SPRING MEADOW LAKE

RESIDENTIAL AREA INVESTIGATION

HELENA, MONTANA

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Project #: 776-020-001

SUBMITTED TO DEQ BY: Trihydro Corporation

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Table of Contents

1.0 INTRODUCTION 1-1

2.0 SAMPLING PROCEDURES 2-1

2.1 Access and Clearances 2-1

2.2 Surface Soil Sampling 2-2

2.3 Domestic Groundwater Sampling 2-3

2.4 QA/QC Samples 2-3

2.5 Sample Handling and Analytical Requirements 2-4

2.6 Decontamination 2-4

2.7 Investigative Derived Waste 2-4

2.8 Compliance with the Approved SAP 2-4

3.0 LAB ANALYSIS AND QUALITY ASSURANCE/QUALITY CONTROL 3-1

3.1 Data Quality Objectives 3-1

3.2 Laboratory Analysis 3-1

3.3 Data Validation and Data Usability 3-2

4.0 ASSESSMENT RESULTS AND DISCUSSION 4-1

4.1 Soil Results and Discussion 4-1

4.2 Domestic Groundwater Results and Discussion 4-1

4.3 Correlation of Elevated Concentrations 4-2

5.0 RECLAMATION ANALYSIS 5-1

5.1 Current Property Use 5-1

5.2 Action Levels 5-1

5.2.1 Arsenic 5-1

5.2.2 Lead 5-2

5.2.3 Manganese 5-2

5.3 Risk Analysis 5-2

5.4 Evaluation of ARARs 5-3

5.5 Reclamation Alternatives 5-3

6.0 REFERENCES 6-1

List of Tables

2-1. Analytical Methods and Sampling Criteria

3-1. Reporting Limits and QA/QC Specifications

4-1. Surface Soil Sample Results

4-2. Domestic Groundwater Sample Results

List of Figures

1-1. Investigation Area and Land Ownership Parcels

2-1. Surface Soil Sample Locations

2-2. Domestic Groundwater Sample Locations

4-1. Arsenic Concentrations Exceeding Action Level

4-2. Lead Concentrations Exceeding Action Level

4-3. Manganese Concentrations Exceeding Action Level

5-1. Properties With Highest Arsenic, Lead and Manganese Concentrations

List of Appendices

A. PROPERTY IDENTIFICATION LIST

B. FIELD LOGS

C. LABORATORY REPORTS

D. DATA VALIDATION REPORTS

E. SAMPLE CORRELATION RESULTS

1.0 INTRODUCTION

The Montana Department of Environmental Quality (DEQ) tasked Trihydro Corporation (Trihydro) with performing a soil and domestic groundwater sampling investigation in Helena, Montana. The objective of the sampling investigation was to determine the presence of metals in soil and groundwater which may potentially be associated with the Spring Meadow Lake site. Work conducted for this investigation was prescribed in the February 12, 2013 Sampling and Analysis Plan Surface Soil and Domestic Water Well Sampling (SAP) for the study area (Trihydro, 2013).

The Spring Meadow Lake site is located on the northwestern edge of the city of Helena, Montana, in Lewis and Clark County. The site is associated with the Spring Meadow State Park (Park) and Montana WILD/Montana Wildlife Center (MWC). In 1910, the Northwestern Metals Company operated an ore processing facility which deposited ore processing wastes in the MWC area. Northwestern Metals Company went bankrupt in 1915 and in 1916 the New York-Montana Metals Testing and Engineering Company took over the MWC property and operated another ore processing facility until 1920. Ore from Butte, Philipsburg, and local sources were processed at the facilities. From the early 1920s to the early 1960s, the Park and MWC property were used for various gravel mining operations which resulted in the creation of Spring Meadow Lake. In 1981, The State of Montana purchased the 42-acre gravel pit and an additional 4.1 acre parcel (Tetra Tech, 2010).

As a result of years of ore processing, the Park and MWC area were contaminated with high levels of heavy metals in soil and sediment that posed a threat to human health and the environment. The DEQ Mine Waste Cleanup Bureau (DEQ/MWCB) performed reclamation activities at the Park and MWC area to reduce risks to visitors (Tetra Tech, 2010). In early 2013, DEQ received information that soils impacted with heavy metals, including arsenic and lead, might extend beyond the Park and MWC area onto adjacent residential properties. The residential properties adjacent to the Park and MWC area are the focus of the investigation described in this report. The Joslyn Street Tailings Comprehensive Environmental Cleanup and Responsibility Act (CECRA) Facility is located north and east of the residential area (study area). The Joslyn Facility is also the site of mine tailings containing heavy metals from an ore processing facility.

The study area discussed in this report is located to the east of Spring Meadow Lake, and consists of approximately 30 parcels of varying size, comprising a total area of roughly 13 acres, as shown on Figure 1-1. There are several homes on parcels in the investigation area, particularly along Country Club Avenue, although many of the parcels designated for sampling were not developed at the time of the investigation.

2.0 SAMPLING PROCEDURES

2.1 ACCESS AND CLEARANCES

The parcels selected for this assessment are listed in Appendix A. DEQ obtained access to the properties prior to the onset of clearance or sampling activities. The surface soil sample locations presented on Figure 2-1, illustrate the division of larger properties into sample quadrants; specific sample locations were recorded in the field using a combination of visual evaluation of features shown on aerial photographs and a wide area augmentation system-enabled global position system (gps) device. The properties sampled during this investigation are designated on Figure 2-1, and in subsequent text, with an alpha identifier, rather than the property owner's name. Appendix A lists those alpha identifiers and the corresponding property owner.

Prior to conducting soil sampling activities, DEQ arranged with property owners for the sampling team to access the various sampling locations; utility locates were performed prior to commencement of sampling operations. Based on the locations of the proposed sample locations presented in the SAP, seven public utilities were contacted, including:

- Northwestern Energy Electrical
- Northwestern Energy Natural Gas
- Qwest Communications
- Lincoln Telephone Company
- Blackfoot Communications
- Bresnan Communications
- The City of Helena

The utility locates were conducted by ELM and public utilities prior to commencement of sampling on February 11, 2013, and due to snowfall that obscured the markings on February 14, 2013, were repeated for some properties on February 18, 2013.

Notes regarding general activities associated with conducting sampling the residential area were recorded in a site sampling logbook, presented in Appendix B.

2.2 SURFACE SOIL SAMPLING

Surface soil sampling procedures were performed in accordance with the approved SAP. Trihydro collected 109 five-point composite surface soil samples, 21 drip zone composite surface soil samples, and 2 garden surface soil samples during this investigation. This sampling methodology is described in the Superfund Lead-Contaminated Residential Sites Handbook (EPA 2003), and requires that "residential lots" be divided into equally-sized portions, from each of which, a five-aliquot sample is taken. For each sample submitted for analysis, the locations of the five aliquots were intended to be roughly equidistant from each other, and provide reasonable coverage of the sampled area. The aliquots from a given sample sector were composited at the lab to form a single sample representing the surface soil of that section.

The division of the residential lots into sample sections was dependent upon lot size; lots with a surface area less than 5,000 square feet were generally sampled in the front yard, back yard, and drip zone. Larger lots (greater than 5,000 square feet but less than one-acre) were divided into four quadrants of roughly equal surface area, and properties greater than one acre in size were divided into roughly ¼ acre sections, with a five-point composite taken from each quadrant, in either case. Garden areas, when present, were treated as an additional discrete area of the yard, ensuring that a five-aliquot sample was taken from the garden.

Where there was residence on the property, additional drip zone samples were collected. A drip zone sample is a composite of surface soil, in which the aliquots are taken from the surface soil at rain gutter downspout discharge locations if present, or alternately at a location between 6 and 30 inches away from each side of the structure. These drip zone aliquots were composited at the lab in the same manner as the five-point composite samples.

Surface soil sample aliquots were collected using a hand-held hammer drill fitted with a stainless steel auger bit. Using the hammer drill, the auger bit was advanced, through a plastic cup with a hole at the base (equivalent to the diameter of the auger bit), and into the soil to a depth of six inches below ground surface, attempting to obtain a sufficient amount (approximately 50 grams) of loosened soil for compositing. The plastic cup was used to contain the loosen soil from the auger bit such that the soil could be readily transferred to the appropriate sample container.

Soil from each sample aliquot location was transferred directly from the plastic cup to the appropriate sample container. The sample containers were labeled with the project identifier (ID) (SMLC for five-point composites and SMLD for drip zone samples) followed by the unique sample location (1 through 109; see Figure 2-1) and aliquot identification (A through E). Each sample id was preceded by the alpha character identifying the property from which it was taken. For example, the third aliquot for a five-point composite sample from location SMLC-9 (located in lot B) was labeled B-SMLC-9-C. The date and time were also recorded on the labels.

The soil samples were analyzed for total metals as directed in the DEQ scope of work.

2.3 DOMESTIC GROUNDWATER SAMPLING

Domestic groundwater sampling procedures were performed in accordance with the approved SAP. Trihydro collected two domestic water well samples from each property that had a domestic water well at the time of the investigation, one for total metals analysis and one for dissolved metals analysis. Locations of the domestic wells are presented on Figure 2-2. The well water samples were collected from an outside spigot as close to the wellhead as possible and before any potential type of treatment system (filtration system, water softener, etc.); only the Property B homeowner reported having an in-home filter system.

Water samples were collected in the appropriate sampling container (250 milliliter plastic) for analysis. The sample containers were labeled with the project ID (SMLW) followed by the unique sample location. Each sample id was also be preceded by the alpha character identifying the property from which it was taken. For example, the sample from location 6 (see Figure 2-2) was labeled G-SMLW-6. The date and time were recorded on the labels. Total metals samples were preserved in the field with an aliquot of nitric acid. In the event that samples in addition to those already mapped were required, the sample id followed the naming convention outlined above, beginning with number 14, for the first additional sample, incrementing as necessary for any other additional samples, site wide. One additional water sample was collected, from property "J," and the well for a previously identified potential water sample on property "I" did not exist.

DEQ collected an additional water sample (E-SMLW-15) for total metals analysis from the indoor tap at property E to verify that concentrations of metals, particularly lead, in the indoor drinking water did not exceed the Federal EPA Maximum Contaminant Levels (MCLs).

2.4 QA/QC SAMPLES

In addition to the investigative soil samples, 11 quality assurance/quality control (QA/QC) samples were collected, including 6 blind field duplicates and 5 equipment rinsate blanks. The number of QA/QC samples was chosen to represent a QA/QC sample frequency of 1 per 10 investigative samples collected, with at least one field duplicate obtained for each day's sampling.

Equipment rinsate blanks were collected by pouring deionized water through or over decontaminated sampling equipment and into appropriate sample containers. The purpose of the equipment rinsate blank sample is to test for cross-contamination related to decontamination procedures. The equipment rinsate blanks collected alternated between

each of the pieces of non-disposable sampling equipment requiring decontamination between samples (stainless–steel spoons, stainless-steel bowl, and auger bit). The equipment rinsate blanks were labeled in accordance with the SAP, and the field logbooks recorded the specific equipment that each equipment rinsate blank is associated with as a cross-reference. The rinsate samples were analyzed for metals as directed in the DEQ scope of work and as presented in Table 2-1.

2.5 SAMPLE HANDLING AND ANALYTICAL REQUIREMENTS

Labeled sample containers were carefully packaged to reduce the chance for breakage and the coolers containing the samples were secured using chain-of-custody procedures until ready for hand-delivery to the laboratory, which occurred at the end of each day's sampling. Samples were maintained under chain-of-custody procedures. The samples were analyzed for metals following the appropriate United States Environmental Protection Agency (EPA) Method, as listed in Table 2-1. The analyses were performed by Energy Laboratories Inc. in Helena, MT. As required by DEQ, the samples were analyzed under an expedited analytical schedule with a five-day turnaround time.

2.6 DECONTAMINATION

Sampling equipment that is not expendable was thoroughly decontaminated prior to use. The sampling devices were decontaminated in the field prior to sampling. Non-disposable field equipment was decontaminated as follows: Equipment was first be wiped with paper towels to remove as much material as possible. It was then washed in tap water with Alconox (or similar detergent) and then tap water. The equipment was then rinsed with deionized water and then towel-dried and placed in a plastic bag until used.

2.7 INVESTIGATIVE DERIVED WASTE

Soil generated from the sampling activities that was not containerized and submitted for laboratory analysis was minimal (less than 8 ounces per property). The leftover soil was replaced in each sample hole. Disposable field equipment was wiped with paper towels to remove as much material as possible, and decontaminated as necessary, and was disposed as general refuse. Wash and rinse water was disposed of on the ground on the property where the wash and rinse water was used.

2.8 COMPLIANCE WITH THE APPROVED SAP

Work was conducted in accordance with the January 2013 SAP (Trihydro, 2013). There were no deviations from the approved SAP.

3.0 LAB ANALYSIS AND QUALITY ASSURANCE/QUALITY CONTROL

3.1 DATA QUALITY OBJECTIVES

Data quality objectives (DQOs) are qualitative and quantitative statements that clarify the purpose of the study, define the most appropriate data to collect and the conditions from which to collect the data, and specify tolerable limits on decision errors. These limits are then used as the basis for establishing the quantity and quality of data needed to derive a defensible decision.

This soil and groundwater investigation required that a sufficient number of samples be collected from domestic water wells and surface soil locations such that concentrations of metals, in particular arsenic and lead, can be reliably characterized and any potential risk to human health quantified. To ensure adequate characterization and identification of potential risk, it is necessary that the data meet specific criteria for precision, accuracy, and representativeness.

The DQOs for the data collected during the investigation activities are listed in Table 3-1, and required the analysis of samples using EPA approved methods and the laboratory analysis of blank, laboratory control, duplicate, and matrix spike quality control samples. The information listed in Table 2 includes the constituent, analytical method, reporting limit specified by DEQ, maximum relative percent difference (RPD) and acceptable recovery range.

The DQO's for the project were met and the data validation (Section 3.3) discusses the laboratory data and compliance with DQOs.

3.2 LABORATORY ANALYSIS

Samples collected during the supplemental investigation were maintained under chain-of-custody (COC) procedures. The COC records from field to laboratory were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. Samples were determined to have been received in good condition, intact, and within acceptable temperatures. Copies of the COCs receipts are provided with the laboratory data packages in Appendix C.

Energy Laboratories Inc. in Helena, Montana performed the analysis of the soils collected during the supplemental investigation and the subsequent results. The samples were analyzed for lead and arsenic following EPA Method 6010 as required by the SAP under a five-day turnaround time.

3.3 DATA VALIDATION AND DATA USABILITY

Data were evaluated in general accordance with validation criteria set forth in the EPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, document number EPA 540R-10-011, January 2010 (EPA 2010), with additional reference to the EPA CLP National Functional Guidelines for Inorganic Superfund Data Review, document number EPA 540-R-04-004, October 2004 (EPA 2004). Review of duplicates was conducted in accordance with EPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluation of Organic Analysis, December 1996 (EPA 1996) or as specified by the method (as applicable).

The data validation process assessed data for precision, accuracy, method compliance, and completeness. The assessment of these components resulted in the following conclusions:

- The calculated Relative Percent Difference (RPD) values for Matrix Spike / Matrix Spike Duplicates (MS/MSDs) were reported to be within data validation or laboratory QC limits. A total of 34 data required qualification as a result of laboratory precision measures, but the data were acceptable for use in this site assessment.
- Field duplicate samples were collected in accordance with SAP requirements. Data QC limits for field duplicate RPDs, as specified in the project-specific SAP, were set at 0-35 percent (%) for soil samples. No data were qualified for field duplicate RPDs.
- Analytes were not detected in the equipment blank samples for this sample collection effort. Data were not qualified as a result of equipment blank data and there was no indication of cross-contamination resulting from sampling procedures.
- A total of 113 data points were qualified as "J" due to MS/MSD recoveries that were either above or below the data validation QC limits, but the data were acceptable for use in site assessment.
- The criteria for data quality objectives were met for method compliance and instrument performance.
- The SAP required that the percentage of useable sample data points be equal to 100% of the total number of data points expected from the planned sample analyses. The completeness of the data validated was measured to be 100%.

All surface soil and domestic water data were determined to have acceptable quality for use in this site evaluation. No data were rejected, and sample analyses were performed as requested. Detailed data validation reports are presented in Appendix D.

4.0 ASSESSMENT RESULTS AND DISCUSSION

4.1 SOIL RESULTS AND DISCUSSION

Table 4-1 includes the results from the five-point composite soil samples and the four-point-composite drip zone samples; the EPA Soil Screening Level (SSL), and Regional Screening Level (RSL) (EPA 2012) for each of the listed metals are also shown.

DEQ screens contaminant concentrations in soil for potential leaching to groundwater impacts using the EPA SSLs. Several contaminant concentrations exceeded their respective SSLs. However, the leaching process is very complicated for metals and difficult to accurately predict in the natural environment; therefore, DEQ would not likely require cleanup to these SSLs without further analysis. For instance, the leaching analysis performed at the Joslyn Street Tailings Facility showed that the EPA SSLs are too conservative. For these reasons and since there were no exceedances exhibited in groundwater samples, subsequent discussion in this report will not address SSL exceedances but instead, will focus on concentrations elevated above the RSLs.

As shown in Table 4-1, samples collected from several properties contained concentrations of one or more metals in exceedance of the RSL. Elevated concentrations were identified for total arsenic, total lead, total manganese, and a single detection of total mercury. Properties from which samples were taken that contain the high concentrations include: Property L (arsenic,); Property M (arsenic, manganese); Property I (arsenic, mercury); Property C (arsenic, lead, manganese); Property H (arsenic, manganese); Property A (arsenic); Property O (lead); Property D (arsenic, lead, manganese); Property K (arsenic, manganese); Property E (arsenic, lead, manganese). Metals concentrations are displayed geographically in Figures 4-1 through 4-3 where concentrations that exceed the RSL are identified; metals that exhibited no concentrations above the RSLs in multiple surface soil samples are not mapped.

4.2 DOMESTIC GROUNDWATER RESULTS AND DISCUSSION

Table 4-2 contains the results from the domestic water well samples which were analyzed for total and for dissolved metals; the Montana DEQ Human Health Standard (HHS) (DEQ 2012) and the MCL for each of the contaminants are also listed in this table. As shown in Table 4-2, samples from two wells contained one or more total metals at concentrations that exceed the MCL; Property B (total arsenic, total lead, and total manganese); Property E (total lead). The home at Property B has a filter system to remove undissolved contaminants from the drinking water. None of the concentrations in the unfiltered indoor drinking water sample from Property E exceeded the MCLs and, in particular, no lead was detected in the indoor drinking water sample.

4.3 CORRELATION OF ELEVATED CONCENTRATIONS

Concentrations of metals that exceed their respective RSLs are present in 52 of the soil samples collected during this sampling event. The locations of surface soil samples exhibiting elevated concentrations of metals shown in Figures 4-1 through 4-3 indicate that the majority of concentrations exceeding the RSL occur in a few relatively well-defined locations, and therefore, that elevated levels of these metals may be correlated.

To verify the apparent relationship between contaminant concentrations, the data for arsenic, lead, and manganese were statistically evaluated for correlation with each other, using the correlation procedure (Proc Corr) in the SAS statistical software package. Other metals were not included in the statistical analysis because they were predominantly not detected, or were detected with few to no exceedances above their respective RSL. The results of this correlation analysis are included in Appendix E where the correlation matrix shows that the P-value for each hypothesized relationship is less than 0.0001, indicating that the concentration of each of the tested metals is highly correlated (with high certainty) with those of the other tested metals; i.e. where one metal exhibits a high concentration, the concentrations of the other metals can be expected to be high also, and conversely, when one is low the others are expected to be low as well.

The results of the correlation analysis support the observations made in the 2006 Tetra Tech Remedial Investigation (Tetra Tech, 2006) that "any potential reclamation or remediation efforts that clean up arsenic contaminated soils would also clean up areas contaminated by lead and manganese." This relationship also reflects the belief stated in the Tetra Tech document that a primary source for the contamination is "mill-tailings waste product from the concentrating and processing of manganese ores," performed by New York-Montana Testing and Engineering in 1916 and 1917.

Although samples from two domestic wells exhibited concentrations that exceed the EPA (MCL) for total arsenic, total lead, and total manganese, none of the samples contained concentrations of dissolved metals that exceed the DEQ HHS for dissolved metals. The additional total metals analysis from the indoor tap at property E indicated that the indoor drinking water contains no metals concentrations that exceed the MCLs. Based upon this information, concentrations of these metals in groundwater do not require further action and will not be included in the subsequent discussion.

5.0 RECLAMATION ANALYSIS

All areas with metals concentrations exceeding their respective SSLs or RSLs represent a potential risk to human health and will require further evaluation/remediation in the future. As shown on Figures 4-1 through 4-3, three of the larger areas containing elevated metals concentrations do not currently contain residences. Three properties (C, D, and E) had concentrations of arsenic, lead, and manganese in soil several times higher than the other sampled properties and these three properties are currently occupied with residents. Thus, residential exposure to soils on these three properties shown in Figure 5-1, represents the greatest current exposure risk of all the properties sampled.

5.1 CURRENT PROPERTY USE

Several residential properties with currently occupied homes, most located along Country Club Avenue, are included in the investigation and had elevated metal concentrations in soil samples collected from the residential yards. The other groups of elevated concentrations occur on unoccupied, undeveloped property.

