 | 93 | 95 | 75-125 | 1 | 20 | |
| Zinc | ug/L | 9.2 | 80 | 80 | 82.2 | 87.1 | 91 | 97 | 75-125 | 6 | 20 | |

MATRIX SPIKE SAMPLE: 1232593

| Parameter | Units | 2512758011 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Aluminum | ug/L | 244 | 80 | 346 | 128 | 75-125 | M1 |
| Antimony | ug/L | 14.8 | 80 | 91.2 | 95 | 75-125 | |
| Arsenic | ug/L | 308 | 80 | 389 | 100 | 75-125 | |
| Cadmium | ug/L | 6.7 | 80 | 88.0 | 102 | 75-125 | |
| Chromium | ug/L | <0.094 | 80 | 81.2 | 101 | 75-125 | |
| Copper | ug/L | 162 | 80 | 246 | 106 | 75-125 | |
| Iron | ug/L | 3570 | 1000 | 4540 | 97 | 75-125 | |
| Lead | ug/L | 16.9 | 80 | 97.8 | 101 | 75-125 | |
| Manganese | ug/L | 640 | 80 | 731 | 113 | 75-125 | |
| Total Hardness by 2340B | ug/L | 46400 | 6620 | 52800 | 97 | 75-125 | |
| Zinc | ug/L | 1200 | 80 | 1310 | 134 | 75-125 | M1 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: ICPM/33419 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 2512758021, 2512758022, 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

METHOD BLANK: 1232594 Matrix: Water
Associated Lab Samples: 2512758021, 2512758022, 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Aluminum | ug/L | <2.0 | 4.0 | 07/18/12 12:32 | |
| Antimony | ug/L | <0.064 | 0.50 | 07/18/12 12:32 | |
| Arsenic | ug/L | <0.14 | 0.50 | 07/18/12 12:32 | |
| Cadmium | ug/L | <0.028 | 0.080 | 07/18/12 12:32 | |
| Chromium | ug/L | <0.094 | 0.50 | 07/18/12 12:32 | |
| Copper | ug/L | <0.18 | 0.50 | 07/18/12 12:32 | |
| Iron | ug/L | <8.6 | 50.0 | 07/18/12 12:32 | |
| Lead | ug/L | <0.018 | 0.10 | 07/18/12 12:32 | |
| Manganese | ug/L | <0.25 | 0.50 | 07/18/12 12:32 | |
| Total Hardness by 2340B | ug/L | <35.5 | 71.0 | 07/18/12 12:32 | |
| Zinc | ug/L | <1.0 | 5.0 | 07/18/12 12:32 | |

LABORATORY CONTROL SAMPLE: 1232595

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Aluminum | ug/L | 80 | 81.7 | 102 | 80-120 | |
| Antimony | ug/L | 80 | 83.1 | 104 | 80-120 | |
| Arsenic | ug/L | 80 | 82.9 | 104 | 80-120 | |
| Cadmium | ug/L | 80 | 80.3 | 100 | 80-120 | |
| Chromium | ug/L | 80 | 83.1 | 104 | 80-120 | |
| Copper | ug/L | 80 | 83.7 | 105 | 80-120 | |
| Iron | ug/L | 1000 | 1030 | 103 | 80-120 | |
| Lead | ug/L | 80 | 84.7 | 106 | 80-120 | |
| Manganese | ug/L | 80 | 82.7 | 103 | 80-120 | |
| Total Hardness by 2340B | ug/L | 6620 | 6880 | 104 | 80-120 | |
| Zinc | ug/L | 80 | 83.0 | 104 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1232596 1232597

| Parameter | Units | 10197353011 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | ug/L | 8.2 | 80 | 80 | 93.2 | 92.7 | 106 | 106 | 75-125 | .5 | 20 | |
| Antimony | ug/L | <0.064 | 80 | 80 | 78.7 | 78.9 | 98 | 99 | 75-125 | .3 | 20 | |
| Arsenic | ug/L | <0.14 | 80 | 80 | 79.8 | 80.6 | 100 | 101 | 75-125 | 1 | 20 | |
| Cadmium | ug/L | <0.028 | 80 | 80 | 76.8 | 77.2 | 96 | 97 | 75-125 | .6 | 20 | |
| Chromium | ug/L | 0.18J | 80 | 80 | 79.9 | 80.1 | 100 | 100 | 75-125 | .2 | 20 | |
| Copper | ug/L | 0.37J | 80 | 80 | 78.9 | 80.3 | 98 | 100 | 75-125 | 2 | 20 | |
| Iron | ug/L | 61.7 | 1000 | 1000 | 1040 | 1300 | 97 | 124 | 75-125 | 23 | 20 | D6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1232596 1232597

| Parameter | Units | 10197353011 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ug/L | 5.5 | 80 | 80 | 86.2 | 86.0 | 101 | 101 | 75-125 | .2 | 20 | |
| Manganese | ug/L | 2.7 | 80 | 80 | 82.6 | 85.2 | 100 | 103 | 75-125 | 3 | 20 | |
| Total Hardness by 2340B | ug/L | 41.7J | 6620 | 6620 | 6620 | 6550 | 99 | 98 | 75-125 | 1 | 20 | |
| Zinc | ug/L | 5.3 | 80 | 80 | 82.2 | 82.1 | 96 | 96 | 75-125 | .06 | 20 | |

MATRIX SPIKE SAMPLE: 1232598

| Parameter | Units | 2512758028 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Aluminum | ug/L | 144 | 80 | 227 | 104 | 75-125 | |
| Antimony | ug/L | 0.096J | 80 | 79.2 | 99 | 75-125 | |
| Arsenic | ug/L | 22.3 | 80 | 103 | 101 | 75-125 | |
| Cadmium | ug/L | 0.039J | 80 | 78.3 | 98 | 75-125 | |
| Chromium | ug/L | <0.094 | 80 | 82.4 | 103 | 75-125 | |
| Copper | ug/L | 0.67 | 80 | 83.6 | 104 | 75-125 | |
| Iron | ug/L | 200 | 1000 | 1210 | 101 | 75-125 | |
| Lead | ug/L | 0.56 | 80 | 79.0 | 98 | 75-125 | |
| Manganese | ug/L | 29.2 | 80 | 107 | 97 | 75-125 | |
| Total Hardness by 2340B | ug/L | 6330 | 6620 | 12800 | 98 | 75-125 | |
| Zinc | ug/L | 13.1 | 80 | 91.9 | 98 | 75-125 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: MERP/1718 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 2512758030, 2512758031, 2512758032, 2512758033, 2512758034, 2512758035, 2512758036, 2512758037, 2512758038, 2512758039, 2512758040, 2512758041, 2512758042, 2512758043, 2512758044, 2512758045, 2512758046

METHOD BLANK: 121264 Matrix: Solid
Associated Lab Samples: 2512758030, 2512758031, 2512758032, 2512758033, 2512758034, 2512758035, 2512758036, 2512758037, 2512758038, 2512758039, 2512758040, 2512758041, 2512758042, 2512758043, 2512758044, 2512758045, 2512758046

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Mercury | mg/kg | <0.0022 | 0.10 | 07/05/12 11:59 | |

LABORATORY CONTROL SAMPLE: 121265

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Mercury | mg/kg | .5 | 0.51 | 101 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 121266 121267

| Parameter | Units | 2512758030 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | mg/kg | 0.16 | .47 | .47 | 0.68 | 0.75 | 112 | 127 | 80-120 | 10 | 20 | M1 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: MPRP/3146 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 2512758030, 2512758031, 2512758032, 2512758033, 2512758034, 2512758035, 2512758036, 2512758037, 2512758038, 2512758039, 2512758040, 2512758041, 2512758042, 2512758043, 2512758044, 2512758045, 2512758046

METHOD BLANK: 121249 Matrix: Solid
Associated Lab Samples: 2512758030, 2512758031, 2512758032, 2512758033, 2512758034, 2512758035, 2512758036, 2512758037, 2512758038, 2512758039, 2512758040, 2512758041, 2512758042, 2512758043, 2512758044, 2512758045, 2512758046

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Antimony | mg/kg | <0.17 | 3.0 | 07/05/12 12:51 | |
| Arsenic | mg/kg | <0.30 | 2.0 | 07/05/12 12:51 | |
| Cadmium | mg/kg | <0.011 | 0.40 | 07/05/12 12:51 | |
| Chromium | mg/kg | 0.020J | 1.0 | 07/05/12 12:51 | |
| Copper | mg/kg | <0.33 | 2.5 | 07/05/12 12:51 | |
| Iron | mg/kg | 0.46J | 20.0 | 07/05/12 12:51 | |
| Manganese | mg/kg | 0.32J | 1.5 | 07/05/12 12:51 | |

LABORATORY CONTROL SAMPLE: 121250

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Antimony | mg/kg | 25 | 23.4 | 94 | 80-120 | |
| Arsenic | mg/kg | 25 | 24.0 | 96 | 80-120 | |
| Cadmium | mg/kg | 25 | 24.3 | 97 | 80-120 | |
| Chromium | mg/kg | 25 | 25.5 | 102 | 80-120 | |
| Copper | mg/kg | 25 | 24.3 | 97 | 80-120 | |
| Iron | mg/kg | 500 | 496 | 99 | 80-120 | |
| Manganese | mg/kg | 25 | 24.9 | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 121251 121252

| Parameter | Units | 2512758030 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | mg/kg | 9.8J | 25.1 | 25.3 | 15.0J | 18.0 | 21 | 32 | 75-125 | | 20 | M1 |
| Arsenic | mg/kg | 153 | 25.1 | 25.3 | 122 | 179 | -127 | 102 | 75-125 | 38 | 20 | M1,R1 |
| Cadmium | mg/kg | 2.9 | 25.1 | 25.3 | 26.9 | 31.3 | 96 | 112 | 75-125 | 15 | 20 | |
| Chromium | mg/kg | 14.4 | 25.1 | 25.3 | 35.6 | 32.9 | 84 | 73 | 75-125 | 8 | 20 | M1 |
| Copper | mg/kg | 28.4 | 25.1 | 25.3 | 48.1 | 64.3 | 79 | 142 | 75-125 | 29 | 20 | M1,R1 |
| Iron | mg/kg | 26400 | 503 | 507 | 22000 | 27700 | -870 | 263 | 75-125 | 23 | 20 | M1,R1 |
| Manganese | mg/kg | 1390 | 25.1 | 25.3 | 1180 | 1430 | -854 | 160 | 75-125 | 20 | 20 | M1 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: MPRP/3144 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

METHOD BLANK: 121118 Matrix: Water
Associated Lab Samples: 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Calcium | ug/L | <37.8 | 5000 | 07/05/12 10:48 | |
| Magnesium | ug/L | <30.0 | 5000 | 07/05/12 10:48 | |
| Potassium | ug/L | <76.2 | 5000 | 07/05/12 10:48 | |
| Sodium | ug/L | 120J | 5000 | 07/05/12 10:48 | |

LABORATORY CONTROL SAMPLE: 121119

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Calcium | ug/L | 10000 | 9500 | 95 | 80-120 | |
| Magnesium | ug/L | 10000 | 9960 | 100 | 80-120 | |
| Potassium | ug/L | 10000 | 9180 | 92 | 80-120 | |
| Sodium | ug/L | 10000 | 9800 | 98 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 121120 121121

| Parameter | Units | 2512730003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | ug/L | 7380 | 10000 | 10000 | 17500 | 17200 | 101 | 98 | 75-125 | 2 | 20 | |
| Magnesium | ug/L | ND | 10000 | 10000 | 10900 | 10700 | 101 | 100 | 75-125 | 1 | 20 | |
| Potassium | ug/L | ND | 10000 | 10000 | 10000 | 9720 | 95 | 92 | 75-125 | 3 | 20 | |
| Sodium | ug/L | ND | 10000 | 10000 | 13500 | 13300 | 99 | 97 | 75-125 | 2 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: PMST/2090 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 2512758030, 2512758031, 2512758032, 2512758033, 2512758034, 2512758035, 2512758036, 2512758037, 2512758038, 2512758039, 2512758040, 2512758041, 2512758042, 2512758043, 2512758044, 2512758045, 2512758046

SAMPLE DUPLICATE: 121499

| Parameter | Units | 2512758030 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 21.1 | 21.9 | 4 | 30 | |

SAMPLE DUPLICATE: 121500

| Parameter | Units | 2512758031 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 24.8 | 24.5 | 1 | 30 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3790 Analysis Method: SM 2310B
QC Batch Method: SM 2310B Analysis Description: 2310B Acidity, Total
Associated Lab Samples: 2512758023, 2512758024, 2512758026

METHOD BLANK: 121923 Matrix: Water
Associated Lab Samples: 2512758023, 2512758024, 2512758026

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Acidity, Total | mg/L | 0.58J | 2.0 | 07/10/12 14:45 | |

LABORATORY CONTROL SAMPLE: 121924

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Acidity, Total | mg/L | 245 | 236 | 96 | 80-120 | |

SAMPLE DUPLICATE: 121925

| Parameter | Units | 2512758023 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Acidity, Total | mg/L | 8.7 | 8.0 | 8 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3785 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

METHOD BLANK: 121280 Matrix: Water
Associated Lab Samples: 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | mg/L | <0.10 | 1.0 | 07/06/12 12:00 | |

LABORATORY CONTROL SAMPLE: 121281

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | mg/L | 100 | 106 | 106 | 90-110 | |

SAMPLE DUPLICATE: 121282

| Parameter | Units | 2512701003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | mg/L | 61.6 | 60.7 | 1 | 10 | |

SAMPLE DUPLICATE: 121283

| Parameter | Units | 2512734003 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | mg/L | 44.9 | 43.1 | 4 | 10 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3780 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2512758001, 2512758002, 2512758003, 2512758004, 2512758005, 2512758019, 2512758025

METHOD BLANK: 121157 Matrix: Water
Associated Lab Samples: 2512758001, 2512758002, 2512758003, 2512758004, 2512758005, 2512758019, 2512758025

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | <1.0 | 5.0 | 07/02/12 17:15 | |

LABORATORY CONTROL SAMPLE: 121158

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 300 | 296 | 99 | 80-120 | |

SAMPLE DUPLICATE: 121225

| Parameter | Units | 2512730001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 494 | 488 | 1 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3784 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2512758006, 2512758007, 2512758008, 2512758009, 2512758010, 2512758015, 2512758016, 2512758017, 2512758018, 2512758020, 2512758021, 2512758022, 2512758023, 2512758024, 2512758026, 2512758027, 2512758028, 2512758029

METHOD BLANK: 121276 Matrix: Water
Associated Lab Samples: 2512758006, 2512758007, 2512758008, 2512758009, 2512758010, 2512758015, 2512758016, 2512758017, 2512758018, 2512758020, 2512758021, 2512758022, 2512758023, 2512758024, 2512758026, 2512758027, 2512758028, 2512758029

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | <1.0 | 5.0 | 07/03/12 15:35 | |

LABORATORY CONTROL SAMPLE: 121277

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 300 | 290 | 97 | 80-120 | |

SAMPLE DUPLICATE: 121278

| Parameter | Units | 2512758023 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 90.0 | 88.0 | 2 | 20 | |

SAMPLE DUPLICATE: 121279

| Parameter | Units | 2512761001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 278 | 302 | 8 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3781 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 2512758001, 2512758002, 2512758003, 2512758004, 2512758005, 2512758015, 2512758016, 2512758017, 2512758018, 2512758019, 2512758020, 2512758021, 2512758022, 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

METHOD BLANK: 121165 Matrix: Water
Associated Lab Samples: 2512758001, 2512758002, 2512758003, 2512758004, 2512758005, 2512758015, 2512758016, 2512758017, 2512758018, 2512758019, 2512758020, 2512758021, 2512758022, 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | <1.0 | 2.0 | 07/02/12 15:45 | |

LABORATORY CONTROL SAMPLE: 121168

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | 300 | 268 | 89 | 80-120 | |

SAMPLE DUPLICATE: 121166

| Parameter | Units | 2512758001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | <1.0 | <1.0 | | 20 | |

SAMPLE DUPLICATE: 121167

| Parameter | Units | 2512758025 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | 1.0J | 1.0J | | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3786 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 2512758006, 2512758007, 2512758008, 2512758009, 2512758010

METHOD BLANK: 121466 Matrix: Water
Associated Lab Samples: 2512758006, 2512758007, 2512758008, 2512758009, 2512758010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | <1.0 | 2.0 | 07/05/12 16:00 | |

LABORATORY CONTROL SAMPLE: 121467

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | 300 | 282 | 94 | 80-120 | |

SAMPLE DUPLICATE: 121468

| Parameter | Units | 2512785001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | 4.0 | 1.0J | | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3777 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 2512758001, 2512758002, 2512758003, 2512758004, 2512758005, 2512758015, 2512758016, 2512758017, 2512758018, 2512758019, 2512758020, 2512758021, 2512758022, 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

SAMPLE DUPLICATE: 121148

| Parameter | Units | 2512758005 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 7.2 | 7.1 | .7 | 10 | H6 |

SAMPLE DUPLICATE: 121149

| Parameter | Units | 2512758023 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 5.2 | 5.2 | .2 | 10 | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3778 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 2512758006, 2512758007, 2512758008, 2512758009, 2512758010

SAMPLE DUPLICATE: 121150

| Parameter | Units | 2512758008 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 7.4 | 7.3 | 1 | 10 | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3779 Analysis Method: EPA 9045
QC Batch Method: EPA 9045 Analysis Description: 9045 pH
Associated Lab Samples: 2512758033, 2512758034, 2512758035, 2512758036, 2512758037, 2512758038, 2512758039, 2512758040, 2512758041

SAMPLE DUPLICATE: 121156

| Parameter | Units | 2512758034 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 6.7 | 6.8 | .6 | 10 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WET/3783 Analysis Method: EPA 9045
QC Batch Method: EPA 9045 Analysis Description: 9045 pH
Associated Lab Samples: 2512758030, 2512758031, 2512758032, 2512758042, 2512758043, 2512758044, 2512758045, 2512758046

SAMPLE DUPLICATE: 121273

| Parameter | Units | 2512758030 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 6.7 | 6.8 | 1 | 10 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

QC Batch: WETA/2650 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

METHOD BLANK: 121401 Matrix: Water
Associated Lab Samples: 2512758023, 2512758024, 2512758025, 2512758026, 2512758027, 2512758028, 2512758029

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Chloride | mg/L | <0.044 | 1.0 | 07/05/12 10:55 | |
| Sulfate | mg/L | 0.032J | 1.0 | 07/05/12 10:55 | |

LABORATORY CONTROL SAMPLE: 121402

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Chloride | mg/L | 5 | 5.0 | 99 | 90-110 | |
| Sulfate | mg/L | 15 | 14.8 | 99 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 121403 121404

| Parameter | Units | 2512734003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | mg/L | 3.8 | 10 | 10 | 14.0 | 14.0 | 102 | 102 | 90-110 | .3 | 10 | |
| Sulfate | mg/L | 22.7 | 30 | 30 | 55.5 | 54.3 | 109 | 105 | 90-110 | 2 | 10 | |

MATRIX SPIKE SAMPLE: 121405

| Parameter | Units | 2512758029 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Chloride | mg/L | 0.51J | 5 | 5.5 | 100 | 90-110 | |
| Sulfate | mg/L | 15.3 | 15 | 32.2 | 113 | 90-110 | M1 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALIFIERS

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| B | Analyte was detected in the associated method blank. |
| D3 | Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference. |
| D4 | Sample was diluted due to the presence of high levels of target analytes. |
| D6 | The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits. |
| H6 | Analysis initiated outside of the 15 minute EPA recommended holding time. |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| R1 | RPD value was outside control limits. |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2512758023** | **MCRA5-DW-MY-01** | SM 2340B | ICP/2926 | | |
| **2512758024** | **MCRA5-DW-JU-01** | SM 2340B | ICP/2926 | | |
| **2512758025** | **MCRA5-DW-BA-01** | SM 2340B | ICP/2926 | | |
| **2512758026** | **MCRA5-DW-PW-01** | SM 2340B | ICP/2926 | | |
| **2512758027** | **MCRA5-DW-RY-01** | SM 2340B | ICP/2926 | | |
| **2512758028** | **MCRA5-DW-SH-01** | SM 2340B | ICP/2926 | | |
| **2512758029** | **MCRA5-SP-JU-01** | SM 2340B | ICP/2926 | | |
| **2512758030** | **MCRA5-SS-GC-02** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758031** | **MCRA5-SS-GC-02a** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758032** | **MCRA5-SS-GC-03** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758033** | **MCRA5-SS-GC-04a** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758034** | **MCRA5-SS-GC-05** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758035** | **MCRA5-SS-76G-01b** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758036** | **MCRA5-SS-76G-02** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758037** | **MCRA5-SS-SFSR-01** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758038** | **MCRA5-SS-SFSR-02** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758039** | **MCRA5-SS-SFSR-03** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758040** | **MCRA5-SS-SFSR-04** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758041** | **MCRA5-SS-SFSR-05** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758042** | **MCRA5-SS-SFSR-06** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758043** | **MCRA5-SS-SFSR-07** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758044** | **MCRA5-SS-SFSR-08** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758045** | **MCRA5-SS-SFSR-09** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758046** | **MCRA5-MCL-SS-01** | EPA 3050 | MPRP/3146 | EPA 6010 | ICP/2925 |
| **2512758023** | **MCRA5-DW-MY-01** | EPA 3010 | MPRP/3144 | EPA 6010 | ICP/2922 |
| **2512758024** | **MCRA5-DW-JU-01** | EPA 3010 | MPRP/3144 | EPA 6010 | ICP/2922 |
| **2512758025** | **MCRA5-DW-BA-01** | EPA 3010 | MPRP/3144 | EPA 6010 | ICP/2922 |
| **2512758026** | **MCRA5-DW-PW-01** | EPA 3010 | MPRP/3144 | EPA 6010 | ICP/2922 |
| **2512758027** | **MCRA5-DW-RY-01** | EPA 3010 | MPRP/3144 | EPA 6010 | ICP/2922 |
| **2512758028** | **MCRA5-DW-SH-01** | EPA 3010 | MPRP/3144 | EPA 6010 | ICP/2922 |
| **2512758029** | **MCRA5-SP-JU-01** | EPA 3010 | MPRP/3144 | EPA 6010 | ICP/2922 |
| **2512758030** | **MCRA5-SS-GC-02** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758031** | **MCRA5-SS-GC-02a** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758032** | **MCRA5-SS-GC-03** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758033** | **MCRA5-SS-GC-04a** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758034** | **MCRA5-SS-GC-05** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758035** | **MCRA5-SS-76G-01b** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758036** | **MCRA5-SS-76G-02** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758037** | **MCRA5-SS-SFSR-01** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758038** | **MCRA5-SS-SFSR-02** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758039** | **MCRA5-SS-SFSR-03** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758040** | **MCRA5-SS-SFSR-04** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758041** | **MCRA5-SS-SFSR-05** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758042** | **MCRA5-SS-SFSR-06** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758043** | **MCRA5-SS-SFSR-07** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758044** | **MCRA5-SS-SFSR-08** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758045** | **MCRA5-SS-SFSR-09** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2512758046** | **MCRA5-MCL-SS-01** | EPA 6020 | ICPM/33413 | EPA 6020 | ICPM/13202 |
| **2512758001** | **MCRA5-SW-SFRS-01** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758002** | **MCRA5-SW-SFSR-02** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758003** | **MCRA5-SW-SFSR-03** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758004** | **MCRA5-SW-SFSR-04** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758005** | **MCRA5-SW-SFSR-05** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758006** | **MCRA5-SW-SFSR-06** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758007** | **MCRA5-SW-SFSR-07** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758008** | **MCRA5-SW-SFSR-08** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758009** | **MCRA5-SW-SFSR-09** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758010** | **MCRA5-SW-MCL-01** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758011** | **MCRA5-SW-DP-01** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758012** | **MCRA5-SW-DP-02** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758013** | **MCRA5-SW-DP-03** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758014** | **MCRA5-SW-EQ-01** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758015** | **MCRA5-SW-GC-02** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758016** | **MCRA5-SW-GC-02a** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758017** | **MCRA5-SW-GC-03** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758018** | **MCRA5-SW-GC-04a** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758019** | **MCRA5-SW-GC-05** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758020** | **MCRA5-SW-76G-01a** | EPA 6020 | ICPM/33418 | EPA 6020 | ICPM/13199 |
| **2512758021** | **MCRA5-SW-76G-01b** | EPA 6020 | ICPM/33419 | EPA 6020 | ICPM/13172 |
| **2512758022** | **MCRA5-SW-76G-02** | EPA 6020 | ICPM/33419 | EPA 6020 | ICPM/13172 |
| **2512758023** | **MCRA5-DW-MY-01** | EPA 6020 | ICPM/33419 | EPA 6020 | ICPM/13172 |
| **2512758024** | **MCRA5-DW-JU-01** | EPA 6020 | ICPM/33419 | EPA 6020 | ICPM/13172 |
| **2512758025** | **MCRA5-DW-BA-01** | EPA 6020 | ICPM/33419 | EPA 6020 | ICPM/13172 |
| **2512758026** | **MCRA5-DW-PW-01** | EPA 6020 | ICPM/33419 | EPA 6020 | ICPM/13172 |
| **2512758027** | **MCRA5-DW-RY-01** | EPA 6020 | ICPM/33419 | EPA 6020 | ICPM/13172 |
| **2512758028** | **MCRA5-DW-SH-01** | EPA 6020 | ICPM/33419 | EPA 6020 | ICPM/13172 |
| **2512758029** | **MCRA5-SP-JU-01** | EPA 6020 | ICPM/33419 | EPA 6020 | ICPM/13172 |
| **2512758030** | **MCRA5-SS-GC-02** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758031** | **MCRA5-SS-GC-02a** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758032** | **MCRA5-SS-GC-03** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758033** | **MCRA5-SS-GC-04a** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758034** | **MCRA5-SS-GC-05** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758035** | **MCRA5-SS-76G-01b** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758036** | **MCRA5-SS-76G-02** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758037** | **MCRA5-SS-SFSR-01** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758038** | **MCRA5-SS-SFSR-02** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758039** | **MCRA5-SS-SFSR-03** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758040** | **MCRA5-SS-SFSR-04** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758041** | **MCRA5-SS-SFSR-05** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758042** | **MCRA5-SS-SFSR-06** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758043** | **MCRA5-SS-SFSR-07** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758044** | **MCRA5-SS-SFSR-08** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758045** | **MCRA5-SS-SFSR-09** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |
| **2512758046** | **MCRA5-MCL-SS-01** | EPA 7471 | MERP/1718 | EPA 7471 | MERC/1730 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2512758030** | **MCRA5-SS-GC-02** | ASTM D2974-87 | PMST/2090 | | |
| **2512758031** | **MCRA5-SS-GC-02a** | ASTM D2974-87 | PMST/2090 | | |
| **2512758032** | **MCRA5-SS-GC-03** | ASTM D2974-87 | PMST/2090 | | |
| **2512758033** | **MCRA5-SS-GC-04a** | ASTM D2974-87 | PMST/2090 | | |
| **2512758034** | **MCRA5-SS-GC-05** | ASTM D2974-87 | PMST/2090 | | |
| **2512758035** | **MCRA5-SS-76G-01b** | ASTM D2974-87 | PMST/2090 | | |
| **2512758036** | **MCRA5-SS-76G-02** | ASTM D2974-87 | PMST/2090 | | |
| **2512758037** | **MCRA5-SS-SFSR-01** | ASTM D2974-87 | PMST/2090 | | |
| **2512758038** | **MCRA5-SS-SFSR-02** | ASTM D2974-87 | PMST/2090 | | |
| **2512758039** | **MCRA5-SS-SFSR-03** | ASTM D2974-87 | PMST/2090 | | |
| **2512758040** | **MCRA5-SS-SFSR-04** | ASTM D2974-87 | PMST/2090 | | |
| **2512758041** | **MCRA5-SS-SFSR-05** | ASTM D2974-87 | PMST/2090 | | |
| **2512758042** | **MCRA5-SS-SFSR-06** | ASTM D2974-87 | PMST/2090 | | |
| **2512758043** | **MCRA5-SS-SFSR-07** | ASTM D2974-87 | PMST/2090 | | |
| **2512758044** | **MCRA5-SS-SFSR-08** | ASTM D2974-87 | PMST/2090 | | |
| **2512758045** | **MCRA5-SS-SFSR-09** | ASTM D2974-87 | PMST/2090 | | |
| **2512758046** | **MCRA5-MCL-SS-01** | ASTM D2974-87 | PMST/2090 | | |
| **2512758023** | **MCRA5-DW-MY-01** | SM 2310B | WET/3790 | | |
| **2512758024** | **MCRA5-DW-JU-01** | SM 2310B | WET/3790 | | |
| **2512758026** | **MCRA5-DW-PW-01** | SM 2310B | WET/3790 | | |
| **2512758023** | **MCRA5-DW-MY-01** | SM 2320B | WET/3785 | | |
| **2512758024** | **MCRA5-DW-JU-01** | SM 2320B | WET/3785 | | |
| **2512758025** | **MCRA5-DW-BA-01** | SM 2320B | WET/3785 | | |
| **2512758026** | **MCRA5-DW-PW-01** | SM 2320B | WET/3785 | | |
| **2512758027** | **MCRA5-DW-RY-01** | SM 2320B | WET/3785 | | |
| **2512758028** | **MCRA5-DW-SH-01** | SM 2320B | WET/3785 | | |
| **2512758029** | **MCRA5-SP-JU-01** | SM 2320B | WET/3785 | | |
| **2512758001** | **MCRA5-SW-SFRS-01** | SM 2540C | WET/3780 | | |
| **2512758002** | **MCRA5-SW-SFSR-02** | SM 2540C | WET/3780 | | |
| **2512758003** | **MCRA5-SW-SFSR-03** | SM 2540C | WET/3780 | | |
| **2512758004** | **MCRA5-SW-SFSR-04** | SM 2540C | WET/3780 | | |
| **2512758005** | **MCRA5-SW-SFSR-05** | SM 2540C | WET/3780 | | |
| **2512758006** | **MCRA5-SW-SFSR-06** | SM 2540C | WET/3784 | | |
| **2512758007** | **MCRA5-SW-SFSR-07** | SM 2540C | WET/3784 | | |
| **2512758008** | **MCRA5-SW-SFSR-08** | SM 2540C | WET/3784 | | |
| **2512758009** | **MCRA5-SW-SFSR-09** | SM 2540C | WET/3784 | | |
| **2512758010** | **MCRA5-SW-MCL-01** | SM 2540C | WET/3784 | | |
| **2512758015** | **MCRA5-SW-GC-02** | SM 2540C | WET/3784 | | |
| **2512758016** | **MCRA5-SW-GC-02a** | SM 2540C | WET/3784 | | |
| **2512758017** | **MCRA5-SW-GC-03** | SM 2540C | WET/3784 | | |
| **2512758018** | **MCRA5-SW-GC-04a** | SM 2540C | WET/3784 | | |
| **2512758019** | **MCRA5-SW-GC-05** | SM 2540C | WET/3780 | | |
| **2512758020** | **MCRA5-SW-76G-01a** | SM 2540C | WET/3784 | | |
| **2512758021** | **MCRA5-SW-76G-01b** | SM 2540C | WET/3784 | | |
| **2512758022** | **MCRA5-SW-76G-02** | SM 2540C | WET/3784 | | |
| **2512758023** | **MCRA5-DW-MY-01** | SM 2540C | WET/3784 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2512758024** | **MCRA5-DW-JU-01** | SM 2540C | WET/3784 | | |
| **2512758025** | **MCRA5-DW-BA-01** | SM 2540C | WET/3780 | | |
| **2512758026** | **MCRA5-DW-PW-01** | SM 2540C | WET/3784 | | |
| **2512758027** | **MCRA5-DW-RY-01** | SM 2540C | WET/3784 | | |
| **2512758028** | **MCRA5-DW-SH-01** | SM 2540C | WET/3784 | | |
| **2512758029** | **MCRA5-SP-JU-01** | SM 2540C | WET/3784 | | |
| **2512758001** | **MCRA5-SW-SFRS-01** | SM 2540D | WET/3781 | | |
| **2512758002** | **MCRA5-SW-SFSR-02** | SM 2540D | WET/3781 | | |
| **2512758003** | **MCRA5-SW-SFSR-03** | SM 2540D | WET/3781 | | |
| **2512758004** | **MCRA5-SW-SFSR-04** | SM 2540D | WET/3781 | | |
| **2512758005** | **MCRA5-SW-SFSR-05** | SM 2540D | WET/3781 | | |
| **2512758006** | **MCRA5-SW-SFSR-06** | SM 2540D | WET/3786 | | |
| **2512758007** | **MCRA5-SW-SFSR-07** | SM 2540D | WET/3786 | | |
| **2512758008** | **MCRA5-SW-SFSR-08** | SM 2540D | WET/3786 | | |
| **2512758009** | **MCRA5-SW-SFSR-09** | SM 2540D | WET/3786 | | |
| **2512758010** | **MCRA5-SW-MCL-01** | SM 2540D | WET/3786 | | |
| **2512758015** | **MCRA5-SW-GC-02** | SM 2540D | WET/3781 | | |
| **2512758016** | **MCRA5-SW-GC-02a** | SM 2540D | WET/3781 | | |
| **2512758017** | **MCRA5-SW-GC-03** | SM 2540D | WET/3781 | | |
| **2512758018** | **MCRA5-SW-GC-04a** | SM 2540D | WET/3781 | | |
| **2512758019** | **MCRA5-SW-GC-05** | SM 2540D | WET/3781 | | |
| **2512758020** | **MCRA5-SW-76G-01a** | SM 2540D | WET/3781 | | |
| **2512758021** | **MCRA5-SW-76G-01b** | SM 2540D | WET/3781 | | |
| **2512758022** | **MCRA5-SW-76G-02** | SM 2540D | WET/3781 | | |
| **2512758023** | **MCRA5-DW-MY-01** | SM 2540D | WET/3781 | | |
| **2512758024** | **MCRA5-DW-JU-01** | SM 2540D | WET/3781 | | |
| **2512758025** | **MCRA5-DW-BA-01** | SM 2540D | WET/3781 | | |
| **2512758026** | **MCRA5-DW-PW-01** | SM 2540D | WET/3781 | | |
| **2512758027** | **MCRA5-DW-RY-01** | SM 2540D | WET/3781 | | |
| **2512758028** | **MCRA5-DW-SH-01** | SM 2540D | WET/3781 | | |
| **2512758029** | **MCRA5-SP-JU-01** | SM 2540D | WET/3781 | | |
| **2512758001** | **MCRA5-SW-SFRS-01** | SM 4500-H+B | WET/3777 | | |
| **2512758002** | **MCRA5-SW-SFSR-02** | SM 4500-H+B | WET/3777 | | |
| **2512758003** | **MCRA5-SW-SFSR-03** | SM 4500-H+B | WET/3777 | | |
| **2512758004** | **MCRA5-SW-SFSR-04** | SM 4500-H+B | WET/3777 | | |
| **2512758005** | **MCRA5-SW-SFSR-05** | SM 4500-H+B | WET/3777 | | |
| **2512758006** | **MCRA5-SW-SFSR-06** | SM 4500-H+B | WET/3778 | | |
| **2512758007** | **MCRA5-SW-SFSR-07** | SM 4500-H+B | WET/3778 | | |
| **2512758008** | **MCRA5-SW-SFSR-08** | SM 4500-H+B | WET/3778 | | |
| **2512758009** | **MCRA5-SW-SFSR-09** | SM 4500-H+B | WET/3778 | | |
| **2512758010** | **MCRA5-SW-MCL-01** | SM 4500-H+B | WET/3778 | | |
| **2512758015** | **MCRA5-SW-GC-02** | SM 4500-H+B | WET/3777 | | |
| **2512758016** | **MCRA5-SW-GC-02a** | SM 4500-H+B | WET/3777 | | |
| **2512758017** | **MCRA5-SW-GC-03** | SM 4500-H+B | WET/3777 | | |
| **2512758018** | **MCRA5-SW-GC-04a** | SM 4500-H+B | WET/3777 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2512758

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2512758019** | **MCRA5-SW-GC-05** | SM 4500-H+B | WET/3777 | | |
| **2512758020** | **MCRA5-SW-76G-01a** | SM 4500-H+B | WET/3777 | | |
| **2512758021** | **MCRA5-SW-76G-01b** | SM 4500-H+B | WET/3777 | | |
| **2512758022** | **MCRA5-SW-76G-02** | SM 4500-H+B | WET/3777 | | |
| **2512758023** | **MCRA5-DW-MY-01** | SM 4500-H+B | WET/3777 | | |
| **2512758024** | **MCRA5-DW-JU-01** | SM 4500-H+B | WET/3777 | | |
| **2512758025** | **MCRA5-DW-BA-01** | SM 4500-H+B | WET/3777 | | |
| **2512758026** | **MCRA5-DW-PW-01** | SM 4500-H+B | WET/3777 | | |
| **2512758027** | **MCRA5-DW-RY-01** | SM 4500-H+B | WET/3777 | | |
| **2512758028** | **MCRA5-DW-SH-01** | SM 4500-H+B | WET/3777 | | |
| **2512758029** | **MCRA5-SP-JU-01** | SM 4500-H+B | WET/3777 | | |
| **2512758030** | **MCRA5-SS-GC-02** | EPA 9045 | WET/3783 | | |
| **2512758031** | **MCRA5-SS-GC-02a** | EPA 9045 | WET/3783 | | |
| **2512758032** | **MCRA5-SS-GC-03** | EPA 9045 | WET/3783 | | |
| **2512758033** | **MCRA5-SS-GC-04a** | EPA 9045 | WET/3779 | | |
| **2512758034** | **MCRA5-SS-GC-05** | EPA 9045 | WET/3779 | | |
| **2512758035** | **MCRA5-SS-76G-01b** | EPA 9045 | WET/3779 | | |
| **2512758036** | **MCRA5-SS-76G-02** | EPA 9045 | WET/3779 | | |
| **2512758037** | **MCRA5-SS-SFSR-01** | EPA 9045 | WET/3779 | | |
| **2512758038** | **MCRA5-SS-SFSR-02** | EPA 9045 | WET/3779 | | |
| **2512758039** | **MCRA5-SS-SFSR-03** | EPA 9045 | WET/3779 | | |
| **2512758040** | **MCRA5-SS-SFSR-04** | EPA 9045 | WET/3779 | | |
| **2512758041** | **MCRA5-SS-SFSR-05** | EPA 9045 | WET/3779 | | |
| **2512758042** | **MCRA5-SS-SFSR-06** | EPA 9045 | WET/3783 | | |
| **2512758043** | **MCRA5-SS-SFSR-07** | EPA 9045 | WET/3783 | | |
| **2512758044** | **MCRA5-SS-SFSR-08** | EPA 9045 | WET/3783 | | |
| **2512758045** | **MCRA5-SS-SFSR-09** | EPA 9045 | WET/3783 | | |
| **2512758046** | **MCRA5-MCL-SS-01** | EPA 9045 | WET/3783 | | |
| **2512758023** | **MCRA5-DW-MY-01** | EPA 300.0 | WETA/2650 | | |
| **2512758024** | **MCRA5-DW-JU-01** | EPA 300.0 | WETA/2650 | | |
| **2512758025** | **MCRA5-DW-BA-01** | EPA 300.0 | WETA/2650 | | |
| **2512758026** | **MCRA5-DW-PW-01** | EPA 300.0 | WETA/2650 | | |
| **2512758027** | **MCRA5-DW-RY-01** | EPA 300.0 | WETA/2650 | | |
| **2512758028** | **MCRA5-DW-SH-01** | EPA 300.0 | WETA/2650 | | |
| **2512758029** | **MCRA5-SP-JU-01** | EPA 300.0 | WETA/2650 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2512758

Page: of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 9 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Dan Gossett |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Tot. Rec. Al, As, Cd, Cr | Cu, Fe, Pb, Mn, Sb, Zn | pH, hardness | TSS, TDS | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA~~4~~5-SW-SFRS-01 | WT | G | | | 6/25/12 | 1515 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 2 | MCRA~~4~~5-SW-SFSR-02 | WT | G | | | | 1300 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 3 | MCRA~~4~~5-SW-SFSR-03 | WT | G | | | | 1205 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 4 | MCRA~~4~~5-SW-SFSR-04 | WT | G | | | | 1120 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 5 | MCRA~~4~~5-SW-SFSR-05 | WT | G | | | | 1030 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 6 | MCRA~~4~~5-SW-SFSR-06 | WT | G | | | 6/28/12 | 1230 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 7 | MCRA~~4~~5-SW-SFSR-07 | WT | G | | | | 1210 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 8 | MCRA~~4~~5-SW-SFSR-08 | WT | G | | | | 1145 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 9 | MCRA~~4~~5-SW-SFSR-09 | WT | G | | | | 1225 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CES | 6/29/12 | 1032 | | 6/29/12 | 1055 | 1.6 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical™
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2512758

Page: of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 9 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Dan Gossett |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

| ITEM # | SAMPLE ID (A-Z, 0-9 / .-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Tot. Rec. Al, As, Cd, Cr | Cu, Fe, Pb, Mn, Sb, Zn | pH, hardness | TSS, TDS | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA5-SW-MCL-01 | WT | G | | | 6/28/12 | 1205 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 2 | MCRA5-SW-DP-01 | WT | G | | | 6/27/12 | 1140 | | 1 | | | x | | | | | | | x | x | | | N | |
| 3 | MCRA5-SW-DP-02 | WT | G | | | 6/27/12 | 1210 | | 1 | | | x | | | | | | | x | x | | | N | |
| 4 | MCRA5-SW-DP-03 | WT | G | | | 6/27/12 | 1225 | | 1 | | | x | | | | | | | x | x | | | N | |
| 5 | MCRA5-SW-EQ-01 | WT | G | | | ↓ | 1300 | | 1 | | | x | | | | | | | x | x | | | N | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [signature] CES | 6/29/12 | 1030 | [signature] | 6/29/12 | 1035 | 3.8 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days

Pace Analytical™
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2512758

Page: of

**Section A** Required Client Information:

| | |
|---|---|
| Company | Cascade Earth Sciences |
| Address | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To | ryan.tobias@cascade-earth.com |
| Phone | 503-931-3157 |
| Fax | 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To | Ryan Tobias |
| Copy To | |
| Purchase Order No. | |
| Project Name | USFS Monte Cristo DGI |
| Project Number | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention | Dustin Wasley |
| Company Name | Cascade Earth Sciences |
| Address | 12720 E. Nora, Ste. A Spokane, WA 9 |
| Pace Quote Reference | CES_052411_Monte Cristo Mine |
| Pace Project Manager | Dan Gossett |
| Pace Profile # | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Tot. Rec. Al, As, Cd, Cr | Cu, Fe, Pb, Mn, Sb, Zn | pH, hardness | TSS, TDS | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ~~MCRA4-SW-GC-01~~ | ~~WT~~ | ~~G~~ | | | | | | ~~2~~ | | | ~~x~~ | | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 2 | MCRA5-SW-GC-02 | WT | G | | | 6/27/12 | 1340 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 3 | MCRA5-SW-GC-02a | WT | G | | | ↓ | 1245 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 4 | MCRA5-SW-GC-03 | WT | G | | | ↓ | 1155 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 5 | ~~MCRA4-SW-GC-04~~ | ~~WT~~ | ~~G~~ | | | | | | ~~2~~ | | | ~~x~~ | | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 6 | MCRA5-SW-GC-04a | WT | G | | | 6/26/12 | 1400 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 7 | MCRA5-SW-GC-05 | WT | G | | | 6/25/12 | 1635 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 8 | ~~MCRA4-SW-76G-01~~ | ~~WT~~ | ~~G~~ | | | | | | ~~2~~ | | | ~~x~~ | | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 9 | MCRA5-SW-76G-01a | WT | G | | | 6/26/12 | 1215 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 10 | MCRA5-SW-76G-01b | WT | G | | | ↓ | 1045 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 11 | MCRA5-SW-76G-02 | WT | G | | | ↓ | 845 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [signature] / CES | 6/29/12 | 1030 | [signature] | 6/29/12 | 1055 | 4.7 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2512758

Page: of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 9 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Dan Gossett |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Tot. Rec. Al, As, Cd, Cr | Cu, Fe, Pb, Mn, Sb, Zn | pH, hardness | TSS, TDS | Chloride, sulfate, alkalinity | Ca, Mg, Na, K | Total Acidity | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA~~4~~5-DW-MY-01 | WT | G | | | 6/26/12 | 1135 | | 6 | | | x | | | | | | x | x | x | x | x | x | x | N | |
| 2 | MCRA~~4~~5-DW-JU-01 | WT | G | | | 6/26/12 | 1247 | | 6 | | | x | | | | | | x | x | x | x | x | x | x | N | |
| 3 | MCRA~~4~~5-DW-BA-01 | WT | G | | | 6/25/12 | 1523 | | 5 | | | x | | | | | | x | x | x | x | x | x | | N | |
| 4 | ~~MCRA~~5-DW-ND-01 | ~~WT~~ | ~~G~~ | | | | | | ~~5~~ | | | ~~x~~ | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | | N | |
| 5 | ~~MCRA~~5-DW-PM-01 | ~~WT~~ | ~~G~~ | | | | | | ~~6~~ | | | ~~x~~ | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | | N | |
| 6 | MCRA~~4~~5-DW-PW-01 | WT | G | | | 6/27/12 | 1205 | | 6 | | | x | | | | | | x | x | x | x | x | x | x | N | |
| 7 | ~~MCRA~~5-DW-SY-01 | ~~WT~~ | ~~G~~ | | | | | | ~~5~~ | | | ~~x~~ | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | | ~~N~~ | |
| 8 | MCRA~~4~~5-DW-RY-01 | WT | G | | | 6/26/12 | 1420 | | 5 | | | x | | | | | | x | x | x | x | x | x | | N | |
| 9 | MCRA~~4~~5-DW-SH-01 | WT | G | | | 6/26/12 | 1110 | | 5 | | | x | | | | | | x | x | x | x | x | x | | N | |
| 10 | ~~MCRA~~5-SP-JU-01 | ~~WT~~ | ~~G~~ | | | ~~6/28~~ | ~~1247~~ | | ~~5~~ | | | ~~x~~ | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | | ~~N~~ | |
| 11 | MCR~~A~~5-SP-JU-01 | | | | | 6/27/12 | 1620 | | 5 | | | X | | | | | | X | X | X | X | X | X | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CES | 6/29/12 | 1030 | | 6/29/12 | 1050 | 5.3 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| SAMPLER NAME AND SIGNATURE | | | | | |
|---|---|---|---|---|---|
| PRINT Name of SAMPLER: | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
| SIGNATURE of SAMPLER: | DATE Signed (MM/DD/YY): | | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2512758

Page: of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 9 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Dan Gossett |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Total As, Cd, Cr, Cu | Fe, Hg, Pb, Mn, Sb, Zn | pH | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ~~MCRA4-SS-GC-01~~ | ~~SL~~ | ~~G~~ | | | | | | ~~2~~ | ~~x~~ | | | | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 2 | MCRA5-SS-GC-02 | SL | G | | | 6/27/12 | 1315 | | 2 | x | | | | | | | | | x | x | x | N | |
| 3 | MCRA5-SS-GC-02a | SL | G | | | ↓ | 1250 | | 2 | x | | | | | | | | | x | x | x | N | |
| 4 | MCRA5-SS-GC-03 | SL | G | | | ↓ | 1200 | | 2 | x | | | | | | | | | x | x | x | N | |
| 5 | ~~MCRA4-SS-GC-04~~ | ~~SL~~ | ~~G~~ | | | | | | ~~2~~ | ~~x~~ | | | | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 6 | MCRA5-SS-GC-04a | SL | G | | | 6/27/12 | 1405 | | 2 | x | | | | | | | | | x | x | x | N | |
| 7 | MCRA5-SS-GC-05 | SL | G | | | 6/25/12 | 1630 | | 2 | x | | | | | | | | | x | x | x | N | |
| 8 | ~~MCRA4-SS-76G-01~~ | ~~SL~~ | ~~G~~ | | | | | | ~~2~~ | ~~x~~ | | | | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 9 | ~~MCRA4-SS-76G-01a~~ | ~~SL~~ | ~~G~~ | | | | | | ~~2~~ | ~~x~~ | | | | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 10 | MCRA5-SS-76G-01b | SL | G | | | 6/26/12 | 1030 | | 2 | x | | | | | | | | | x | x | x | N | |
| 11 | MCRA5-SS-76G-02 | SL | G | | | ↓ | 850 | | 2 | x | | | | | | | | | x | x | x | N | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [signature] CES | 6/29/12 | 1030 | [signature] | 6/29/12 | 1055 | 4.7 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| SAMPLER NAME AND SIGNATURE | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|---|
| PRINT Name of SAMPLER: | | | | | |
| SIGNATURE of SAMPLER: | DATE Signed (MM/DD/YY): | | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2512758 1

Page: of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 9 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Dan Gossett |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Total As, Cd, Cr, Cu | Fe, Hg, Pb, Mn, Sb, Zn | pH | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA4-SS-SFSR-01 | SL | G | | | 6/25/12 | 1520 | | 2 | x | | | | | | | | x | x | x | N | |
| 2 | MCRA4-SS-SFSR-02 | SL | G | | | | 1305 | | 2 | x | | | | | | | | x | x | x | N | |
| 3 | MCRA4-SS-SFSR-03 | SL | G | | | | 1210 | | 2 | x | | | | | | | | x | x | x | N | |
| 4 | MCRA4-SS-SFSR-04 | SL | G | | | | 1125 | | 2 | x | | | | | | | | x | x | x | N | |
| 5 | MCRA4-SS-SFSR-05 | SL | G | | | | 1035 | | 2 | x | | | | | | | | x | x | x | N | |
| 6 | MCRA4-SS-SFSR-06 | SL | G | | | 6/28/12 | 1235 | | 2 | x | | | | | | | | x | x | x | N | |
| 7 | MCRA4-SS-SFSR-07 | SL | G | | | | 1215 | | 2 | x | | | | | | | | x | x | x | N | |
| 8 | MCRA4-SS-SFSR-08 | SL | G | | | | 1150 | | 2 | x | | | | | | | | x | x | x | N | |
| 9 | MCRA4-SS-SFSR-09 | SL | G | | | | 1230 | | 2 | x | | | | | | | | x | x | x | N | |
| 10 | MCRA4-MCL-SS-01 | SL | G | | | | 1230 | | 2 | x | | | | | | | | x | x | x | N | |
| 11 | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | |
|---|---|---|---|---|---|---|---|---|---|
| | CES | 6/29/12 | 1030 | | 6/29/12 | 1035 | 3.8 | Y | Y | Y |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| SAMPLER NAME AND SIGNATURE | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|---|
| PRINT Name of SAMPLER: | | | | | |
| SIGNATURE of SAMPLER: | DATE Signed (MM/DD/YY): | | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