5.2 ACTION LEVELS

5.2.1 ARSENIC

Risk-based screening levels for arsenic in residential soil may range from 0.39 to less than 10 mg/kg. However, arsenic is a naturally-occurring element in the western United States with published regional concentrations ranging from 4 to 16.5 milligrams/kilogram (mg/kg) (Schacklette and Boerngen, 1984). In 2005, DEQ established a Montana-specific background value for arsenic in surface soil by calculating the 95% upper confidence limit (UCL) of the mean arsenic concentration measured in 209 surface soil samples. The result was a statewide generic action level for arsenic in surface soil of 40 mg/kg (MDEQ, 2005; DEQ recently completed a statewide metals background study that may result in a decrease in this level.). In 2011, DEQ contracted with Trihydro to determine naturally-occurring levels of arsenic in the Helena area, specifically in the area of the Joslyn Street Tailings Facility located northeast of the study area. Trihydro acquired samples from multiple depths at 30 DEQ-selected locations and calculated a 95% UCL of the mean arsenic concentration in surface soil, of 49.6 mg/kg (Trihydro, 2011). The background arsenic levels determined in the Joslyn Street Tailings Facility study are comparable to those found in the previous Spring Meadow Lake investigations (Tetra Tech, 2006), and as the Spring Meadow Lake site is in the same drainage basin as the Joslyn Street Tailings Facility, the site-specific background action level of 49.6 mg/kg for arsenic is also appropriate for Spring Meadow Lake residential surface soils.

5.2.2 LEAD

Like arsenic, lead is naturally-occurring in the western United States. Although lead is classified as a "probable" carcinogen, other health effects caused by lead exposure occur at much lower doses than those causing cancer and include hypertensive and reproductive problems, and developmental difficulties in children; therefore and because there are no carcinogenic slope factors or reference doses (RfDs) for lead, the residential cleanup levels for lead were established using the integrated exposure uptake biokinetic (IEUBK) model for lead in children (EPA, 2007). The IEUBK model is used to calculate a lead concentration that will not result in more than a 5% likelihood that a child's level of lead in the blood will exceed 10 micrograms/deciliter (µg/dl) with exposure to residential soil. The residential soil lead action level (i.e. the maximum safe exposure level for the noncancerous effects of lead) is 400 mg/kg. While this level is included as an EPA RSL, including site-specific parameters in the model would not result in a different action level. In addition, the U.S. Center for Disease Control has documented that health effects may occur at blood lead concentrations of 5 µg/dl or less; therefore, while the EPA has not finalized its changes to the model or the screening levels, cleanup levels in excess of 400 mg/kg for residential soil would not be protective of human health.

5.2.3 MANGANESE

The EPA has classified manganese as Class D, i.e. not classifiable as to human carcinogenicity. Evaluation of non-cancer health effects from manganese in soil is generally done by including the oral RfD and the reference concentration for chronic (RfC) inhalation exposure. The current EPA RSL for manganese in soil, based on residential land use under non-diet exposures, is 1,800 mg/kg. DEQ screened the soil sample results by dividing all the non-cancer RSLs by 10. However, since manganese was the only compound that exceeded its adjusted RSL based upon a non-carcinogenic RfD and RfC, the RSL is re-adjusted to provide for the site-specific action level of 1,800 mg/kg. This RSL takes into account the factor of three recommended by EPA for non-dietary exposures by using an RfD of 0.024 mg/kg-day.

5.3 RISK ANALYSIS

While arsenic, lead, manganese, and mercury were detected in at least one sample at concentrations greater than the respective RSLs, as identified previously (Tetra Tech, 2006), the contaminants of concern for the Spring Meadow Lake site are arsenic, lead, and manganese. The surface soil contamination appears to be confined to a number of localized areas in the area of investigation, and is predominately restricted to co-located elevated concentrations of arsenic, lead, and manganese as shown on Figures 4-1, 4-2, and 4-3. Based on this observed association, addressing actionable concentrations of arsenic on the three properties shown on Figure 5-1 will also address the actionable levels of lead and manganese.

5.4 EVALUATION OF ARARS

Applicable or relevant and appropriate requirements (ARARs) are Federal or State environmental laws which guide or limit activities associated with a reclamation project. Applicable requirements are those environmental laws that specifically address hazardous substances, contaminants, activities, locations, or other situations that may be encountered at a specific site; relevant or appropriate requirements on the other hand, address circumstances that are sufficiently similar to situations that may be encountered at the site, that their use is appropriate at that site.

During the 2006 study, DEQ/MWCB provided Tetra Tech a document describing ARARs for reclamation of abandoned mine sites; those ARARs were evaluated and were used to guide the recommendations for reclamation. Although the focus of that effort was on reclaiming land designated for future use as a park, no additional ARARs would be required to address the residential area. The following is a description of the types of ARARs:

- Contaminant–specific ARARs establish an allowable level or concentration of a hazardous or deleterious substance in the environment or prescribe a level or method of treatment for a hazardous or deleterious substance; the Spring Meadow Lake ARARs related to arsenic, manganese, and lead in the residential area are the same as those used in the prior reclamation at the site.
- Location–specific ARARs serve as restrictions on the concentration of a hazardous or deleterious substance or the conduct of activities solely because the site is in a specific location or the action affects specified types of areas; the Spring Meadow Lake residential area is adjacent to Spring Meadow Lake site with no additional extenuating factors.
- Action–specific ARARs are triggered by the performance of a certain activity as part of a particular remedy. They do not, in themselves, determine the remedy but rather indicate the manner in which the remedy must be executed. The remedy will not involve any additional actions that require compliance with additional ARARs.

Thus the results analysis of ARARs that was previously completed by DEQ/MWCB can be used for the current work at the Spring Meadow Lake residential area.

5.5 RECLAMATION ALTERNATIVES

General response actions to satisfy reclamation objectives for the Spring Meadow Lake Site were identified by Tetra Tech in the 2006 RI (Tetra Tech). That effort and the subsequent screening of those alternatives to provide media-specific potential reclamation alternatives was documented in a detailed evaluation of six alternatives that included: no action; institutional controls, containment (with earthen and geomembrane cap); excavation and on-site disposal in repository; excavation and relocation at Basin Creek Mine Leach Pad 1; and excavation and off-site disposal at a solid

waste landfill. The same ARARs, site conditions and constraints that existed at that time are relevant to the current investigation; therefore those analyses were not repeated for this document, and the following estimate is based on DEQ's direction that reclamation efforts will employ excavation and disposal at a solid waste landfill.

Under this alternative, contaminated soils discovered during this investigation would be excavated and disposed of off-site at the city of Helena Landfill or the Valley View Landfill near East Helena. The basic process includes the following: (1) excavating and hauling waste materials to the selected landfill; (2) backfilling and placing cover soil over the excavated areas; (3) restoring / repairing private drives, fences, etc.; and (4) revegetating the disturbed areas at each site.

The disturbed areas would be prepared for revegetation; the excavated areas will be graded to restore landscaping and drainage, match the contour of the land surface, and cover soil will be applied to the disturbed areas.

Efforts would be made to spare or replace other vegetation (trees/shrubs) to the maximum extent practicable. Revegetation would likely take place during the late summer of the year. Lawns would be sodded and back lots will be seeded; where seeding is performed, the seed mixture and fertilizer would be simultaneously drilled into the prepared seed beds and mulch will be applied to promote temporary protection of the disturbed erodible surfaces.

Heavy equipment may be required to implement this alternative efficiently; however; the relatively constricted area in the residential lots may require the use of smaller, more agile equipment. Multiple large capacity haul trucks, bulldozers, front-end loaders, excavators, and compactors may nevertheless be needed to excavate, haul the material, and restore the residential yards.

5.6 SUMMARY

As noted above, DEQ tasked Trihydro with performing a soil and domestic groundwater sampling investigation at the Spring Meadow Lake residential area in Helena, Montana. The objective of the sampling investigation was to determine the presence of metals in soil and groundwater that may potentially be associated with the Spring Meadow Lake site.

The results of the investigation indicate that although contaminants in drinking water did not exceed the MCLs, there are properties where metals concentrations in surface soil are above action levels; these elevated concentrations of arsenic, lead, and manganese are generally co-located. Further evaluation/remediation is necessary for all areas exceeding action levels.

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TABLES

TABLE 2-1. ANALYTICAL METHODS AND SAMPLING CRITERIA
SPRING MEADOW LAKE, HELENA, MONTANA

Matrix / Constituent	Analytical Method	Preservation	Holding Time	Sample Size/ Sample Container
Soil Samples				
Arsenic, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Barium, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Beryllium, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Cadmium, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Chromium, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Copper, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Lead, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Manganese, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Mercury, Total	EPA 7471B	None	28 days (NA[1])	50 gram/plastic or glass
Nickel, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Selenium, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Silver, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Zinc, Total	EPA 6010C	None	180 days (NA[1])	50 gram/plastic or glass
Water Samples				
Arsenic, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Barium, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Beryllium, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Cadmium, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Chromium, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Copper, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Lead, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Manganese, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Mercury, Dissolved and Total	EPA7470A	Preserve with nitric acid to pH <2	28 days (NA[1])	250 milliliter/plastic
Nicke,l Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Selenium, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Silver, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic
Zinc, Dissolved and Total	EPA 6020A	Preserve with nitric acid to pH <2	180 days (NA[1])	250 milliliter/plastic

TABLE 3-1. REPORTING LIMITS AND QA/QC SPECIFICATIONS
SPRING MEADOW LAKE, HELENA, MONTANA

Surface Soil

Constituent	Analysis Method	Required Reporting Limit (mg/kg)	Maximum Field Duplicate RPD	Matrix Spike Recovery Range	Laboratory Control Sample (LCS) Recovery Range	EPA Regional Screening Levels (mg/kg)	EPA Soil Screening Levels (mg/kg)
Arsenic, Total	EPA 6010C	1	50%	75-125%	70-130%	49.6**	49.6**
Barium, Total	EPA 6010C	1	50%	75-125%	70-130%	1500	410
Beryllium, Total	EPA 6010C	1	50%	75-125%	70-130%	16	32
Cadmium, Total	EPA 6010C	1	50%	75-125%	70-130%	7	3.8
Chromium, Total	EPA 6010C	1	50%	75-125%	70-130%	120000	1800000
Copper, Total	EPA 6010C	1	50%	75-125%	70-130%	310	460
Lead, Total	EPA 6010C	1	50%	75-125%	70-130%	400	140
Manganese, Total	EPA 6010C	1	50%	75-125%	70-130%	180	210
Mercury, Total	EPA 7471B	0.5	50%	75-125%	70-130%	1	1
Nickel, Total	EPA 6010C	1	50%	75-125%	70-130%	150	62.5
Selenium, Total	EPA 6010C	1	50%	75-125%	70-130%	39	2.6
Silver, Total	EPA 6010C	1	50%	75-125%	50-150%	39	8.4
Zinc, Total	EPA 6010C	1	50%	75-125%	70-130%	2300	123

Groundwater

Constituent	Analysis Method	Required Reporting Limit (mg/L)	Maximum Field Duplicate RPD	Matrix Spike Recovery Range	Laboratory Control Sample (LCS) Recovery Range	Maximum Contaminant Level (mg/L)	DEQ Human Health Standard (mg/L)
Arsenic, Total	EPA 6020A	0.001	30%	75-125%	70-130%	0.010	0.010
Barium, Total	EPA 6020A	0.05	30%	75-125%	70-130%	2	1
Beryllium, Total	EPA 6020A	0.001	30%	75-125%	70-130%	0.004	0.004
Cadmium, Total	EPA 6020A	0.001	30%	75-125%	70-130%	0.005	0.005
Chromium, Total	EPA 6020A	0.005	30%	75-125%	70-130%	0.1	0.1
Copper, Total	EPA 6020A	0.005	30%	75-125%	70-130%	1.3*	1.3
Lead, Total	EPA 6020A	0.001	30%	75-125%	70-130%	0.015	0.015
Manganese, Total	EPA 6020A	0.001	30%	75-125%	70-130%	0.05*	none
Mercury, Total	EPA 7470A	0.0001	30%	75-125%	70-130%	0.002	0.002
Nickel, Total	EPA 6020A	0.005	30%	75-125%	70-130%	N/A	0.1
Selenium, Total	EPA 6020A	0.001	30%	75-125%	70-130%	0.05	0.05
Silver, Total	EPA 6020A	0.001	30%	75-125%	50-150%	0.10*	0.1
Zinc, Total	EPA 6020A	0.01	30%	75-125%	70-130%	5*	2

EPA RSLs for all constituents except lead are divided by 10 to account for multiple contaminants impacting the same target organ or critical effect
* - secondary maximum contaminant level
N/A - not available
**-area-specific background
mg/kg - milligram per kilogram
mg/L-milligram per liter
RPD - Relative Percent Difference

TABLE 4-1. SURFACE SOIL SAMPLE RESULTS
SPRING MEADOW LAKE, HELENA, MONTANA

PROPERTY OWNER	SAMPLE LOCATION	CURRENT PROPERTY USE	DATE SAMPLED	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Zinc, Total
EPA RSL (mg/kg)				49.6**	1500	16	7	120000	310	400	1800	1	150	39	39	2300
EPA SSL (mg/kg)				49.6**	410	32	3.8	1800000	460	140	210	1	62.5	2.6	8.4	123
B&W Hill Inc	L-SMLC-61	UNDEVELOPED	2/15/2013	**64**	105	ND(1)	3	21	79	266	1150	ND(0.5)	14	ND(1)	2	314
B&W Hill Inc	L-SMLC-62		2/15/2013	40	98	ND(1)	2	15	40	124	1250	ND(0.5)	12	ND(1)	ND(1)	161
B&W Hill Inc	L-SMLC-63		2/15/2013	**62**	143	ND(1)	3	13	56	246	1510	ND(0.5)	11	ND(1)	2	303
B&W Hill Inc	L-SMLC-64		2/15/2013	24	601	ND(1)	1	17	42	85	786	ND(0.5)	13	ND(1)	ND(1)	136
B&W Hill Inc	L-SMLC-65		2/15/2013	31	694	ND(1)	2	13	52	116	851	ND(0.5)	13	ND(1)	ND(1)	153
B&W Hill Inc	L-SMLC-66		2/15/2013	24	1160	ND(1)	1	10	43	77	840	ND(0.5)	9	ND(1)	ND(1)	95
B&W Hill Inc	L-SMLC-67		2/15/2013	38	821	ND(1)	2	10	55	123	948	ND(0.5)	9	ND(1)	ND(1)	174
B&W Hill Inc	L-SMLC-68		2/15/2013	**106**	502	ND(1)	3	13	54	201	**2310**	ND(0.5)	11	ND(1)	1	265
Bryant	B-SMLC-10	RESIDENTIAL	2/13/2013	28	207	ND(1)	ND(1)	17	30	60	795	ND(0.5)	13	ND(1)	ND(1)	100
Bryant	B-SMLC-11		2/13/2013	24	228	ND(1)	ND(1)	19	24	38	1110	ND(0.5)	15	ND(1)	ND(1)	89
Bryant	B-SMLC-12		2/13/2013	22	213	ND(1)	ND(1)	22	28	35	646	ND(0.5)	17	ND(1)	ND(1)	93
Bryant	B-SMLC-9		2/13/2013	33	247	ND(1)	ND(1)	19	33	51	1150	ND(0.5)	14	ND(1)	ND(1)	113
Bryant	B-SMLD-1		2/13/2013	21	212	ND(1)	ND(1)	13	31	27	604	ND(0.5)	12	ND(1)	ND(1)	92
Derosier	M-SMLC-69	RESIDENTIAL	2/18/2013	**82**	127	ND(1)	2	19	63	178	1460	ND(0.5)	13	ND(1)	ND(1)	206
Derosier	M-SMLC-70		2/18/2013	**55**	141	ND(1)	4	18	103	368	**1940**	ND(0.5)	11	ND(1)	3	434
Derosier	M-SMLC-71		2/18/2013	43	110	ND(1)	2	21	56	154	1210	ND(0.5)	11	ND(1)	1	177
Derosier	M-SMLC-72		2/18/2013	**64**	183	ND(1)	3	19	77	276	**2480**	ND(0.5)	14	ND(1)	3	314
Harrington	I-SMLC-38	RESIDENTIAL	2/15/2013	46	184	ND(1)	1	15	34	100	840	ND(0.5)	12	ND(1)	ND(1)	132
Harrington	I-SMLC-39		2/15/2013	38	171	ND(1)	ND(1)	16	36	86	780	ND(0.5)	12	ND(1)	ND(1)	124
Harrington	I-SMLC-45		2/13/2013	49	199	ND(1)	1	17	39	140	903	ND(0.5)	12	ND(1)	ND(1)	170
Harrington	I-SMLC-46		2/13/2013	39	159	ND(1)	1	12	36	80	759	ND(0.5)	10	ND(1)	ND(1)	106
Harrington	I-SMLC-246*		2/13/2013	34	161	ND(1)	1	13	33	82	770	ND(0.5)	9	ND(1)	ND(1)	105
Harrington	I-SMLC-47		2/13/2013	**55**	172	ND(1)	2	16	41	110	1080	ND(0.5)	11	ND(1)	ND(1)	170
Harrington	I-SMLC-48		2/13/2013	33	172	ND(1)	1	17	45	80	731	**1.6**	11	ND(1)	ND(1)	126
Harrington	I-SMLD-10		2/15/2013	49	188	ND(1)	1	17	45	143	1070	ND(0.5)	13	ND(1)	ND(1)	642
Harrington	I-SMLD-11		2/13/2013	27	196	ND(1)	ND(1)	12	30	50	454	ND(0.5)	10	ND(1)	ND(1)	94
Harrington	I-SMLD-12		2/13/2013	**53**	160	ND(1)	2	18	40	111	923	ND(0.5)	11	ND(1)	ND(1)	185
Harrington	I-SMLD-14		2/13/2013	38	146	ND(1)	1	16	44	77	705	ND(0.5)	10	ND(1)	ND(1)	142
Herbel	C-SMLC-17	RESIDENTIAL	2/18/2013	**352**	194	ND(1)	3	17	79	371	**14200**	ND(0.5)	10	ND(1)	5	560
Herbel	C-SMLC-18		2/18/2013	**125**	145	ND(1)	1	15	74	142	**5460**	ND(0.5)	10	ND(1)	2	308
Herbel	C-SMLC-19		2/18/2013	**714**	253	ND(1)	5	17	118	**753**	**29200**	ND(0.5)	11	ND(1)	12	1070
Herbel	C-SMLC-20		2/18/2013	**457**	289	ND(1)	5	13	150	**641**	**39800**	0.9	9	ND(1)	11	1270
Herbel	C-SMLD-19		2/18/2013	**1390**	248	ND(1)	7	15	181	**1120**	**33700**	ND(0.5)	10	ND(1)	15	1440
Herbel	C-SMLD-3		2/18/2013	**624**	249	ND(1)	5	14	132	**759**	**27000**	ND(0.5)	10	ND(1)	12	1060

TABLE 4-1. SURFACE SOIL SAMPLE RESULTS
SPRING MEADOW LAKE, HELENA, MONTANA

PROPERTY OWNER	SAMPLE LOCATION	CURRENT PROPERTY USE	DATE SAMPLED	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Zinc, Total
EPA RSL (mg/kg)				49.6**	1500	16	7	120000	310	400	1800	1	150	39	39	2300
EPA SSL (mg/kg)				49.6**	410	32	3.8	1800000	460	140	210	1	62.5	2.6	8.4	123
Mann Arthur	H-SMLC-33	UNDEVELOPED	2/19/2013	**54**	195	ND(1)	3	16	40	160	1490	ND(0.5)	10	ND(1)	1	261
Mann Arthur	H-SMLC-34		2/19/2013	46	156	ND(1)	1	17	36	90	977	ND(0.5)	9	ND(1)	ND(1)	146
Mann Arthur	H-SMLC-35		2/19/2013	**51**	187	ND(1)	3	26	39	141	1460	ND(0.5)	15	ND(1)	1	236
Mann Arthur	H-SMLC-235*		2/19/2013	**51**	183	ND(1)	3	25	40	139	1400	0.57	14	ND(1)	ND(1)	237
Mann Arthur	H-SMLC-36		2/19/2013	43	173	ND(1)	3	29	42	138	1560	ND(0.5)	15	ND(1)	1	252
Mann Arthur	H-SMLC-37		2/19/2013	**74**	187	ND(1)	3	14	47	139	**1940**	ND(0.5)	15	ND(1)	1	255
Mann Arthur	H-SMLC-49		2/15/2013	**63**	88	ND(1)	1	17	42	100	1480	ND(0.5)	9	ND(1)	ND(1)	140
Mann Arthur	H-SMLC-50		2/15/2013	36	97	ND(1)	1	21	46	75	1070	ND(0.5)	9	ND(1)	ND(1)	126
Mann Arthur	H-SMLC-51		2/15/2013	45	98	ND(1)	ND(1)	17	36	67	1220	ND(0.5)	10	ND(1)	ND(1)	115
Mann Arthur	H-SMLC-251*		2/15/2013	43	112	ND(1)	1	23	38	71	1340	ND(0.5)	9	ND(1)	ND(1)	123
Mann Arthur	H-SMLC-52		2/15/2013	32	113	ND(1)	1	17	28	69	856	ND(0.5)	10	ND(1)	ND(1)	134
Mann Arthur	H-SMLC-53		2/15/2013	**80**	122	ND(1)	1	15	43	99	1420	ND(0.5)	12	ND(1)	ND(1)	149
Mann Arthur	H-SMLC-54		2/15/2013	**149**	353	ND(1)	2	13	43	157	**2600**	ND(0.5)	9	ND(1)	2	250
Mann Arthur	H-SMLC-55		2/15/2013	**55**	78	ND(1)	ND(1)	16	33	63	991	ND(0.5)	8	ND(1)	ND(1)	105
Mann Arthur	H-SMLC-56		2/15/2013	**53**	453	ND(1)	ND(1)	15	35	56	944	ND(0.5)	13	ND(1)	ND(1)	107
Mann Arthur	H-SMLC-57		2/18/2013	24	162	ND(1)	ND(1)	19	34	49	492	ND(0.5)	12	ND(1)	ND(1)	83
Mann Arthur	H-SMLC-58		2/18/2013	**50**	171	ND(1)	ND(1)	18	34	66	1010	ND(0.5)	12	ND(1)	ND(1)	126
Mann Arthur	H-SMLC-258*		2/18/2013	**51**	163	ND(1)	1	20	38	62	1020	ND(0.5)	12	ND(1)	ND(1)	126
Mann Arthur	H-SMLC-59		2/18/2013	23	134	ND(1)	ND(1)	25	47	39	523	ND(0.5)	15	ND(1)	ND(1)	85
Mann Arthur	H-SMLC-60		2/18/2013	31	173	ND(1)	ND(1)	19	34	46	555	ND(0.5)	13	ND(1)	ND(1)	94
Mann Arthur	H-SMLD-20		2/19/2013	28	169	ND(1)	2	22	42	81	849	ND(0.5)	13	ND(1)	ND(1)	184
Mann Arthur	H-SMLD-7		2/19/2013	37	153	ND(1)	1	23	40	86	1050	ND(0.5)	12	ND(1)	ND(1)	218
Mann Arthur	H-SMLD-8		2/18/2013	24	193	ND(1)	2	25	69	71	991	ND(0.5)	15	ND(1)	ND(1)	203
Mann Arthur	H-SMLG-2		2/15/2013	45	127	ND(1)	1	15	38	64	1050	ND(0.5)	10	ND(1)	ND(1)	136
Satre	A-SMLC-1	RESIDENTIAL	2/18/2013	29	119	ND(1)	1	19	47	90	699	ND(0.5)	8	ND(1)	ND(1)	125
Satre	A-SMLC-2		2/18/2013	25	139	ND(1)	1	16	41	93	629	ND(0.5)	9	ND(1)	ND(1)	123
Satre	A-SMLC-5		2/18/2013	33	147	ND(1)	1	17	58	90	965	ND(0.5)	10	ND(1)	2	146
Satre	A-SMLC-6		2/18/2013	24	113	ND(1)	ND(1)	30	100	38	607	ND(0.5)	15	ND(1)	ND(1)	82
Satre	A-SMLC-7		2/18/2013	18	115	ND(1)	ND(1)	35	43	40	643	ND(0.5)	10	ND(1)	ND(1)	89
Satre	A-SMLC-8		2/18/2013	27	123	ND(1)	1	24	47	94	781	ND(0.5)	9	ND(1)	ND(1)	117
Satre	A-SMLC-107		2/18/2013	17	124	ND(1)	1	21	164	46	596	ND(0.5)	11	ND(1)	ND(1)	100
Satre	A-SMLC-108		2/18/2013	25	122	ND(1)	ND(1)	22	111	61	748	ND(0.5)	11	ND(1)	ND(1)	115
Satre	A-SMLC-3		2/18/2013	32	127	ND(1)	1	20	71	107	885	ND(0.5)	8	ND(1)	ND(1)	148
Satre	A-SMLC-4		2/18/2013	28	130	ND(1)	1	19	48	82	984	ND(0.5)	9	ND(1)	ND(1)	150

TABLE 4-1. SURFACE SOIL SAMPLE RESULTS
SPRING MEADOW LAKE, HELENA, MONTANA

PROPERTY OWNER	SAMPLE LOCATION	CURRENT PROPERTY USE	DATE SAMPLED	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Zinc, Total
EPA RSL (mg/kg)				49.6**	1500	16	7	120000	310	400	1800	1	150	39	39	2300
EPA SSL (mg/kg)				49.6**	410	32	3.8	1800000	460	140	210	1	62.5	2.6	8.4	123
Satre	G-SMLC-29	RESIDENTIAL	2/18/2013	46	159	ND(1)	1	20	43	93	1190	ND(0.5)	10	ND(1)	ND(1)	173
Satre	G-SMLC-30		2/18/2013	40	175	ND(1)	1	23	43	87	1190	ND(0.5)	11	ND(1)	1	174
Satre	G-SMLC-31		2/18/2013	29	191	ND(1)	1	16	48	79	842	ND(0.5)	9	ND(1)	ND(1)	164
Satre	G-SMLC-231*		2/18/2013	31	191	ND(1)	2	17	53	72	919	ND(0.5)	9	ND(1)	1	172
Satre	G-SMLC-32		2/18/2013	**73**	162	ND(1)	2	20	46	107	1360	ND(0.5)	11	ND(1)	ND(1)	188
Satre	G-SMLD-18		2/18/2013	42	185	ND(1)	1	22	44	97	1320	ND(0.5)	13	ND(1)	ND(1)	196
Satre	G-SMLD-6		2/18/2013	42	154	ND(1)	2	25	67	93	1100	ND(0.5)	13	ND(1)	ND(1)	221
Taffs	O-SMLC-103	UNDEVELOPED	2/15/2013	20	187	ND(1)	ND(1)	14	43	61	594	ND(0.5)	13	ND(1)	ND(1)	112
Taffs	O-SMLC-104		2/15/2013	16	239	ND(1)	2	21	165	**491**	496	ND(0.5)	17	ND(1)	ND(1)	742
Taffs	O-SMLC-105		2/15/2013	16	230	ND(1)	ND(1)	18	61	103	484	ND(0.5)	14	ND(1)	ND(1)	312
Taffs	O-SMLC-106		2/15/2013	13	298	ND(1)	1	15	78	74	483	ND(0.5)	13	ND(1)	ND(1)	762
Thurston	J-SMLC-109	RESIDENTIAL	2/13/2013	39	182	ND(1)	ND(1)	20	39	66	707	ND(0.5)	12	ND(1)	ND(1)	114
Thurston	J-SMLC-40		2/13/2013	45	197	ND(1)	1	18	33	89	823	ND(0.5)	11	ND(1)	ND(1)	141
Thurston	J-SMLC-41		2/13/2013	48	162	ND(1)	1	22	57	65	887	ND(0.5)	10	ND(1)	ND(1)	130
Thurston	J-SMLC-42		2/13/2013	28	175	ND(1)	ND(1)	17	31	66	493	ND(0.5)	12	ND(1)	ND(1)	100
Thurston	J-SMLC-43		2/13/2013	35	161	ND(1)	ND(1)	17	44	61	630	ND(0.5)	10	ND(1)	ND(1)	98
Thurston	J-SMLD-13		2/14/2013	37	166	ND(1)	1	20	36	78	694	ND(0.5)	12	ND(1)	ND(1)	177
Thurston	J-SMLD-15		2/14/2013	38	167	ND(1)	1	19	42	156	730	ND(0.5)	13	ND(1)	ND(1)	229
Thurston	J-SMLD-16		2/14/2013	39	194	ND(1)	1	13	36	59	701	ND(0.5)	10	ND(1)	2	1700
Thurston	J-SMLD-17		2/14/2013	48	214	ND(1)	1	22	37	108	1030	ND(0.5)	13	ND(1)	ND(1)	300
Tipton	N-SMLC-100	RESIDENTIAL	2/19/2013	26	179	ND(1)	ND(1)	14	32	51	610	ND(0.5)	12	ND(1)	ND(1)	93
Tipton	N-SMLC-101		2/19/2013	21	160	ND(1)	ND(1)	13	29	50	640	ND(0.5)	10	ND(1)	ND(1)	111
Tipton	N-SMLC-102		2/19/2013	31	164	ND(1)	ND(1)	14	34	53	772	ND(0.5)	12	ND(1)	ND(1)	117
Tipton	N-SMLC-99		2/19/2013	25	153	ND(1)	ND(1)	15	33	44	651	ND(0.5)	12	ND(1)	ND(1)	97
Tipton	N-SMLD-9		2/19/2013	27	154	ND(1)	ND(1)	14	29	41	580	ND(0.5)	12	ND(1)	ND(1)	120
Wegner	D-SMLC-21	RESIDENTIAL	2/19/2013	**255**	217	ND(1)	4	15	101	**420**	**19000**	ND(0.5)	9	ND(1)	6	804
Wegner	D-SMLC-22		2/19/2013	**533**	199	ND(1)	6	13	105	**720**	**14100**	ND(0.5)	9	ND(1)	11	949
Wegner	D-SMLC-23		2/19/2013	**461**	197	ND(1)	5	17	84	**552**	**10700**	ND(0.5)	12	ND(1)	9	786
Wegner	D-SMLC-24		2/19/2013	**80**	179	ND(1)	2	16	50	139	3110	ND(0.5)	10	ND(1)	2	348
Wegner	D-SMLD-21		2/19/2013	**101**	178	ND(1)	3	18	58	189	5490	ND(0.5)	11	ND(1)	2	448
Wegner	D-SMLD-4		2/19/2013	**192**	208	ND(1)	4	16	86	329	**14200**	ND(0.5)	13	ND(1)	5	1060
Wegner	F-SMLC-25	RESIDENTIAL	2/19/2013	44	140	ND(1)	1	19	51	99	1300	ND(0.5)	11	ND(1)	ND(1)	162
Wegner	F-SMLC-26		2/19/2013	21	190	ND(1)	ND(1)	17	43	47	759	ND(0.5)	12	ND(1)	ND(1)	125
Wegner	F-SMLC-27		2/19/2013	16	220	ND(1)	ND(1)	19	35	35	648	ND(0.5)	12	ND(1)	ND(1)	111
Wegner	F-SMLC-28		2/19/2013	40	168	ND(1)	2	30	53	92	1360	ND(0.5)	12	ND(1)	ND(1)	284
Wegner	F-SMLD-5		2/19/2013	21	206	ND(1)	1	21	35	61	754	ND(0.5)	14	ND(1)	ND(1)	145

TABLE 4-1. SURFACE SOIL SAMPLE RESULTS
SPRING MEADOW LAKE, HELENA, MONTANA

PROPERTY OWNER	SAMPLE LOCATION	CURRENT PROPERTY USE	DATE SAMPLED	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Zinc, Total
EPA RSL (mg/kg)				49.6**	1500	16	7	120000	310	400	1800	1	150	39	39	2300
EPA SSL (mg/kg)				49.6**	410	32	3.8	1800000	460	140	210	1	62.5	2.6	8.4	123
Whyte	K-SMLC-44	UNDEVELOPED	2/15/2013	**81**	202	ND(1)	2	14	84	134	1520	ND(0.5)	12	ND(1)	ND(1)	182
Whyte	K-SMLC-73		2/14/2013	32	198	ND(1)	3	17	72	234	1260	ND(0.5)	12	ND(1)	2	384
Whyte	K-SMLC-74		2/14/2013	46	168	ND(1)	2	17	52	137	1350	ND(0.5)	12	ND(1)	1	223
Whyte	K-SMLC-75		2/14/2013	**94**	192	ND(1)	2	17	53	115	**1910**	ND(0.5)	13	ND(1)	1	236
Whyte	K-SMLC-275*		2/14/2013	**92**	193	ND(1)	2	18	48	130	**1970**	ND(0.5)	13	ND(1)	1	243
Whyte	K-SMLC-76		2/14/2013	46	156	ND(1)	2	18	45	110	1510	ND(0.5)	12	ND(1)	ND(1)	191
Whyte	K-SMLC-77		2/14/2013	43	193	ND(1)	1	17	41	82	1130	ND(0.5)	13	ND(1)	ND(1)	154
Whyte	K-SMLC-78		2/14/2013	35	162	ND(1)	1	17	43	64	910	ND(0.5)	12	ND(1)	ND(1)	147
Whyte	K-SMLC-79		2/14/2013	**69**	187	ND(1)	2	16	49	107	1410	ND(0.5)	12	ND(1)	ND(1)	172
Whyte	K-SMLC-80		2/14/2013	33	184	ND(1)	ND(1)	16	36	55	775	ND(0.5)	11	ND(1)	ND(1)	104
Whyte	K-SMLC-81		2/14/2013	**108**	215	ND(1)	2	16	44	128	**2130**	ND(0.5)	13	ND(1)	1	235
Whyte	K-SMLC-82		2/14/2013	**66**	205	ND(1)	2	18	48	93	1560	ND(0.5)	12	ND(1)	ND(1)	183
Whyte	K-SMLC-83		2/14/2013	**83**	193	ND(1)	2	15	65	126	**1860**	ND(0.5)	11	ND(1)	ND(1)	213
Whyte	K-SMLC-84		2/14/2013	**73**	190	ND(1)	2	17	49	206	1630	ND(0.5)	11	ND(1)	ND(1)	195
Whyte	K-SMLC-85		2/14/2013	38	210	ND(1)	2	18	49	193	828	ND(0.5)	13	ND(1)	ND(1)	270
Whyte	K-SMLC-86		2/14/2013	31	186	ND(1)	ND(1)	15	35	65	643	ND(0.5)	11	ND(1)	ND(1)	107
Whyte	K-SMLC-87		2/14/2013	**130**	214	ND(1)	3	17	55	157	**2510**	ND(0.5)	12	ND(1)	1	359
Whyte	K-SMLC-88		2/14/2013	**189**	225	ND(1)	4	20	54	222	**3690**	ND(0.5)	12	ND(1)	2	433
Whyte	K-SMLC-89		2/14/2013	**110**	211	ND(1)	2	15	47	143	**2200**	ND(0.5)	12	ND(1)	1	253
Whyte	K-SMLC-90		2/14/2013	**62**	204	ND(1)	2	15	42	129	1340	ND(0.5)	11	ND(1)	ND(1)	218
Whyte	K-SMLC-91		2/13/2013	**113**	215	ND(1)	2	18	42	128	**2240**	ND(0.5)	12	ND(1)	1	222
Whyte	K-SMLC-92		2/13/2013	36	206	ND(1)	1	15	40	100	907	ND(0.5)	12	ND(1)	ND(1)	130
Whyte	K-SMLC-93		2/13/2013	**78**	202	ND(1)	2	16	41	105	1740	ND(0.5)	11	ND(1)	ND(1)	172
Whyte	K-SMLC-94		2/13/2013	**74**	206	ND(1)	3	16	47	109	1580	ND(0.5)	11	ND(1)	ND(1)	178
Whyte	K-SMLC-95		2/13/2013	27	184	ND(1)	1	15	37	82	597	ND(0.5)	12	ND(1)	ND(1)	105
Whyte	K-SMLC-96		2/13/2013	28	206	ND(1)	1	20	38	96	586	ND(0.5)	12	ND(1)	ND(1)	131
Whyte	K-SMLC-97		2/13/2013	31	158	ND(1)	ND(1)	18	36	56	611	ND(0.5)	10	ND(1)	ND(1)	98
Whyte	K-SMLC-98		2/13/2013	24	236	ND(1)	ND(1)	20	42	105	512	ND(0.5)	10	ND(1)	ND(1)	129

TABLE 4-1. SURFACE SOIL SAMPLE RESULTS
SPRING MEADOW LAKE, HELENA, MONTANA

PROPERTY OWNER	SAMPLE LOCATION	CURRENT PROPERTY USE	DATE SAMPLED	Arsenic, Total	Barium, Total	Beryllium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Zinc, Total
EPA RSL (mg/kg)				49.6**	1500	16	7	120000	310	400	1800	1	150	39	39	2300
EPA SSL (mg/kg)				49.6**	410	32	3.8	1800000	460	140	210	1	62.5	2.6	8.4	123
Wittke-Sears	E-SMLC-13	RESIDENTIAL	2/11/2013	**690**	318	ND(1)	5	28	104	**638**	**22500**	ND(0.5)	12	ND(1)	7	852
Wittke-Sears	E-SMLC-14		2/11/2013	**631**	287	ND(1)	5	18	118	**672**	**37800**	ND(0.5)	11	ND(1)	8	1060
Wittke-Sears	E-SMLC-15		2/11/2013	**419**	269	ND(1)	3	20	91	**475**	**20600**	ND(0.5)	12	ND(1)	6	772
Wittke-Sears	E-SMLC-16		2/11/2013	**94**	179	ND(1)	1	33	65	128	**2900**	ND(0.5)	15	ND(1)	2	211
Wittke-Sears	E-SMLD-2		2/11/2013	**723**	243	ND(1)	5	20	116	**730**	**29300**	ND(0.5)	12	ND(1)	7	1100
Wittke-Sears	E-SMLG-1		2/11/2013	36	191	ND(1)	ND(1)	26	52	71	1790	ND(0.5)	14	ND(1)	1	184
Behind Property E	a1016-DG-7-54	UNDEVELOPED	4/13/12	**375**	--	--	--	--	--	**540.2**	--	--	--	--	--	--
Behind Property C	a1016-DG-7-55		4/13/12	**241**	--	--	--	--	--	**451.14**	--	--	--	--	--	--
Behind Property D	a1016-DG-7-56		4/13/12	**227**	--	--	--	--	--	**483.26**	--	--	--	--	--	--

Notes: Asterisk (*) denotes field duplicate
**-area-specific background
Concentration in **RED** denotes exceedance of action levels
EPA RSLs for all constituents but lead are divided by 10 to account for multiple contaminants impacting the same target organ or critical effect
The screening level for manganese was readjusted by a factor of 10, as it is the only other contaminant to exceed its adjusted screening level
RSL - Residential Screening Level
SSL - Soil Screening Level
mg/kg - milligram per kilogram
Concentrations listed in mg/kg
ND(0.5) - Non-Detect (Reporting Limit)

TABLE 4-2. DOMESTIC GROUNDWATER SAMPLE RESULTS
SPRING MEADOW LAKE, HELENA, MONTANA

Property owner	Location	Date Sampled	Arsenic, Dissolved	Arsenic, Total	Barium, Dissolved	Barium, Total	Beryllium, Dissolved	Beryllium, Total	Cadmium, Dissolved	Cadmium, Total	Chromium, Dissolved	Chromium, Total	Copper, Dissolved	Copper, Total	Lead, Dissolved	Lead, Total	Manganese, Dissolved	Manganese, Total	Mercury, Dissolved	Mercury, Total	Nickel, Dissolved	Nickel, Total	Selenium, Dissolved	Selenium, Total	Silver, Dissolved	Silver, Total	Zinc, Dissolved	Zinc, Total
MCL (mg/L)			--	0.010	--	2	--	0.004	--	0.005	--	0.1	--	1.3*	--	0.015	--	0.05*	--	0.002	--	N/A	--	0.05	--	0.10*	--	5*
DEQ HHS (mg/L)			0.010	--	1	--	0.004	--	0.005	--	0.1	--	1.3	--	0.015	--	none	--	0.002	--	0.1	--	0.05	--	0.1	--	2	--
Bryant	B-SMLW-1	2/13/2013	0.008	**0.028**	ND(0.05)	ND(0.05)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	ND(0.005)	0.209	ND(0.001)	**0.031**	0.19	**0.215**	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.04	0.22
Harrington	I-SMLW-11	2/14/2013	0.001	0.001	ND(0.05)	ND(0.05)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	0.001	0.001	ND(0.001)	0.001	ND(0.01)	ND(0.01)
Harrington	I-SMLW-12	2/13/2013	0.001	0.001	ND(0.05)	0.05	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	ND(0.005)	0.009	ND(0.001)	0.002	0.002	0.017	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.01	0.01
Herbel	C-SMLW-3	2/18/2013	0.009	0.01	ND(0.05)	ND(0.05)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	0.03	0.134	0.001	0.008	ND(0.001)	0.003	ND(0.0001)	ND(0.0001)	ND(0.005)	0.006	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.06	0.13
Mann, Arthur	H-SMLW-7	2/19/2013	0.001	0.001	ND(0.05)	ND(0.05)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	ND(0.005)	0.009	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.01)	0.02
Mann, Gary	H-SMLW-8	2/18/2013	0.003	0.003	ND(0.05)	ND(0.05)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	0.015	0.016	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	0.001	0.001	ND(0.001)	ND(0.001)	0.06	0.12
Satre	G-SMLW-6	2/18/2013	0.004	0.004	0.05	0.05	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	0.042	0.114	ND(0.001)	0.008	ND(0.001)	ND(0.001)	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	ND(0.001)	0.001	ND(0.001)	ND(0.001)	0.03	0.05
Thurston	J-SMLW-13	2/13/2013	0.001	0.001	ND(0.05)	0.05	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	0.001	ND(0.001)	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	0.001	0.001	ND(0.001)	ND(0.001)	ND(0.01)	ND(0.01)
Thurston	J-SMLW-14	2/13/2013	0.001	0.001	ND(0.05)	0.05	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	0.002	0.001	ND(0.001)	ND(0.001)	ND(0.01)	ND(0.01)
Tipton	N-SMLW-9	2/19/2013	0.001	0.001	ND(0.05)	ND(0.05)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	0.001	0.001	ND(0.001)	ND(0.001)	ND(0.01)	ND(0.01)
Wegner	D-SMLW-4	2/19/2013	0.002	0.001	ND(0.05)	ND(0.05)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	0.006	0.006	ND(0.001)	ND(0.001)	ND(0.001)	0.002	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.08	0.07
Witke-Sears	E-SMLW-2	2/11/2013	0.007	0.008	ND(0.05)	0.05	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)	ND(0.005)	0.052	0.116	0.009	**0.031**	0.001	0.003	ND(0.0001)	ND(0.0001)	ND(0.005)	ND(0.005)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.05	0.2
Witke-Sears	E-SMLW-15	3/4/2013	--	0.007	--	ND(0.05)	--	ND(0.001)	--	ND(0.001)	--	ND(0.005)	--	0.024	--	ND(0.001)	--	0.003	--	ND(0.0001)	--	ND(0.005)	--	ND(0.001)	--	ND(0.001)	--	ND(0.01)