# Sample Container Count

CLIENT: Cascade ES

COC PAGE 1 of 6

COC ID#

2512758

Trip Blank(s) Provided? Y / N

Pace Analytical

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 1 | 1 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

CLIENT: Cascade ES

2512758

Pace Analytical

COC PAGE 1 of 6
COC ID#

Trip Blank(s) Provided?
Y / N

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 1 | 1 LO | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

CLIENT: Cascade ES

COC PAGE 3 of 6

COC ID#

2512758 1

Trip Blank(s) Provided? Y / N

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~1~~ | | | | | | ~~1~~ | ~~1.0~~ | | | | | | | | | | | | |
| 2 | | | | | | 1 | 1.0 | | | | | | | | | | | | |
| 3 | | | | | | ↓ | ↓ | | | | | | | | | | | | |
| 4 | | | | | | ↓ | ↓ | | | | | | | | | | | | |
| ~~5~~ | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | ↓ | 1.0 | | | | | | | | | | | | |
| 7 | | | | | | ↓ | ↓ | | | | | | | | | | | | |
| ~~8~~ | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | 1 | 1.0 | | | | | | | | | | | | |
| 10 | | | | | | ↓ | ↓ | | | | | | | | | | | | |
| 11 | | | | | | ↓ | ↓ | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

CLIENT: Cascade ES

2512758

COC PAGE 4 of 6

COC ID#

Trip Blank(s) Provided? Y / N

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | 2 | 2 | 2 1.0 | | | | | | | | | | | | |
| 2 | | | | | 2 | 2 | ↓ | | | | | | | | | | | | |
| 3 | | | | | 1 | 2 | ↓ | | | | | | | | | | | | |
| ~~4~~ | | | | | | | | | | | | | | | | | | | |
| ~~5~~ | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | 2 | 2 | 2 1.0 | | | | | | | | | | | | |
| ~~7~~ | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | 1 | 2 | 2 1.0 | | | | | | | | | | | | |
| 9 | | | | | 1 | 2 | 2 1.0 | | | | | | | | | | | | |
| ~~10~~ | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | 1 | 2 | 2 1.0 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

2512758

Pace Analytical

CLIENT: Cascade ES

COC PAGE 5 of 6
COC ID#

Trip Blank(s) Provided? Y / N

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~1~~ | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| ~~5~~ | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| ~~8~~ | | | | | | | | | | | | | | | | | | | |
| ~~9~~ | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

2512758 -

Pace Analytical

CLIENT: Cascade ES

COC PAGE 6 of 6

COC ID#

Trip Blank(s) Provided? Y / N

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Cascade ES Project #2512758

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____ Temp. Blank Yes ____ No ____

Thermometer Used 132013 or 101731952 or 226099 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.7, 1.6, 3.8, 5.3 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 6/29/12 LM

Temp should be above freezing ≤ 6°C

Comments:

| | | | | Comments |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☑Yes | ☐No | ☐N/A | 6. pH |
| **Rush Turn Around Time Requested:** | ☐Yes | ☑No | ☐N/A | 7. |
| **Follow Up / Hold Analysis Requested:** | ☐Yes | ☑No | ☐N/A | 8. |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 9. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 10. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 11. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 12. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 13. |
| -Includes date/time/ID/Analysis Matrix: WT | | | | |
| All containers needing preservation have been checked. | ☑Yes | ☐No | ☐N/A | 14. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☑Yes | ☐No | ☐N/A | |
| Exceptions: VOA, coliform, TOC, O&G | ☐Yes | ☐No | ☑N/A | Initial when completed LM / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 15. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blanks Present: | ☐Yes | ☐No | ☑N/A | 17. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Creation Date: | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** Karen Jang **Date:** 06/29/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

October 12, 2012

Ryan Tobias
Cascade Earth Sciences
3511 Pacific Blvd. SW
Albany, OR 97321

RE: Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

Dear Ryan Tobias:
Enclosed are the analytical results for sample(s) received by the laboratory on September 13, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen Jang

karen.jang@pacelabs.com
Project Manager

Enclosures

cc: Sara Rodriguez, Cascade Earth Sciences



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# CERTIFICATIONS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

**Washington Certification IDs**
940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Arizona Certification #: AZ0770
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C555



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE SUMMARY

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **2513553001** | **MCRA6-SW-SFRS-01** | Water | 09/10/12 13:40 | 09/13/12 14:00 |
| **2513553002** | **MCRA6-SW-SFSR-02** | Water | 09/10/12 13:00 | 09/13/12 14:00 |
| **2513553003** | **MCRA6-SW-SFSR-03** | Water | 09/10/12 11:45 | 09/13/12 14:00 |
| **2513553004** | **MCRA6-SW-SFSR-04** | Water | 09/10/12 11:05 | 09/13/12 14:00 |
| **2513553005** | **MCRA6-SW-SFSR-05** | Water | 09/10/12 10:25 | 09/13/12 14:00 |
| **2513553006** | **MCRA6-SW-SFSR-06** | Water | 09/10/12 12:10 | 09/13/12 14:00 |
| **2513553007** | **MCRA6-SW-SFSR-07** | Water | 09/10/12 11:40 | 09/13/12 14:00 |
| **2513553008** | **MCRA6-SW-SFSR-08** | Water | 09/10/12 11:20 | 09/13/12 14:00 |
| **2513553009** | **MCRA6-SW-SFSR-09** | Water | 09/10/12 10:30 | 09/13/12 14:00 |
| **2513553010** | **MCRA6-SS-SFSR-01** | Solid | 09/10/12 13:45 | 09/13/12 14:00 |
| **2513553011** | **MCRA6-SS-SFSR-02** | Solid | 09/10/12 13:05 | 09/13/12 14:00 |
| **2513553012** | **MCRA6-SS-SFSR-03** | Solid | 09/10/12 11:50 | 09/13/12 14:00 |
| **2513553013** | **MCRA6-SS-SFSR-04** | Solid | 09/10/12 11:10 | 09/13/12 14:00 |
| **2513553014** | **MCRA6-SS-SFSR-05** | Solid | 09/10/12 10:30 | 09/13/12 14:00 |
| **2513553015** | **MCRA6-SS-SFSR-06** | Solid | 09/10/12 12:15 | 09/13/12 14:00 |
| **2513553016** | **MCRA6-SS-SFSR-07** | Solid | 09/10/12 11:45 | 09/13/12 14:00 |
| **2513553017** | **MCRA6-SS-SFSR-08** | Solid | 09/10/12 11:25 | 09/13/12 14:00 |
| **2513553018** | **MCRA6-SS-SFSR-09** | Solid | 09/10/12 10:35 | 09/13/12 14:00 |
| **2513553019** | **MCRA6-MCL-SS-01** | Solid | 09/10/12 11:00 | 09/13/12 14:00 |
| **2513553020** | **MCRA6-SW-GC-01** | Water | 09/12/12 12:00 | 09/13/12 14:00 |
| **2513553021** | **MCRA6-SW-GC-02** | Water | 09/12/12 11:00 | 09/13/12 14:00 |
| **2513553022** | **MCRA6-SW-GC-02a** | Water | 09/12/12 10:35 | 09/13/12 14:00 |
| **2513553023** | **MCRA6-SW-GC-03** | Water | 09/12/12 10:05 | 09/13/12 14:00 |
| **2513553024** | **MCRA6-SW-GC-04** | Water | 09/12/12 09:40 | 09/13/12 14:00 |
| **2513553025** | **MCRA6-SW-GC-04a** | Water | 09/11/12 11:10 | 09/13/12 14:00 |
| **2513553026** | **MCRA6-SW-GC-05** | Water | 09/11/12 10:00 | 09/13/12 14:00 |
| **2513553027** | **MCRA6-SW-76G-01b** | Water | 09/11/12 12:10 | 09/13/12 14:00 |
| **2513553028** | **MCRA6-SW-76G-02** | Water | 09/11/12 10:15 | 09/13/12 14:00 |
| **2513553029** | **MCRA6-SS-GC-01** | Solid | 09/12/12 12:05 | 09/13/12 14:00 |
| **2513553030** | **MCRA6-SS-GC-02** | Solid | 09/12/12 11:05 | 09/13/12 14:00 |
| **2513553031** | **MCRA6-SS-GC-02a** | Solid | 09/12/12 10:40 | 09/13/12 14:00 |
| **2513553032** | **MCRA6-SS-GC-03** | Solid | 09/12/12 10:10 | 09/13/12 14:00 |
| **2513553033** | **MCRA6-SS-GC-04** | Solid | 09/12/12 09:45 | 09/13/12 14:00 |
| **2513553034** | **MCRA6-SS-GC-04a** | Solid | 09/11/12 11:15 | 09/13/12 14:00 |
| **2513553035** | **MCRA6-SS-GC-05** | Solid | 09/11/12 10:05 | 09/13/12 14:00 |
| **2513553036** | **MCRA6-SS-76G-01b** | Solid | 09/11/12 12:15 | 09/13/12 14:00 |
| **2513553037** | **MCRA6-SS-76G-02** | Solid | 09/11/12 10:30 | 09/13/12 14:00 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE SUMMARY

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **2513553038** | **MCRA6-DW-MY-01** | Water | 09/11/12 14:10 | 09/13/12 14:00 |
| **2513553039** | **MCRA6-DW-JU-01** | Water | 09/11/12 12:30 | 09/13/12 14:00 |
| **2513553040** | **MCRA6-DW-ND-01** | Water | 09/12/12 14:00 | 09/13/12 14:00 |
| **2513553041** | **MCRA6-DW-PM-01** | Water | 09/12/12 13:05 | 09/13/12 14:00 |
| **2513553042** | **MCRA6-DW-SY-01** | Water | 09/12/12 10:30 | 09/13/12 14:00 |
| **2513553043** | **MCRA6-DW-RY-01** | Water | 09/11/12 10:35 | 09/13/12 14:00 |
| **2513553044** | **MCRA6-SP-JU-01** | Water | 09/11/12 11:35 | 09/13/12 14:00 |
| **2513553045** | **MCRA6-SW-MCL-01** | Water | 09/10/12 10:55 | 09/13/12 14:00 |
| **2513553046** | **MCRA6-SW-DP-01** | Water | 09/11/12 14:20 | 09/13/12 14:00 |
| **2513553047** | **MCRA6-SW-DP-02** | Water | 09/12/12 13:10 | 09/13/12 14:00 |
| **2513553048** | **MCRA6-SW-DP-03** | Water | 09/10/12 10:40 | 09/13/12 14:00 |
| **2513553049** | **MCRA6-SW-EQ-01** | Water | 09/12/12 16:05 | 09/13/12 14:00 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **2513553001** | **MCRA6-SW-SFRS-01** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553002** | **MCRA6-SW-SFSR-02** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553003** | **MCRA6-SW-SFSR-03** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553004** | **MCRA6-SW-SFSR-04** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553005** | **MCRA6-SW-SFSR-05** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553006** | **MCRA6-SW-SFSR-06** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553007** | **MCRA6-SW-SFSR-07** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553008** | **MCRA6-SW-SFSR-08** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553009** | **MCRA6-SW-SFSR-09** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553010** | **MCRA6-SS-SFSR-01** | EPA 6010 | BGA | 7 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 6020 | RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553011** | **MCRA6-SS-SFSR-02** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553012** | **MCRA6-SS-SFSR-03** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553013** | **MCRA6-SS-SFSR-04** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553014** | **MCRA6-SS-SFSR-05** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553015** | **MCRA6-SS-SFSR-06** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553016** | **MCRA6-SS-SFSR-07** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553017** | **MCRA6-SS-SFSR-08** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553018** | **MCRA6-SS-SFSR-09** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553019** | **MCRA6-MCL-SS-01** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553020** | **MCRA6-SW-GC-01** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | CMS | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553021** | **MCRA6-SW-GC-02** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | CMS | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553022** | **MCRA6-SW-GC-02a** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | CMS | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553023** | **MCRA6-SW-GC-03** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | CMS | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553024** | **MCRA6-SW-GC-04** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | CMS | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553025** | **MCRA6-SW-GC-04a** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553026** | **MCRA6-SW-GC-05** | EPA 6020 | RJS | 11 | PASI-M |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553027** | **MCRA6-SW-76G-01b** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | CMS | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553028** | **MCRA6-SW-76G-02** | EPA 6020 | RJS | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553029** | **MCRA6-SS-GC-01** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553030** | **MCRA6-SS-GC-02** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | RJS, RR1 | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553031** | **MCRA6-SS-GC-02a** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | RJS | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553032** | **MCRA6-SS-GC-03** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | RJS | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553033** | **MCRA6-SS-GC-04** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | RJS | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553034** | **MCRA6-SS-GC-04a** | EPA 6010 | BGA | 7 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 6020 | RJS | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553035** | **MCRA6-SS-GC-05** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | RJS | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553036** | **MCRA6-SS-76G-01b** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | RJS | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553037** | **MCRA6-SS-76G-02** | EPA 6010 | BGA | 7 | PASI-S |
| | | EPA 6020 | RJS | 2 | PASI-M |
| | | EPA 7471 | BGA | 1 | PASI-S |
| | | ASTM D2974-87 | RAB | 1 | PASI-S |
| | | EPA 9045 | CMS | 1 | PASI-S |
| **2513553038** | **MCRA6-DW-MY-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | RJS | 10 | PASI-M |
| | | SM 2310B | KMT | 1 | PASI-S |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2513553039** | **MCRA6-DW-JU-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | RJS | 10 | PASI-M |
| | | SM 2310B | KMT | 1 | PASI-S |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **2513553040** | **MCRA6-DW-ND-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 10 | PASI-M |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | CMS | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2513553041** | **MCRA6-DW-PM-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 10 | PASI-M |
| | | SM 2310B | KMT | 1 | PASI-S |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | CMS | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2513553042** | **MCRA6-DW-SY-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 10 | PASI-M |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2513553043** | **MCRA6-DW-RY-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 10 | PASI-M |
| | | SM 2320B | KMT | 1 | PASI-S |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2513553044** | **MCRA6-SP-JU-01** | SM 2340B | BGA | 1 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | EPA 6020 | AS2, RR1 | 10 | PASI-M |
| | | SM 2320B | KMT | 1 | PASI-S |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE ANALYTE COUNT

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | CMS | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| | | EPA 300.0 | CMS | 2 | PASI-S |
| **2513553045** | **MCRA6-SW-MCL-01** | EPA 6020 | AS2, RR1 | 11 | PASI-M |
| | | SM 2540C | CMS | 1 | PASI-S |
| | | SM 2540D | KMT | 1 | PASI-S |
| | | SM 4500-H+B | CMS | 1 | PASI-S |
| **2513553046** | **MCRA6-SW-DP-01** | EPA 6020 | AS2, RJS, RR1 | 10 | PASI-M |
| **2513553047** | **MCRA6-SW-DP-02** | EPA 6020 | AS2, RR1 | 10 | PASI-M |
| **2513553048** | **MCRA6-SW-DP-03** | EPA 6020 | AS2, RR1 | 10 | PASI-M |
| **2513553049** | **MCRA6-SW-EQ-01** | EPA 6020 | AS2, RR1 | 10 | PASI-M |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-SFRS-01** **Lab ID: 2513553001** Collected: 09/10/12 13:40 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **8.9** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7429-90-5 | B |
| Antimony | **1.4** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7440-36-0 | |
| Arsenic | **9.0** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7440-38-2 | |
| Cadmium | **0.036J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7440-47-3 | |
| Copper | **0.38J** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7439-89-6 | |
| Lead | **0.073J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7439-92-1 | |
| Manganese | **0.76** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7439-96-5 | |
| Total Hardness by 2340B | **8270** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | | |
| Zinc | **4.8J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 22:41 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **12.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:26 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **2.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.4** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:20 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-SFSR-02** **Lab ID: 2513553002** Collected: 09/10/12 13:00 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **9.5** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7429-90-5 | B |
| Antimony | **1.8** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7440-36-0 | |
| Arsenic | **10.4** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7440-38-2 | |
| Cadmium | **0.039J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7440-47-3 | |
| Copper | **0.48J** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7439-89-6 | |
| Lead | **0.076J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7439-92-1 | |
| Manganese | **0.37J** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7439-96-5 | |
| Total Hardness by 2340B | **8320** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | | |
| Zinc | **4.2J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 22:26 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **5.0J** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:27 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.4** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:20 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-SFSR-03** **Lab ID: 2513553003** Collected: 09/10/12 11:45 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **5.0** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7429-90-5 | B |
| Antimony | **2.9** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7440-36-0 | |
| Arsenic | **10.3** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7440-38-2 | |
| Cadmium | **0.081** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7440-47-3 | |
| Copper | **0.50** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7439-89-6 | |
| Lead | **0.061J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7439-92-1 | |
| Manganese | **<0.25** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7439-96-5 | |
| Total Hardness by 2340B | **9780** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | | |
| Zinc | **6.2** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 22:30 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **9.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:28 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.4** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:20 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-SFSR-04** **Lab ID: 2513553004** Collected: 09/10/12 11:05 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **9.7** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7429-90-5 | B |
| Antimony | **2.4** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7440-36-0 | |
| Arsenic | **8.2** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7440-38-2 | |
| Cadmium | **0.051J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7440-43-9 | |
| Chromium | **0.11J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7440-47-3 | |
| Copper | **0.57** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7439-89-6 | |
| Lead | **0.063J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7439-92-1 | |
| Manganese | **0.52** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7439-96-5 | |
| Total Hardness by 2340B | **10600** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | | |
| Zinc | **4.6J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 22:34 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **9.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:29 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:20 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-SFSR-05** **Lab ID: 2513553005** Collected: 09/10/12 10:25 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **11.3** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7429-90-5 | B |
| Antimony | **3.1** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7440-36-0 | |
| Arsenic | **9.3** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7440-38-2 | |
| Cadmium | **0.038J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7440-43-9 | |
| Chromium | **0.099J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7440-47-3 | |
| Copper | **0.66** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7440-50-8 | |
| Iron | **14.7J** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7439-89-6 | |
| Lead | **0.089J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7439-92-1 | |
| Manganese | **1.4** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7439-96-5 | |
| Total Hardness by 2340B | **11800** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | | |
| Zinc | **5.1** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 22:37 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **19.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:29 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **2.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.5** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 13:55 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-SFSR-06** **Lab ID: 2513553006** Collected: 09/10/12 12:10 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **12.0** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7429-90-5 | B |
| Antimony | **3.5** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7440-36-0 | |
| Arsenic | **10.0** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7440-38-2 | |
| Cadmium | **0.049J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7440-43-9 | |
| Chromium | **0.10J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7440-47-3 | |
| Copper | **0.66** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7440-50-8 | |
| Iron | **16.6J** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7439-89-6 | |
| Lead | **0.10** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7439-92-1 | |
| Manganese | **1.4** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7439-96-5 | |
| Total Hardness by 2340B | **12200** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | | |
| Zinc | **4.1J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:07 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **17.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:30 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **2.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.5** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:20 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-SFSR-07** **Lab ID: 2513553007** Collected: 09/10/12 11:40 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **10.2** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7429-90-5 | B |
| Antimony | **3.3** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7440-36-0 | |
| Arsenic | **9.4** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7440-38-2 | |
| Cadmium | **0.045J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7440-43-9 | |
| Chromium | **0.11J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7440-47-3 | |
| Copper | **0.63** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7440-50-8 | |
| Iron | **15.7J** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7439-89-6 | |
| Lead | **0.090J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7439-92-1 | |
| Manganese | **1.3** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7439-96-5 | |
| Total Hardness by 2340B | **12600** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | | |
| Zinc | **2.9J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:11 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **18.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:31 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **2.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.5** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:20 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-SFSR-08** **Lab ID: 2513553008** Collected: 09/10/12 11:20 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **11.4** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7429-90-5 | B |
| Antimony | **3.5** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7440-36-0 | |
| Arsenic | **9.7** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7440-38-2 | |
| Cadmium | **0.040J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7440-43-9 | |
| Chromium | **0.11J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7440-47-3 | |
| Copper | **0.71** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7440-50-8 | |
| Iron | **17.4J** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7439-89-6 | |
| Lead | **0.087J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7439-92-1 | |
| Manganese | **1.9** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7439-96-5 | |
| Total Hardness by 2340B | **13500** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | | |
| Zinc | **3.2J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:15 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **19.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:31 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.5** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:20 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-SFSR-09** **Lab ID: 2513553009** Collected: 09/10/12 10:30 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **29.2** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7429-90-5 | |
| Antimony | **4.1** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7440-36-0 | |
| Arsenic | **26.3** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7440-38-2 | |
| Cadmium | **0.052J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7440-43-9 | |
| Chromium | **0.17J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7440-47-3 | |
| Copper | **1.3** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7440-50-8 | |
| Iron | **200** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7439-89-6 | |
| Lead | **0.67** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7439-92-1 | |
| Manganese | **18.6** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7439-96-5 | |
| Total Hardness by 2340B | **15000** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | | |
| Zinc | **5.2** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:19 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **26.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:32 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.6** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 13:55 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-SFSR-01** **Lab ID: 2513553010** Collected: 09/10/12 13:45 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **5.1J** | mg/kg | 15.8 | 0.92 | 5 | 09/22/12 11:09 | 09/26/12 10:50 | 7440-36-0 | |
| Arsenic | **141** | mg/kg | 10.6 | 1.6 | 5 | 09/22/12 11:09 | 09/26/12 10:50 | 7440-38-2 | |
| Cadmium | **3.5** | mg/kg | 2.1 | 0.058 | 5 | 09/22/12 11:09 | 09/26/12 10:50 | 7440-43-9 | |
| Chromium | **26.4** | mg/kg | 5.3 | 0.085 | 5 | 09/22/12 11:09 | 09/26/12 09:14 | 7440-47-3 | B |
| Copper | **62.9** | mg/kg | 13.2 | 1.7 | 5 | 09/22/12 11:09 | 09/26/12 09:14 | 7440-50-8 | D3 |
| Iron | **32500** | mg/kg | 106 | 2.2 | 5 | 09/22/12 11:09 | 09/26/12 09:14 | 7439-89-6 | B,D4 |
| Manganese | **452** | mg/kg | 7.9 | 0.25 | 5 | 09/22/12 11:09 | 09/26/12 10:50 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **41.1** | mg/kg | 0.20 | 0.060 | 50 | 09/22/12 09:28 | 10/02/12 15:58 | 7439-92-1 | L2,M6 |
| Zinc | **154** | mg/kg | 10 | 2.3 | 50 | 09/22/12 09:28 | 10/02/12 15:58 | 7440-66-6 | M6 |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.017J** | mg/kg | 0.10 | 0.0022 | 1 | 09/21/12 18:50 | 09/24/12 12:24 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **14.0** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | | | 1 | | 09/14/12 16:20 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-SFSR-02** **Lab ID: 2513553011** Collected: 09/10/12 13:05 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **31.0** | mg/kg | 18.2 | 1.1 | 5 | 09/22/12 11:09 | 09/26/12 11:01 | 7440-36-0 | |
| Arsenic | **332** | mg/kg | 12.1 | 1.8 | 5 | 09/22/12 11:09 | 09/26/12 11:01 | 7440-38-2 | |
| Cadmium | **8.5** | mg/kg | 2.4 | 0.067 | 5 | 09/22/12 11:09 | 09/26/12 11:01 | 7440-43-9 | |
| Chromium | **24.8** | mg/kg | 6.1 | 0.097 | 5 | 09/22/12 11:09 | 09/26/12 09:25 | 7440-47-3 | B |
| Copper | **93.7** | mg/kg | 15.2 | 2.0 | 5 | 09/22/12 11:09 | 09/26/12 09:25 | 7440-50-8 | D3 |
| Iron | **30100** | mg/kg | 121 | 2.6 | 5 | 09/22/12 11:09 | 09/26/12 09:25 | 7439-89-6 | B,D4 |
| Manganese | **533** | mg/kg | 9.1 | 0.29 | 5 | 09/22/12 11:09 | 09/26/12 11:01 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **99.9** | mg/kg | 0.63 | 0.19 | 100 | 09/22/12 09:28 | 10/05/12 14:45 | 7439-92-1 | L2 |
| Zinc | **240** | mg/kg | 15.7 | 3.6 | 50 | 09/22/12 09:28 | 10/02/12 17:10 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.047J** | mg/kg | 0.13 | 0.0029 | 1 | 09/21/12 18:50 | 09/24/12 12:31 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **27.1** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.7** | Std. Units | | | 1 | | 09/14/12 16:20 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-SFSR-03** **Lab ID: 2513553012** Collected: 09/10/12 11:50 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **19.5** | mg/kg | 17.3 | 1.0 | 5 | 09/22/12 11:09 | 09/26/12 11:05 | 7440-36-0 | |
| Arsenic | **286** | mg/kg | 11.6 | 1.7 | 5 | 09/22/12 11:09 | 09/26/12 11:05 | 7440-38-2 | |
| Cadmium | **7.3** | mg/kg | 2.3 | 0.064 | 5 | 09/22/12 11:09 | 09/26/12 11:05 | 7440-43-9 | |
| Chromium | **29.1** | mg/kg | 5.8 | 0.092 | 5 | 09/22/12 11:09 | 09/26/12 09:28 | 7440-47-3 | B |
| Copper | **257** | mg/kg | 14.4 | 1.9 | 5 | 09/22/12 11:09 | 09/26/12 09:28 | 7440-50-8 | D3 |
| Iron | **32400** | mg/kg | 116 | 2.4 | 5 | 09/22/12 11:09 | 09/26/12 09:28 | 7439-89-6 | B,D4 |
| Manganese | **659** | mg/kg | 8.7 | 0.27 | 5 | 09/22/12 11:09 | 09/26/12 11:05 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **112** | mg/kg | 0.61 | 0.18 | 100 | 09/22/12 09:28 | 10/05/12 14:51 | 7439-92-1 | L2 |
| Zinc | **205** | mg/kg | 15.3 | 3.5 | 50 | 09/22/12 09:28 | 10/02/12 17:16 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.090J** | mg/kg | 0.12 | 0.0025 | 1 | 09/21/12 18:50 | 09/24/12 12:33 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **22.1** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | | | 1 | | 09/14/12 16:20 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-SFSR-04** **Lab ID: 2513553013** Collected: 09/10/12 11:10 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **14.7J** | mg/kg | 16.2 | 0.94 | 5 | 09/22/12 11:09 | 09/26/12 11:19 | 7440-36-0 | |
| Arsenic | **158** | mg/kg | 10.8 | 1.6 | 5 | 09/22/12 11:09 | 09/26/12 11:19 | 7440-38-2 | |
| Cadmium | **3.8** | mg/kg | 2.2 | 0.059 | 5 | 09/22/12 11:09 | 09/26/12 11:19 | 7440-43-9 | |
| Chromium | **39.8** | mg/kg | 5.4 | 0.086 | 5 | 09/22/12 11:09 | 09/26/12 09:32 | 7440-47-3 | B |
| Copper | **73.6** | mg/kg | 13.5 | 1.8 | 5 | 09/22/12 11:09 | 09/26/12 09:32 | 7440-50-8 | D3 |
| Iron | **35600** | mg/kg | 108 | 2.3 | 5 | 09/22/12 11:09 | 09/26/12 09:32 | 7439-89-6 | B,D4 |
| Manganese | **490** | mg/kg | 8.1 | 0.25 | 5 | 09/22/12 11:09 | 09/26/12 11:19 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **55.0** | mg/kg | 0.61 | 0.18 | 100 | 09/22/12 09:28 | 10/05/12 14:57 | 7439-92-1 | L2 |
| Zinc | **155** | mg/kg | 15.4 | 3.5 | 50 | 09/22/12 09:28 | 10/02/12 18:10 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.028J** | mg/kg | 0.10 | 0.0022 | 1 | 09/21/12 18:50 | 09/24/12 12:35 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **25.3** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | | | 1 | | 09/14/12 16:20 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-SFSR-05** **Lab ID: 2513553014** Collected: 09/10/12 10:30 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **15.8** | mg/kg | 15.6 | 0.90 | 5 | 09/22/12 11:09 | 09/26/12 11:23 | 7440-36-0 | |
| Arsenic | **316** | mg/kg | 10.4 | 1.5 | 5 | 09/22/12 11:09 | 09/26/12 11:23 | 7440-38-2 | |
| Cadmium | **7.9** | mg/kg | 2.1 | 0.057 | 5 | 09/22/12 11:09 | 09/26/12 11:23 | 7440-43-9 | |
| Chromium | **39.5** | mg/kg | 5.2 | 0.083 | 5 | 09/22/12 11:09 | 09/26/12 09:35 | 7440-47-3 | B |
| Copper | **81.1** | mg/kg | 13.0 | 1.7 | 5 | 09/22/12 11:09 | 09/26/12 09:35 | 7440-50-8 | D3 |
| Iron | **31000** | mg/kg | 104 | 2.2 | 5 | 09/22/12 11:09 | 09/26/12 09:35 | 7439-89-6 | B,D4 |
| Manganese | **640** | mg/kg | 7.8 | 0.24 | 5 | 09/22/12 11:09 | 09/26/12 11:23 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **81.7** | mg/kg | 0.48 | 0.14 | 100 | 09/22/12 09:28 | 10/05/12 15:03 | 7439-92-1 | L2 |
| Zinc | **145** | mg/kg | 11.9 | 2.7 | 50 | 09/22/12 09:28 | 10/02/12 18:15 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.028J** | mg/kg | 0.094 | 0.0020 | 1 | 09/21/12 18:50 | 09/24/12 12:37 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **9.3** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.7** | Std. Units | | | 1 | | 09/14/12 16:20 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-SFSR-06** **Lab ID: 2513553015** Collected: 09/10/12 12:15 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **11.6J** | mg/kg | 23.3 | 1.3 | 5 | 09/22/12 11:09 | 09/26/12 11:26 | 7440-36-0 | |
| Arsenic | **377** | mg/kg | 15.5 | 2.3 | 5 | 09/22/12 11:09 | 09/26/12 11:26 | 7440-38-2 | |
| Cadmium | **9.6** | mg/kg | 3.1 | 0.085 | 5 | 09/22/12 11:09 | 09/26/12 11:26 | 7440-43-9 | |
| Chromium | **66.4** | mg/kg | 7.8 | 0.12 | 5 | 09/22/12 11:09 | 09/26/12 09:39 | 7440-47-3 | B |
| Copper | **124** | mg/kg | 19.4 | 2.6 | 5 | 09/22/12 11:09 | 09/26/12 09:39 | 7440-50-8 | D3 |
| Iron | **34200** | mg/kg | 155 | 3.3 | 5 | 09/22/12 11:09 | 09/26/12 09:39 | 7439-89-6 | B,D4 |
| Manganese | **743** | mg/kg | 11.6 | 0.36 | 5 | 09/22/12 11:09 | 09/26/12 11:26 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **144** | mg/kg | 0.70 | 0.21 | 100 | 09/22/12 09:28 | 10/05/12 15:08 | 7439-92-1 | L2 |
| Zinc | **207** | mg/kg | 17.5 | 4.0 | 50 | 09/22/12 09:28 | 10/02/12 19:15 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.12J** | mg/kg | 0.13 | 0.0028 | 1 | 09/21/12 18:50 | 09/24/12 12:44 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **44.9** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.6** | Std. Units | | | 1 | | 09/14/12 16:20 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-SFSR-07** **Lab ID: 2513553016** Collected: 09/10/12 11:45 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **30.1** | mg/kg | 17.7 | 1.0 | 5 | 09/22/12 11:09 | 09/26/12 11:30 | 7440-36-0 | |
| Arsenic | **170** | mg/kg | 11.8 | 1.8 | 5 | 09/22/12 11:09 | 09/26/12 11:30 | 7440-38-2 | |
| Cadmium | **4.5** | mg/kg | 2.4 | 0.065 | 5 | 09/22/12 11:09 | 09/26/12 11:30 | 7440-43-9 | |
| Chromium | **37.4** | mg/kg | 5.9 | 0.094 | 5 | 09/22/12 11:09 | 09/26/12 11:30 | 7440-47-3 | B |
| Copper | **67.6** | mg/kg | 14.8 | 1.9 | 5 | 09/22/12 11:09 | 09/26/12 11:30 | 7440-50-8 | D3 |
| Iron | **28200** | mg/kg | 118 | 2.5 | 5 | 09/22/12 11:09 | 09/26/12 11:30 | 7439-89-6 | B,D4 |
| Manganese | **958** | mg/kg | 8.9 | 0.28 | 5 | 09/22/12 11:09 | 09/26/12 11:30 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **65.9** | mg/kg | 0.55 | 0.17 | 100 | 09/22/12 09:28 | 10/05/12 15:15 | 7439-92-1 | L2 |
| Zinc | **161** | mg/kg | 13.8 | 3.2 | 50 | 09/22/12 09:28 | 10/02/12 19:21 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.044J** | mg/kg | 0.11 | 0.0024 | 1 | 09/21/12 18:50 | 09/24/12 12:46 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **24.4** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | | | 1 | | 09/14/12 16:20 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-SFSR-08** **Lab ID: 2513553017** Collected: 09/10/12 11:25 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **14.0J** | mg/kg | 21.2 | 1.2 | 5 | 09/22/12 11:09 | 09/26/12 11:33 | 7440-36-0 | |
| Arsenic | **189** | mg/kg | 14.1 | 2.1 | 5 | 09/22/12 11:09 | 09/26/12 11:33 | 7440-38-2 | |
| Cadmium | **4.8** | mg/kg | 2.8 | 0.078 | 5 | 09/22/12 11:09 | 09/26/12 11:33 | 7440-43-9 | |
| Chromium | **46.6** | mg/kg | 7.1 | 0.11 | 5 | 09/22/12 11:09 | 09/26/12 11:33 | 7440-47-3 | B |
| Copper | **98.7** | mg/kg | 17.7 | 2.3 | 5 | 09/22/12 11:09 | 09/26/12 11:33 | 7440-50-8 | D3 |
| Iron | **25500** | mg/kg | 141 | 3.0 | 5 | 09/22/12 11:09 | 09/26/12 11:33 | 7439-89-6 | B,D4 |
| Manganese | **464** | mg/kg | 10.6 | 0.33 | 5 | 09/22/12 11:09 | 09/26/12 11:33 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **78.2** | mg/kg | 0.65 | 0.19 | 100 | 09/22/12 09:28 | 10/05/12 15:20 | 7439-92-1 | L2 |
| Zinc | **154** | mg/kg | 16.1 | 3.7 | 50 | 09/22/12 09:28 | 10/02/12 20:09 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.028J** | mg/kg | 0.13 | 0.0028 | 1 | 09/21/12 18:50 | 09/24/12 12:48 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **32.0** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.0** | Std. Units | | | 1 | | 09/14/12 16:20 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-SFSR-09** **Lab ID: 2513553018** Collected: 09/10/12 10:35 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **7.4J** | mg/kg | 16.8 | 0.97 | 5 | 09/22/12 11:09 | 09/26/12 11:37 | 7440-36-0 | |
| Arsenic | **416** | mg/kg | 11.2 | 1.7 | 5 | 09/22/12 11:09 | 09/26/12 11:37 | 7440-38-2 | |
| Cadmium | **10.8** | mg/kg | 2.2 | 0.061 | 5 | 09/22/12 11:09 | 09/26/12 11:37 | 7440-43-9 | |
| Chromium | **39.5** | mg/kg | 5.6 | 0.089 | 5 | 09/22/12 11:09 | 09/26/12 11:37 | 7440-47-3 | B |
| Copper | **78.0** | mg/kg | 14.0 | 1.8 | 5 | 09/22/12 11:09 | 09/26/12 11:37 | 7440-50-8 | D3 |
| Iron | **26700** | mg/kg | 112 | 2.4 | 5 | 09/22/12 11:09 | 09/26/12 11:37 | 7439-89-6 | B,D4 |
| Manganese | **584** | mg/kg | 8.4 | 0.26 | 5 | 09/22/12 11:09 | 09/26/12 11:37 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **159** | mg/kg | 0.55 | 0.17 | 100 | 09/22/12 09:28 | 10/05/12 15:26 | 7439-92-1 | L2 |
| Zinc | **272** | mg/kg | 13.9 | 3.2 | 50 | 09/22/12 09:28 | 10/02/12 20:15 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.076J** | mg/kg | 0.12 | 0.0025 | 1 | 09/21/12 18:50 | 09/24/12 12:50 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **30.7** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.6** | Std. Units | | | 1 | | 09/14/12 16:20 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-MCL-SS-01** **Lab ID: 2513553019** Collected: 09/10/12 11:00 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **5.2J** | mg/kg | 21.8 | 1.3 | 5 | 09/22/12 11:09 | 09/26/12 11:41 | 7440-36-0 | |
| Arsenic | **626** | mg/kg | 14.6 | 2.2 | 5 | 09/22/12 11:09 | 09/26/12 11:41 | 7440-38-2 | |
| Cadmium | **15.5** | mg/kg | 2.9 | 0.080 | 5 | 09/22/12 11:09 | 09/26/12 11:41 | 7440-43-9 | |
| Chromium | **68.0** | mg/kg | 7.3 | 0.12 | 5 | 09/22/12 11:09 | 09/26/12 11:41 | 7440-47-3 | B |
| Copper | **101** | mg/kg | 18.2 | 2.4 | 5 | 09/22/12 11:09 | 09/26/12 11:41 | 7440-50-8 | D3 |
| Iron | **35500** | mg/kg | 146 | 3.1 | 5 | 09/22/12 11:09 | 09/26/12 11:41 | 7439-89-6 | B,D4 |
| Manganese | **557** | mg/kg | 10.9 | 0.34 | 5 | 09/22/12 11:09 | 09/26/12 11:41 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **80.7** | mg/kg | 0.79 | 0.24 | 100 | 09/22/12 09:28 | 10/05/12 15:32 | 7439-92-1 | L2 |
| Zinc | **150** | mg/kg | 19.7 | 4.5 | 50 | 09/22/12 09:28 | 10/02/12 21:15 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.13J** | mg/kg | 0.15 | 0.0033 | 1 | 09/21/12 18:50 | 09/24/12 12:53 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **51.6** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.3** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-GC-01** **Lab ID: 2513553020** Collected: 09/12/12 12:00 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **7.9** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7429-90-5 | B |
| Antimony | **1.3** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7440-36-0 | |
| Arsenic | **0.96** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7440-47-3 | |
| Copper | **<0.18** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7439-89-6 | |
| Lead | **0.019J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7439-92-1 | |
| Manganese | **0.51** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7439-96-5 | |
| Total Hardness by 2340B | **11400** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | | |
| Zinc | **<1.0** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:22 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **7.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:37 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 09/17/12 18:20 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.6** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 13:40 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-GC-02** **Lab ID: 2513553021** Collected: 09/12/12 11:00 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **8.5** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7429-90-5 | B |
| Antimony | **1.3** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7440-36-0 | |
| Arsenic | **7.4** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7440-47-3 | |
| Copper | **<0.18** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7439-89-6 | |
| Lead | **0.039J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7439-92-1 | |
| Manganese | **0.70** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7439-96-5 | |
| Total Hardness by 2340B | **9820** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | | |
| Zinc | **<1.0** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:34 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **10** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:37 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 09/17/12 18:20 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.4** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 13:40 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-GC-02a** **Lab ID: 2513553022** Collected: 09/12/12 10:35 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **4.8** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7429-90-5 | B |
| Antimony | **1.4** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7440-36-0 | |
| Arsenic | **4.0** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7440-47-3 | |
| Copper | **<0.18** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7439-89-6 | |
| Lead | **0.032J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7439-92-1 | |
| Manganese | **0.65** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7439-96-5 | |
| Total Hardness by 2340B | **9470** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | | |
| Zinc | **1.2J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:26 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **9.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:38 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 09/17/12 18:20 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.4** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 13:40 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-GC-03** **Lab ID: 2513553023** Collected: 09/12/12 10:05 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **8.3** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7429-90-5 | B |
| Antimony | **1.4** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7440-36-0 | |
| Arsenic | **3.8** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7440-47-3 | |
| Copper | **<0.18** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7439-89-6 | |
| Lead | **0.066J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7439-92-1 | |
| Manganese | **1.8** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7439-96-5 | |
| Total Hardness by 2340B | **9420** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | | |
| Zinc | **<1.0** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:30 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **4.0J** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:38 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **2.0J** | mg/L | 2.0 | 1.0 | 1 | | 09/18/12 18:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:35 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-GC-04** **Lab ID: 2513553024** Collected: 09/12/12 09:40 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **10.1** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7429-90-5 | B |
| Antimony | **1.4** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7440-36-0 | |
| Arsenic | **4.0** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7440-47-3 | |
| Copper | **0.24J** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7440-50-8 | |
| Iron | **11.5J** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7439-89-6 | |
| Lead | **0.14** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7439-92-1 | |
| Manganese | **3.0** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7439-96-5 | |
| Total Hardness by 2340B | **9400** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | | |
| Zinc | **1.7J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:55 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **13.0** | mg/L | 5.0 | 1.0 | 1 | | 09/19/12 16:10 | | B |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 09/18/12 18:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.0** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:35 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-GC-04a** **Lab ID: 2513553025** Collected: 09/11/12 11:10 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **6.8** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7429-90-5 | B |
| Antimony | **1.4** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7440-36-0 | |
| Arsenic | **7.5** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7440-38-2 | |
| Cadmium | **0.056J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7440-47-3 | |
| Copper | **0.35J** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7439-89-6 | |
| Lead | **0.049J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7439-92-1 | |
| Manganese | **0.55** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7439-96-5 | |
| Total Hardness by 2340B | **9980** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | | |
| Zinc | **6.8** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/02/12 23:59 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **11.0** | mg/L | 5.0 | 1.0 | 1 | | 09/18/12 17:09 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.5** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:35 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-GC-05** **Lab ID: 2513553026** Collected: 09/11/12 10:00 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **5.3** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7429-90-5 | B |
| Antimony | **1.2** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7440-36-0 | |
| Arsenic | **5.9** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7440-38-2 | |
| Cadmium | **0.032J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7440-47-3 | |
| Copper | **0.26J** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7439-89-6 | |
| Lead | **0.034J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7439-92-1 | |
| Manganese | **0.46J** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7439-96-5 | |
| Total Hardness by 2340B | **8640** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | | |
| Zinc | **5.2** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/03/12 00:03 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **13.0** | mg/L | 5.0 | 1.0 | 1 | | 09/18/12 17:10 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.4** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:20 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-76G-01b** **Lab ID: 2513553027** Collected: 09/11/12 12:10 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **24.1** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7429-90-5 | |
| Antimony | **1.6** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7440-36-0 | |
| Arsenic | **8.6** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7440-47-3 | |
| Copper | **0.18J** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7440-50-8 | |
| Iron | **22.4J** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7439-89-6 | |
| Lead | **0.23** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7439-92-1 | |
| Manganese | **1.7** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7439-96-5 | |
| Total Hardness by 2340B | **10100** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | | |
| Zinc | **2.0J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/03/12 00:07 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **19.0** | mg/L | 5.0 | 1.0 | 1 | | 09/18/12 17:11 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **3.0** | mg/L | 2.0 | 1.0 | 1 | | 09/17/12 18:20 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.5** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:35 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-76G-02** **Lab ID: 2513553028** Collected: 09/11/12 10:15 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **8.3** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7429-90-5 | B |
| Antimony | **1.7** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7440-36-0 | |
| Arsenic | **9.8** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7440-47-3 | |
| Copper | **<0.18** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7439-89-6 | |
| Lead | **0.061J** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7439-92-1 | |
| Manganese | **0.47J** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7439-96-5 | |
| Total Hardness by 2340B | **9880** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | | |
| Zinc | **2.0J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/03/12 00:11 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **8.0** | mg/L | 5.0 | 1.0 | 1 | | 09/18/12 17:11 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.5** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:20 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-GC-01** **Lab ID: 2513553029** Collected: 09/12/12 12:05 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **4.3J** | mg/kg | 15.1 | 0.87 | 5 | 09/22/12 11:09 | 09/26/12 11:44 | 7440-36-0 | |
| Arsenic | **42.1** | mg/kg | 10.0 | 1.5 | 5 | 09/22/12 11:09 | 09/26/12 11:44 | 7440-38-2 | |
| Cadmium | **0.73J** | mg/kg | 2.0 | 0.055 | 5 | 09/22/12 11:09 | 09/26/12 11:44 | 7440-43-9 | |
| Chromium | **18.3** | mg/kg | 5.0 | 0.080 | 5 | 09/22/12 11:09 | 09/26/12 11:44 | 7440-47-3 | B |
| Copper | **17.5** | mg/kg | 12.6 | 1.7 | 5 | 09/22/12 11:09 | 09/26/12 11:44 | 7440-50-8 | D3 |
| Iron | **24000** | mg/kg | 100 | 2.1 | 5 | 09/22/12 11:09 | 09/26/12 11:44 | 7439-89-6 | B,D4 |
| Manganese | **956** | mg/kg | 7.5 | 0.24 | 5 | 09/22/12 11:09 | 09/26/12 11:44 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **7.1** | mg/kg | 0.44 | 0.13 | 100 | 09/22/12 09:28 | 10/05/12 15:52 | 7439-92-1 | L2 |
| Zinc | **67.4** | mg/kg | 10.9 | 2.5 | 50 | 09/22/12 09:28 | 10/02/12 21:21 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.28** | mg/kg | 0.078 | 0.0017 | 1 | 09/21/12 18:50 | 09/24/12 12:55 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **18.4** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-GC-02** **Lab ID: 2513553030** Collected: 09/12/12 11:05 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **7.7J** | mg/kg | 17.1 | 0.99 | 5 | 09/22/12 11:09 | 09/26/12 11:48 | 7440-36-0 | |
| Arsenic | **223** | mg/kg | 11.4 | 1.7 | 5 | 09/22/12 11:09 | 09/26/12 11:48 | 7440-38-2 | |
| Cadmium | **5.7** | mg/kg | 2.3 | 0.063 | 5 | 09/22/12 11:09 | 09/26/12 11:48 | 7440-43-9 | |
| Chromium | **14.7** | mg/kg | 5.7 | 0.091 | 5 | 09/22/12 11:09 | 09/26/12 11:48 | 7440-47-3 | B |
| Copper | **34.2** | mg/kg | 14.3 | 1.9 | 5 | 09/22/12 11:09 | 09/26/12 11:48 | 7440-50-8 | D3 |
| Iron | **24900** | mg/kg | 114 | 2.4 | 5 | 09/22/12 11:09 | 09/26/12 11:48 | 7439-89-6 | B,D4 |
| Manganese | **1440** | mg/kg | 8.6 | 0.27 | 5 | 09/22/12 11:09 | 09/26/12 11:48 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **43.7** | mg/kg | 0.51 | 0.15 | 100 | 09/22/12 09:28 | 10/05/12 14:30 | 7439-92-1 | L2 |
| Zinc | **126** | mg/kg | 12.7 | 2.9 | 50 | 09/22/12 09:28 | 10/02/12 22:09 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.16** | mg/kg | 0.099 | 0.0021 | 1 | 09/21/12 18:50 | 09/24/12 12:57 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **18.0** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **7.0** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-GC-02a** **Lab ID: 2513553031** Collected: 09/12/12 10:40 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **9.8J** | mg/kg | 17.5 | 1.0 | 5 | 09/22/12 11:09 | 09/26/12 12:12 | 7440-36-0 | |
| Arsenic | **176** | mg/kg | 11.7 | 1.7 | 5 | 09/22/12 11:09 | 09/26/12 12:12 | 7440-38-2 | |
| Cadmium | **4.5** | mg/kg | 2.3 | 0.064 | 5 | 09/22/12 11:09 | 09/26/12 12:12 | 7440-43-9 | |
| Chromium | **14.8** | mg/kg | 5.8 | 0.093 | 5 | 09/22/12 11:09 | 09/26/12 12:12 | 7440-47-3 | B |
| Copper | **38.5** | mg/kg | 14.6 | 1.9 | 5 | 09/22/12 11:09 | 09/26/12 12:12 | 7440-50-8 | D3 |
| Iron | **26000** | mg/kg | 117 | 2.5 | 5 | 09/22/12 11:09 | 09/26/12 12:12 | 7439-89-6 | B,D4 |
| Manganese | **1130** | mg/kg | 8.7 | 0.27 | 5 | 09/22/12 11:09 | 09/26/12 12:12 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **71.2** | mg/kg | 0.45 | 0.14 | 100 | 09/22/12 09:28 | 10/05/12 14:34 | 7439-92-1 | L2 |
| Zinc | **559** | mg/kg | 22.6 | 5.2 | 100 | 09/22/12 09:28 | 10/05/12 14:34 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.22** | mg/kg | 0.098 | 0.0021 | 1 | 09/21/12 18:50 | 09/24/12 12:59 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **19.1** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.8** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-GC-03** **Lab ID: 2513553032** Collected: 09/12/12 10:10 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **19.8** | mg/kg | 19.5 | 1.1 | 5 | 09/22/12 11:09 | 09/26/12 12:16 | 7440-36-0 | |
| Arsenic | **334** | mg/kg | 13.0 | 1.9 | 5 | 09/22/12 11:09 | 09/26/12 12:16 | 7440-38-2 | |
| Cadmium | **9.2** | mg/kg | 2.6 | 0.071 | 5 | 09/22/12 11:09 | 09/26/12 12:16 | 7440-43-9 | |
| Chromium | **16.1** | mg/kg | 6.5 | 0.10 | 5 | 09/22/12 11:09 | 09/26/12 12:16 | 7440-47-3 | B |
| Copper | **67.6** | mg/kg | 16.2 | 2.1 | 5 | 09/22/12 11:09 | 09/26/12 12:16 | 7440-50-8 | D3 |
| Iron | **29400** | mg/kg | 130 | 2.7 | 5 | 09/22/12 11:09 | 09/26/12 12:16 | 7439-89-6 | B,D4 |
| Manganese | **1600** | mg/kg | 9.7 | 0.30 | 5 | 09/22/12 11:09 | 09/26/12 12:16 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **123** | mg/kg | 0.53 | 0.16 | 100 | 09/22/12 09:28 | 10/05/12 14:39 | 7439-92-1 | L2 |
| Zinc | **778** | mg/kg | 26.5 | 6.1 | 100 | 09/22/12 09:28 | 10/05/12 14:39 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.37** | mg/kg | 0.097 | 0.0021 | 1 | 09/21/12 18:50 | 09/24/12 13:01 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **31.2** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-GC-04** **Lab ID: 2513553033** Collected: 09/12/12 09:45 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **1.1J** | mg/kg | 18.4 | 1.1 | 5 | 09/22/12 11:09 | 09/26/12 12:19 | 7440-36-0 | |
| Arsenic | **92.6** | mg/kg | 12.3 | 1.8 | 5 | 09/22/12 11:09 | 09/26/12 12:19 | 7440-38-2 | |
| Cadmium | **2.6** | mg/kg | 2.5 | 0.068 | 5 | 09/22/12 11:09 | 09/26/12 12:19 | 7440-43-9 | |
| Chromium | **12.3** | mg/kg | 6.1 | 0.098 | 5 | 09/22/12 11:09 | 09/26/12 12:19 | 7440-47-3 | B |
| Copper | **34.3** | mg/kg | 15.3 | 2.0 | 5 | 09/22/12 11:09 | 09/26/12 12:19 | 7440-50-8 | D3 |
| Iron | **21100** | mg/kg | 123 | 2.6 | 5 | 09/22/12 11:09 | 09/26/12 12:19 | 7439-89-6 | B,D4 |
| Manganese | **637** | mg/kg | 9.2 | 0.29 | 5 | 09/22/12 11:09 | 09/26/12 12:19 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **29.9** | mg/kg | 0.51 | 0.15 | 100 | 09/22/12 09:28 | 10/05/12 14:43 | 7439-92-1 | L2 |
| Zinc | **498** | mg/kg | 25.7 | 5.9 | 100 | 09/22/12 09:28 | 10/05/12 14:43 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.062J** | mg/kg | 0.084 | 0.0018 | 1 | 09/21/12 18:50 | 09/24/12 13:08 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **20.9** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **7.0** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-GC-04a** **Lab ID: 2513553034** Collected: 09/11/12 11:15 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **9.5J** | mg/kg | 22.1 | 1.3 | 5 | 09/22/12 11:09 | 09/26/12 12:23 | 7440-36-0 | |
| Arsenic | **1150** | mg/kg | 14.7 | 2.2 | 5 | 09/22/12 11:09 | 09/26/12 12:23 | 7440-38-2 | |
| Cadmium | **33.3** | mg/kg | 2.9 | 0.081 | 5 | 09/22/12 11:09 | 09/26/12 12:23 | 7440-43-9 | |
| Chromium | **19.2** | mg/kg | 7.4 | 0.12 | 5 | 09/22/12 11:09 | 09/26/12 12:23 | 7440-47-3 | B |
| Copper | **310** | mg/kg | 18.4 | 2.4 | 5 | 09/22/12 11:09 | 09/26/12 12:23 | 7440-50-8 | D3 |
| Iron | **27700** | mg/kg | 147 | 3.1 | 5 | 09/22/12 11:09 | 09/26/12 12:23 | 7439-89-6 | B,D4 |
| Manganese | **1380** | mg/kg | 11.0 | 0.35 | 5 | 09/22/12 11:09 | 09/26/12 12:23 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **82.9** | mg/kg | 0.76 | 0.23 | 100 | 09/22/12 09:28 | 10/05/12 14:48 | 7439-92-1 | L2 |
| Zinc | **1040** | mg/kg | 38.0 | 8.7 | 100 | 09/22/12 09:28 | 10/05/12 14:48 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.26** | mg/kg | 0.14 | 0.0031 | 1 | 09/21/12 18:50 | 09/24/12 13:10 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **43.3** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.6** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-GC-05** **Lab ID: 2513553035** Collected: 09/11/12 10:05 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **11.8J** | mg/kg | 14.2 | 0.82 | 5 | 09/22/12 11:09 | 09/26/12 12:27 | 7440-36-0 | |
| Arsenic | **241** | mg/kg | 9.5 | 1.4 | 5 | 09/22/12 11:09 | 09/26/12 12:27 | 7440-38-2 | |
| Cadmium | **6.4** | mg/kg | 1.9 | 0.052 | 5 | 09/22/12 11:09 | 09/26/12 12:27 | 7440-43-9 | |
| Chromium | **19.7** | mg/kg | 4.7 | 0.076 | 5 | 09/22/12 11:09 | 09/26/12 12:27 | 7440-47-3 | B |
| Copper | **125** | mg/kg | 11.8 | 1.6 | 5 | 09/22/12 11:09 | 09/26/12 12:27 | 7440-50-8 | D3 |
| Iron | **30500** | mg/kg | 94.7 | 2.0 | 5 | 09/22/12 11:09 | 09/26/12 12:27 | 7439-89-6 | B,D4 |
| Manganese | **1180** | mg/kg | 7.1 | 0.22 | 5 | 09/22/12 11:09 | 09/26/12 12:27 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **21.3** | mg/kg | 0.53 | 0.16 | 100 | 09/22/12 09:28 | 10/05/12 14:53 | 7439-92-1 | L2 |
| Zinc | **510** | mg/kg | 26.6 | 6.1 | 100 | 09/22/12 09:28 | 10/05/12 14:53 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.099** | mg/kg | 0.085 | 0.0018 | 1 | 09/21/12 18:50 | 09/24/12 13:12 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **11.3** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.7** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-76G-01b** **Lab ID: 2513553036** Collected: 09/11/12 12:15 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **37.9** | mg/kg | 17.2 | 1.0 | 5 | 09/22/12 11:09 | 09/26/12 12:30 | 7440-36-0 | |
| Arsenic | **268** | mg/kg | 11.5 | 1.7 | 5 | 09/22/12 11:09 | 09/26/12 12:30 | 7440-38-2 | |
| Cadmium | **7.4** | mg/kg | 2.3 | 0.063 | 5 | 09/22/12 11:09 | 09/26/12 12:30 | 7440-43-9 | |
| Chromium | **18.4** | mg/kg | 5.7 | 0.092 | 5 | 09/22/12 11:09 | 09/26/12 12:30 | 7440-47-3 | B |
| Copper | **31.5** | mg/kg | 14.3 | 1.9 | 5 | 09/22/12 11:09 | 09/26/12 12:30 | 7440-50-8 | D3 |
| Iron | **29300** | mg/kg | 115 | 2.4 | 5 | 09/22/12 11:09 | 09/26/12 12:30 | 7439-89-6 | B,D4 |
| Manganese | **950** | mg/kg | 8.6 | 0.27 | 5 | 09/22/12 11:09 | 09/26/12 12:30 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **184** | mg/kg | 0.58 | 0.17 | 100 | 09/22/12 09:28 | 10/05/12 14:57 | 7439-92-1 | L2 |
| Zinc | **750** | mg/kg | 28.9 | 6.6 | 100 | 09/22/12 09:28 | 10/05/12 14:57 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.13** | mg/kg | 0.098 | 0.0021 | 1 | 09/21/12 18:50 | 09/24/12 13:15 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **19.2** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SS-76G-02** **Lab ID: 2513553037** Collected: 09/11/12 10:30 Received: 09/13/12 14:00 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Antimony | **31.5** | mg/kg | 13.6 | 0.79 | 5 | 09/22/12 11:09 | 09/26/12 12:34 | 7440-36-0 | |
| Arsenic | **305** | mg/kg | 9.1 | 1.4 | 5 | 09/22/12 11:09 | 09/26/12 12:34 | 7440-38-2 | |
| Cadmium | **8.1** | mg/kg | 1.8 | 0.050 | 5 | 09/22/12 11:09 | 09/26/12 12:34 | 7440-43-9 | |
| Chromium | **16.6** | mg/kg | 4.5 | 0.073 | 5 | 09/22/12 11:09 | 09/26/12 12:34 | 7440-47-3 | B |
| Copper | **31.6** | mg/kg | 11.4 | 1.5 | 5 | 09/22/12 11:09 | 09/26/12 12:34 | 7440-50-8 | D3 |
| Iron | **28100** | mg/kg | 90.9 | 1.9 | 5 | 09/22/12 11:09 | 09/26/12 12:34 | 7439-89-6 | B,D4 |
| Manganese | **804** | mg/kg | 6.8 | 0.21 | 5 | 09/22/12 11:09 | 09/26/12 12:34 | 7439-96-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Lead | **61.8** | mg/kg | 0.21 | 0.064 | 50 | 09/22/12 09:28 | 10/05/12 15:01 | 7439-92-1 | L2 |
| Zinc | **370** | mg/kg | 10.7 | 2.5 | 50 | 09/22/12 09:28 | 10/05/12 15:01 | 7440-66-6 | |
| **7471 Mercury** | Analytical Method: EPA 7471 Preparation Method: EPA 7471 | | | | | | | | |
| Mercury | **0.078J** | mg/kg | 0.10 | 0.0022 | 1 | 09/21/12 18:50 | 09/24/12 13:17 | 7439-97-6 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **21.4** | % | 0.10 | 0.10 | 1 | | 09/25/12 18:55 | | |
| **9045 pH Soil** | Analytical Method: EPA 9045 | | | | | | | | |
| pH at 25 Degrees C | **6.9** | Std. Units | | | 1 | | 09/14/12 16:50 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-DW-MY-01** **Lab ID: 2513553038** Collected: 09/11/12 14:10 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **263** | mg/L | 1.0 | | 1 | | 09/20/12 11:45 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **64000** | ug/L | 5000 | 37.8 | 1 | 09/19/12 10:50 | 09/20/12 11:45 | 7440-70-2 | |
| Magnesium | **25000** | ug/L | 5000 | 30.0 | 1 | 09/19/12 10:50 | 09/20/12 11:45 | 7439-95-4 | |
| Potassium | **1040J** | ug/L | 5000 | 76.2 | 1 | 09/19/12 10:50 | 09/20/12 11:45 | 7440-09-7 | B |
| Sodium | **3630J** | ug/L | 5000 | 29.4 | 1 | 09/19/12 10:50 | 09/20/12 11:45 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **1100** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/03/12 00:15 | 7429-90-5 | |
| Antimony | **23.9** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/03/12 00:15 | 7440-36-0 | |
| Arsenic | **1060** | ug/L | 2.5 | 0.69 | 5 | 09/21/12 08:51 | 10/03/12 00:19 | 7440-38-2 | |
| Cadmium | **34.6** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/03/12 00:15 | 7440-43-9 | |
| Chromium | **0.16J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/03/12 00:15 | 7440-47-3 | |
| Copper | **747** | ug/L | 2.5 | 0.92 | 5 | 09/21/12 08:51 | 10/03/12 00:19 | 7440-50-8 | |
| Iron | **13500** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/03/12 00:15 | 7439-89-6 | |
| Lead | **30.2** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/03/12 00:15 | 7439-92-1 | |
| Manganese | **3570** | ug/L | 25.0 | 12.5 | 50 | 09/21/12 08:51 | 10/03/12 15:21 | 7439-96-5 | |
| Zinc | **5980** | ug/L | 250 | 50.0 | 50 | 09/21/12 08:51 | 10/03/12 15:21 | 7440-66-6 | |
| **2310B Acidity, Total** | Analytical Method: SM 2310B | | | | | | | | |
| Acidity, Total | **67.9** | mg/L | 2.0 | 0.20 | 1 | | 09/26/12 14:50 | | B |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **<0.10** | mg/L | 1.0 | 0.10 | 1 | | 09/25/12 15:40 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **474** | mg/L | 10.0 | 2.0 | 1 | | 09/18/12 17:12 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **29.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **3.6** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 17:30 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.60J** | mg/L | 1.0 | 0.044 | 1 | | 09/19/12 19:32 | 16887-00-6 | |
| Sulfate | **314** | mg/L | 20.0 | 0.46 | 20 | | 09/19/12 16:38 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-DW-JU-01** **Lab ID: 2513553039** Collected: 09/11/12 12:30 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **87.1** | mg/L | 1.0 | | 1 | | 09/20/12 12:04 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **29100** | ug/L | 5000 | 37.8 | 1 | 09/19/12 10:50 | 09/20/12 12:04 | 7440-70-2 | |
| Magnesium | **3530J** | ug/L | 5000 | 30.0 | 1 | 09/19/12 10:50 | 09/20/12 12:04 | 7439-95-4 | |
| Potassium | **542J** | ug/L | 5000 | 76.2 | 1 | 09/19/12 10:50 | 09/20/12 12:04 | 7440-09-7 | B |
| Sodium | **3490J** | ug/L | 5000 | 29.4 | 1 | 09/19/12 10:50 | 09/20/12 12:04 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **8.2** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7429-90-5 | B |
| Antimony | **9.2** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7440-36-0 | |
| Arsenic | **204** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7440-38-2 | |
| Cadmium | **0.11** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7440-47-3 | |
| Copper | **1.0** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7440-50-8 | |
| Iron | **34.9J** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7439-89-6 | |
| Lead | **0.12** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7439-92-1 | |
| Manganese | **13.2** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7439-96-5 | |
| Zinc | **18.8** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 08:51 | 10/03/12 00:23 | 7440-66-6 | |
| **2310B Acidity, Total** | Analytical Method: SM 2310B | | | | | | | | |
| Acidity, Total | **2.8** | mg/L | 2.0 | 0.20 | 1 | | 09/26/12 14:50 | | B |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **44.4** | mg/L | 1.0 | 0.10 | 1 | | 09/25/12 15:40 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **124** | mg/L | 5.0 | 1.0 | 1 | | 09/18/12 17:12 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **<1.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.9** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:35 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **1.1** | mg/L | 1.0 | 0.044 | 1 | | 09/18/12 22:26 | 16887-00-6 | |
| Sulfate | **39.7** | mg/L | 5.0 | 0.12 | 5 | | 09/19/12 16:58 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-DW-ND-01** **Lab ID: 2513553040** Collected: 09/12/12 14:00 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **147** | mg/L | 1.0 | | 1 | | 09/20/12 12:07 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **37200** | ug/L | 5000 | 37.8 | 1 | 09/19/12 10:50 | 09/20/12 12:07 | 7440-70-2 | |
| Magnesium | **13200** | ug/L | 5000 | 30.0 | 1 | 09/19/12 10:50 | 09/20/12 12:07 | 7439-95-4 | |
| Potassium | **1740J** | ug/L | 5000 | 76.2 | 1 | 09/19/12 10:50 | 09/20/12 12:07 | 7440-09-7 | B |
| Sodium | **3580J** | ug/L | 5000 | 29.4 | 1 | 09/19/12 10:50 | 09/20/12 12:07 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **13.9** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 20:24 | 7429-90-5 | |
| Antimony | **2.8** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 20:24 | 7440-36-0 | M1 |
| Arsenic | **17.2** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 12:47 | 10/01/12 12:14 | 7440-38-2 | |
| Cadmium | **1.0** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 12:47 | 10/01/12 12:14 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 20:24 | 7440-47-3 | |
| Copper | **5.3** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 12:47 | 09/28/12 20:24 | 7440-50-8 | |
| Iron | **635** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 20:24 | 7439-89-6 | M1 |
| Lead | **1.7** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 20:24 | 7439-92-1 | |
| Manganese | **618** | ug/L | 2.5 | 1.2 | 5 | 09/21/12 12:47 | 10/01/12 12:20 | 7439-96-5 | M1 |
| Zinc | **169** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 12:47 | 09/28/12 20:24 | 7440-66-6 | M1 |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **11.9** | mg/L | 1.0 | 0.10 | 1 | | 09/25/12 15:40 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **234** | mg/L | 5.0 | 1.0 | 1 | | 09/19/12 16:12 | | B |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **1.0J** | mg/L | 2.0 | 1.0 | 1 | | 09/18/12 18:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.1** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 13:40 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.70J** | mg/L | 1.0 | 0.044 | 1 | | 09/19/12 19:12 | 16887-00-6 | |
| Sulfate | **125** | mg/L | 10.0 | 0.23 | 10 | | 09/19/12 17:17 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-DW-PM-01** **Lab ID: 2513553041** Collected: 09/12/12 13:05 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **99.6** | mg/L | 1.0 | | 1 | | 09/20/12 12:11 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **30000** | ug/L | 5000 | 37.8 | 1 | 09/19/12 10:50 | 09/20/12 12:11 | 7440-70-2 | |
| Magnesium | **5990** | ug/L | 5000 | 30.0 | 1 | 09/19/12 10:50 | 09/20/12 12:11 | 7439-95-4 | |
| Potassium | **1220J** | ug/L | 5000 | 76.2 | 1 | 09/19/12 10:50 | 09/20/12 12:11 | 7440-09-7 | B |
| Sodium | **1160J** | ug/L | 5000 | 29.4 | 1 | 09/19/12 10:50 | 09/20/12 12:11 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **220** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 20:01 | 7429-90-5 | |
| Antimony | **21.7** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 20:01 | 7440-36-0 | |
| Arsenic | **888** | ug/L | 2.5 | 0.69 | 5 | 09/21/12 12:47 | 10/02/12 15:04 | 7440-38-2 | |
| Cadmium | **8.9** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 12:47 | 10/01/12 12:39 | 7440-43-9 | |
| Chromium | **0.12J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 20:01 | 7440-47-3 | |
| Copper | **452** | ug/L | 2.5 | 0.92 | 5 | 09/21/12 12:47 | 10/02/12 15:04 | 7440-50-8 | |
| Iron | **2780** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 20:01 | 7439-89-6 | |
| Lead | **83.2** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 20:01 | 7439-92-1 | |
| Manganese | **337** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 12:47 | 09/28/12 20:01 | 7439-96-5 | |
| Zinc | **1520** | ug/L | 25.0 | 5.0 | 5 | 09/21/12 12:47 | 10/02/12 15:04 | 7440-66-6 | |
| **2310B Acidity, Total** | Analytical Method: SM 2310B | | | | | | | | |
| Acidity, Total | **4.7** | mg/L | 2.0 | 0.20 | 1 | | 09/26/12 14:50 | | B |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **39.6** | mg/L | 1.0 | 0.10 | 1 | | 09/25/12 15:40 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **165** | mg/L | 5.0 | 1.0 | 1 | | 09/19/12 16:13 | | B |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **7.0** | mg/L | 2.0 | 1.0 | 1 | | 09/18/12 18:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.6** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 13:40 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.27J** | mg/L | 1.0 | 0.044 | 1 | | 09/18/12 23:04 | 16887-00-6 | |
| Sulfate | **57.6** | mg/L | 10.0 | 0.23 | 10 | | 09/19/12 17:36 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-DW-SY-01** **Lab ID: 2513553042** Collected: 09/12/12 10:30 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **17.6** | mg/L | 1.0 | | 1 | | 09/20/12 12:15 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **6350** | ug/L | 5000 | 37.8 | 1 | 09/19/12 10:50 | 09/20/12 12:15 | 7440-70-2 | |
| Magnesium | **434J** | ug/L | 5000 | 30.0 | 1 | 09/19/12 10:50 | 09/20/12 12:15 | 7439-95-4 | |
| Potassium | **295J** | ug/L | 5000 | 76.2 | 1 | 09/19/12 10:50 | 09/20/12 12:15 | 7440-09-7 | B |
| Sodium | **1860J** | ug/L | 5000 | 29.4 | 1 | 09/19/12 10:50 | 09/20/12 12:15 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **12.7** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 20:07 | 7429-90-5 | |
| Antimony | **0.43J** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 20:07 | 7440-36-0 | |
| Arsenic | **25.4** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 12:47 | 10/01/12 12:45 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 12:47 | 10/01/12 12:45 | 7440-43-9 | |
| Chromium | **0.13J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 20:07 | 7440-47-3 | |
| Copper | **0.66** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 12:47 | 09/28/12 20:07 | 7440-50-8 | |
| Iron | **49.8J** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 20:07 | 7439-89-6 | |
| Lead | **0.12** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 20:07 | 7439-92-1 | |
| Manganese | **3.2** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 12:47 | 09/28/12 20:07 | 7439-96-5 | |
| Zinc | **2.4J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 12:47 | 09/28/12 20:07 | 7440-66-6 | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **10.1** | mg/L | 1.0 | 0.10 | 1 | | 09/25/12 15:40 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **43.0** | mg/L | 5.0 | 1.0 | 1 | | 09/19/12 16:14 | | B |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **3.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.2** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:35 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **3.4** | mg/L | 1.0 | 0.044 | 1 | | 09/18/12 23:23 | 16887-00-6 | |
| Sulfate | **6.2** | mg/L | 1.0 | 0.023 | 1 | | 09/18/12 23:23 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-DW-RY-01** **Lab ID: 2513553043** Collected: 09/11/12 10:35 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **17.6** | mg/L | 1.0 | | 1 | | 09/20/12 12:18 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **5320** | ug/L | 5000 | 37.8 | 1 | 09/19/12 10:50 | 09/20/12 12:18 | 7440-70-2 | |
| Magnesium | **1040J** | ug/L | 5000 | 30.0 | 1 | 09/19/12 10:50 | 09/20/12 12:18 | 7439-95-4 | |
| Potassium | **293J** | ug/L | 5000 | 76.2 | 1 | 09/19/12 10:50 | 09/20/12 12:18 | 7440-09-7 | B |
| Sodium | **1610J** | ug/L | 5000 | 29.4 | 1 | 09/19/12 10:50 | 09/20/12 12:18 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **31.9** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 20:13 | 7429-90-5 | |
| Antimony | **0.55** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 20:13 | 7440-36-0 | |
| Arsenic | **10.6** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 12:47 | 10/01/12 12:50 | 7440-38-2 | |
| Cadmium | **0.040J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 12:47 | 10/01/12 12:50 | 7440-43-9 | |
| Chromium | **0.13J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 20:13 | 7440-47-3 | |
| Copper | **1.1** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 12:47 | 09/28/12 20:13 | 7440-50-8 | |
| Iron | **58.2** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 20:13 | 7439-89-6 | |
| Lead | **0.60** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 20:13 | 7439-92-1 | |
| Manganese | **9.2** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 12:47 | 09/28/12 20:13 | 7439-96-5 | |
| Zinc | **10.8** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 12:47 | 09/28/12 20:13 | 7440-66-6 | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **12.3** | mg/L | 1.0 | 0.10 | 1 | | 09/25/12 15:40 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **34.0** | mg/L | 5.0 | 1.0 | 1 | | 09/18/12 17:13 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **4.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.0** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:35 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **0.38J** | mg/L | 1.0 | 0.044 | 1 | | 09/19/12 00:21 | 16887-00-6 | |
| Sulfate | **7.7** | mg/L | 1.0 | 0.023 | 1 | | 09/19/12 00:21 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SP-JU-01** **Lab ID: 2513553044** Collected: 09/11/12 11:35 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **2340B Hardness, Total (Calc.)** | Analytical Method: SM 2340B | | | | | | | | |
| Total Hardness | **78.1** | mg/L | 1.0 | | 1 | | 09/20/12 12:22 | | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | |
| Calcium | **26100** | ug/L | 5000 | 37.8 | 1 | 09/19/12 10:50 | 09/20/12 12:22 | 7440-70-2 | |
| Magnesium | **3160J** | ug/L | 5000 | 30.0 | 1 | 09/19/12 10:50 | 09/20/12 12:22 | 7439-95-4 | |
| Potassium | **573J** | ug/L | 5000 | 76.2 | 1 | 09/19/12 10:50 | 09/20/12 12:22 | 7440-09-7 | B |
| Sodium | **3300J** | ug/L | 5000 | 29.4 | 1 | 09/19/12 10:50 | 09/20/12 12:22 | 7440-23-5 | B |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **16.8** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 20:19 | 7429-90-5 | |
| Antimony | **9.2** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 20:19 | 7440-36-0 | |
| Arsenic | **261** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 12:47 | 10/01/12 12:56 | 7440-38-2 | |
| Cadmium | **0.50** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 12:47 | 10/01/12 12:56 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 20:19 | 7440-47-3 | |
| Copper | **2.2** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 12:47 | 09/28/12 20:19 | 7440-50-8 | |
| Iron | **24.2J** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 20:19 | 7439-89-6 | |
| Lead | **0.54** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 20:19 | 7439-92-1 | |
| Manganese | **2.6** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 12:47 | 09/28/12 20:19 | 7439-96-5 | |
| Zinc | **55.8** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 12:47 | 09/28/12 20:19 | 7440-66-6 | |
| **2320B Alkalinity** | Analytical Method: SM 2320B | | | | | | | | |
| Alkalinity, Total as CaCO3 | **35.6** | mg/L | 1.0 | 0.10 | 1 | | 09/25/12 15:40 | | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **118** | mg/L | 5.0 | 1.0 | 1 | | 09/18/12 17:13 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **3.0** | mg/L | 2.0 | 1.0 | 1 | | 09/17/12 18:20 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.7** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 14:35 | | H6 |
| **300.0 IC Anions 28 Days** | Analytical Method: EPA 300.0 | | | | | | | | |
| Chloride | **1.2** | mg/L | 1.0 | 0.044 | 1 | | 09/19/12 00:40 | 16887-00-6 | |
| Sulfate | **41.1** | mg/L | 5.0 | 0.12 | 5 | | 09/19/12 17:55 | 14808-79-8 | B |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-MCL-01** **Lab ID: 2513553045** Collected: 09/10/12 10:55 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **37.1** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 21:17 | 7429-90-5 | |
| Antimony | **5.4** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 21:17 | 7440-36-0 | |
| Arsenic | **264** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 12:47 | 10/01/12 13:21 | 7440-38-2 | |
| Cadmium | **0.069J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 12:47 | 10/01/12 13:21 | 7440-43-9 | |
| Chromium | **0.21J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 21:17 | 7440-47-3 | |
| Copper | **2.6** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 12:47 | 09/28/12 21:17 | 7440-50-8 | |
| Iron | **925** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 21:17 | 7439-89-6 | |
| Lead | **4.9** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 21:17 | 7439-92-1 | |
| Manganese | **86.5** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 12:47 | 09/28/12 21:17 | 7439-96-5 | |
| Total Hardness by 2340B | **11900** | ug/L | 71.0 | 35.5 | 1 | 09/21/12 12:47 | 09/28/12 21:17 | | |
| Zinc | **4.6J** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 12:47 | 09/28/12 21:17 | 7440-66-6 | |
| **2540C Total Dissolved Solids** | Analytical Method: SM 2540C | | | | | | | | |
| Total Dissolved Solids | **22.0** | mg/L | 5.0 | 1.0 | 1 | | 09/17/12 15:32 | | |
| **2540D Total Suspended Solids** | Analytical Method: SM 2540D | | | | | | | | |
| Total Suspended Solids | **4.0** | mg/L | 2.0 | 1.0 | 1 | | 09/14/12 14:45 | | |
| **4500H+ pH, Electrometric** | Analytical Method: SM 4500-H+B | | | | | | | | |
| pH at 25 Degrees C | **7.3** | Std. Units | 0.10 | 0.10 | 1 | | 09/14/12 13:40 | | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-DP-01** **Lab ID: 2513553046** Collected: 09/11/12 14:20 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **1190** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 21:29 | 7429-90-5 | |
| Antimony | **28.1** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 21:29 | 7440-36-0 | |
| Arsenic | **1100** | ug/L | 2.5 | 0.69 | 5 | 09/21/12 12:47 | 10/01/12 13:27 | 7440-38-2 | |
| Cadmium | **36.1** | ug/L | 0.40 | 0.14 | 5 | 09/21/12 12:47 | 10/01/12 13:27 | 7440-43-9 | |
| Chromium | **0.23J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 21:29 | 7440-47-3 | |
| Copper | **777** | ug/L | 2.5 | 0.92 | 5 | 09/21/12 12:47 | 10/01/12 13:27 | 7440-50-8 | |
| Iron | **15900** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 21:29 | 7439-89-6 | |
| Lead | **37.0** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 21:29 | 7439-92-1 | |
| Manganese | **4110** | ug/L | 25.0 | 12.5 | 50 | 09/21/12 12:47 | 10/05/12 14:25 | 7439-96-5 | |
| Zinc | **7840** | ug/L | 250 | 50.0 | 50 | 09/21/12 12:47 | 10/04/12 15:12 | 7440-66-6 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-DP-02** **Lab ID: 2513553047** Collected: 09/12/12 13:10 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **188** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 21:34 | 7429-90-5 | |
| Antimony | **24.2** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 21:34 | 7440-36-0 | |
| Arsenic | **738** | ug/L | 2.5 | 0.69 | 5 | 09/21/12 12:47 | 10/01/12 13:33 | 7440-38-2 | |
| Cadmium | **7.8** | ug/L | 0.40 | 0.14 | 5 | 09/21/12 12:47 | 10/01/12 13:33 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 21:34 | 7440-47-3 | |
| Copper | **379** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 12:47 | 10/04/12 15:18 | 7440-50-8 | |
| Iron | **2490** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 21:34 | 7439-89-6 | |
| Lead | **70.3** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 21:34 | 7439-92-1 | |
| Manganese | **285** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 12:47 | 09/28/12 21:34 | 7439-96-5 | |
| Zinc | **1420** | ug/L | 25.0 | 5.0 | 5 | 09/21/12 12:47 | 10/01/12 13:33 | 7440-66-6 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-DP-03** **Lab ID: 2513553048** Collected: 09/10/12 10:40 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **16.6** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 21:40 | 7429-90-5 | |
| Antimony | **4.2** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 21:40 | 7440-36-0 | |
| Arsenic | **26.7** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 12:47 | 10/01/12 13:39 | 7440-38-2 | |
| Cadmium | **0.045J** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 12:47 | 10/01/12 13:39 | 7440-43-9 | |
| Chromium | **0.20J** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 21:40 | 7440-47-3 | |
| Copper | **1.3** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 12:47 | 09/28/12 21:40 | 7440-50-8 | |
| Iron | **199** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 21:40 | 7439-89-6 | |
| Lead | **0.75** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 21:40 | 7439-92-1 | |
| Manganese | **20.1** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 12:47 | 09/28/12 21:40 | 7439-96-5 | |
| Zinc | **5.2** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 12:47 | 09/28/12 21:40 | 7440-66-6 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