* - secondary maximum contaminant level
1) Asterisk (*) denotes field duplicate
2) Concentration in **RED** denotes exceedance of standard
MCL -Maximum Contaminant Level
HHS - Human Health Screening
mg/L - milligram per Liter
Concentrations listed in mg/L
ND(0.5) - Non-Detect (Reporting Limit)

FIGURES

2011 NAIP IMAGERY

EXPLANATION

- INVESTIGATION AREA
- LAND OWNERSHIP PARCELS

N

0 650'

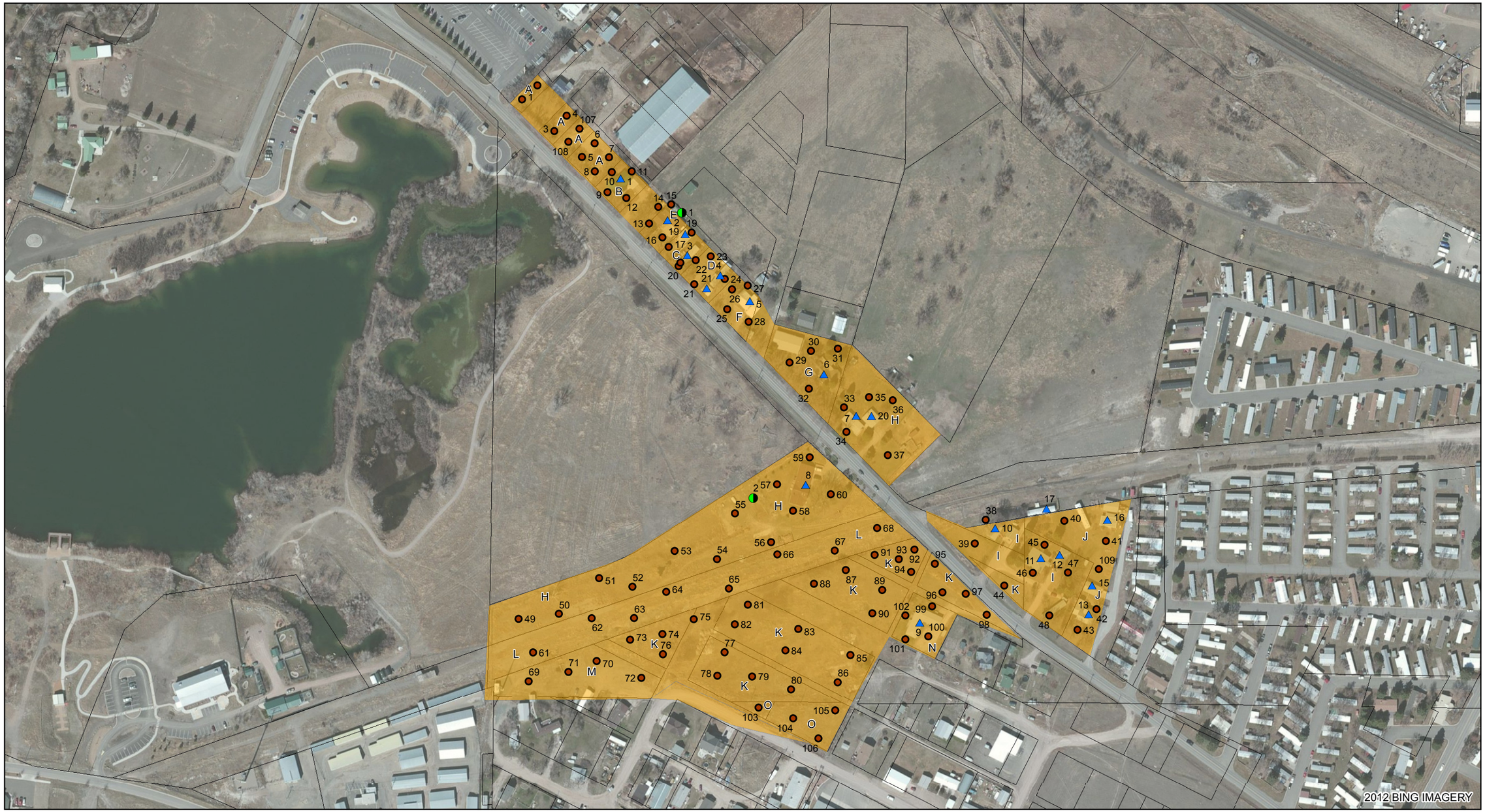
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Laramie, WY 82070
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FIGURE 1-1

INVESTIGATION AREA AND LAND OWNERSHIP PARCELS

SPRING MEADOW LAKE RESIDENTIAL AREAS HELENA, MONTANA

Drawn By: PH	Checked By: JG	Scale: 1" = 650'	Date: 4/15/13	File: MDEQ_InvArea_Figure1.mxd



EXPLANATION

- 5-POINT COMPOSITE GARDEN LOCATION (SMLG)-1, 2
- 5-POINT COMPOSITE SAMPLE LOCATION (SMLC)-1...109
- DRIP ZONE 4-POINT COMPOSITE SAMPLE LOCATION (SMLD)-1...21
- INVESTIGATION AREA
- LAND OWNERSHIP PARCELS - A...O

N

0 250'

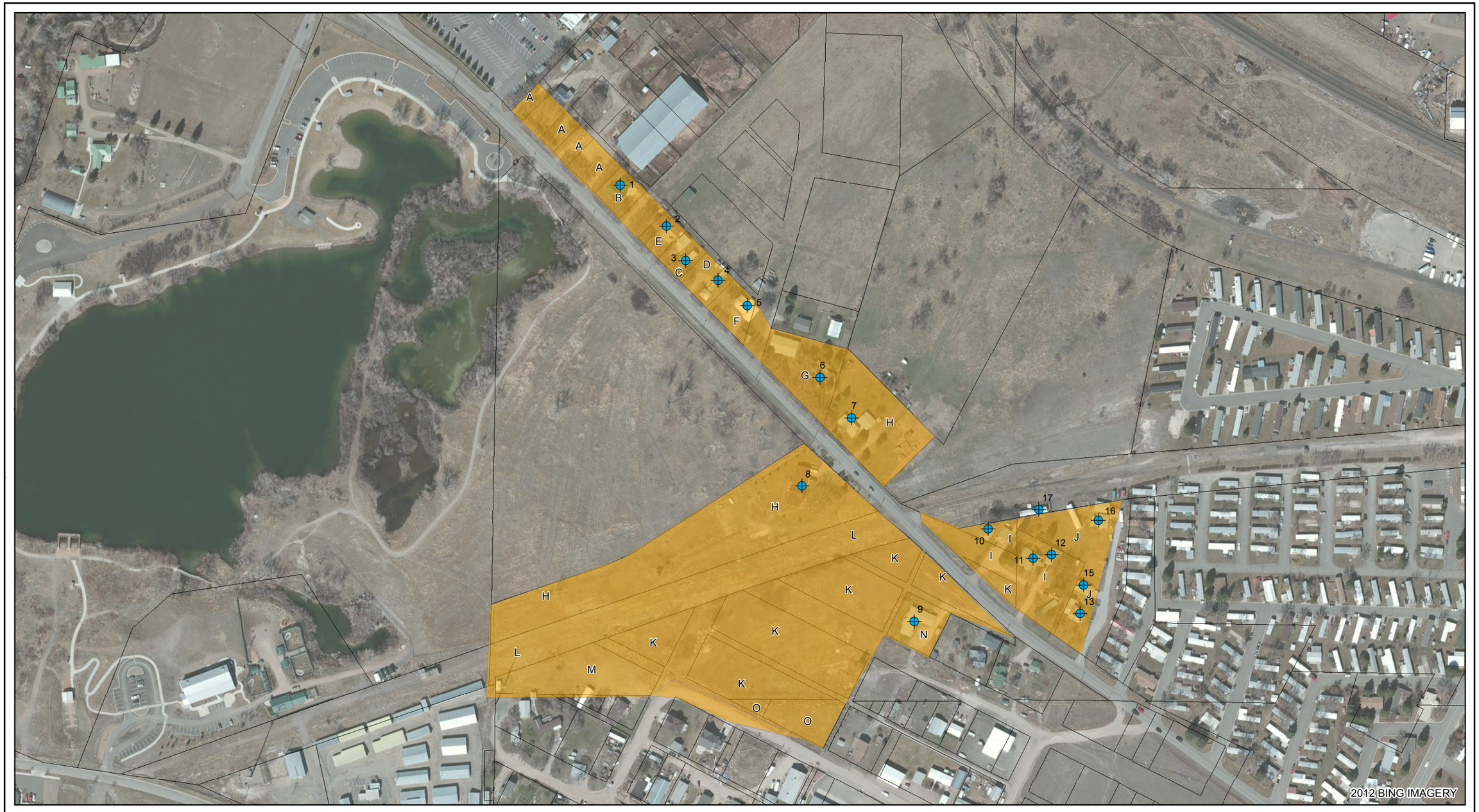
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FIGURE 2-1

SURFACE SOIL SAMPLE LOCATIONS

SPRING MEADOW LAKE RESIDENTIAL AREAS
HELENA, MONTANA

Drawn By: PH	Checked By: JG	Scale: 1" = 250'	Date: 4/15/13	File: MDEQ_SoilSamples_Figure2.mxd



EXPLANATION

- DOMESTIC WATER SAMPLE LOCATION (SMLW)-1...17
- INVESTIGATION AREA
- LAND OWNERSHIP PARCELS - A...O

N

0 250'

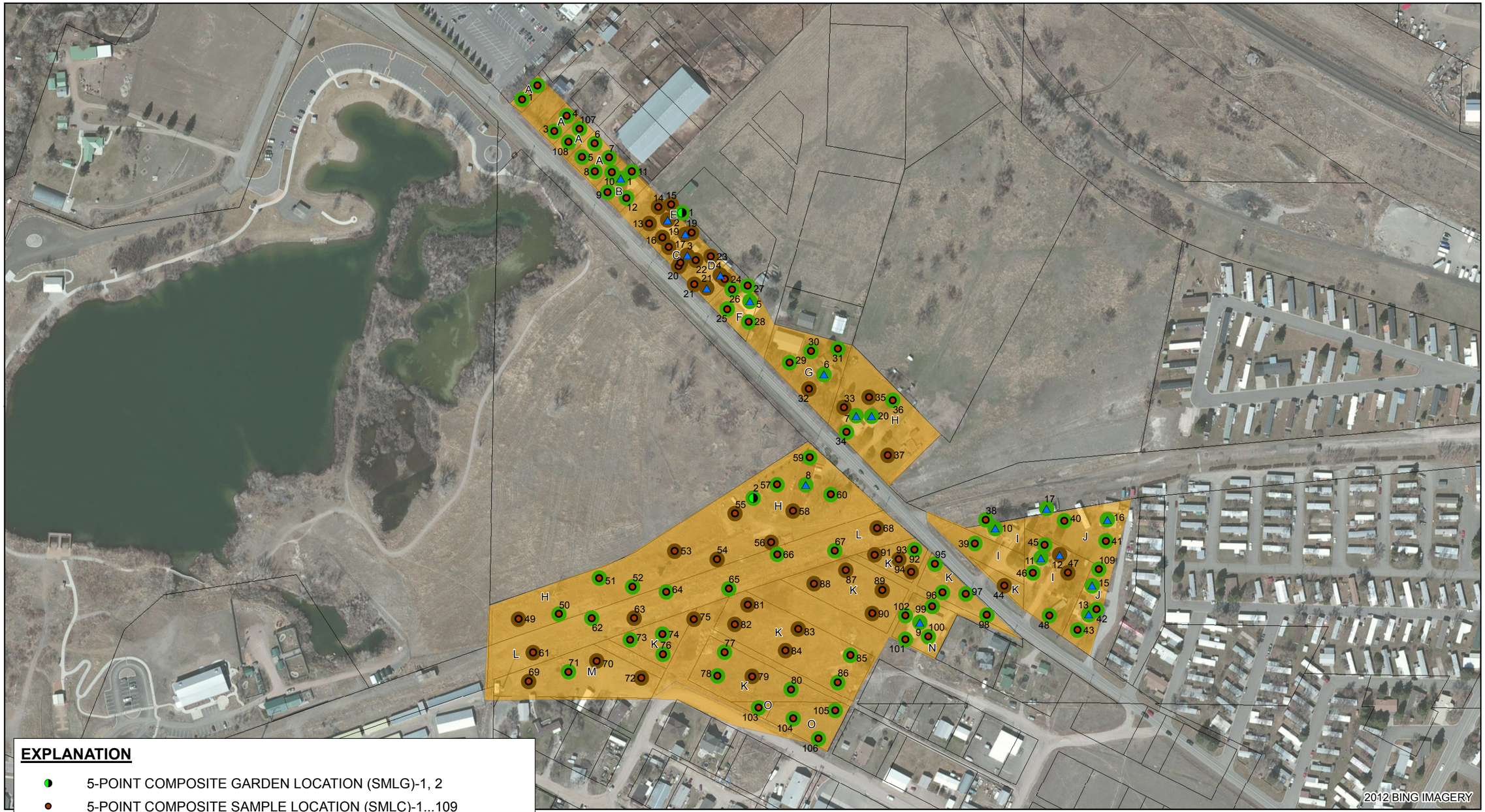
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FIGURE 2-2

DOMESTIC GROUNDWATER SAMPLE LOCATIONS

SPRING MEADOW LAKE RESIDENTIAL AREAS
HELENA, MONTANA

Drawn By: PH	Checked By: JG	Scale: 1" = 250'	Date: 4/15/13	File: MDEQ_SoilSamples_Figure3.mxd



EXPLANATION

- 5-POINT COMPOSITE GARDEN LOCATION (SMLG)-1, 2
- 5-POINT COMPOSITE SAMPLE LOCATION (SMLC)-1...109
- DRIP ZONE 4-POINT COMPOSITE SAMPLE LOCATION (SMLD)-1...21
- ARSENIC BELOW ACTION LEVEL - 49.6 mg/kg
- ARSENIC ABOVE ACTION LEVEL - 49.6 mg/kg
- INVESTIGATION AREA
- LAND OWNERSHIP PARCELS - A...O

N

0 250'

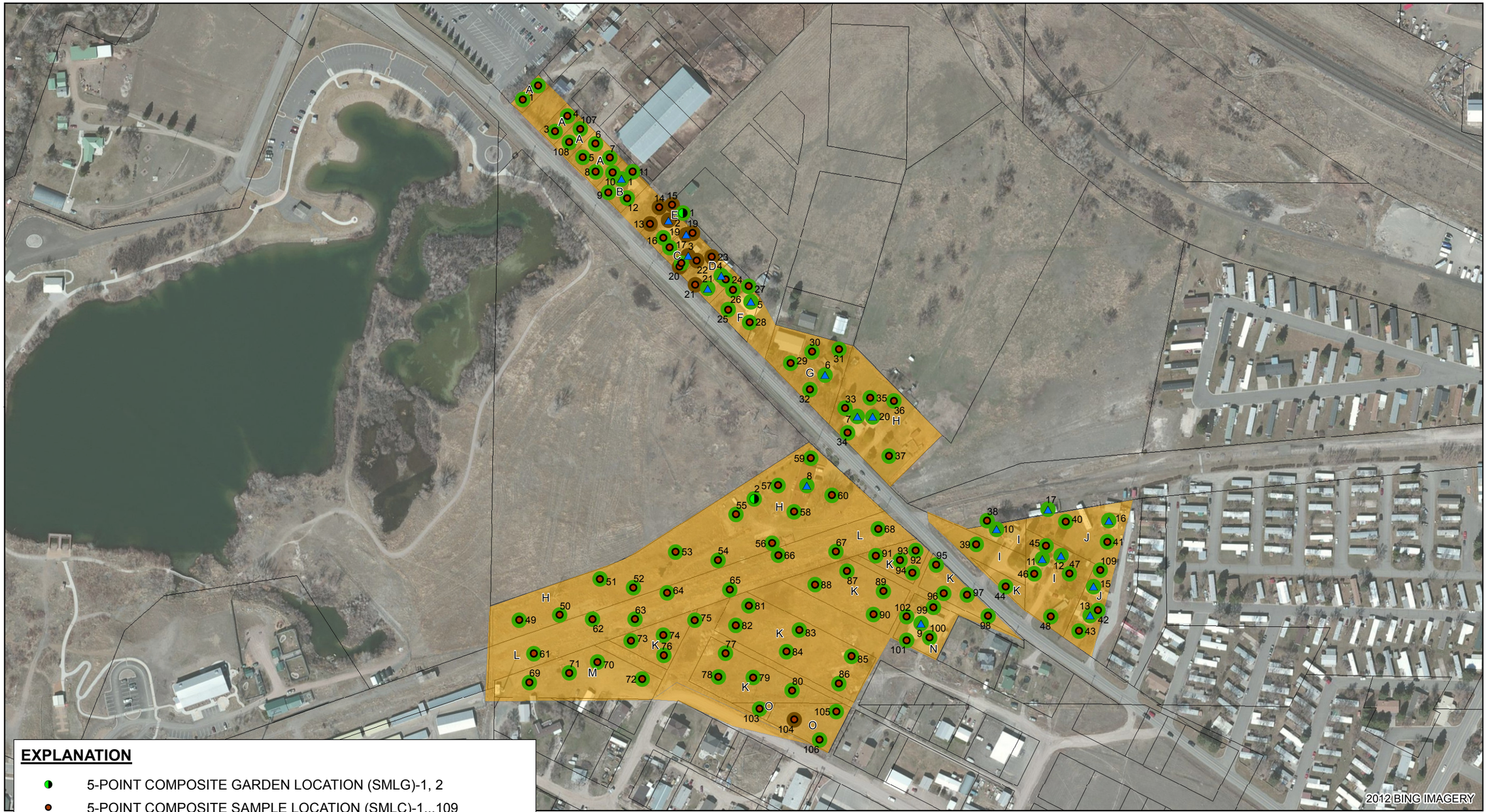
Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 4-1

ARSENIC CONCENTRATIONS EXCEEDING ACTION LEVEL

SPRING MEADOW LAKE RESIDENTIAL AREAS HELENA, MONTANA

Drawn By: PH	Checked By: JG	Scale: 1" = 250'	Date: 4/15/13	File: MDEQ_SoilArsenic_Figure12.mxd



EXPLANATION

- 5-POINT COMPOSITE GARDEN LOCATION (SMLG)-1, 2
- 5-POINT COMPOSITE SAMPLE LOCATION (SMLC)-1...109
- DRIP ZONE 4-POINT COMPOSITE SAMPLE LOCATION (SMLD)-1...21
- LEAD BELOW ACTION LEVEL - 400 mg/kg
- LEAD ABOVE ACTION LEVEL - 400 mg/kg
- INVESTIGATION AREA
- LAND OWNERSHIP PARCELS - A...O

N

0 250'

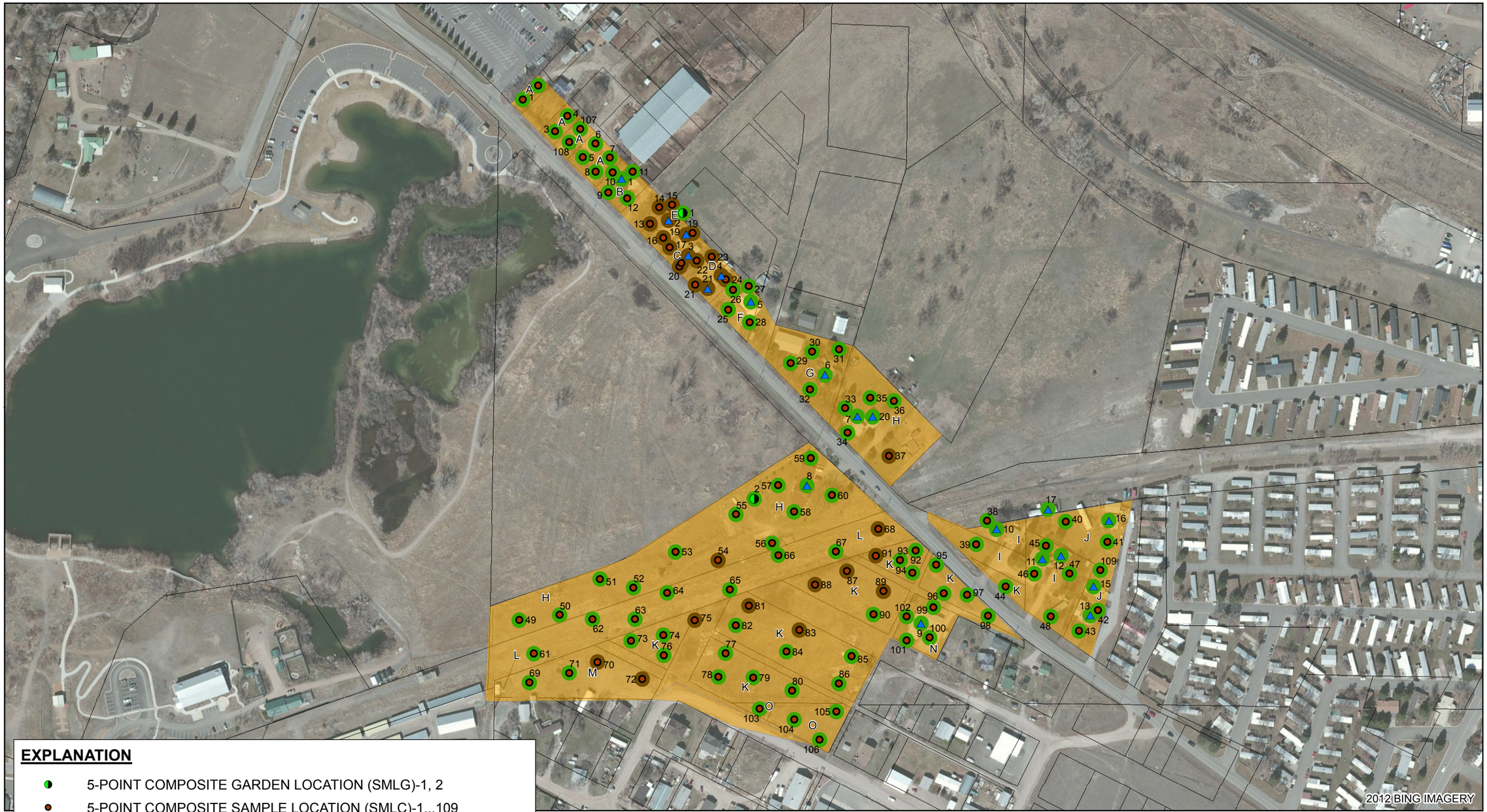
Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 4-2