**Sample: MCRA6-SW-EQ-01** **Lab ID: 2513553049** Collected: 09/12/12 16:05 Received: 09/13/12 14:00 Matrix: Water

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | | |
| Aluminum | **2.8J** | ug/L | 4.0 | 2.0 | 1 | 09/21/12 12:47 | 09/28/12 21:46 | 7429-90-5 | |
| Antimony | **<0.10** | ug/L | 0.50 | 0.10 | 1 | 09/21/12 12:47 | 09/28/12 21:46 | 7440-36-0 | |
| Arsenic | **<0.14** | ug/L | 0.50 | 0.14 | 1 | 09/21/12 12:47 | 10/01/12 13:45 | 7440-38-2 | |
| Cadmium | **<0.028** | ug/L | 0.080 | 0.028 | 1 | 09/21/12 12:47 | 10/01/12 13:45 | 7440-43-9 | |
| Chromium | **<0.094** | ug/L | 0.50 | 0.094 | 1 | 09/21/12 12:47 | 09/28/12 21:46 | 7440-47-3 | |
| Copper | **1.8** | ug/L | 0.50 | 0.18 | 1 | 09/21/12 12:47 | 09/28/12 21:46 | 7440-50-8 | |
| Iron | **<10.0** | ug/L | 50.0 | 10.0 | 1 | 09/21/12 12:47 | 09/28/12 21:46 | 7439-89-6 | |
| Lead | **0.11** | ug/L | 0.10 | 0.018 | 1 | 09/21/12 12:47 | 09/28/12 21:46 | 7439-92-1 | |
| Manganese | **<0.25** | ug/L | 0.50 | 0.25 | 1 | 09/21/12 12:47 | 09/28/12 21:46 | 7439-96-5 | |
| Zinc | **<1.0** | ug/L | 5.0 | 1.0 | 1 | 09/21/12 12:47 | 09/28/12 21:46 | 7440-66-6 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: ICPM/35271 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 2513553010, 2513553011, 2513553012, 2513553013, 2513553014, 2513553015, 2513553016, 2513553017, 2513553018, 2513553019, 2513553029, 2513553030, 2513553031, 2513553032, 2513553033, 2513553034, 2513553035, 2513553036, 2513553037

METHOD BLANK: 1291977 Matrix: Solid
Associated Lab Samples: 2513553010, 2513553011, 2513553012, 2513553013, 2513553014, 2513553015, 2513553016, 2513553017, 2513553018, 2513553019, 2513553029, 2513553030, 2513553031, 2513553032, 2513553033, 2513553034, 2513553035, 2513553036, 2513553037

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Lead | mg/kg | 0.065J | 0.099 | 10/02/12 14:40 | |
| Zinc | mg/kg | <1.1 | 5.0 | 10/02/12 14:40 | |

LABORATORY CONTROL SAMPLE: 1291978

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Lead | mg/kg | 19.8 | 1.0 | 5 | 80-120 | L0 |
| Zinc | mg/kg | 19.8 | 18.7 | 94 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1291979 1291980

| Parameter | Units | 2513553010 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | mg/kg | 41.1 | 20 | 21.3 | 65.8 | 54.2 | 123 | 62 | 75-125 | 19 | 30 | M6 |
| Zinc | mg/kg | 154 | 20 | 21.3 | 202 | 244 | 240 | 419 | 75-125 | 19 | 30 | M6 |

MATRIX SPIKE SAMPLE: 1291981

| Parameter | Units | 2513553029 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Lead | mg/kg | 7.1 | 20.2 | 29.5 | 111 | 75-125 | |
| Zinc | mg/kg | 67.4 | 20.2 | 85.0 | 87 | 75-125 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: ICPM/35267 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 2513553001, 2513553002, 2513553003, 2513553004, 2513553005, 2513553006, 2513553007, 2513553008, 2513553009, 2513553020, 2513553021, 2513553022, 2513553023, 2513553024, 2513553025, 2513553026, 2513553027, 2513553028, 2513553038, 2513553039

METHOD BLANK: 1291957 Matrix: Water
Associated Lab Samples: 2513553001, 2513553002, 2513553003, 2513553004, 2513553005, 2513553006, 2513553007, 2513553008, 2513553009, 2513553020, 2513553021, 2513553022, 2513553023, 2513553024, 2513553025, 2513553026, 2513553027, 2513553028, 2513553038, 2513553039

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Aluminum | ug/L | <2.0 | 4.0 | 10/02/12 22:17 | |
| Antimony | ug/L | <0.10 | 0.50 | 10/02/12 22:17 | |
| Arsenic | ug/L | <0.14 | 0.50 | 10/02/12 22:17 | |
| Cadmium | ug/L | <0.028 | 0.080 | 10/02/12 22:17 | |
| Chromium | ug/L | <0.094 | 0.50 | 10/02/12 22:17 | |
| Copper | ug/L | <0.18 | 0.50 | 10/02/12 22:17 | |
| Iron | ug/L | <10.0 | 50.0 | 10/02/12 22:17 | |
| Lead | ug/L | <0.018 | 0.10 | 10/02/12 22:17 | |
| Manganese | ug/L | <0.25 | 0.50 | 10/02/12 22:17 | |
| Total Hardness by 2340B | ug/L | <35.5 | 71.0 | 10/02/12 22:17 | |
| Zinc | ug/L | <1.0 | 5.0 | 10/02/12 22:17 | |

LABORATORY CONTROL SAMPLE: 1291958

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Aluminum | ug/L | 80 | 80.1 | 100 | 80-120 | |
| Antimony | ug/L | 80 | 78.8 | 98 | 80-120 | |
| Arsenic | ug/L | 80 | 79.0 | 99 | 80-120 | |
| Cadmium | ug/L | 80 | 78.2 | 98 | 80-120 | |
| Chromium | ug/L | 80 | 78.8 | 99 | 80-120 | |
| Copper | ug/L | 80 | 79.8 | 100 | 80-120 | |
| Iron | ug/L | 1000 | 1000 | 100 | 80-120 | |
| Lead | ug/L | 80 | 79.2 | 99 | 80-120 | |
| Manganese | ug/L | 80 | 78.9 | 99 | 80-120 | |
| Total Hardness by 2340B | ug/L | 6620 | 6580 | 100 | 80-120 | |
| Zinc | ug/L | 80 | 79.3 | 99 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1291959 1291960

| Parameter | Units | 2513553001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | ug/L | 8.9 | 80 | 80 | 92.2 | 91.2 | 104 | 103 | 75-125 | 1 | 20 | |
| Antimony | ug/L | 1.4 | 80 | 80 | 80.4 | 80.7 | 99 | 99 | 75-125 | .3 | 20 | |
| Arsenic | ug/L | 9.0 | 80 | 80 | 87.7 | 87.2 | 98 | 98 | 75-125 | .5 | 20 | |
| Cadmium | ug/L | 0.036J | 80 | 80 | 79.4 | 78.1 | 99 | 98 | 75-125 | 2 | 20 | |
| Chromium | ug/L | <0.094 | 80 | 80 | 77.4 | 79.8 | 97 | 100 | 75-125 | 3 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1291959 1291960

| Parameter | Units | 2513553001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Copper | ug/L | 0.38J | 80 | 80 | 78.4 | 79.4 | 97 | 99 | 75-125 | 1 | 20 | |
| Iron | ug/L | <10.0 | 1000 | 1000 | 1010 | 1020 | 100 | 101 | 75-125 | 1 | 20 | |
| Lead | ug/L | 0.073J | 80 | 80 | 78.0 | 78.4 | 97 | 98 | 75-125 | .4 | 20 | |
| Manganese | ug/L | 0.76 | 80 | 80 | 78.2 | 79.4 | 97 | 98 | 75-125 | 2 | 20 | |
| Total Hardness by 2340B | ug/L | 8270 | 6620 | 6620 | 15000 | 15400 | 101 | 108 | 75-125 | 3 | 20 | |
| Zinc | ug/L | 4.8J | 80 | 80 | 82.3 | 82.8 | 97 | 97 | 75-125 | .5 | 20 | |

MATRIX SPIKE SAMPLE: 1291961

| Parameter | Units | 2513553021 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Aluminum | ug/L | 8.5 | 80 | 87.0 | 98 | 75-125 | |
| Antimony | ug/L | 1.3 | 80 | 80.6 | 99 | 75-125 | |
| Arsenic | ug/L | 7.4 | 80 | 84.5 | 96 | 75-125 | |
| Cadmium | ug/L | <0.028 | 80 | 78.6 | 98 | 75-125 | |
| Chromium | ug/L | <0.094 | 80 | 78.4 | 98 | 75-125 | |
| Copper | ug/L | <0.18 | 80 | 78.8 | 98 | 75-125 | |
| Iron | ug/L | <10.0 | 1000 | 1010 | 100 | 75-125 | |
| Lead | ug/L | 0.039J | 80 | 77.9 | 97 | 75-125 | |
| Manganese | ug/L | 0.70 | 80 | 79.8 | 99 | 75-125 | |
| Total Hardness by 2340B | ug/L | 9820 | 6620 | 16500 | 101 | 75-125 | |
| Zinc | ug/L | <1.0 | 80 | 80.0 | 99 | 75-125 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: ICPM/35268 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 2513553040, 2513553041, 2513553042, 2513553043, 2513553044, 2513553045, 2513553046, 2513553047, 2513553048, 2513553049

METHOD BLANK: 1291962 Matrix: Water
Associated Lab Samples: 2513553040, 2513553041, 2513553042, 2513553043, 2513553044, 2513553045, 2513553046, 2513553047, 2513553048, 2513553049

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Aluminum | ug/L | <2.0 | 4.0 | 09/28/12 19:49 | |
| Antimony | ug/L | <0.10 | 0.50 | 09/28/12 19:49 | |
| Arsenic | ug/L | <0.14 | 0.50 | 10/01/12 12:02 | |
| Cadmium | ug/L | <0.028 | 0.080 | 10/01/12 12:02 | |
| Chromium | ug/L | <0.094 | 0.50 | 09/28/12 19:49 | |
| Copper | ug/L | <0.18 | 0.50 | 10/02/12 14:58 | |
| Iron | ug/L | <10.0 | 50.0 | 09/28/12 19:49 | |
| Lead | ug/L | <0.018 | 0.10 | 09/28/12 19:49 | |
| Manganese | ug/L | <0.25 | 0.50 | 09/28/12 19:49 | |
| Total Hardness by 2340B | ug/L | <35.5 | 71.0 | 09/28/12 19:49 | |
| Zinc | ug/L | <1.0 | 5.0 | 09/28/12 19:49 | |

LABORATORY CONTROL SAMPLE: 1291963

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Aluminum | ug/L | 80 | 82.1 | 103 | 80-120 | |
| Antimony | ug/L | 80 | 86.6 | 108 | 80-120 | |
| Arsenic | ug/L | 80 | 83.2 | 104 | 80-120 | |
| Cadmium | ug/L | 80 | 83.6 | 104 | 80-120 | |
| Chromium | ug/L | 80 | 82.3 | 103 | 80-120 | |
| Copper | ug/L | 80 | 85.7 | 107 | 80-120 | |
| Iron | ug/L | 1000 | 1120 | 112 | 80-120 | |
| Lead | ug/L | 80 | 92.5 | 116 | 80-120 | |
| Manganese | ug/L | 80 | 91.9 | 115 | 80-120 | |
| Total Hardness by 2340B | ug/L | 6620 | 6980 | 105 | 80-120 | |
| Zinc | ug/L | 80 | 85.1 | 106 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1291964 1291965

| Parameter | Units | 2513553040 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | ug/L | 13.9 | 80 | 80 | 100 | 112 | 108 | 123 | 75-125 | 11 | 20 | |
| Antimony | ug/L | 2.8 | 80 | 80 | 86.6 | 109 | 105 | 133 | 75-125 | 23 | 20 | D6,M1 |
| Arsenic | ug/L | 17.2 | 80 | 80 | 107 | 104 | 113 | 109 | 75-125 | 3 | 20 | |
| Cadmium | ug/L | 1.0 | 80 | 80 | 93.0 | 81.6 | 115 | 101 | 75-125 | 13 | 20 | |
| Chromium | ug/L | <0.094 | 80 | 80 | 91.2 | 78.8 | 114 | 98 | 75-125 | 15 | 20 | |
| Copper | ug/L | 5.3 | 80 | 80 | 91.9 | 99.9 | 108 | 118 | 75-125 | 8 | 20 | |
| Iron | ug/L | 635 | 1000 | 1000 | 2270 | 2060 | 163 | 143 | 75-125 | 10 | 20 | M1 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1291964 1291965

| Parameter | Units | 2513553040 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ug/L | 1.7 | 80 | 80 | 88.9 | 98.9 | 109 | 121 | 75-125 | 11 | 20 | |
| Manganese | ug/L | 618 | 80 | 80 | 774 | 870 | 195 | 316 | 75-125 | 12 | 20 | M1 |
| Total Hardness by 2340B | ug/L | 147000 | 6620 | 6620 | 133000 | 149000 | -209 | 21 | 75-125 | 11 | 20 | |
| Zinc | ug/L | 169 | 80 | 80 | 252 | 276 | 103 | 134 | 75-125 | 9 | 20 | M1 |

MATRIX SPIKE SAMPLE: 1291966

| Parameter | Units | 2513568001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Aluminum | ug/L | 34.1 | 80 | 134 | 125 | 75-125 | |
| Antimony | ug/L | <0.10 | 80 | 103 | 128 | 75-125 | M1 |
| Arsenic | ug/L | 1.6 | 80 | 84.2 | 103 | 75-125 | |
| Cadmium | ug/L | <0.028 | 80 | 81.3 | 102 | 75-125 | |
| Chromium | ug/L | 0.48J | 80 | 80.2 | 100 | 75-125 | |
| Copper | ug/L | 0.31J | 80 | 103 | 128 | 75-125 | M1 |
| Iron | ug/L | 511 | 1000 | 1910 | 140 | 75-125 | M1 |
| Lead | ug/L | 0.023J | 80 | 105 | 131 | 75-125 | M1 |
| Manganese | ug/L | 36.5 | 80 | 151 | 144 | 75-125 | M1 |
| Total Hardness by 2340B | ug/L | 18400 | 6620 | 29700 | 171 | 75-125 | |
| Zinc | ug/L | 3.7J | 80 | 107 | 129 | 75-125 | M1 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: MERP/1779 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 2513553010, 2513553011, 2513553012, 2513553013, 2513553014, 2513553015, 2513553016, 2513553017, 2513553018, 2513553019, 2513553029, 2513553030, 2513553031, 2513553032, 2513553033, 2513553034, 2513553035, 2513553036, 2513553037

METHOD BLANK: 131305 Matrix: Solid
Associated Lab Samples: 2513553010, 2513553011, 2513553012, 2513553013, 2513553014, 2513553015, 2513553016, 2513553017, 2513553018, 2513553019, 2513553029, 2513553030, 2513553031, 2513553032, 2513553033, 2513553034, 2513553035, 2513553036, 2513553037

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Mercury | mg/kg | <0.0022 | 0.10 | 09/24/12 12:20 | |

LABORATORY CONTROL SAMPLE: 131306

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Mercury | mg/kg | .5 | 0.51 | 102 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 131307 131308

| Parameter | Units | 2513553010 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | mg/kg | 0.017J | .52 | .52 | 0.59 | 0.61 | 108 | 112 | 80-120 | 3 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: MPRP/3366 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 2513553010, 2513553011, 2513553012, 2513553013, 2513553014, 2513553015, 2513553016, 2513553017, 2513553018, 2513553019, 2513553029, 2513553030, 2513553031, 2513553032, 2513553033, 2513553034, 2513553035, 2513553036, 2513553037

METHOD BLANK: 131377 Matrix: Solid
Associated Lab Samples: 2513553010, 2513553011, 2513553012, 2513553013, 2513553014, 2513553015, 2513553016, 2513553017, 2513553018, 2513553019, 2513553029, 2513553030, 2513553031, 2513553032, 2513553033, 2513553034, 2513553035, 2513553036, 2513553037

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Antimony | mg/kg | <0.17 | 3.0 | 09/26/12 10:43 | |
| Arsenic | mg/kg | <0.30 | 2.0 | 09/26/12 10:43 | |
| Cadmium | mg/kg | <0.011 | 0.40 | 09/26/12 10:43 | |
| Chromium | mg/kg | 0.027J | 1.0 | 09/26/12 09:07 | |
| Copper | mg/kg | <0.33 | 2.5 | 09/26/12 09:07 | |
| Iron | mg/kg | 0.72J | 20.0 | 09/26/12 09:07 | |
| Manganese | mg/kg | 0.31J | 1.5 | 09/26/12 10:43 | |

LABORATORY CONTROL SAMPLE: 131378

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Antimony | mg/kg | 25 | 28.7 | 115 | 80-120 | |
| Arsenic | mg/kg | 25 | 29.1 | 116 | 80-120 | |
| Cadmium | mg/kg | 25 | 28.9 | 115 | 80-120 | |
| Chromium | mg/kg | 25 | 29.6 | 118 | 80-120 | |
| Copper | mg/kg | 25 | 28.2 | 113 | 80-120 | |
| Iron | mg/kg | 500 | 592 | 118 | 80-120 | |
| Manganese | mg/kg | 25 | 29.2 | 117 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 131379 131380

| Parameter | Units | 2513553010 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | mg/kg | 5.1J | 26.4 | 26.4 | 19.7 | 72.6 | 55 | 256 | 75-125 | 115 | 20 | M1,R1 |
| Arsenic | mg/kg | 141 | 26.4 | 26.4 | 416 | 353 | 1040 | 805 | 75-125 | 16 | 20 | M1 |
| Cadmium | mg/kg | 3.5 | 26.4 | 26.4 | 34.4 | 34.4 | 117 | 117 | 75-125 | .08 | 20 | |
| Chromium | mg/kg | 26.4 | 26.4 | 26.4 | 57.1 | 60.5 | 116 | 129 | 75-125 | 6 | 20 | M1 |
| Copper | mg/kg | 62.9 | 26.4 | 26.4 | 89.4 | 93.7 | 100 | 117 | 75-125 | 5 | 20 | |
| Iron | mg/kg | 32500 | 529 | 529 | 35200 | 31500 | 510 | -195 | 75-125 | 11 | 20 | M1 |
| Manganese | mg/kg | 452 | 26.4 | 26.4 | 560 | 897 | 407 | 1680 | 75-125 | 46 | 20 | M1,R1 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: MPRP/3348 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 2513553038, 2513553039, 2513553040, 2513553041, 2513553042, 2513553043, 2513553044

METHOD BLANK: 130875 Matrix: Water
Associated Lab Samples: 2513553038, 2513553039, 2513553040, 2513553041, 2513553042, 2513553043, 2513553044

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Calcium | ug/L | <37.8 | 5000 | 09/20/12 11:38 | |
| Magnesium | ug/L | <30.0 | 5000 | 09/20/12 11:38 | |
| Potassium | ug/L | 82.0J | 5000 | 09/20/12 11:38 | |
| Sodium | ug/L | 44.0J | 5000 | 09/20/12 11:38 | |

LABORATORY CONTROL SAMPLE: 130876

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Calcium | ug/L | 10000 | 10300 | 103 | 80-120 | |
| Magnesium | ug/L | 10000 | 10500 | 105 | 80-120 | |
| Potassium | ug/L | 10000 | 10200 | 102 | 80-120 | |
| Sodium | ug/L | 10000 | 10500 | 105 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 130877 130878

| Parameter | Units | 2513553038 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | ug/L | 64000 | 10000 | 10000 | 69400 | 72400 | 54 | 84 | 75-125 | 4 | 20 | M1 |
| Magnesium | ug/L | 25000 | 10000 | 10000 | 33500 | 35000 | 84 | 99 | 75-125 | 4 | 20 | |
| Potassium | ug/L | 1040J | 10000 | 10000 | 11200 | 11500 | 102 | 104 | 75-125 | 2 | 20 | |
| Sodium | ug/L | 3630J | 10000 | 10000 | 13900 | 14300 | 103 | 107 | 75-125 | 3 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: PMST/2177 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 2513553010, 2513553011, 2513553012, 2513553013, 2513553014, 2513553015, 2513553016, 2513553017, 2513553018, 2513553019, 2513553029, 2513553030, 2513553031, 2513553032, 2513553033, 2513553034, 2513553035, 2513553036, 2513553037

SAMPLE DUPLICATE: 131781

| Parameter | Units | 2513553010 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 14.0 | 12.1 | 14 | 30 | |

SAMPLE DUPLICATE: 131782

| Parameter | Units | 2513553011 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 27.1 | 28.0 | 3 | 30 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3934 Analysis Method: SM 2310B
QC Batch Method: SM 2310B Analysis Description: 2310B Acidity, Total
Associated Lab Samples: 2513553038, 2513553039, 2513553041

METHOD BLANK: 131801 Matrix: Water
Associated Lab Samples: 2513553038, 2513553039, 2513553041

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Acidity, Total | mg/L | 0.36J | 2.0 | 09/26/12 14:50 | |

LABORATORY CONTROL SAMPLE: 131802

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Acidity, Total | mg/L | 245 | 245 | 100 | 80-120 | |

SAMPLE DUPLICATE: 131803

| Parameter | Units | 2513553038 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Acidity, Total | mg/L | 67.9 | 69.8 | 3 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3931 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 2513553038, 2513553039, 2513553040, 2513553041, 2513553042, 2513553043, 2513553044

METHOD BLANK: 131501 Matrix: Water
Associated Lab Samples: 2513553038, 2513553039, 2513553040, 2513553041, 2513553042, 2513553043, 2513553044

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | mg/L | <0.10 | 1.0 | 09/25/12 15:40 | |

LABORATORY CONTROL SAMPLE: 131502

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | mg/L | 100 | 99.4 | 99 | 90-110 | |

SAMPLE DUPLICATE: 131503

| Parameter | Units | 2513553039 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | mg/L | 44.4 | 41.8 | 6 | 10 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3915 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2513553001, 2513553002, 2513553003, 2513553004, 2513553005, 2513553006, 2513553007, 2513553008, 2513553009, 2513553020, 2513553021, 2513553022, 2513553023, 2513553045

METHOD BLANK: 130359 Matrix: Water
Associated Lab Samples: 2513553001, 2513553002, 2513553003, 2513553004, 2513553005, 2513553006, 2513553007, 2513553008, 2513553009, 2513553020, 2513553021, 2513553022, 2513553023, 2513553045

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | <1.0 | 5.0 | 09/17/12 15:39 | |

LABORATORY CONTROL SAMPLE: 130360

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 300 | 268 | 89 | 80-120 | |

SAMPLE DUPLICATE: 130361

| Parameter | Units | 2513553001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 12.0 | 9.0 | 29 | 20 | R3 |

SAMPLE DUPLICATE: 130594

| Parameter | Units | 2513581001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 305 | 306 | .3 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3918 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2513553025, 2513553026, 2513553027, 2513553028, 2513553038, 2513553039, 2513553043, 2513553044

METHOD BLANK: 130646 Matrix: Water
Associated Lab Samples: 2513553025, 2513553026, 2513553027, 2513553028, 2513553038, 2513553039, 2513553043, 2513553044

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | <1.0 | 5.0 | 09/18/12 17:18 | |

LABORATORY CONTROL SAMPLE: 130647

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 300 | 292 | 97 | 80-120 | |

SAMPLE DUPLICATE: 130648

| Parameter | Units | 2513553025 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 11.0 | 9.0 | 20 | 20 | |

SAMPLE DUPLICATE: 130649

| Parameter | Units | 2513581017 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 304 | 303 | .3 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3922 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2513553024, 2513553040, 2513553041, 2513553042

METHOD BLANK: 130865 Matrix: Water
Associated Lab Samples: 2513553024, 2513553040, 2513553041, 2513553042

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 1.0J | 5.0 | 09/19/12 16:10 | |

LABORATORY CONTROL SAMPLE: 130866

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 300 | 298 | 99 | 80-120 | |

SAMPLE DUPLICATE: 130867

| Parameter | Units | 2513553024 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | mg/L | 13.0 | 15.0 | 14 | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3908 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 2513553001, 2513553002, 2513553003, 2513553004, 2513553005, 2513553006, 2513553007, 2513553008, 2513553009, 2513553025, 2513553026, 2513553028, 2513553038, 2513553039, 2513553042, 2513553043, 2513553045

METHOD BLANK: 130110 Matrix: Water
Associated Lab Samples: 2513553001, 2513553002, 2513553003, 2513553004, 2513553005, 2513553006, 2513553007, 2513553008, 2513553009, 2513553025, 2513553026, 2513553028, 2513553038, 2513553039, 2513553042, 2513553043, 2513553045

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | <1.0 | 2.0 | 09/14/12 14:45 | |

LABORATORY CONTROL SAMPLE: 130111

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | 300 | 292 | 97 | 80-120 | |

SAMPLE DUPLICATE: 130112

| Parameter | Units | 2513530001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | ND | 1.0J | | 20 | |

SAMPLE DUPLICATE: 130217

| Parameter | Units | 2513553025 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | <1.0 | 2.0J | | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3917 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 2513553020, 2513553021, 2513553022, 2513553027, 2513553044

METHOD BLANK: 130597 Matrix: Water
Associated Lab Samples: 2513553020, 2513553021, 2513553022, 2513553027, 2513553044

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | <1.0 | 2.0 | 09/17/12 18:20 | |

LABORATORY CONTROL SAMPLE: 130598

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | 300 | 246 | 82 | 80-120 | |

SAMPLE DUPLICATE: 130599

| Parameter | Units | 2513581001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | ND | 2.0J | | 20 | |

SAMPLE DUPLICATE: 130600

| Parameter | Units | 2513581017 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | ND | 3.0 | | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3919 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 2513553023, 2513553024, 2513553040, 2513553041

METHOD BLANK: 130650 Matrix: Water
Associated Lab Samples: 2513553023, 2513553024, 2513553040, 2513553041

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | <1.0 | 2.0 | 09/18/12 18:45 | |

LABORATORY CONTROL SAMPLE: 130651

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | 300 | 256 | 85 | 80-120 | |

SAMPLE DUPLICATE: 130652

| Parameter | Units | 2513553023 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Total Suspended Solids | mg/L | 2.0J | <1.0 | | 20 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3909 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 2513553001, 2513553002, 2513553003, 2513553004, 2513553005, 2513553006, 2513553007, 2513553008, 2513553009, 2513553023, 2513553024, 2513553025, 2513553026, 2513553027, 2513553028, 2513553039, 2513553042, 2513553043, 2513553044

SAMPLE DUPLICATE: 130163

| Parameter | Units | 2513553005 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 7.5 | 7.4 | 1 | 10 | H6 |

SAMPLE DUPLICATE: 130164

| Parameter | Units | 2513553028 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 7.5 | 7.5 | 0 | 10 | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3911 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 2513553020, 2513553021, 2513553022, 2513553040, 2513553041, 2513553045

SAMPLE DUPLICATE: 130184

| Parameter | Units | 2513553045 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 7.3 | 7.2 | .6 | 10 | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3914
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 2513553038

SAMPLE DUPLICATE: 130358

| Parameter | Units | 2513553038 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 3.6 | 3.6 | 0 | 10 | H6 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WET/3910 Analysis Method: EPA 9045
QC Batch Method: EPA 9045 Analysis Description: 9045 pH
Associated Lab Samples: 2513553010, 2513553011, 2513553012, 2513553013, 2513553014, 2513553015, 2513553016, 2513553017, 2513553018, 2513553019, 2513553029, 2513553030, 2513553031, 2513553032, 2513553033, 2513553034, 2513553035, 2513553036, 2513553037

SAMPLE DUPLICATE: 130167

| Parameter | Units | 2513553010 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 6.8 | 6.8 | .7 | 10 | |

SAMPLE DUPLICATE: 130168

| Parameter | Units | 2513553034 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| pH at 25 Degrees C | Std. Units | 6.6 | 6.6 | .2 | 10 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

QC Batch: WETA/2755 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2513553038, 2513553039, 2513553040, 2513553041, 2513553042, 2513553043, 2513553044

METHOD BLANK: 130515 Matrix: Water
Associated Lab Samples: 2513553038, 2513553039, 2513553040, 2513553041, 2513553042, 2513553043, 2513553044

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Chloride | mg/L | <0.044 | 1.0 | 09/18/12 16:20 | |
| Sulfate | mg/L | 0.19J | 1.0 | 09/18/12 16:20 | |

LABORATORY CONTROL SAMPLE: 130516

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Chloride | mg/L | 5 | 4.6 | 93 | 90-110 | |
| Sulfate | mg/L | 15 | 15.0 | 100 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 130517 130518

| Parameter | Units | 2513535001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | mg/L | 9.3 | 5 | 5 | 13.9 | 14.2 | 91 | 97 | 90-110 | 2 | 10 | |
| Sulfate | mg/L | ND | 15 | 15 | 15.3 | 16.8 | 100 | 110 | 90-110 | 10 | 10 | |

MATRIX SPIKE SAMPLE: 130519

| Parameter | Units | 2513547001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Chloride | mg/L | 59.8 | 50 | 109 | 98 | 90-110 | |
| Sulfate | mg/L | | 150 | 159 | 98 | 90-110 | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALIFIERS

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| B | Analyte was detected in the associated method blank. |
| D3 | Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference. |
| D4 | Sample was diluted due to the presence of high levels of target analytes. |
| D6 | The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits. |
| H6 | Analysis initiated outside of the 15 minute EPA recommended holding time. |
| L0 | Analyte recovery in the laboratory control sample (LCS) was outside QC limits. |
| L2 | Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low. |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| R1 | RPD value was outside control limits. |
| R3 | RPD value was outside control limits due to uncertainty of values at or near the PRL. |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2513553038** | **MCRA6-DW-MY-01** | SM 2340B | ICP/3102 | | |
| **2513553039** | **MCRA6-DW-JU-01** | SM 2340B | ICP/3102 | | |
| **2513553040** | **MCRA6-DW-ND-01** | SM 2340B | ICP/3102 | | |
| **2513553041** | **MCRA6-DW-PM-01** | SM 2340B | ICP/3102 | | |
| **2513553042** | **MCRA6-DW-SY-01** | SM 2340B | ICP/3102 | | |
| **2513553043** | **MCRA6-DW-RY-01** | SM 2340B | ICP/3102 | | |
| **2513553044** | **MCRA6-SP-JU-01** | SM 2340B | ICP/3102 | | |
| **2513553010** | **MCRA6-SS-SFSR-01** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553011** | **MCRA6-SS-SFSR-02** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553012** | **MCRA6-SS-SFSR-03** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553013** | **MCRA6-SS-SFSR-04** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553014** | **MCRA6-SS-SFSR-05** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553015** | **MCRA6-SS-SFSR-06** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553016** | **MCRA6-SS-SFSR-07** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553017** | **MCRA6-SS-SFSR-08** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553018** | **MCRA6-SS-SFSR-09** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553019** | **MCRA6-MCL-SS-01** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553029** | **MCRA6-SS-GC-01** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553030** | **MCRA6-SS-GC-02** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553031** | **MCRA6-SS-GC-02a** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553032** | **MCRA6-SS-GC-03** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553033** | **MCRA6-SS-GC-04** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553034** | **MCRA6-SS-GC-04a** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553035** | **MCRA6-SS-GC-05** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553036** | **MCRA6-SS-76G-01b** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553037** | **MCRA6-SS-76G-02** | EPA 3050 | MPRP/3366 | EPA 6010 | ICP/3111 |
| **2513553038** | **MCRA6-DW-MY-01** | EPA 3010 | MPRP/3348 | EPA 6010 | ICP/3097 |
| **2513553039** | **MCRA6-DW-JU-01** | EPA 3010 | MPRP/3348 | EPA 6010 | ICP/3097 |
| **2513553040** | **MCRA6-DW-ND-01** | EPA 3010 | MPRP/3348 | EPA 6010 | ICP/3097 |
| **2513553041** | **MCRA6-DW-PM-01** | EPA 3010 | MPRP/3348 | EPA 6010 | ICP/3097 |
| **2513553042** | **MCRA6-DW-SY-01** | EPA 3010 | MPRP/3348 | EPA 6010 | ICP/3097 |
| **2513553043** | **MCRA6-DW-RY-01** | EPA 3010 | MPRP/3348 | EPA 6010 | ICP/3097 |
| **2513553044** | **MCRA6-SP-JU-01** | EPA 3010 | MPRP/3348 | EPA 6010 | ICP/3097 |
| **2513553010** | **MCRA6-SS-SFSR-01** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553011** | **MCRA6-SS-SFSR-02** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553012** | **MCRA6-SS-SFSR-03** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553013** | **MCRA6-SS-SFSR-04** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553014** | **MCRA6-SS-SFSR-05** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553015** | **MCRA6-SS-SFSR-06** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553016** | **MCRA6-SS-SFSR-07** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553017** | **MCRA6-SS-SFSR-08** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553018** | **MCRA6-SS-SFSR-09** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553019** | **MCRA6-MCL-SS-01** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553029** | **MCRA6-SS-GC-01** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553030** | **MCRA6-SS-GC-02** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553031** | **MCRA6-SS-GC-02a** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553032** | **MCRA6-SS-GC-03** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2513553033** | **MCRA6-SS-GC-04** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553034** | **MCRA6-SS-GC-04a** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553035** | **MCRA6-SS-GC-05** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553036** | **MCRA6-SS-76G-01b** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553037** | **MCRA6-SS-76G-02** | EPA 6020 | ICPM/35271 | EPA 6020 | ICPM/13894 |
| **2513553001** | **MCRA6-SW-SFRS-01** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553002** | **MCRA6-SW-SFSR-02** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553003** | **MCRA6-SW-SFSR-03** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553004** | **MCRA6-SW-SFSR-04** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553005** | **MCRA6-SW-SFSR-05** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553006** | **MCRA6-SW-SFSR-06** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553007** | **MCRA6-SW-SFSR-07** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553008** | **MCRA6-SW-SFSR-08** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553009** | **MCRA6-SW-SFSR-09** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553020** | **MCRA6-SW-GC-01** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553021** | **MCRA6-SW-GC-02** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553022** | **MCRA6-SW-GC-02a** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553023** | **MCRA6-SW-GC-03** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553024** | **MCRA6-SW-GC-04** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553025** | **MCRA6-SW-GC-04a** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553026** | **MCRA6-SW-GC-05** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553027** | **MCRA6-SW-76G-01b** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553028** | **MCRA6-SW-76G-02** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553038** | **MCRA6-DW-MY-01** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553039** | **MCRA6-DW-JU-01** | EPA 6020 | ICPM/35267 | EPA 6020 | ICPM/13900 |
| **2513553040** | **MCRA6-DW-ND-01** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553041** | **MCRA6-DW-PM-01** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553042** | **MCRA6-DW-SY-01** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553043** | **MCRA6-DW-RY-01** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553044** | **MCRA6-SP-JU-01** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553045** | **MCRA6-SW-MCL-01** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553046** | **MCRA6-SW-DP-01** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553047** | **MCRA6-SW-DP-02** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553048** | **MCRA6-SW-DP-03** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553049** | **MCRA6-SW-EQ-01** | EPA 6020 | ICPM/35268 | EPA 6020 | ICPM/13875 |
| **2513553010** | **MCRA6-SS-SFSR-01** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553011** | **MCRA6-SS-SFSR-02** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553012** | **MCRA6-SS-SFSR-03** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553013** | **MCRA6-SS-SFSR-04** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553014** | **MCRA6-SS-SFSR-05** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553015** | **MCRA6-SS-SFSR-06** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553016** | **MCRA6-SS-SFSR-07** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553017** | **MCRA6-SS-SFSR-08** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553018** | **MCRA6-SS-SFSR-09** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553019** | **MCRA6-MCL-SS-01** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553029** | **MCRA6-SS-GC-01** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553030** | **MCRA6-SS-GC-02** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2513553031** | **MCRA6-SS-GC-02a** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553032** | **MCRA6-SS-GC-03** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553033** | **MCRA6-SS-GC-04** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553034** | **MCRA6-SS-GC-04a** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553035** | **MCRA6-SS-GC-05** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553036** | **MCRA6-SS-76G-01b** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553037** | **MCRA6-SS-76G-02** | EPA 7471 | MERP/1779 | EPA 7471 | MERC/1791 |
| **2513553010** | **MCRA6-SS-SFSR-01** | ASTM D2974-87 | PMST/2177 | | |
| **2513553011** | **MCRA6-SS-SFSR-02** | ASTM D2974-87 | PMST/2177 | | |
| **2513553012** | **MCRA6-SS-SFSR-03** | ASTM D2974-87 | PMST/2177 | | |
| **2513553013** | **MCRA6-SS-SFSR-04** | ASTM D2974-87 | PMST/2177 | | |
| **2513553014** | **MCRA6-SS-SFSR-05** | ASTM D2974-87 | PMST/2177 | | |
| **2513553015** | **MCRA6-SS-SFSR-06** | ASTM D2974-87 | PMST/2177 | | |
| **2513553016** | **MCRA6-SS-SFSR-07** | ASTM D2974-87 | PMST/2177 | | |
| **2513553017** | **MCRA6-SS-SFSR-08** | ASTM D2974-87 | PMST/2177 | | |
| **2513553018** | **MCRA6-SS-SFSR-09** | ASTM D2974-87 | PMST/2177 | | |
| **2513553019** | **MCRA6-MCL-SS-01** | ASTM D2974-87 | PMST/2177 | | |
| **2513553029** | **MCRA6-SS-GC-01** | ASTM D2974-87 | PMST/2177 | | |
| **2513553030** | **MCRA6-SS-GC-02** | ASTM D2974-87 | PMST/2177 | | |
| **2513553031** | **MCRA6-SS-GC-02a** | ASTM D2974-87 | PMST/2177 | | |
| **2513553032** | **MCRA6-SS-GC-03** | ASTM D2974-87 | PMST/2177 | | |
| **2513553033** | **MCRA6-SS-GC-04** | ASTM D2974-87 | PMST/2177 | | |
| **2513553034** | **MCRA6-SS-GC-04a** | ASTM D2974-87 | PMST/2177 | | |
| **2513553035** | **MCRA6-SS-GC-05** | ASTM D2974-87 | PMST/2177 | | |
| **2513553036** | **MCRA6-SS-76G-01b** | ASTM D2974-87 | PMST/2177 | | |
| **2513553037** | **MCRA6-SS-76G-02** | ASTM D2974-87 | PMST/2177 | | |
| **2513553038** | **MCRA6-DW-MY-01** | SM 2310B | WET/3934 | | |
| **2513553039** | **MCRA6-DW-JU-01** | SM 2310B | WET/3934 | | |
| **2513553041** | **MCRA6-DW-PM-01** | SM 2310B | WET/3934 | | |
| **2513553038** | **MCRA6-DW-MY-01** | SM 2320B | WET/3931 | | |
| **2513553039** | **MCRA6-DW-JU-01** | SM 2320B | WET/3931 | | |
| **2513553040** | **MCRA6-DW-ND-01** | SM 2320B | WET/3931 | | |
| **2513553041** | **MCRA6-DW-PM-01** | SM 2320B | WET/3931 | | |
| **2513553042** | **MCRA6-DW-SY-01** | SM 2320B | WET/3931 | | |
| **2513553043** | **MCRA6-DW-RY-01** | SM 2320B | WET/3931 | | |
| **2513553044** | **MCRA6-SP-JU-01** | SM 2320B | WET/3931 | | |
| **2513553001** | **MCRA6-SW-SFRS-01** | SM 2540C | WET/3915 | | |
| **2513553002** | **MCRA6-SW-SFSR-02** | SM 2540C | WET/3915 | | |
| **2513553003** | **MCRA6-SW-SFSR-03** | SM 2540C | WET/3915 | | |
| **2513553004** | **MCRA6-SW-SFSR-04** | SM 2540C | WET/3915 | | |
| **2513553005** | **MCRA6-SW-SFSR-05** | SM 2540C | WET/3915 | | |
| **2513553006** | **MCRA6-SW-SFSR-06** | SM 2540C | WET/3915 | | |
| **2513553007** | **MCRA6-SW-SFSR-07** | SM 2540C | WET/3915 | | |
| **2513553008** | **MCRA6-SW-SFSR-08** | SM 2540C | WET/3915 | | |
| **2513553009** | **MCRA6-SW-SFSR-09** | SM 2540C | WET/3915 | | |
| **2513553020** | **MCRA6-SW-GC-01** | SM 2540C | WET/3915 | | |
| **2513553021** | **MCRA6-SW-GC-02** | SM 2540C | WET/3915 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2513553022** | **MCRA6-SW-GC-02a** | SM 2540C | WET/3915 | | |
| **2513553023** | **MCRA6-SW-GC-03** | SM 2540C | WET/3915 | | |
| **2513553024** | **MCRA6-SW-GC-04** | SM 2540C | WET/3922 | | |
| **2513553025** | **MCRA6-SW-GC-04a** | SM 2540C | WET/3918 | | |
| **2513553026** | **MCRA6-SW-GC-05** | SM 2540C | WET/3918 | | |
| **2513553027** | **MCRA6-SW-76G-01b** | SM 2540C | WET/3918 | | |
| **2513553028** | **MCRA6-SW-76G-02** | SM 2540C | WET/3918 | | |
| **2513553038** | **MCRA6-DW-MY-01** | SM 2540C | WET/3918 | | |
| **2513553039** | **MCRA6-DW-JU-01** | SM 2540C | WET/3918 | | |
| **2513553040** | **MCRA6-DW-ND-01** | SM 2540C | WET/3922 | | |
| **2513553041** | **MCRA6-DW-PM-01** | SM 2540C | WET/3922 | | |
| **2513553042** | **MCRA6-DW-SY-01** | SM 2540C | WET/3922 | | |
| **2513553043** | **MCRA6-DW-RY-01** | SM 2540C | WET/3918 | | |
| **2513553044** | **MCRA6-SP-JU-01** | SM 2540C | WET/3918 | | |
| **2513553045** | **MCRA6-SW-MCL-01** | SM 2540C | WET/3915 | | |
| **2513553001** | **MCRA6-SW-SFRS-01** | SM 2540D | WET/3908 | | |
| **2513553002** | **MCRA6-SW-SFSR-02** | SM 2540D | WET/3908 | | |
| **2513553003** | **MCRA6-SW-SFSR-03** | SM 2540D | WET/3908 | | |
| **2513553004** | **MCRA6-SW-SFSR-04** | SM 2540D | WET/3908 | | |
| **2513553005** | **MCRA6-SW-SFSR-05** | SM 2540D | WET/3908 | | |
| **2513553006** | **MCRA6-SW-SFSR-06** | SM 2540D | WET/3908 | | |
| **2513553007** | **MCRA6-SW-SFSR-07** | SM 2540D | WET/3908 | | |
| **2513553008** | **MCRA6-SW-SFSR-08** | SM 2540D | WET/3908 | | |
| **2513553009** | **MCRA6-SW-SFSR-09** | SM 2540D | WET/3908 | | |
| **2513553020** | **MCRA6-SW-GC-01** | SM 2540D | WET/3917 | | |
| **2513553021** | **MCRA6-SW-GC-02** | SM 2540D | WET/3917 | | |
| **2513553022** | **MCRA6-SW-GC-02a** | SM 2540D | WET/3917 | | |
| **2513553023** | **MCRA6-SW-GC-03** | SM 2540D | WET/3919 | | |
| **2513553024** | **MCRA6-SW-GC-04** | SM 2540D | WET/3919 | | |
| **2513553025** | **MCRA6-SW-GC-04a** | SM 2540D | WET/3908 | | |
| **2513553026** | **MCRA6-SW-GC-05** | SM 2540D | WET/3908 | | |
| **2513553027** | **MCRA6-SW-76G-01b** | SM 2540D | WET/3917 | | |
| **2513553028** | **MCRA6-SW-76G-02** | SM 2540D | WET/3908 | | |
| **2513553038** | **MCRA6-DW-MY-01** | SM 2540D | WET/3908 | | |
| **2513553039** | **MCRA6-DW-JU-01** | SM 2540D | WET/3908 | | |
| **2513553040** | **MCRA6-DW-ND-01** | SM 2540D | WET/3919 | | |
| **2513553041** | **MCRA6-DW-PM-01** | SM 2540D | WET/3919 | | |
| **2513553042** | **MCRA6-DW-SY-01** | SM 2540D | WET/3908 | | |
| **2513553043** | **MCRA6-DW-RY-01** | SM 2540D | WET/3908 | | |
| **2513553044** | **MCRA6-SP-JU-01** | SM 2540D | WET/3917 | | |
| **2513553045** | **MCRA6-SW-MCL-01** | SM 2540D | WET/3908 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2513553001** | **MCRA6-SW-SFRS-01** | SM 4500-H+B | WET/3909 | | |
| **2513553002** | **MCRA6-SW-SFSR-02** | SM 4500-H+B | WET/3909 | | |
| **2513553003** | **MCRA6-SW-SFSR-03** | SM 4500-H+B | WET/3909 | | |
| **2513553004** | **MCRA6-SW-SFSR-04** | SM 4500-H+B | WET/3909 | | |
| **2513553005** | **MCRA6-SW-SFSR-05** | SM 4500-H+B | WET/3909 | | |
| **2513553006** | **MCRA6-SW-SFSR-06** | SM 4500-H+B | WET/3909 | | |
| **2513553007** | **MCRA6-SW-SFSR-07** | SM 4500-H+B | WET/3909 | | |
| **2513553008** | **MCRA6-SW-SFSR-08** | SM 4500-H+B | WET/3909 | | |
| **2513553009** | **MCRA6-SW-SFSR-09** | SM 4500-H+B | WET/3909 | | |
| **2513553020** | **MCRA6-SW-GC-01** | SM 4500-H+B | WET/3911 | | |
| **2513553021** | **MCRA6-SW-GC-02** | SM 4500-H+B | WET/3911 | | |
| **2513553022** | **MCRA6-SW-GC-02a** | SM 4500-H+B | WET/3911 | | |
| **2513553023** | **MCRA6-SW-GC-03** | SM 4500-H+B | WET/3909 | | |
| **2513553024** | **MCRA6-SW-GC-04** | SM 4500-H+B | WET/3909 | | |
| **2513553025** | **MCRA6-SW-GC-04a** | SM 4500-H+B | WET/3909 | | |
| **2513553026** | **MCRA6-SW-GC-05** | SM 4500-H+B | WET/3909 | | |
| **2513553027** | **MCRA6-SW-76G-01b** | SM 4500-H+B | WET/3909 | | |
| **2513553028** | **MCRA6-SW-76G-02** | SM 4500-H+B | WET/3909 | | |
| **2513553038** | **MCRA6-DW-MY-01** | SM 4500-H+B | WET/3914 | | |
| **2513553039** | **MCRA6-DW-JU-01** | SM 4500-H+B | WET/3909 | | |
| **2513553040** | **MCRA6-DW-ND-01** | SM 4500-H+B | WET/3911 | | |
| **2513553041** | **MCRA6-DW-PM-01** | SM 4500-H+B | WET/3911 | | |
| **2513553042** | **MCRA6-DW-SY-01** | SM 4500-H+B | WET/3909 | | |
| **2513553043** | **MCRA6-DW-RY-01** | SM 4500-H+B | WET/3909 | | |
| **2513553044** | **MCRA6-SP-JU-01** | SM 4500-H+B | WET/3909 | | |
| **2513553045** | **MCRA6-SW-MCL-01** | SM 4500-H+B | WET/3911 | | |
| **2513553010** | **MCRA6-SS-SFSR-01** | EPA 9045 | WET/3910 | | |
| **2513553011** | **MCRA6-SS-SFSR-02** | EPA 9045 | WET/3910 | | |
| **2513553012** | **MCRA6-SS-SFSR-03** | EPA 9045 | WET/3910 | | |
| **2513553013** | **MCRA6-SS-SFSR-04** | EPA 9045 | WET/3910 | | |
| **2513553014** | **MCRA6-SS-SFSR-05** | EPA 9045 | WET/3910 | | |
| **2513553015** | **MCRA6-SS-SFSR-06** | EPA 9045 | WET/3910 | | |
| **2513553016** | **MCRA6-SS-SFSR-07** | EPA 9045 | WET/3910 | | |
| **2513553017** | **MCRA6-SS-SFSR-08** | EPA 9045 | WET/3910 | | |
| **2513553018** | **MCRA6-SS-SFSR-09** | EPA 9045 | WET/3910 | | |
| **2513553019** | **MCRA6-MCL-SS-01** | EPA 9045 | WET/3910 | | |
| **2513553029** | **MCRA6-SS-GC-01** | EPA 9045 | WET/3910 | | |
| **2513553030** | **MCRA6-SS-GC-02** | EPA 9045 | WET/3910 | | |
| **2513553031** | **MCRA6-SS-GC-02a** | EPA 9045 | WET/3910 | | |
| **2513553032** | **MCRA6-SS-GC-03** | EPA 9045 | WET/3910 | | |
| **2513553033** | **MCRA6-SS-GC-04** | EPA 9045 | WET/3910 | | |
| **2513553034** | **MCRA6-SS-GC-04a** | EPA 9045 | WET/3910 | | |
| **2513553035** | **MCRA6-SS-GC-05** | EPA 9045 | WET/3910 | | |
| **2513553036** | **MCRA6-SS-76G-01b** | EPA 9045 | WET/3910 | | |
| **2513553037** | **MCRA6-SS-76G-02** | EPA 9045 | WET/3910 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USFS Monte Cristo DGI
Pace Project No.: 2513553