LEAD CONCENTRATIONS EXCEEDING ACTION LEVEL

SPRING MEADOW LAKE RESIDENTIAL AREAS HELENA, MONTANA

Drawn By: PH	Checked By: JG	Scale: 1" = 250'	Date: 4/15/13	File: MDEQ_SoilLead_Figure13.mxd



EXPLANATION

- 5-POINT COMPOSITE GARDEN LOCATION (SMLG)-1, 2
- 5-POINT COMPOSITE SAMPLE LOCATION (SMLC)-1...109
- DRIP ZONE 4-POINT COMPOSITE SAMPLE LOCATION (SMLD)-1...21
- MANGANESE BELOW ACTION LEVEL - 1800 mg/kg
- MANGANESE ABOVE ACTION LEVEL - 1800 mg/kg
- INVESTIGATION AREA
- LAND OWNERSHIP PARCELS - A...O

N

0 250'

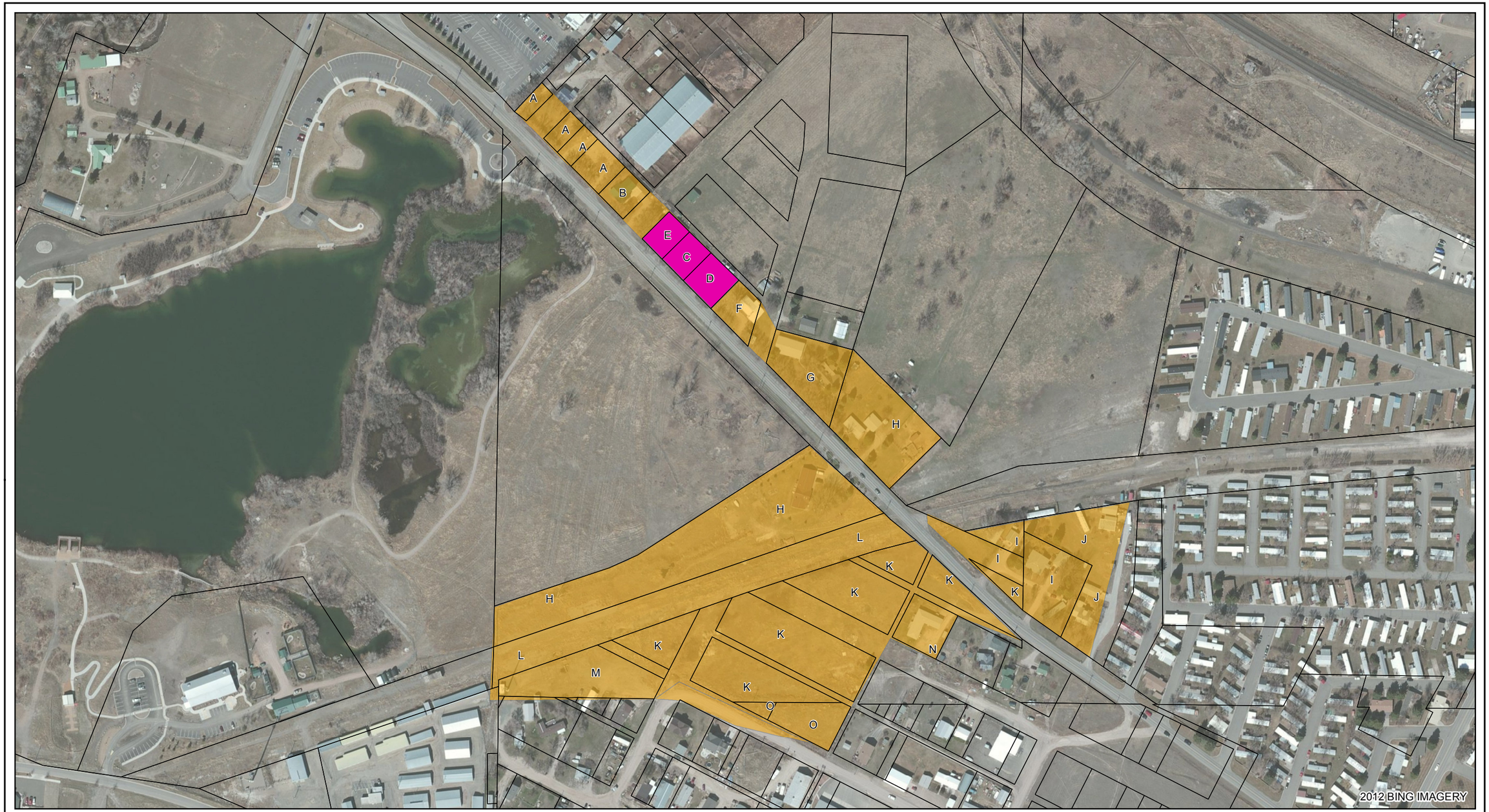
Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 4-3

MANGANESE CONCENTRATIONS EXCEEDING ACTION LEVEL

SPRING MEADOW LAKE RESIDENTIAL AREAS HELENA, MONTANA

Drawn By: PH	Checked By: JG	Scale: 1" = 250'	Date: 4/15/13	File: MDEQ_SoilMang_Figure14.mxd



EXPLANATION

- PROPERTIES REQUIRING FURTHER EVALUATION/RECLAMATION
- INVESTIGATION AREA
- LAND OWNERSHIP PARCELS - A...O

N

0 250'

Trihydro CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 5-1

PROPERTIES WITH HIGHEST ARSENIC, LEAD AND MANGANESE CONCENTRATIONS

SPRING MEADOW LAKE RESIDENTIAL AREAS HELENA, MONTANA

Drawn By: PH	Checked By: JG	Scale: 1" = 250'	Date: 4/16/13	File: MDEQ_Reclamation_Figure15.mxd

APPENDIX A

PROPERTY IDENTIFICATION LIST

APPENDIX A. PROPERTY IDENTIFICATION LIST
SPRING MEADOW LAKE SITE, HELENA, MONTANA

Prefix	Owner Name	Property Address	Legal Description
A	Satre	2560 COUNTRY CLUB AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 010, Lot 012, COS #560298/T
A	Satre		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 010, Lot 011, COS #560298/T
A	Satre		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 011, Lot 002, COS #560298/T
A	Satre		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 010, Lot 009
B	Bryant	2510 COUNTRY CLUB AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 010, Lot 7 - 8
C	Herbel	2466 COUNTRY CLUB AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 9, Lot 11A, CHIEF IND 16X56 1996 TITLE E002579
D	Wegner	2460 COUNTRY CLUB AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 009, Lot 9 - 10, NASHUA 14 X 66 1977
E	Wittke-Sears	2470 COUNTRY CLUB AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 009, Lot 13A, COS #618927/AP
F	Wegner	2440 COUNTRY CLUB AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 9, Lot 7 - 8
G	Satre	2308 COUNTRY CLUB AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 008, Lot 9 - 10
H	Mann, Gary & Mary	2305 COUNTRY CLUB AVE	S23, T10 N, R04 W, C.O.S. 270705, TR SWNE
H	Mann, Gary & Arthur	2306 COUNTRY CLUB AVE	S23, T10 N, R04 W, C.O.S. 3176866, PARCEL J, IN SW4NE4 MARSHFIELD 24X52 1966
I	Harrington	2214 COUNTRY CLUB AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 211, CHAMPION 24X44 1971
I	Harrington	2210 COUNTRY CLUB AVE	S23, T10 N, R04 W, C.O.S. 466471/T, IN S2SE4NE4
J	Thurston	2202 COUNTRY CLUB AVE	MOORE TRACTS, S23, T10 N, R04 W, Lot 007, ACRES 1.49, PART OF
K	Whyte	2301 LESLIE AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 200, Lot 001 - 016
K	Whyte		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 199, Lot 4 - 9, N OF COUNTRY CLUB AVE
K	Whyte		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 210, Lot 017 - 024
K	Whyte		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 210, Lot 016
K	Whyte		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 210, Lot 016
K	Whyte		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 199, Lot 001 - 009, LTS 35-36
K	Whyte		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 209, & 1/2 CLOSED WILDER AVE
K	Whyte		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 200, Lot 019 - 032
L	B&W Hill Inc		S23, T10 N, R04 W, C.O.S. 590351/T, PARCEL B, IN SW4NE4
M	Derosier	2414 WILDER AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 208, Lot 007 - 016, & LTS 28-31 & 1/2 CLOSED WILDER AVE & VAC ALLEY
M	Derosier		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 208, Lot 007 - 016, & LTS 28-31 & 1/2 CLOSED WILDER AVE & VAC ALLEY
M	Derosier		WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 209, 1/2 CLOSED WILDER AVE
N	Tipton	2211 COUNTRY CLUB AVE	WEST HELENA TOWNSITE, S23, T10 N, R04 W, BLOCK 199, Lot 030 - 034
O	Taffs	2300 WILDER AVE	AMES ADDITION, S23, T10 N, R04 W, BLOCK 200, Lot 017 - 023
O	Taffs	2301 WILDER AVE	AMES ADDITION, S23, T10 N, R04 W, BLOCK 200, Lot 024 - 027, 27

APPENDIX B

FIELD LOGS

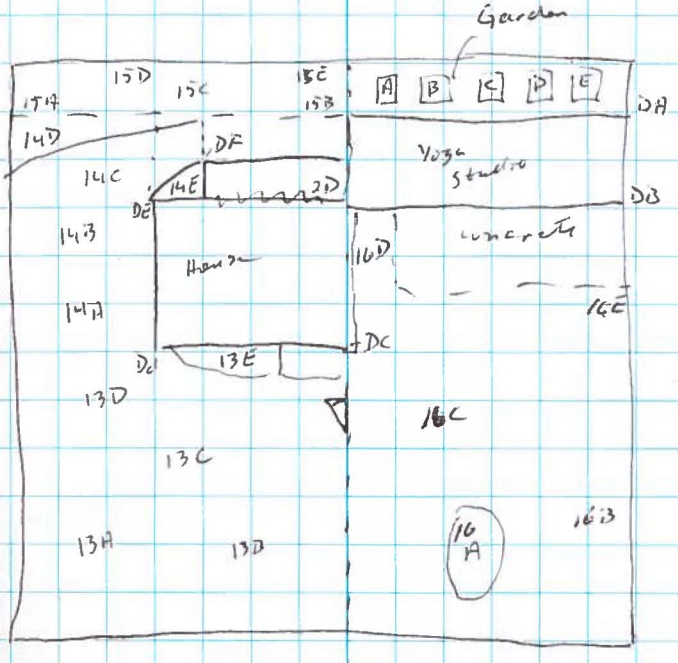
CONTENTS

PAGE	REFERENCE	DATE

Location SPRING MEADOW Date 2-11-13

Project / Client MDEQ

JM & LD. LEFT OFFICE @ 1330
TO VERIFY UTILITY MARKS
-12/20 - SAMPLE PROPERTY E
4-COMPOSITES # 13, 14, 15, 16
1-DRIP # 2
1-GARDEN # 1



1545 completed GPS all aliquots
1600 Office

PD

Location SPRING MEADOW Date 2-13-2013

Project / Client MDEQ

JM & LD LEFT OFFICE @ 0800 w/ MDEQ SCOUT TO SAMPLE PROPERTIES.

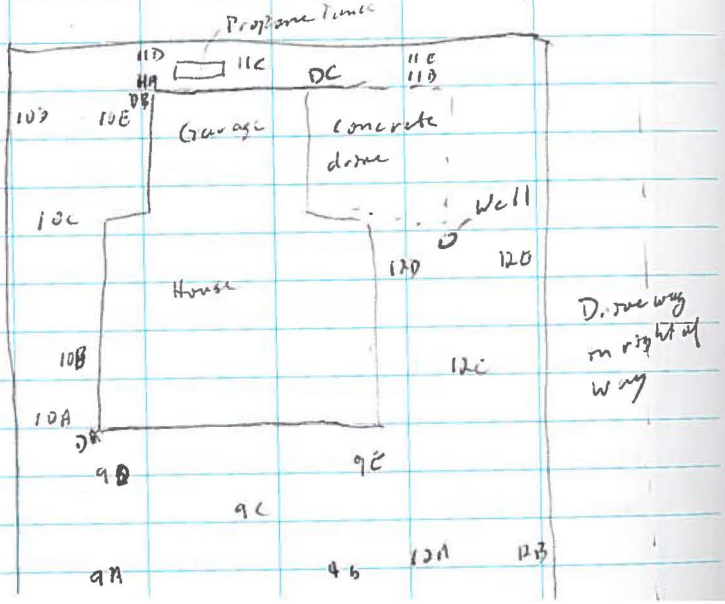
0807 ARRIVES @ PROPERTY "D"

0809 Met w/ home owner, verified property boundary and sprinkler system. Outside water spout is not filtered, inside water is filtered

0810 ~~D~~ 2D LD, JM, SG toured property and identified sample locations

D-SMLC- 9-12

D-SMLD-1 (3 downspouts)



Location Date 2-13-13

Project / Client page 2

0827 Photos 4-7

0830 Begin soil sample collection

D-SMLC-11

0856 Unable to log GPS location for

D-SMLC-10-B

0905 sampling complete at property D

- Decon equipment

0915 Offsite to property K

0918 LD, JM, & SG arrive property K

Make sampling locations using GPS

K-SMLC-91-98

0930 Begin sampling at K-SMLC-92

0940 Photos 8-12

1105 LD, JM, SG arrive at property J

Met w/ property owner

- mentioned lots of rain runoff from 2D huge highway

- 2 wells

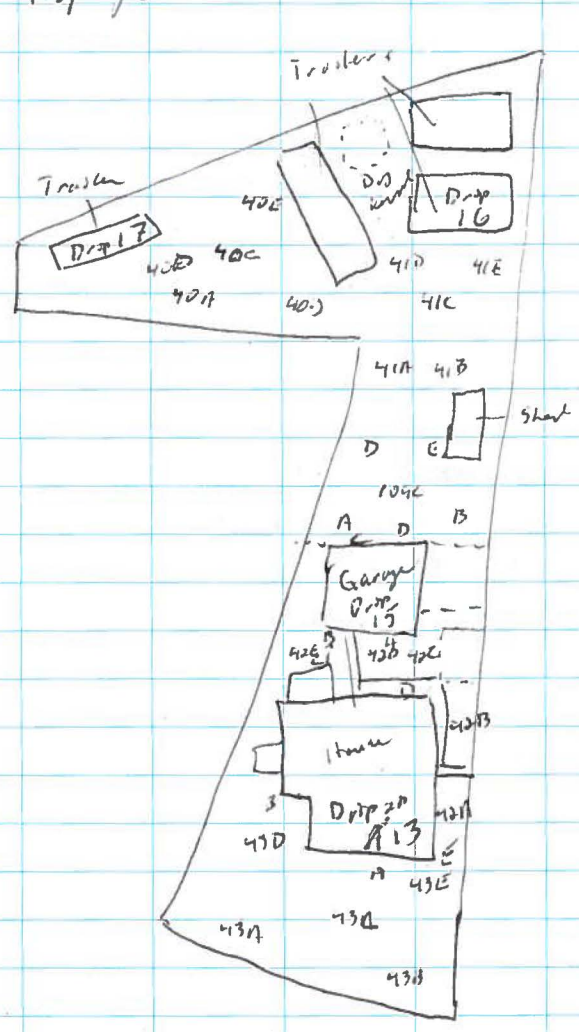
cont next page

2D

Location _____ Date 2-13-13

Project / Client _____ pg 3

Property J



1125 JM, SG collecting water samples

Location _____ Date 2-13-13

Project / Client _____ page 4

1130 Photos 13-18

1155 - Begin collecting soil samples at J-SMLC-40-C

- Scott agrees with adding one composite point (J-SMLC-108) between garage and trailer

1223 D. all batteries dead. Officials to get/change batteries

1340 Back on site

1430 LD begin marking locations on property I

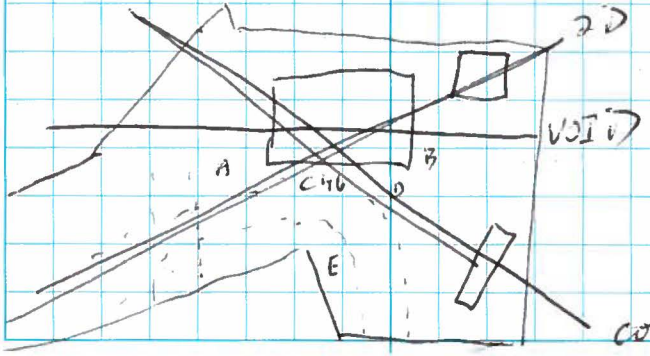
Composites I-SMLC-45-48

Drip zones I-SMLC-11, 12, 13

Water I-SMCW-12

1515 JM, SG begin collecting soil

LD begin purging well

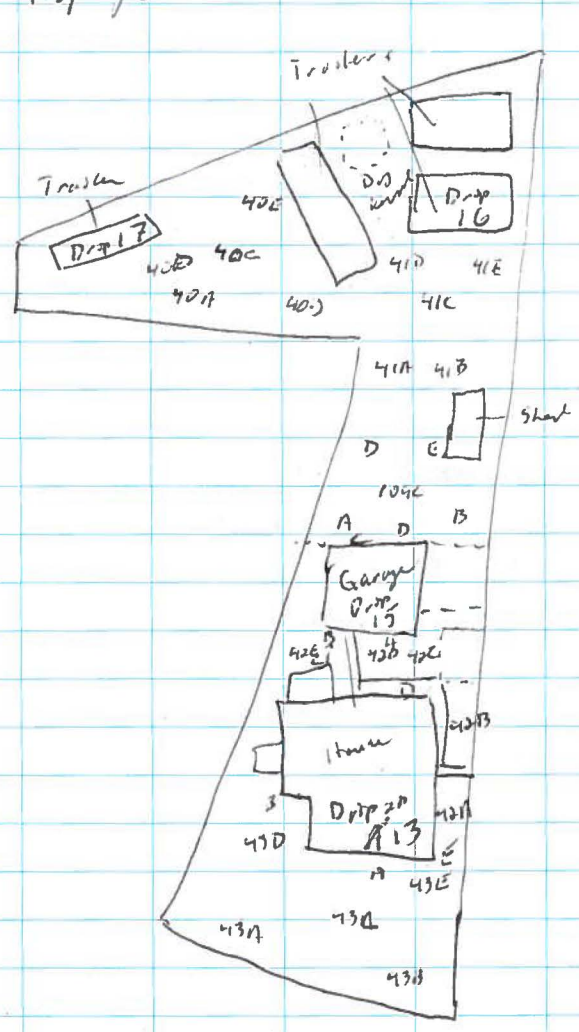


cont.

Location _____ Date 2-13-13

Project / Client _____ pg 3

Property J



1125 JM, SG collecting water samples

Location _____ Date 2-13-13

Project / Client _____ page 4

1130 Photos 13-18

1155 - Begin collecting soil samples at J-SMLC-40-C

- Scott agrees with adding one composite point (J-SMLC-108) between garage and trailer

1223 D. all batteries dead. Officials to get/change batteries

1340 Back on site

1430 LD begin marking locations on property I

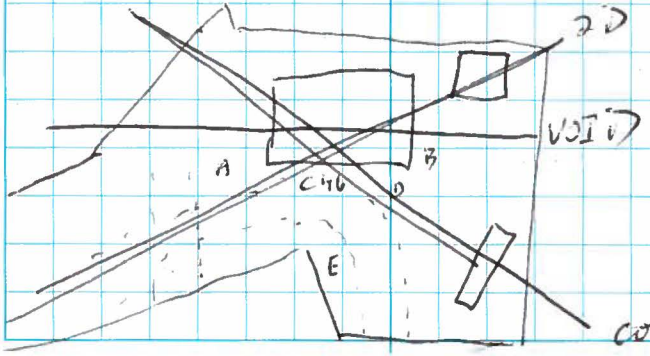
Composites I-SMLC-45-48

Drip zones I-SMLC-11, 12, 13

Water I-SMCW-12

1515 JM, SG begin collecting soil

LD begin purging well



cont.

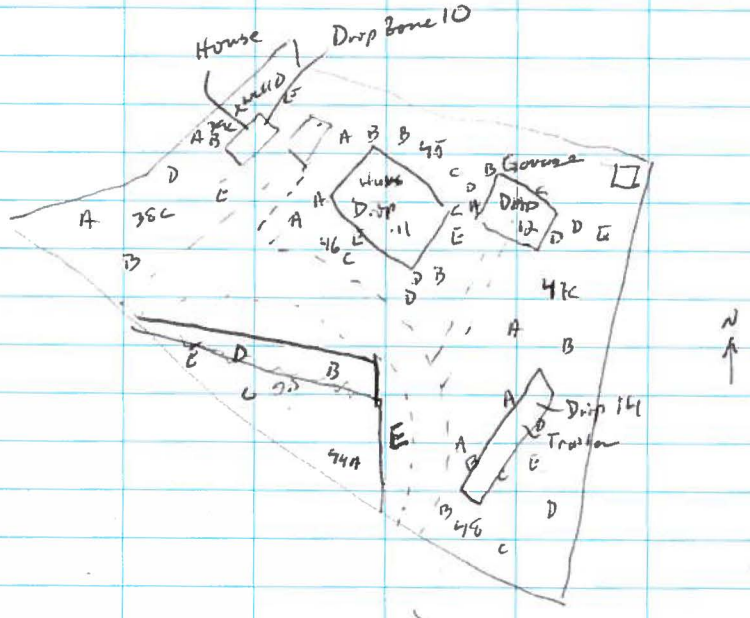
Location _____ Date 2-13-13

Project / Client _____ page 5

Property I

1650 LD, JM, SG offsite

Property I



Location ~~Spring~~ Helena, MT Date 2-14-13

Project / Client Spring Meadow Lake / MDEQ

Snow 32° → 40°

0850 LD & JM arrive property J
- complete drip zone sampling

0900 Begin collecting drip zone (13, 15/16, 17)

0945 Complete at property J. To property I. Lawn is covered with snow. no locate marks or sprinkler system not visible. Will wait to collect last 3 samples at I until snow clears up.

0955 LD, JM, AR to property K
Collect composites
K-SMLC-81-90

1245 Offsite for lunch

1345 LD & JM arrive property K, begin marking composites:
K-SMLC-73-80

1400 AR onsite

1625 Collect K-SMLC-EB-1 off of decontaminated drill bit

1645 Offsite

1815 Deliver samples to lab

DD

Location Helena, MT Date 2-15-13

Project / Client SMC / MDEQ

Clear, Sunny 25° → 40 Page 1

0800 LD + JM arrive at property O

0805 Tailgate Safety Meeting
- Cold weather, slip/trip/falls

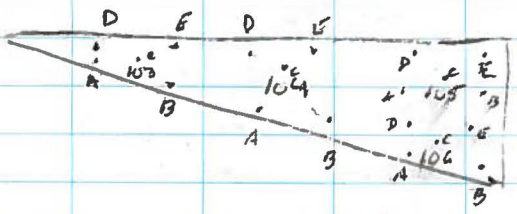
0830 AR onsite

0810 COLLECTED SAMPLE O-SMLC-104

0815 COLLECTED SAMPLE O-SMLC-105

0825 COLLECTED SAMPLES O-SMLC-103 & O-SMLC-106

PROPERTY - O



0910 Off property O to property L

1110 offsite lunch

1215 LD + JM arrive property H
coolant composites H-SMLC-49-50

1345 Collect garden
H-SMLC-G-2

1355 off property H to property K/I

Location Helena, MT Date 2-18-13

Project / Client SMC / MDEQ

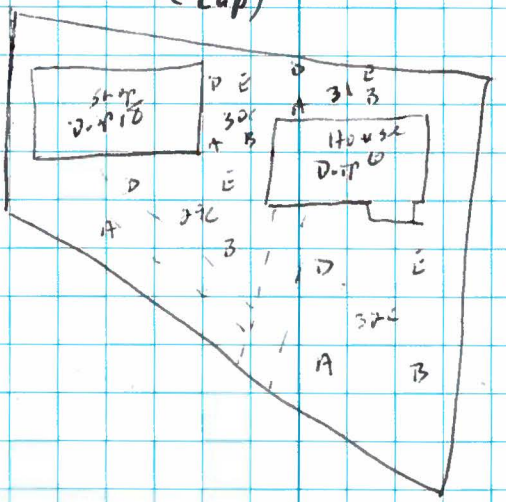
Clear, snow overnight 27° → 35

0800 LD + JM arrive at property G

0805 Safety meeting
- Snow, slip/trips/falls
- underground utilities

0845 Collect BD G-SMLC-231

0900 Collect G-SMLC-EB-3
(cup)



0917 Begin purging water

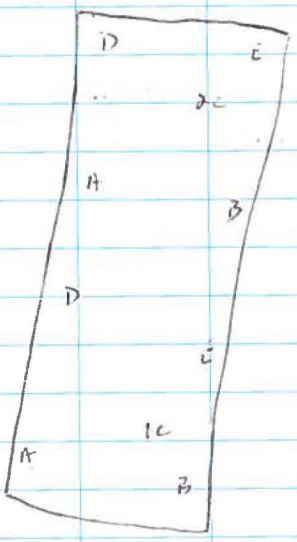
0935 Arrive property A
- Notify resident of presence

0945 Mark points
A-SMLC-102
begin collecting soil

cont

Location _____ Date 2-18-13

Project / Client _____ page 2



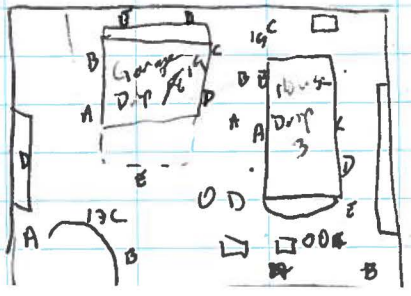
1130 Leave property A to lunch

1255 Arrive property C

composite C-SMLC-17-20

drip C-SMLD-3, 19

water C-SMLW-3



Location _____ Date 2-18-13

Project / Client _____ page 3

1320 C-SMLC-18 moved from NW corner to planters on front yard. Grange covers area where C-SMLC-18 would have been

1342 began purging water

1400 leave property C to property M

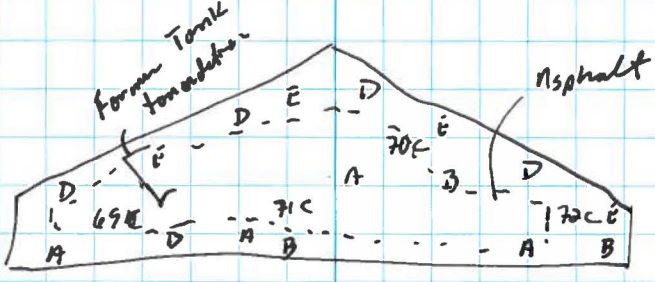
1405 collect EB

M-SMLC-EB-4

1405 Mr. Derosier on site

1430 Mr Derosier off site

large area of asphalt in center of site. Aliquots spread out to avoid asphalt



1500 off site

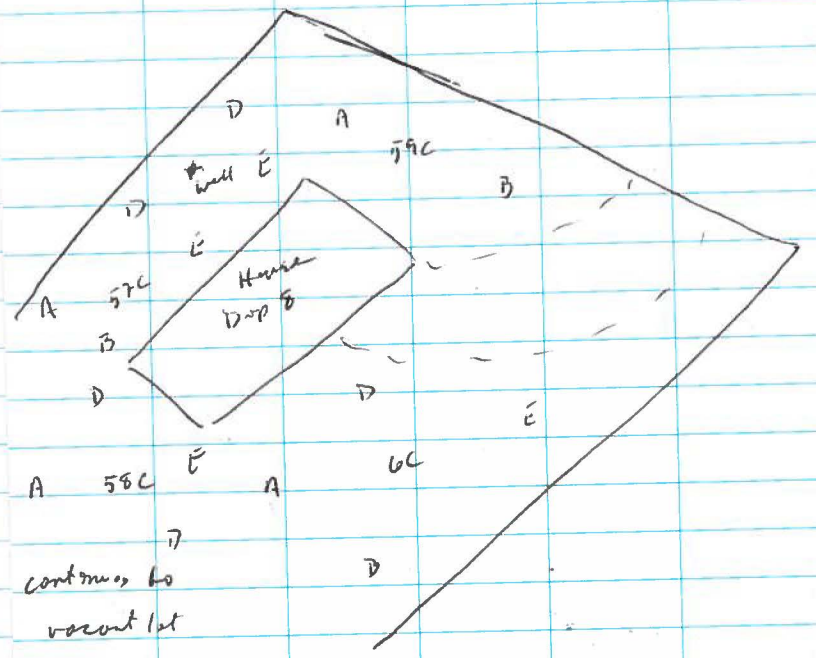
1525 LDT JM arrive at property H (south) not located owner

cont.

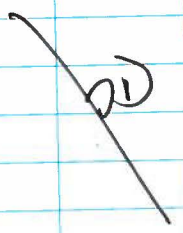
Location _____ Date 2-18-13

Project / Client _____ page 4

1558 Began purging water



1635 LD & JM offsite



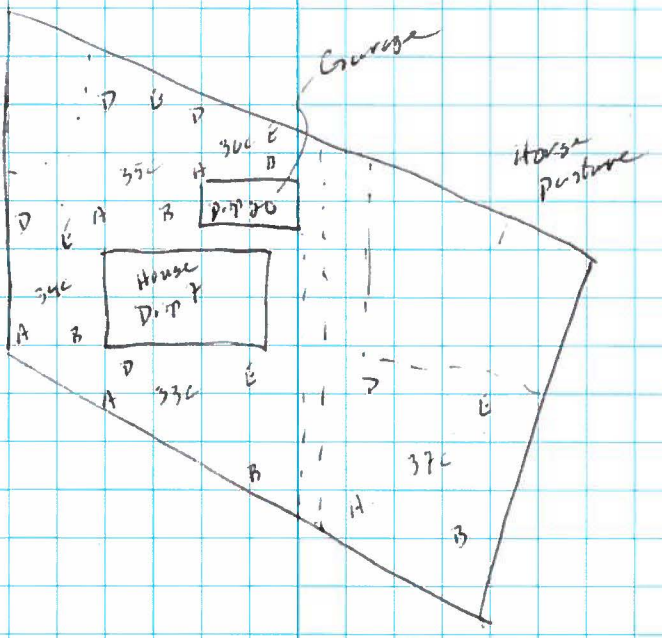
Location Helena, MT Date 2-19-13

Project / Client SMC / MDEQ

Mostly Cloudy 30's →

0800 LD & JM arrive property N (North)

0830 Aimee (DEQ) arrive onsite



0902 Begin purging water

0915 leave property N to property N

0920 Property owner onsite

0922 Begin purging water

0930 Water sample collected

Collected composites N-SMCC-99-100

dup none N-SMCD-9

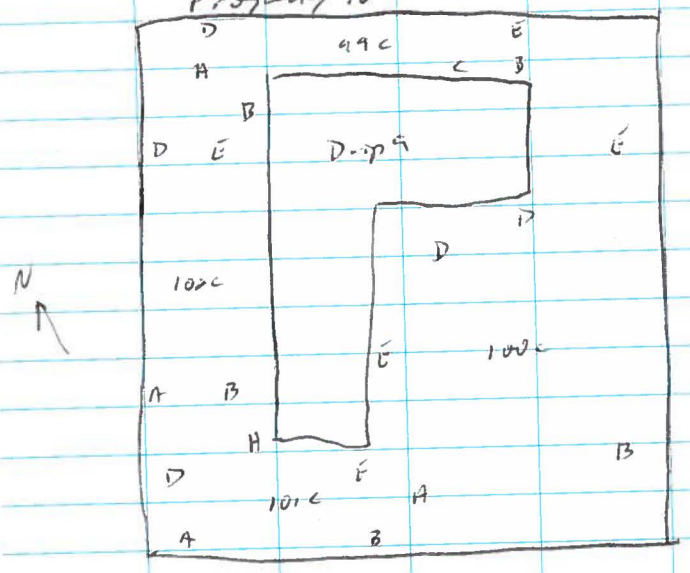
Location _____ Date 2-19-13

Project / Client _____ page 2

water N-SMCW-9

1015 off Property N

Property N



1015 Acquire property D and F

Collect composite F-SMCC-25-28, D-SMCC-21-24

dr sp zones F-SMCD-5, D-SMCD-4 and 21

1150 Begin surveying water

D-SMCW-4 Outside

1155 Collect water

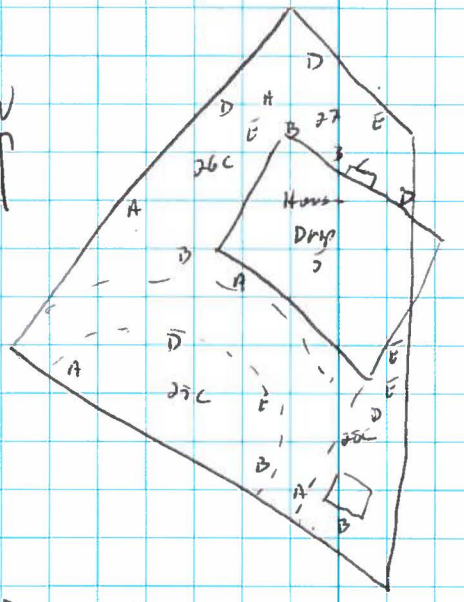
- Properties D and F share one well

cont

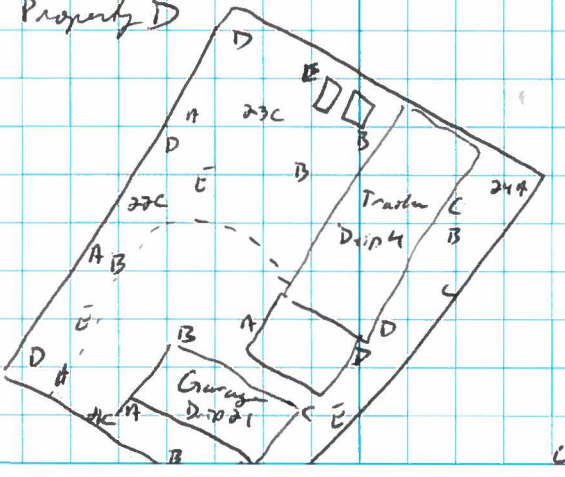
Location _____ Date 2-19-13

Project / Client _____ page 3

Property F



Property D

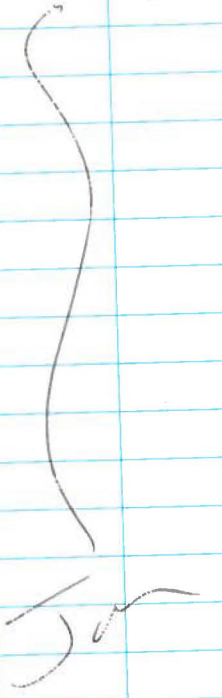


cont

Location _____ Date 2-15-13

Project / Client _____ page 4

1200 Sampling complete
- Offsite
1500 Deliver samples to Energy Lab



Location _____ Date _____

Project / Client _____

APPENDIX C

LABORATORY REPORTS

ANALYTICAL SUMMARY REPORT

February 19, 2013

MT DEQ-Remediation Division
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13020146 Quote ID: H825 - Spring Meadow Project

Project Name: Spring Meadow Lake

Energy Laboratories Inc Helena MT received the following 7 samples for MT DEQ-Remediation Division on 2/12/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13020146-001	E-SMLC-13	02/11/13 15:10	02/12/13	Soil	Metals by ICP/ICPMS, Total Composite Fee Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieves Soil Preparation
H13020146-002	E-SMLC-14	02/11/13 15:20	02/12/13	Soil	Same As Above
H13020146-003	E-SMLC-15	02/11/13 15:30	02/12/13	Soil	Same As Above
H13020146-004	E-SMLC-16	02/11/13 15:00	02/12/13	Soil	Same As Above
H13020146-005	E-SMLG-1	02/11/13 15:40	02/12/13	Soil	Same As Above
H13020146-006	E-SMLW-2	02/11/13 15:45	02/12/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Mercury, Dissolved Mercury, Total Metals Digestion by EPA 200.2 Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H13020146-007	E-SMLD-2	02/11/13 15:40	02/12/13	Soil	Metals by ICP/ICPMS, Total Composite Fee Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieves Soil Preparation

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

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Sample Delivery Group: H13020146

Report Date: 02/19/13

CASE NARRATIVE

Multiple jars, as indicated on the Chain of Custody, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for Moisture and Mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which pass through the No.60 sieve was used for the metals analysis. The samples are reported on a dry weight basis as indicated in the report. Abb 2/19/13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020146-001
Client Sample ID E-SMLC-13

Report Date: 02/19/13
Collection Date: 02/11/13 15:10
DateReceived: 02/12/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	31.3	wt% retai		0.1		ASA15-2	02/12/13 13:00 / stp
No. 60 Sieve	68.7	wt% Pass		0.1		ASA15-2	02/12/13 13:00 / stp
PHYSICAL CHARACTERISTICS							
Moisture	26.2	wt%		0.2		D2974	02/13/13 10:12 / sbk
3050 EXTRACTABLE METALS							
Arsenic	690	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Barium	318	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Beryllium	ND	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Cadmium	5	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Chromium	28	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Copper	104	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Lead	638	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Manganese	22500	mg/kg-dry	D	2		SW6020	02/15/13 14:58 / dck
Nickel	12	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Selenium	ND	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Silver	7	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
Zinc	852	mg/kg-dry		1		SW6020	02/15/13 12:39 / dck
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/14/13 15:49 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020146-002
Client Sample ID E-SMLC-14

Report Date: 02/19/13
Collection Date: 02/11/13 15:20
DateReceived: 02/12/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	29.6	wt% retai		0.1		ASA15-2	02/12/13 13:00 / stp
No. 60 Sieve	70.4	wt% Pass		0.1		ASA15-2	02/12/13 13:00 / stp
PHYSICAL CHARACTERISTICS							
Moisture	26.2	wt%		0.2		D2974	02/13/13 10:12 / sbk
3050 EXTRACTABLE METALS							
Arsenic	631	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Barium	287	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Beryllium	ND	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Cadmium	5	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Chromium	18	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Copper	118	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Lead	672	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Manganese	37800	mg/kg-dry	D	2		SW6020	02/15/13 15:03 / dck
Nickel	11	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Selenium	ND	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Silver	8	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
Zinc	1060	mg/kg-dry		1		SW6020	02/15/13 12:43 / dck
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/14/13 15:52 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020146-003
Client Sample ID E-SMLC-15

Report Date: 02/19/13
Collection Date: 02/11/13 15:30
DateReceived: 02/12/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	35.0	wt% retai		0.1		ASA15-2	02/12/13 13:00 / stp
No. 60 Sieve	65.0	wt% Pass		0.1		ASA15-2	02/12/13 13:00 / stp
PHYSICAL CHARACTERISTICS							
Moisture	27.4	wt%		0.2		D2974	02/13/13 10:12 / sbk
3050 EXTRACTABLE METALS							
Arsenic	419	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Barium	269	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Beryllium	ND	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Cadmium	3	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Chromium	20	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Copper	91	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Lead	475	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Manganese	20600	mg/kg-dry	D	2		SW6020	02/15/13 15:07 / dck
Nickel	12	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Selenium	ND	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Silver	6	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
Zinc	772	mg/kg-dry		1		SW6020	02/15/13 12:48 / dck
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/14/13 16:01 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020146-004
Client Sample ID E-SMLC-16

Report Date: 02/19/13
Collection Date: 02/11/13 15:00
DateReceived: 02/12/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	68.6	wt% retai		0.1		ASA15-2	02/12/13 13:00 / stp
No. 60 Sieve	31.4	wt% Pass		0.1		ASA15-2	02/12/13 13:00 / stp
PHYSICAL CHARACTERISTICS							
Moisture	14.6	wt%		0.2		D2974	02/13/13 10:12 / sbk
3050 EXTRACTABLE METALS							
Arsenic	94	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Barium	179	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Beryllium	ND	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Cadmium	1	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Chromium	33	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Copper	65	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Lead	128	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Manganese	2900	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Nickel	15	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Selenium	ND	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Silver	2	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
Zinc	211	mg/kg-dry		1		SW6020	02/15/13 12:52 / dck
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/14/13 16:04 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020146-005
Client Sample ID E-SMLG-1

Report Date: 02/19/13
Collection Date: 02/11/13 15:40
DateReceived: 02/12/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	19.8	wt% retai		0.1		ASA15-2	02/12/13 13:00 / stp
No. 60 Sieve	80.2	wt% Pass		0.1		ASA15-2	02/12/13 13:00 / stp
PHYSICAL CHARACTERISTICS							
Moisture	34.9	wt%		0.2		D2974	02/13/13 10:12 / sbk
3050 EXTRACTABLE METALS							
Arsenic	36	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Barium	191	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Beryllium	ND	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Cadmium	ND	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Chromium	26	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Copper	52	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Lead	71	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Manganese	1790	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Nickel	14	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Selenium	ND	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Silver	1	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
Zinc	184	mg/kg-dry		1		SW6020	02/15/13 12:57 / dck
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/14/13 16:06 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020146-006
Client Sample ID E-SMLW-2