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **2513553038** | **MCRA6-DW-MY-01** | EPA 300.0 | WETA/2755 | | |
| **2513553039** | **MCRA6-DW-JU-01** | EPA 300.0 | WETA/2755 | | |
| **2513553040** | **MCRA6-DW-ND-01** | EPA 300.0 | WETA/2755 | | |
| **2513553041** | **MCRA6-DW-PM-01** | EPA 300.0 | WETA/2755 | | |
| **2513553042** | **MCRA6-DW-SY-01** | EPA 300.0 | WETA/2755 | | |
| **2513553043** | **MCRA6-DW-RY-01** | EPA 300.0 | WETA/2755 | | |
| **2513553044** | **MCRA6-SP-JU-01** | EPA 300.0 | WETA/2755 | | |



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2513553

Page: 1 of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 99 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Karen Jang |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Tot. Rec. Al, As, Cd, Cr | Cu, Fe, Pb, Mn, Sb, Zn | pH, hardness | TSS, TDS | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA6-SW-SFRS-01 | WT | G | | | 9/10/12 | 1340 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 2 | MCRA6-SW-SFSR-02 | WT | G | | | | 1300 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 3 | MCRA6-SW-SFSR-03 | WT | G | | | | 1145 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 4 | MCRA6-SW-SFSR-04 | WT | G | | | | 1105 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 5 | MCRA6-SW-SFSR-05 | WT | G | | | | 1025 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 6 | MCRA6-SW-SFSR-06 | WT | G | | | | 1210 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 7 | MCRA6-SW-SFSR-07 | WT | G | | | | 1140 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 8 | MCRA6-SW-SFSR-08 | WT | G | | | | 1120 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 9 | MCRA6-SW-SFSR-09 | WT | G | | | | 1030 | | 2 | | | x | | | | | | | x | x | x | x | N | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [illegible] CES | 9/13/12 | 1200 | [illegible] Sivay | 9/13/12 | 1400 | 3.1 | 4 | 4 | 4 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

2513553

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of

**Section A** Required Client Information

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 99 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Karen Jang |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Total As, Cd, Cr, Cu | Fe, Hg, Pb, Mn, Sb, Zn | pH | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA6-SS-SFSR-01 | SL | G | | | 9/10/12 | 1345 | | 2 | x | | | | | | | | x | x | x | N | |
| 2 | MCRA6-SS-SFSR-02 | SL | G | | | | 1305 | | 2 | x | | | | | | | | x | x | x | N | |
| 3 | MCRA6-SS-SFSR-03 | SL | G | | | | 1150 | | 2 | x | | | | | | | | x | x | x | N | |
| 4 | MCRA6-SS-SFSR-04 | SL | G | | | | 1110 | | 2 | x | | | | | | | | x | x | x | N | |
| 5 | MCRA6-SS-SFSR-05 | SL | G | | | | 1030 | | 2 | x | | | | | | | | x | x | x | N | |
| 6 | MCRA6-SS-SFSR-06 | SL | G | | | | 1215 | | 2 | x | | | | | | | | x | x | x | N | |
| 7 | MCRA6-SS-SFSR-07 | SL | G | | | | 1145 | | 2 | x | | | | | | | | x | x | x | N | |
| 8 | MCRA6-SS-SFSR-08 | SL | G | | | | 1125 | | 2 | x | | | | | | | | x | x | x | N | |
| 9 | MCRA6-SS-SFSR-09 | SL | G | | | | 1035 | | 2 | x | | | | | | | | x | x | x | N | |
| 10 | MCRA6-MCL-SS-01 | SL | G | | | | 1105 | | 2 | x | | | | | | | | x | x | x | N | |
| 11 | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [illegible] / CES | 9/13/12 | 1200 | [illegible] Sway | 09/13/12 | 400 | 1.5 | 4 | 4 | 4 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

2513553

Pace Analytical™
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 3 of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 99 |
| Pace Quote Reference | CES_052411_Monte Cristo Mine |
| Pace Project Manager | Karen Jang |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Tot. Rec. Al, As, Cd, Cr | Cu, Fe, Pb, Mn, Sb, Zn | pH, hardness | TSS, TDS | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA6-SW-GC-01 | WT | G | | | 9/12/12 | 1200 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 2 | MCRA6-SW-GC-02 | WT | G | | | | 1100 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 3 | MCRA6-SW-GC-02a | WT | G | | | | 1035 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 4 | MCRA6-SW-GC-03 | WT | G | | | | 1005 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 5 | MCRA6-SW-GC-04 | WT | G | | | | 940 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 6 | MCRA6-SW-GC-04a | WT | G | | | 9/11/12 | 1110 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 7 | MCRA6-SW-GC-05 | WT | G | | | 9/11/12 | 1000 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 8 | ~~MCRA6-SW-76G-01~~ | ~~WT~~ | ~~G~~ | | | | | | ~~2~~ | | | ~~x~~ | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 9 | ~~MCRA6-SW-76G-01a~~ | ~~WT~~ | ~~G~~ | | | | | | ~~2~~ | | | ~~x~~ | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 10 | MCRA6-SW-76G-01b | WT | G | | | 9/11/12 | 1210 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 11 | MCRA6-SW-76G-02 | WT | G | | | 9/11/12 | 1015 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [signature] / CES | 9/13/12 | 9200 | Jyothi Swamy | 9/13/12 | 1400 | 3.2 | 4 | 4 | 4 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| SAMPLER NAME AND SIGNATURE | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|---|
| PRINT Name of SAMPLER: | | | | | |
| SIGNATURE of SAMPLER: | DATE Signed (MM/DD/YY): | | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2513553

Page: 4 of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 9 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Karen Jang |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Total As, Cd, Cr, Cu | Fe, Hg, Pb, Mn, Sb, Zn | pH | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA6-SS-GC-01 | SL | G | | | 9/12/12 | 1205 | | 2 | x | | | | | | | | x | x | x | N | |
| 2 | MCRA6-SS-GC-02 | SL | G | | | | 1105 | | 2 | x | | | | | | | | x | x | x | N | |
| 3 | MCRA6-SS-GC-02a | SL | G | | | | 1040 | | 2 | x | | | | | | | | x | x | x | N | |
| 4 | MCRA6-SS-GC-03 | SL | G | | | | 1010 | | 2 | x | | | | | | | | x | x | x | N | |
| 5 | MCRA6-SS-GC-04 | SL | G | | | | 945 | | 2 | x | | | | | | | | x | x | x | N | |
| 6 | MCRA6-SS-GC-04a | SL | G | | | 9/11/12 | 1115 | | 2 | x | | | | | | | | x | x | x | N | |
| 7 | MCRA6-SS-GC-05 | SL | G | | | 9/11/12 | 1005 | | 2 | x | | | | | | | | x | x | x | N | |
| 8 | ~~MCRA6-SS-76G-01~~ | ~~SL~~ | ~~G~~ | | | | | | ~~2~~ | ~~x~~ | | | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 9 | ~~MCRA6-SS-76G-01a~~ | ~~SL~~ | ~~G~~ | | | | | | ~~2~~ | ~~x~~ | | | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 10 | MCRA6-SS-76G-01b | SL | G | | | 9/11/12 | 1215 | | 2 | x | | | | | | | | x | x | x | N | |
| 11 | MCRA6-SS-76G-02 | SL | G | | | 9/11/12 | 1020 | | 2 | x | | | | | | | | x | x | x | N | |
| 12 | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Pace / CES | 9/13/12 | 1200 | Justin Sidney | 09/13/12 | 1400 | 1.6 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2513553

Page: 5 of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 99 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Karen Jang |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Tot. Rec. Al, As, Cd, Cr | Cu, Fe, Pb, Mn, Sb, Zn | pH, hardness | TSS, TDS | Chloride, sulfate, alkalinity | Ca, Mg, Na, K | Total Acidity | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA6-DW-MY-01 | WT | G | | | 9/11/12 | 1410 | | 6 | | | x | | | | | | x | x | x | x | x | x | x | N | |
| 2 | MCRA6-DW-JU-01 | WT | G | | | 9/11/12 | 1230 | | 6 | | | x | | | | | | x | x | x | x | x | x | x | N | |
| 3 | ~~MCRA6-DW-BA-01~~ | ~~WT~~ | ~~G~~ | | | | | | ~~5~~ | | | ~~x~~ | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | | N | |
| 4 | MCRA6-DW-ND-01 | WT | G | | | 9/12/12 | 1400 | | 5 | | | x | | | | | | x | x | x | x | x | x | | N | |
| 5 | MCRA6-DW-PM-01 | WT | G | | | 9/12/12 | 1305 | | 6 | | | x | | | | | | x | x | x | x | x | x | x | N | |
| 6 | ~~MCRA6-DW-[illegible]-01~~ | ~~WT~~ | ~~G~~ | | | | | | ~~6~~ | | | ~~x~~ | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | N | |
| 7 | MCRA6-DW-SY-01 | WT | G | | | 9/12/12 | 1030 | | 5 | | | x | | | | | | x | x | x | x | x | x | | N | |
| 8 | MCRA6-DW-RY-01 | WT | G | | | 9/11/12 | 1035 | | 5 | | | x | | | | | | x | x | x | x | x | x | | N | |
| 9 | ~~MCRA6-DW-SH-01~~ | ~~WT~~ | ~~G~~ | | | | | | ~~5~~ | | | ~~x~~ | | | | | | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | ~~x~~ | | N | |
| 10 | MCRA6-SP-JU-01 | WT | G | | | 9/11/12 | 1135 | | 5 | | | x | | | | | | x | x | x | x | x | x | | N | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [signature] | 9/13/12 | 1200 | [signature] | 9/13/12 | 1400 | 4 | 4 | 4 | 4 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| SAMPLER NAME AND SIGNATURE | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|---|
| PRINT Name of SAMPLER: | | | | | |
| SIGNATURE of SAMPLER: | DATE Signed (MM/DD/YY): | | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

2513553

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 6 of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | Cascade Earth Sciences |
| Address: | 3511 Pacific Boulevard SW |
| | Albany, Oregon 97321 |
| Email To: | ryan.tobias@cascade-earth.com |
| Phone: 503-931-3157 | Fax: 541-967-7619 |
| Requested Due Date/TAT: | Standard |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Ryan Tobias |
| Copy To: | |
| Purchase Order No.: | |
| Project Name: | USFS Monte Cristo DGI |
| Project Number: | 2011230022-005 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Dustin Wasley |
| Company Name: | Cascade Earth Sciences |
| Address: | 12720 E. Nora, Ste. A Spokane, WA 99 |
| Pace Quote Reference: | CES_05012_Monte Cristo Mine |
| Pace Project Manager: | Karen Jang |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER CERCLA

Site Location STATE: WA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Tot. Rec. Al, As, Cd, Cr | Cu, Fe, Pb, Mn, Sb, Zn | pH, hardness | TSS, TDS | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MCRA6-SW-MCL-01 | WT | G | | | 9/10/12 | 1100 | | 2 | | | x | | | | | | x | x | x | x | N | |
| 2 | MCRA6-SW-DP-01 | WT | G | | | 9/11/12 | 1420 | | 1 | | | x | | | | | | x | x | | | N | |
| 3 | MCRA6-SW-DP-02 | WT | G | | | 9/12/12 | 1310 | | 1 | | | x | | | | | | x | x | | | N | |
| 4 | MCRA6-SW-DP-03 | WT | G | | | 9/10/12 | 1040 | | 1 | | | x | | | | | | x | x | | | N | |
| 5 | MCRA6-SW-EQ-01 | WT | G | | | 9/12/12 | 1605 | | 1 | | | x | | | | | | x | x | | | N | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [signature] / CES | 9/13/12 | 1200 | [signature] | 9/13/12 | 1400 | 2.1 | 4 | 4 | 4 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | | | |
|---|---|---|---|
| SAMPLER NAME AND SIGNATURE | | | |
| PRINT Name of SAMPLER: | | | |
| SIGNATURE of SAMPLER: | DATE Signed (MM/DD/YY): | | |

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

# Sample Container Count

2513553

Pace Analytical

CLIENT: Cascade Earth Sciences

COC PAGE 1 of —
COC ID# —

Trip Blank(s) Provided? Y (N)

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 1 | | | 1 2 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 9 | | | | 1 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

2513553

Pace Analytical

CLIENT: Cascade Earth Sciences

COC PAGE 2 of ___
COC ID# _____

**Trip Blank(s) Provided?**
**Y / N**

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 1 | 1 | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | * | * | | | | | | | | * MCL-SS-01 reads 11:00 on jar. |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

2513553

Pace Analytical

CLIENT: CAS

COC PAGE 8 of 8
COC ID#

Trip Blank(s) Provided?
Y / N

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 1 | | | 1 L2 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | ✓ | | | ✓ | | | | | | | | | | | | |
| 8 | | | | — | | | — | | | | | | | | | | | | |
| 9 | | | | — | | | — | | | | | | | | | | | | |
| 10 | | | | 1 | | | 1 L2 | | | | | | | | | | | | |
| 11 | | | | 1 | | | 1 R | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

2513553

Pace Analytical

CLIENT: CAS

COC PAGE 4 of –

COC ID# –

Trip Blank(s) Provided? Y / N

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

2513553

Pace Analytical

CLIENT: CAS

COC PAGE 5 of –
COC ID# /

Trip Blank(s) Provided?
Y (N)

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 1 | 1 | 1 | 2 ½ | | | | | | | | | | | | |
| 2 | | | | 1 | 1 | 1 | 2 ½ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | 1 | 1 | | 2 ½ | | | | | | | | | | | | |
| 5 | | | | 1 | 1 | 1 | 2 ½ | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | 1 | 1 | | 2 ½ | | | | | | | | | | | | |
| 8 | | | | 1 | 1 | | 2 ½ | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 1 | 1 | | 2 ½ | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

# Sample Container Count

2513553

Pace Analytical

CLIENT: CAS

COC PAGE 6 of 6
COC ID#

Trip Blank(s) Provided? Y / N

| Sample Line Item | VG9H | AG1H | AG1U | BP1U | BP2U | BP3U | BP3N | BP3S | WGKU | WGFU | WG2U | DG9M | DG9B | VG9W | VSG | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 1 | | | 1 | | | | | | | | | | | | Sampling time 10:55 |
| 2 | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | BP2S | 500mL H2SO4 plastic | JGFU | 4 oz amber glass soil jar |
| AG1U | 1liter unpreserved amber glass | BP2U | 500mL unpreserved plastic | WGKU | 8 oz clear glass soil jar |
| AG2S | 500mL H2SO4 amber glass | BP2Z | 500mL NaOH, Zn Ac | WGFU | 4 oz clear glass soil jar |
| AG2U | 500mL unpreserved amber glass | BP3C | 250mL NaOH plastic | WG2U | 2 oz clear glass soil jar |
| AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | JGFM | 4 oz amber glass soil jar with MeOH |
| BG1H | 1 liter HCL clear glass | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | BP3U | 250mL unpreserved plastic | VG9W | 40mL clear vial pre-weighted with DI water |
| BP1N | 1 liter HNO3 plastic | DG9B | 40mL Na Bisulfate clear vial | VSG | Headspace septa vial |
| BP1S | 1 liter H2SO4 plastic | DG9H | 40mL HCL amber voa vial | VG9H | 40mL HCL clear vial |
| BP1U | 1 liter unpreserved plastic | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | DG9T | 40mL Na Thio amber vial | VG9T | 40mL Na Thio. clear vial |
| BP2N | 500mL HNO3 plastic | DG9U | 40mL unpreserved amber vial | ZPLC | Ziploc Bag |
| BP2O | 500mL NaOH plastic | I | Wipe/Swab | U | Summa Can |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Cascade Earth Science Project # _____

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) ____ No ____

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.1, 1.5, 3.2, 1.6, 1.4, 2.1 Biological Tissue is Frozen: Yes No

Temp should be above freezing ≤ 6°C

Date and Initials of person examining contents: VD 9/13/12

Comments:

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | NP 9/13/12 | ☑No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☑Yes | ☐No | ☐N/A | 6. pH |
| **Rush Turn Around Time Requested:** | ☐Yes | ☑No | ☐N/A | 7. |
| **Follow Up / Hold Analysis Requested:** | ☐Yes | ☑No | ☐N/A | 8. |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 9. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 10. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 11. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 12. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 13. Soil MCL-SS-01 reads 11:05 on COC, 11:00 on jar |
| -Includes date/time/ID/Analysis Matrix: Soil, Water | | | | Water MCL-01 reads 11:00 on COC, 10:55 on jars |
| All containers needing preservation have been checked. | ☑Yes | ☐No | ☐N/A | 14. Soils with water ⇒ |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☑Yes | ☐No | ☐N/A | MCRAG-SS-SFSR-06,07,08. |
| Exceptions: VOA, coliform, TOC, O&G | ☐Yes | ☐No | ☑N/A | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 15. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blanks Present: | ☐Yes | ☑No | ☐N/A | 17. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Creation Date: _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: Ryan Tobias Date/Time: 09/13/12 16:53

Comments/ Resolution:

correct times: MCRAG-MCL-SS-01 → 11:00 MCRAG-SW-MCL-01 → 10:55

per Ryan, proceed with the analyses with soil samples that have water in them

See attached email

Ryan Tobias 09/14/12 10:15 → Bottle labeled MCRAG-'DW'-MCL-01 should be 'SW'

-bottle labeled MCRAG-SW-GC-01 in packet should be '-02' (in packet w/ all -02 samples)

**Project Manager Review:** Karen Jang **Date:** 09/14/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

**Karen Jang - RE: Regarding project USFS Monte Cristo DGI**

**From:** "Tobias, Ryan M." <ryan.tobias@valmont.com>
**To:** Karen Jang <Karen.Jang@pacelabs.com>
**Date:** 9/13/2012 4:53 PM
**Subject:** RE: Regarding project USFS Monte Cristo DGI

Hi Karen,

The correct times are:

- MCRA6-MCL-SS-01 – 11:00
- MCRA6-SW-MCL-SW-01 – 10:55

Please proceed with the analyses on the sediment samples. The samples were likely filled from the stream without draining water. I will let the field crew know to fill the jars without water next time.

Thanks,

Ryan

**From:** Karen Jang [mailto:Karen.Jang@pacelabs.com]
**Sent:** Thursday, September 13, 2012 4:40 PM
**To:** Tobias, Ryan M.
**Subject:** Regarding project USFS Monte Cristo DGI

Good afternoon,

I just wanted to let you know of some issues we came across for the USFS Monte Cristo DGI project.

*There were a couple samples that had different times written on the chain compared to the samples themselves:

-soil sample MCRA6-MCL-SS-01 reads 11:05 on the chain, but on the jar it says 11:00
-water sample MCRA6-SW-MCL-01 reads 11:00 on the chain, but on the bottle it says 10:55

Please let me know which times to log these samples in as.

*There were three soil samples that had water in them. It was noted that there were no cracks in the jars and the lids were tightly closed, but the ice in the cooler were melted. Because the soil analyses are affected by the moisture content from the dry weights, this may raise the reporting limits. We are, however, reporting to MDL. The affected samples are:

MCRA6-SS-SFSR-06
MCRA6-SS-SFSR-07
MCRA6-SS-SFSR-08

Please let me know if you would like to proceed with the analyses.

Thanks!

**Karen Jang**
Project Manager
Pace Analytical Services - Seattle
**Direct: 206-957-2427**
Main Office: 206-767-5060
Fax: 206-767-5063
karen.jang@pacelabs.com
www.pacelabs.com

Please let us know how we are doing to better serve your project needs at:
http://www.pacelabs.com/about-us/customer-service-survey/survey.html

The email and documents accompanying this transmission contain confidential information belonging to the sender who is legally privileged. The information is intended only for the use of the individual(s) or entity(ies) named herein. If you are not the intended recipient, you are hereby notified that any disclosure, copying distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you have received this in error, please immediately notify us by telephone (1.888.990.PACE) to arrange for return of the original documents.

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit http://www.symanteccloud.com

The information contained in this E-mail message and the documents accompanying this message are privileged and confidential, and may be protected from disclosure. Please be aware that any use, printing, copying, disclosure or dissemination of this communication may be subject to legal restriction or sanction. If you think that you have received this E-mail message in error, please reply to the sender.