Report Date: 02/19/13
Collection Date: 02/11/13 15:45
DateReceived: 02/12/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, DISSOLVED							
Arsenic	0.007	mg/L		0.001		E200.8	02/14/13 17:00 / dck
Barium	ND	mg/L		0.05		E200.8	02/14/13 17:00 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/14/13 17:00 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/14/13 17:00 / dck
Chromium	ND	mg/L		0.005		E200.8	02/14/13 17:00 / dck
Copper	0.052	mg/L		0.005		E200.8	02/14/13 17:00 / dck
Lead	0.009	mg/L		0.001		E200.8	02/14/13 17:00 / dck
Manganese	0.001	mg/L		0.001		E200.8	02/14/13 17:00 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 14:55 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/14/13 17:00 / dck
Selenium	ND	mg/L		0.001		E200.8	02/14/13 17:00 / dck
Silver	ND	mg/L		0.001		E200.8	02/15/13 14:25 / dck
Zinc	0.05	mg/L		0.01		E200.8	02/14/13 17:00 / dck
METALS, TOTAL							
Arsenic	0.008	mg/L		0.001		E200.8	02/14/13 17:29 / dck
Barium	0.05	mg/L		0.05		E200.8	02/14/13 17:29 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/14/13 17:29 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/14/13 17:29 / dck
Chromium	ND	mg/L		0.005		E200.8	02/14/13 17:29 / dck
Copper	0.116	mg/L		0.005		E200.8	02/14/13 17:29 / dck
Lead	0.031	mg/L		0.001		E200.8	02/14/13 17:29 / dck
Manganese	0.003	mg/L		0.001		E200.8	02/14/13 17:29 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 14:57 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/14/13 17:29 / dck
Selenium	ND	mg/L		0.001		E200.8	02/14/13 17:29 / dck
Silver	ND	mg/L		0.001		E200.8	02/15/13 14:39 / dck
Zinc	0.20	mg/L		0.01		E200.8	02/14/13 17:29 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020146-007
Client Sample ID E-SMLD-2

Report Date: 02/19/13
Collection Date: 02/11/13 15:40
DateReceived: 02/12/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	39.2	wt% retai		0.1		ASA15-2	02/12/13 13:00 / stp
No. 60 Sieve	60.8	wt% Pass		0.1		ASA15-2	02/12/13 13:00 / stp
PHYSICAL CHARACTERISTICS							
Moisture	26.8	wt%		0.2		D2974	02/13/13 10:12 / sbk
3050 EXTRACTABLE METALS							
Arsenic	723	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Barium	243	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Beryllium	ND	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Cadmium	5	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Chromium	20	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Copper	116	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Lead	730	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Manganese	29300	mg/kg-dry	D	2		SW6020	02/15/13 15:12 / dck
Nickel	12	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Selenium	ND	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Silver	7	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
Zinc	1100	mg/kg-dry		1		SW6020	02/15/13 13:20 / dck
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/14/13 16:13 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/19/13
Project: Spring Meadow Lake
Work Order: H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2974										Batch: R86314
Sample ID: H13020146-007BDUP	Sample Duplicate					Run: MISC SOILS_130212A				02/13/13 10:12
Moisture		27.1	wt%	0.20						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/19/13
Project: Spring Meadow Lake
Work Order: H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS204-B_130214B	
Sample ID: ICV STD	11	Initial Calibration Verification Standard							02/14/13 13:45	
Arsenic		0.0586	mg/L	0.0050	98	90	110			
Barium		0.0576	mg/L	0.10	96	90	110			
Beryllium		0.0289	mg/L	0.0010	96	90	110			
Cadmium		0.0298	mg/L	0.0010	99	90	110			
Chromium		0.0586	mg/L	0.010	98	90	110			
Copper		0.0607	mg/L	0.010	101	90	110			
Lead		0.0577	mg/L	0.010	96	90	110			
Manganese		0.288	mg/L	0.010	96	90	110			
Nickel		0.0608	mg/L	0.010	101	90	110			
Selenium		0.0591	mg/L	0.0050	98	90	110			
Zinc		0.0622	mg/L	0.010	104	90	110			
Sample ID: ICSA	11	Interference Check Sample A							02/14/13 13:50	
Arsenic		0.000482	mg/L	0.0050						
Barium		-1.90E-05	mg/L	0.10						
Beryllium		4.00E-06	mg/L	0.0010						
Cadmium		0.000774	mg/L	0.0010						
Chromium		0.00131	mg/L	0.010						
Copper		0.000604	mg/L	0.010						
Lead		0.000168	mg/L	0.010						
Manganese		0.000466	mg/L	0.010						
Nickel		0.000579	mg/L	0.010						
Selenium		0.00102	mg/L	0.0050						
Zinc		0.00145	mg/L	0.010						
Sample ID: ICSAB	11	Interference Check Sample AB							02/14/13 13:55	
Arsenic		0.0104	mg/L	0.0050	104	70	130			
Barium		4.00E-05	mg/L	0.10		0	0			
Beryllium		1.60E-05	mg/L	0.0010		0	0			
Cadmium		0.0102	mg/L	0.0010	102	70	130			
Chromium		0.0204	mg/L	0.010	102	70	130			
Copper		0.0198	mg/L	0.010	99	70	130			
Lead		0.000183	mg/L	0.010		0	0			
Manganese		0.0200	mg/L	0.010	100	70	130			
Nickel		0.0201	mg/L	0.010	101	70	130			
Selenium		0.0106	mg/L	0.0050	106	70	130			
Zinc		0.0113	mg/L	0.010	113	70	130			
Method: E200.8									Batch: 19502	
Sample ID: MB-19502	12	Method Blank				Run: ICPMS204-B_130214B			02/14/13 17:09	
Arsenic		ND	mg/L	0.0002						
Barium		ND	mg/L	0.0002						
Beryllium		ND	mg/L	2E-05						
Cadmium		ND	mg/L	2E-05						
Chromium		ND	mg/L	0.0002						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/19/13
Project: Spring Meadow Lake
Work Order: H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 19502
Sample ID: MB-19502	12	Method Blank				Run: ICPMS204-B_130214B				02/14/13 17:09
Copper		0.0004	mg/L	0.0002						
Lead		ND	mg/L	3E-05						
Manganese		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0001						
Selenium		ND	mg/L	0.0002						
Silver		ND	mg/L	0.0001						
Zinc		0.001	mg/L	0.001						
Sample ID: LCS-19502	12	Laboratory Control Sample				Run: ICPMS204-B_130214B				02/14/13 17:14
Arsenic		0.488	mg/L	0.0010	98	85	115			
Barium		0.490	mg/L	0.050	98	85	115			
Beryllium		0.232	mg/L	0.0010	93	85	115			
Cadmium		0.254	mg/L	0.0010	102	85	115			
Chromium		0.472	mg/L	0.0050	94	85	115			
Copper		0.474	mg/L	0.0050	95	85	115			
Lead		0.476	mg/L	0.0010	95	85	115			
Manganese		2.32	mg/L	0.0010	93	85	115			
Nickel		0.476	mg/L	0.0050	95	85	115			
Selenium		0.507	mg/L	0.0010	101	85	115			
Silver		0.0449	mg/L	0.0010	90	85	115			
Zinc		0.487	mg/L	0.010	97	85	115			
Sample ID: H13020174-001CMS3	12	Sample Matrix Spike				Run: ICPMS204-B_130214B				02/14/13 17:38
Arsenic		0.522	mg/L	0.0010	104	70	130			
Barium		0.521	mg/L	0.050	102	70	130			
Beryllium		0.229	mg/L	0.0010	92	70	130			
Cadmium		0.229	mg/L	0.0010	92	70	130			
Chromium		0.474	mg/L	0.0050	95	70	130			
Copper		0.451	mg/L	0.0050	89	70	130			
Lead		0.488	mg/L	0.0010	97	70	130			
Manganese		3.24	mg/L	0.0010	100	70	130			
Nickel		0.471	mg/L	0.0050	92	70	130			
Selenium		0.555	mg/L	0.0010	111	70	130			
Silver		0.0504	mg/L	0.0010	100	70	130			
Zinc		0.608	mg/L	0.010	90	70	130			
Sample ID: H13020174-001CMSD3	12	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130214B				02/14/13 17:43
Arsenic		0.524	mg/L	0.0010	104	70	130	0.4	20	
Barium		0.525	mg/L	0.050	103	70	130	0.6	20	
Beryllium		0.226	mg/L	0.0010	90	70	130	1.6	20	
Cadmium		0.230	mg/L	0.0010	92	70	130	0.5	20	
Chromium		0.474	mg/L	0.0050	95	70	130	0.0	20	
Copper		0.450	mg/L	0.0050	89	70	130	0.1	20	
Lead		0.480	mg/L	0.0010	96	70	130	1.5	20	
Manganese		3.16	mg/L	0.0010	97	70	130	2.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division **Report Date:** 02/19/13

Project: Spring Meadow Lake **Work Order:** H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 19502
Sample ID: H13020174-001CMSD3	12	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130214B				02/14/13 17:43
Nickel		0.473	mg/L	0.0050	93	70	130	0.4	20	
Selenium		0.563	mg/L	0.0010	112	70	130	1.4	20	
Silver		0.0535	mg/L	0.0010	106	70	130	6.1	20	
Zinc		0.606	mg/L	0.010	90	70	130	0.3	20	
Method: E200.8										Batch: R86372
Sample ID: ICB	11	Method Blank				Run: ICPMS204-B_130214B				02/14/13 14:28
Arsenic		ND	mg/L	7E-05						
Barium		0.0001	mg/L	5E-05						
Beryllium		ND	mg/L	2E-05						
Cadmium		ND	mg/L	7E-06						
Chromium		ND	mg/L	4E-05						
Copper		ND	mg/L	3E-05						
Lead		ND	mg/L	6E-06						
Manganese		ND	mg/L	8E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	5E-05						
Zinc		ND	mg/L	0.0003						
Sample ID: LFB	11	Laboratory Fortified Blank				Run: ICPMS204-B_130214B				02/14/13 14:33
Arsenic		0.0487	mg/L	0.0050	97	85	115			
Barium		0.0485	mg/L	0.10	97	85	115			
Beryllium		0.0479	mg/L	0.0010	96	85	115			
Cadmium		0.0492	mg/L	0.0010	98	85	115			
Chromium		0.0495	mg/L	0.010	99	85	115			
Copper		0.0500	mg/L	0.010	100	85	115			
Lead		0.0481	mg/L	0.010	96	85	115			
Manganese		0.0496	mg/L	0.010	99	85	115			
Nickel		0.0503	mg/L	0.010	101	85	115			
Selenium		0.0501	mg/L	0.0050	100	85	115			
Zinc		0.0501	mg/L	0.010	100	85	115			
Sample ID: H13020175-008DMS	11	Sample Matrix Spike				Run: ICPMS204-B_130214B				02/14/13 14:49
Arsenic		0.0495	mg/L	0.0010	99	70	130			
Barium		0.0484	mg/L	0.050	97	70	130			
Beryllium		0.0496	mg/L	0.0010	99	70	130			
Cadmium		0.0508	mg/L	0.0010	102	70	130			
Chromium		0.0493	mg/L	0.0050	99	70	130			
Copper		0.0501	mg/L	0.0050	100	70	130			
Lead		0.0494	mg/L	0.0010	99	70	130			
Manganese		0.0507	mg/L	0.0010	101	70	130			
Nickel		0.0507	mg/L	0.0050	101	70	130			
Selenium		0.0502	mg/L	0.0010	100	70	130			
Zinc		0.0530	mg/L	0.010	104	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/19/13
Project: Spring Meadow Lake
Work Order: H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R86372
Sample ID: H13020175-008DMSD	11	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130214B				02/14/13 14:54
Arsenic		0.0487	mg/L	0.0010	97	70	130	1.8	20	
Barium		0.0492	mg/L	0.050	98	70	130		20	
Beryllium		0.0495	mg/L	0.0010	99	70	130	0.2	20	
Cadmium		0.0506	mg/L	0.0010	101	70	130	0.4	20	
Chromium		0.0490	mg/L	0.0050	98	70	130	0.7	20	
Copper		0.0492	mg/L	0.0050	98	70	130	1.8	20	
Lead		0.0496	mg/L	0.0010	99	70	130	0.5	20	
Manganese		0.0510	mg/L	0.0010	102	70	130	0.7	20	
Nickel		0.0505	mg/L	0.0050	101	70	130	0.3	20	
Selenium		0.0499	mg/L	0.0010	100	70	130	0.5	20	
Zinc		0.0544	mg/L	0.010	107	70	130	2.7	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/19/13
Project: Spring Meadow Lake
Work Order: H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS204-B_130215B	
Sample ID: ICV STD		Initial Calibration Verification Standard							02/15/13 11:22	
Silver		0.0284	mg/L	0.0050	95	90	110			
Sample ID: ICSA		Interference Check Sample A							02/15/13 11:27	
Silver		0.000832	mg/L	0.0050						
Sample ID: ICSAB		Interference Check Sample AB							02/15/13 11:32	
Silver		0.0160	mg/L	0.0050	80	70	130			
Method: E200.8									Batch: 19502	
Sample ID: MB-19502	12	Method Blank				Run: ICPMS204-B_130215B			02/15/13 14:34	
Arsenic		ND	mg/L	0.0002						
Barium		ND	mg/L	0.0002						
Beryllium		ND	mg/L	2E-05						
Cadmium		ND	mg/L	2E-05						
Chromium		ND	mg/L	0.0002						
Copper		0.0003	mg/L	0.0002						
Lead		4E-05	mg/L	3E-05						
Manganese		0.0003	mg/L	0.0001						
Nickel		ND	mg/L	0.0001						
Selenium		ND	mg/L	0.0002						
Silver		0.0004	mg/L	0.0001						
Zinc		ND	mg/L	0.001						
Method: E200.8									Batch: R86401	
Sample ID: ICB		Method Blank				Run: ICPMS204-B_130215B			02/15/13 14:01	
Silver		0.0005	mg/L	4E-05						
Sample ID: LFB		Laboratory Fortified Blank				Run: ICPMS204-B_130215B			02/15/13 14:06	
Silver		0.0200	mg/L	0.0050	98	85	115			
Sample ID: H13020146-006AMS		Sample Matrix Spike				Run: ICPMS204-B_130215B			02/15/13 16:41	
Silver		0.0131	mg/L	0.0010	65	70	130			S
Sample ID: H13020146-006AMSD		Sample Matrix Spike Duplicate				Run: ICPMS204-B_130215B			02/15/13 16:46	
Silver		0.0152	mg/L	0.0010	76	70	130	15	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/19/13
Project: Spring Meadow Lake
Work Order: H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E245.1									Analytical Run: HGCV201-H_130215A	
Sample ID: ICV	Initial Calibration Verification Standard								02/15/13 13:41	
Mercury		0.00022	mg/L	0.00010	108	90	110			
Sample ID: CCV1	Continuing Calibration Verification Standard								02/15/13 13:43	
Mercury		0.00020	mg/L	0.00010	100	95	105			
Sample ID: CCV	Continuing Calibration Verification Standard								02/15/13 14:29	
Mercury		0.00019	mg/L	0.00010	97	90	110			
Method: E245.1									Batch: 19509	
Sample ID: MB-19493	Method Blank				Run: HGCV201-H_130215A				02/15/13 13:55	
Mercury		2.0E-05	mg/L	0.00010						
Sample ID: LCS-19509	Laboratory Control Sample				Run: HGCV201-H_130215A				02/15/13 13:58	
Mercury		0.00021	mg/L	0.00010	98	90	110			
Sample ID: H13020142-008BMS	Sample Matrix Spike				Run: HGCV201-H_130215A				02/15/13 14:48	
Mercury		0.00020	mg/L	0.00010	90	70	130			
Sample ID: H13020142-008BMSD	Sample Matrix Spike Duplicate				Run: HGCV201-H_130215A				02/15/13 14:50	
Mercury		0.00020	mg/L	0.00010	89	70	130	1.5	30	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/19/13
Project: Spring Meadow Lake
Work Order: H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Analytical Run: ICPMS204-B_130215A	
Sample ID: ICV STD	12	Initial Calibration Verification Standard							02/15/13 11:22	
Arsenic		0.0570	mg/L	0.0010	95	90	110			
Barium		0.0590	mg/L	0.0010	98	90	110			
Beryllium		0.0290	mg/L	0.0010	97	90	110			
Cadmium		0.0305	mg/L	0.0010	102	90	110			
Chromium		0.0580	mg/L	0.0010	97	90	110			
Copper		0.0599	mg/L	0.0010	100	90	110			
Lead		0.0590	mg/L	0.0010	98	90	110			
Manganese		0.296	mg/L	0.0010	99	90	110			
Nickel		0.0595	mg/L	0.0010	99	90	110			
Selenium		0.0609	mg/L	0.0010	102	90	110			
Silver		0.0284	mg/L	0.0010	95	90	110			
Zinc		0.0627	mg/L	0.0010	104	90	110			
Method: SW6020									Batch: 19494	
Sample ID: MB-19494	12	Method Blank				Run: ICPMS204-B_130215A			02/15/13 12:20	
Arsenic		0.03	mg/kg	0.01						
Barium		0.03	mg/kg	0.01						
Beryllium		ND	mg/kg	0.005						
Cadmium		0.05	mg/kg	0.007						
Chromium		0.08	mg/kg	0.01						
Copper		0.2	mg/kg	0.03						
Lead		0.02	mg/kg	0.003						
Manganese		0.7	mg/kg	0.01						
Nickel		ND	mg/kg	0.02						
Selenium		0.02	mg/kg	0.01						
Silver		0.5	mg/kg	0.02						
Zinc		0.2	mg/kg	0.04						
Sample ID: LCS-19494	12	Laboratory Control Sample				Run: ICPMS204-B_130215A			02/15/13 12:25	
Arsenic		283	mg/kg	1.0	84	72.3	106.4			
Barium		550	mg/kg	1.0	91	80.6	112.2			
Beryllium		40.3	mg/kg	1.0	81	76.3	108.6			
Cadmium		124	mg/kg	1.0	93	73	105.1			
Chromium		70.9	mg/kg	1.0	95	72.8	109.1			
Copper		258	mg/kg	1.0	94	77.5	109.6			
Lead		181	mg/kg	1.0	98	75.9	108.6			
Manganese		398	mg/kg	1.0	110	80.8	115.7			
Nickel		56.1	mg/kg	1.0	94	72.3	103.4			
Selenium		187	mg/kg	1.0	97	72.5	112.2			
Silver		64.2	mg/kg	1.0	94	67.8	112.8			
Zinc		207	mg/kg	1.0	99	74.2	109.9			
Sample ID: LFB-19494	12	Laboratory Fortified Blank				Run: ICPMS204-B_130215A			02/15/13 12:29	
Arsenic		48.1	mg/kg	1.0	96	80	120			
Barium		50.3	mg/kg	1.0	101	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/19/13
Project: Spring Meadow Lake
Work Order: H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 19494
Sample ID: LFB-19494	12	Laboratory Fortified Blank				Run: ICPMS204-B_130215A				02/15/13 12:29
Beryllium		22.2	mg/kg	1.0	89	80	120			
Cadmium		26.9	mg/kg	1.0	107	80	120			
Chromium		48.5	mg/kg	1.0	97	80	120			
Copper		49.9	mg/kg	1.0	99	80	120			
Lead		50.0	mg/kg	1.0	100	80	120			
Manganese		250	mg/kg	1.0	100	80	120			
Nickel		48.6	mg/kg	1.0	97	80	120			
Selenium		52.3	mg/kg	1.0	105	80	120			
Silver		26.0	mg/kg	1.0	102	80	120			
Zinc		51.1	mg/kg	1.0	102	80	120			
Sample ID: H13020146-007CMS	12	Sample Matrix Spike				Run: ICPMS204-B_130215A				02/15/13 13:34
Arsenic		767	mg/kg-dry	1.0		75	125			A
Barium		301	mg/kg-dry	1.0		75	125			A
Beryllium		21.7	mg/kg-dry	1.0	85	75	125			
Cadmium		27.7	mg/kg-dry	1.0	93	75	125			
Chromium		68.8	mg/kg-dry	1.0	100	75	125			
Copper		161	mg/kg-dry	1.0	94	75	125			
Lead		766	mg/kg-dry	1.0		75	125			A
Manganese		30300	mg/kg-dry	1.0		75	125			A
Nickel		60.4	mg/kg-dry	1.0	98	75	125			
Selenium		52.4	mg/kg-dry	1.0	106	75	125			
Silver		37.2	mg/kg-dry	1.0	124	75	125			
Zinc		1140	mg/kg-dry	1.0		75	125			A
Sample ID: H13020146-007CMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130215A				02/15/13 13:38
Arsenic		758	mg/kg-dry	1.0		75	125	1.2	20	A
Barium		303	mg/kg-dry	1.0		75	125	0.6	20	A
Beryllium		21.3	mg/kg-dry	1.0	84	75	125	1.9	20	
Cadmium		27.8	mg/kg-dry	1.0	93	75	125	0.3	20	
Chromium		68.5	mg/kg-dry	1.0	99	75	125	0.5	20	
Copper		161	mg/kg-dry	1.0	93	75	125	0.2	20	
Lead		771	mg/kg-dry	1.0		75	125	0.7	20	A
Manganese		30300	mg/kg-dry	1.0		75	125	0.3	20	A
Nickel		60.0	mg/kg-dry	1.0	98	75	125	0.6	20	
Selenium		50.6	mg/kg-dry	1.0	102	75	125	3.6	20	
Silver		35.8	mg/kg-dry	1.0	118	75	125	3.7	20	
Zinc		1130	mg/kg-dry	1.0		75	125	1.0	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/19/13
Project: Spring Meadow Lake
Work Order: H13020146

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW7471A									Analytical Run: HGCV201-H_130214A	
Sample ID: ICV		Initial Calibration Verification Standard							02/14/13 15:15	
Mercury		0.00095	mg/kg	0.50	95	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard							02/14/13 15:20	
Mercury		0.0025	mg/kg	0.50	101	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard							02/14/13 16:08	
Mercury		0.0025	mg/kg	0.50	99	90	110			
Method: SW7471A									Batch: 19506	
Sample ID: MB-19506		Method Blank				Run: HGCV201-H_130214A			02/14/13 15:25	
Mercury		ND	mg/kg	0.0009						
Sample ID: LCS-19506		Laboratory Control Sample				Run: HGCV201-H_130214A			02/14/13 15:27	
Mercury		5.5	mg/kg	0.50	110	80	120			
Sample ID: H13020146-002BMS		Sample Matrix Spike				Run: HGCV201-H_130214A			02/14/13 15:54	
Mercury		1.6	mg/kg-dry	0.50	104	80	120			
Sample ID: H13020146-002BMSD		Sample Matrix Spike Duplicate				Run: HGCV201-H_130214A			02/14/13 15:56	
Mercury		1.7	mg/kg-dry	0.50	112	80	120	6.6	20	
Sample ID: H13020146-007BMS		Sample Matrix Spike				Run: HGCV201-H_130214A			02/14/13 16:15	
Mercury		1.6	mg/kg-dry	0.50	92	80	120			
Sample ID: H13020146-007BMSD		Sample Matrix Spike Duplicate				Run: HGCV201-H_130214A			02/14/13 16:18	
Mercury		1.6	mg/kg-dry	0.50	94	80	120	1.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Remediation Division H13020146

Login completed by: Wanda Johnson
Date Received: 2/12/2013
Reviewed by: BL2000\sdull
Received by: wjj
Reviewed Date: 2/13/2013
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	0.7°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Samples were left in locked entry. Samples for Dissolved Metals were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. Wj 2/12/13

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc.: Spring Meadow Lake	Sample Origin: State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901, Helena, MT59620	Contact Name: Aimee Reynolds; Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA ☒ EDD/EDT (Electronic Data) Format: Trimble ☐ LEVEL IV ☐ NELAC

Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	SEE ATTACHED	Normal Turnaround (TAT)	
1	E-SMLC-13-A	2/11/13	1510	soil	x	x			Composite and
2	B				x	x			label sample
3	C				x	x			E-SMLC-13
4	D				x	x			
5	E				x	x			
6	E-SMLC-14-A	2/11/13	1520		x	x			Composite and
7	B				x	x			label sample
8	C				x	x			E-SMLC-14
9	D				x	x			
10	E				x	x			

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand leftin locker

Cooler ID(s): entry Y

Receipt Temp: 0.7 °C TB

On Ice: Yes No

Custody Seal Y N; Intact Y N; Signature Match Y N

LABORATORY USE ONLY: H13020146-001 -002

Custody Record MUST be Signed

	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
1	Luke Ducrell	2/11/13/1730				
2						

Sample Disposal: Return to Client: _____ Lab Disposal: X

Received by Laboratory: Wanda Johnson Date/Time: 2-12-13 7:00 Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA ☑ EDD/EDT (Electronic Data) Format: Tabbies ☐ LEVEL IV ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	SEE ATTACHED	Normal Turnaround (TAT)	RUSH	
1	E-SMLC-15-A	2/11/13	1530	soil	x	x				Composite and
2	B				x	x				Label sample
3	C				x	x				E-SMLC-15
4	D				x	x				
5	E				x	x				
6	E-SMLC-16-A	2/11/13	1500		x	x				Composite and
7	B				x	x				Label sample
8	C				x	x				E-SMLC-16
9	D				x	x				
10	E				x	x				

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: hand delivered
Cooler ID(s): entra 4
Receipt Temp 0.7 °C
On Ice: (Yes) No
Custody Seal Intact Signature Match: Y N

LABORATORY USE ONLY #1302014603 -004

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Dunn II	2/11/13/1730				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

Received by Laboratory: Wandawann Date/Time: 2-12-13 7:00 Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc.: Spring Meadow Lake	Sample Origin: State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds; Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA ☒ EDD/EDT (Electronic Data) Format: Trimble ☐ LEVEL IV ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	Total Metals 6020A	Dissolved Metals 6020A	Total and dissolved mercury 7470A					SEE ATTACHED	Normal Turnaround (TAT)
1	E-SMLG-1-A	2/11/13	1540	soil	x	x									
2	B				x	x									
3	C				x	x									
4	D				x	x									
5	E				x	x									
6	E-SMLW-2	2/11/13	1545	water			x	x	x						
7															
8															
9															
10															

RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments:

Composite and

Label sample

E-SMLG-1

Shipped by: hand del leftin

Cooler ID(s): wicked early

4

Receipt Temp 0.7 °C 7B

On Ice: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

LABORATORY USE ONLY H13020 14605 -006 -006

Custody Record MUST be Signed

Relinquished by (print): Luke Duncan	Date/Time: 2/11/13/1730	Signature:	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____	Lab Disposal: X		Received by Laboratory: Wandadon	Date/Time: 2-12-13 700	Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☒ EDD/EDT (Electronic Data) Format: Tab delimited
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	Total Metals 6020A	Dissolved Metals 6020A	Total and dissolved mercury 7470A					SEE ATTACHED	Normal Turnaround (TAT)
1 E-SMLD-2-A	2/11/13	1540	soil	x	x									
2 B				x	x									
3 C				x	x									
4 D				x	x									
5 E				x	x									
6 F				x	x									
7														
8														
9														
10														

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Composite and label sample E-SMLD-2

Shipped by: Handdel left in lake

Cooler ID(s): Grey 4

Receipt Temp: 0.7 °C TB

On Ice: (Yes) No

Custody Seal Intact Signature Match: Y N

H13020146007

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Durnell	2/11/13 1730				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Wandadom	Date/Time: 2-12-13 7AM	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ANALYTICAL SUMMARY REPORT

February 22, 2013

MT DEQ-Remediation Division
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13020182 Quote ID: H825 - Spring Meadow Project

Project Name: Spring Meadow Lake

Energy Laboratories Inc Helena MT received the following 30 samples for MT DEQ-Remediation Division on 2/14/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13020182-001	B-SMLC-9	02/13/13 8:40	02/14/13	Soil	Metals by ICP/ICPMS, Total Composite Fee Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieves Soil Preparation
H13020182-002	B-SMLC-10	02/13/13 8:45	02/14/13	Soil	Same As Above
H13020182-003	B-SMLC-11	02/13/13 8:30	02/14/13	Soil	Same As Above
H13020182-004	B-SMLC-12	02/13/13 8:25	02/14/13	Soil	Same As Above
H13020182-005	J-SMLC-40	02/13/13 11:55	02/14/13	Soil	Same As Above
H13020182-006	J-SMLC-41	02/13/13 12:15	02/14/13	Soil	Same As Above
H13020182-007	J-SMLC-42	02/13/13 14:15	02/14/13	Soil	Same As Above
H13020182-008	J-SMLC-43	02/13/13 14:40	02/14/13	Soil	Same As Above
H13020182-009	I-SMLC-45	02/13/13 15:30	02/14/13	Soil	Same As Above
H13020182-010	I-SMLC-46	02/13/13 15:15	02/14/13	Soil	Same As Above
H13020182-011	I-SMLC-246	02/13/13 16:00	02/14/13	Soil	Same As Above
H13020182-012	I-SMLC-47	02/13/13 16:10	02/14/13	Soil	Same As Above
H13020182-013	I-SMLC-48	02/13/13 16:20	02/14/13	Soil	Same As Above
H13020182-014	K-SMLC-91	02/13/13 9:45	02/14/13	Soil	Same As Above
H13020182-015	K-SMLC-92	02/13/13 9:30	02/14/13	Soil	Same As Above
H13020182-016	K-SMLC-93	02/13/13 9:35	02/14/13	Soil	Same As Above
H13020182-017	K-SMLC-94	02/13/13 9:50	02/14/13	Soil	Same As Above
H13020182-018	K-SMLC-95	02/13/13 10:00	02/14/13	Soil	Same As Above
H13020182-019	K-SMLC-96	02/13/13 10:20	02/14/13	Soil	Same As Above
H13020182-020	K-SMLC-97	02/13/13 10:05	02/14/13	Soil	Same As Above
H13020182-021	K-SMLC-98	02/13/13 10:25	02/14/13	Soil	Same As Above
H13020182-022	J-SMLC-109	02/13/13 13:55	02/14/13	Soil	Same As Above
H13020182-023	B-SMLD-1	02/13/13 8:50	02/14/13	Soil	Same As Above
H13020182-024	I-SMLD-11	02/13/13 15:40	02/14/13	Soil	Same As Above

ANALYTICAL SUMMARY REPORT

H13020182-025	I-SMLD-12	02/13/13 15:50	02/14/13	Soil	Same As Above
H13020182-026	I-SMLD-14	02/13/13 16:30	02/14/13	Soil	Same As Above
H13020182-027	B-SMLW-1	02/13/13 9:05	02/14/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Mercury, Dissolved Mercury, Total Metals Digestion by EPA 200.2 Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H13020182-028	I-SMLW-12	02/13/13 15:20	02/14/13	Aqueous	Same As Above
H13020182-029	J-SMLW-13	02/13/13 11:35	02/14/13	Aqueous	Same As Above
H13020182-030	J-SMLW-14	02/13/13 11:46	02/14/13	Aqueous	Same As Above

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

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Sample Delivery Group: H13020182

Report Date: 02/22/13

CASE NARRATIVE

Multiple jars, as indicated on the Chain of Custody, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for Moisture and Mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which pass through the No.60 sieve was used for the metals analysis. The samples are reported on a dry weight basis as indicated in the report. Abb 2/19/13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-001
Client Sample ID B-SMLC-9

Report Date: 02/22/13
Collection Date: 02/13/13 08:40
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	9.1	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	90.9	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	28.1	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	33	mg/kg		1		SW6020	02/21/13 20:46 / dck
Barium	247	mg/kg		1		SW6010B	02/21/13 16:30 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 20:46 / dck
Cadmium	ND	mg/kg		1		SW6020	02/21/13 20:46 / dck
Chromium	19	mg/kg		1		SW6010B	02/21/13 16:30 / sld
Copper	33	mg/kg		1		SW6010B	02/21/13 16:30 / sld
Lead	51	mg/kg	D	3		SW6010B	02/21/13 16:30 / sld
Manganese	1150	mg/kg		1		SW6010B	02/21/13 16:30 / sld
Nickel	14	mg/kg		1		SW6010B	02/21/13 16:30 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 20:46 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 20:46 / dck
Zinc	113	mg/kg		1		SW6010B	02/21/13 16:30 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/19/13 16:49 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-002
Client Sample ID B-SMLC-10

Report Date: 02/22/13
Collection Date: 02/13/13 08:45
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	31.3	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	68.7	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	26.3	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	28	mg/kg		1		SW6020	02/21/13 20:51 / dck
Barium	207	mg/kg		1		SW6010B	02/21/13 16:34 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 20:51 / dck
Cadmium	ND	mg/kg		1		SW6020	02/21/13 20:51 / dck
Chromium	17	mg/kg		1		SW6010B	02/21/13 16:34 / sld
Copper	30	mg/kg		1		SW6010B	02/21/13 16:34 / sld
Lead	60	mg/kg	D	3		SW6010B	02/21/13 16:34 / sld
Manganese	795	mg/kg		1		SW6010B	02/21/13 16:34 / sld
Nickel	13	mg/kg		1		SW6010B	02/21/13 16:34 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 20:51 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 20:51 / dck
Zinc	100	mg/kg		1		SW6010B	02/21/13 16:34 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:05 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-003
Client Sample ID B-SMLC-11

Report Date: 02/22/13
Collection Date: 02/13/13 08:30
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	26.3	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	73.7	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	25.2	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	24	mg/kg		1		SW6020	02/21/13 20:56 / dck
Barium	228	mg/kg		1		SW6010B	02/21/13 16:37 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 20:56 / dck
Cadmium	ND	mg/kg		1		SW6020	02/21/13 20:56 / dck
Chromium	19	mg/kg		1		SW6010B	02/21/13 16:37 / sld
Copper	24	mg/kg		1		SW6010B	02/21/13 16:37 / sld
Lead	38	mg/kg	D	3		SW6010B	02/21/13 16:37 / sld
Manganese	1110	mg/kg		1		SW6010B	02/21/13 16:37 / sld
Nickel	15	mg/kg		1		SW6010B	02/21/13 16:37 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 20:56 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 20:56 / dck
Zinc	89	mg/kg		1		SW6010B	02/21/13 16:37 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:07 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-004
Client Sample ID B-SMLC-12

Report Date: 02/22/13
Collection Date: 02/13/13 08:25
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	19.4	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	80.6	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	26.2	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	22	mg/kg		1		SW6020	02/21/13 21:01 / dck
Barium	213	mg/kg		1		SW6010B	02/21/13 16:41 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 21:01 / dck
Cadmium	ND	mg/kg		1		SW6020	02/21/13 21:01 / dck
Chromium	22	mg/kg		1		SW6010B	02/21/13 16:41 / sld
Copper	28	mg/kg		1		SW6010B	02/21/13 16:41 / sld
Lead	35	mg/kg	D	3		SW6010B	02/21/13 16:41 / sld
Manganese	646	mg/kg		1		SW6010B	02/21/13 16:41 / sld
Nickel	17	mg/kg		1		SW6010B	02/21/13 16:41 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 21:01 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 21:01 / dck
Zinc	93	mg/kg		1		SW6010B	02/21/13 16:41 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:09 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-005
Client Sample ID J-SMLC-40

Report Date: 02/22/13
Collection Date: 02/13/13 11:55
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	25.0	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	75.0	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	33.2	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	45	mg/kg		1		SW6020	02/21/13 21:06 / dck
Barium	197	mg/kg		1		SW6010B	02/21/13 16:45 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 21:06 / dck
Cadmium	1	mg/kg		1		SW6020	02/21/13 21:06 / dck
Chromium	18	mg/kg		1		SW6010B	02/21/13 16:45 / sld
Copper	33	mg/kg		1		SW6010B	02/21/13 16:45 / sld
Lead	89	mg/kg	D	3		SW6010B	02/21/13 16:45 / sld
Manganese	823	mg/kg		1		SW6010B	02/21/13 16:45 / sld
Nickel	11	mg/kg		1		SW6010B	02/21/13 16:45 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 21:06 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 21:06 / dck
Zinc	141	mg/kg		1		SW6010B	02/21/13 16:45 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:12 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-006
Client Sample ID J-SMLC-41

Report Date: 02/22/13
Collection Date: 02/13/13 12:15
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	20.0	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	80.0	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	35.5	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	48	mg/kg		1		SW6020	02/21/13 21:10 / dck
Barium	162	mg/kg		1		SW6010B	02/21/13 16:49 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 21:10 / dck
Cadmium	1	mg/kg		1		SW6020	02/21/13 21:10 / dck
Chromium	22	mg/kg		1		SW6010B	02/21/13 16:49 / sld
Copper	57	mg/kg		1		SW6010B	02/21/13 16:49 / sld
Lead	65	mg/kg	D	3		SW6010B	02/21/13 16:49 / sld
Manganese	887	mg/kg		1		SW6010B	02/21/13 16:49 / sld
Nickel	10	mg/kg		1		SW6010B	02/21/13 16:49 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 21:10 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 21:10 / dck
Zinc	130	mg/kg		1		SW6010B	02/21/13 16:49 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:14 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-007
Client Sample ID J-SMLC-42

Report Date: 02/22/13
Collection Date: 02/13/13 14:15
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	14.9	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	85.1	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	36.1	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	28	mg/kg		1		SW6020	02/21/13 21:15 / dck
Barium	175	mg/kg		1		SW6010B	02/21/13 16:52 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 21:15 / dck
Cadmium	ND	mg/kg		1		SW6020	02/21/13 21:15 / dck
Chromium	17	mg/kg		1		SW6010B	02/21/13 16:52 / sld
Copper	31	mg/kg		1		SW6010B	02/21/13 16:52 / sld
Lead	66	mg/kg	D	3		SW6010B	02/21/13 16:52 / sld
Manganese	493	mg/kg		1		SW6010B	02/21/13 16:52 / sld
Nickel	12	mg/kg		1		SW6010B	02/21/13 16:52 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 21:15 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 21:15 / dck
Zinc	100	mg/kg		1		SW6010B	02/21/13 16:52 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:17 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-008
Client Sample ID J-SMLC-43

Report Date: 02/22/13
Collection Date: 02/13/13 14:40
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	11.7	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	88.3	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	25.4	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	35	mg/kg		1		SW6020	02/21/13 21:39 / dck
Barium	161	mg/kg		1		SW6010B	02/21/13 16:56 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 21:39 / dck
Cadmium	ND	mg/kg		1		SW6020	02/21/13 21:39 / dck
Chromium	17	mg/kg		1		SW6010B	02/21/13 16:56 / sld
Copper	44	mg/kg		1		SW6010B	02/21/13 16:56 / sld
Lead	61	mg/kg	D	3		SW6010B	02/21/13 16:56 / sld
Manganese	630	mg/kg		1		SW6010B	02/21/13 16:56 / sld
Nickel	10	mg/kg		1		SW6010B	02/21/13 16:56 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 21:39 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 21:39 / dck
Zinc	98	mg/kg		1		SW6010B	02/21/13 16:56 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:19 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-009
Client Sample ID I-SMLC-45

Report Date: 02/22/13
Collection Date: 02/13/13 15:30
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	6.1	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	93.9	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	32.7	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	49	mg/kg		1		SW6020	02/21/13 21:44 / dck
Barium	199	mg/kg		1		SW6010B	02/21/13 17:00 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 21:44 / dck
Cadmium	1	mg/kg		1		SW6020	02/21/13 21:44 / dck
Chromium	17	mg/kg		1		SW6010B	02/21/13 17:00 / sld
Copper	39	mg/kg		1		SW6010B	02/21/13 17:00 / sld
Lead	140	mg/kg	D	3		SW6010B	02/21/13 17:00 / sld
Manganese	903	mg/kg		1		SW6010B	02/21/13 17:00 / sld
Nickel	12	mg/kg		1		SW6010B	02/21/13 17:00 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 21:44 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 21:44 / dck
Zinc	170	mg/kg		1		SW6010B	02/21/13 17:00 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:21 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-010
Client Sample ID I-SMLC-46

Report Date: 02/22/13
Collection Date: 02/13/13 15:15
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	12.4	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	87.6	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	22.4	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	39	mg/kg	D	2		SW6010B	02/21/13 17:11 / sld
Barium	159	mg/kg		1		SW6010B	02/21/13 17:11 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 21:49 / dck
Cadmium	1	mg/kg		1		SW6020	02/21/13 21:49 / dck
Chromium	12	mg/kg		1		SW6010B	02/21/13 17:11 / sld
Copper	36	mg/kg		1		SW6010B	02/21/13 17:11 / sld
Lead	80	mg/kg	D	3		SW6010B	02/21/13 17:11 / sld
Manganese	759	mg/kg		1		SW6010B	02/21/13 17:11 / sld
Nickel	10	mg/kg		1		SW6010B	02/21/13 17:11 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 21:49 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 21:49 / dck
Zinc	106	mg/kg		1		SW6010B	02/21/13 17:11 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:24 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-011
Client Sample ID I-SMLC-246

Report Date: 02/22/13
Collection Date: 02/13/13 16:00
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	18.3	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	81.7	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	21.2	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	34	mg/kg		1		SW6010B	02/21/13 17:15 / sld
Barium	161	mg/kg		1		SW6010B	02/21/13 17:15 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 21:53 / dck
Cadmium	1	mg/kg		1		SW6020	02/21/13 21:53 / dck
Chromium	13	mg/kg		1		SW6010B	02/21/13 17:15 / sld
Copper	33	mg/kg		1		SW6010B	02/21/13 17:15 / sld
Lead	82	mg/kg	D	3		SW6010B	02/21/13 17:15 / sld
Manganese	770	mg/kg		1		SW6010B	02/21/13 17:15 / sld
Nickel	9	mg/kg		1		SW6010B	02/21/13 17:15 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 21:53 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 21:53 / dck
Zinc	105	mg/kg		1		SW6010B	02/21/13 17:15 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:31 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-012
Client Sample ID I-SMLC-47

Report Date: 02/22/13
Collection Date: 02/13/13 16:10
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	16.7	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	83.3	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	22.8	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	55	mg/kg	D	2		SW6010B	02/21/13 17:19 / sld
Barium	172	mg/kg		1		SW6010B	02/21/13 17:19 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 21:58 / dck
Cadmium	2	mg/kg		1		SW6020	02/21/13 21:58 / dck
Chromium	16	mg/kg		1		SW6010B	02/21/13 17:19 / sld
Copper	41	mg/kg		1		SW6010B	02/21/13 17:19 / sld
Lead	110	mg/kg	D	3		SW6010B	02/21/13 17:19 / sld
Manganese	1080	mg/kg		1		SW6010B	02/21/13 17:19 / sld
Nickel	11	mg/kg		1		SW6010B	02/21/13 17:19 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 21:58 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 21:58 / dck
Zinc	170	mg/kg		1		SW6010B	02/21/13 17:19 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:40 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-013
Client Sample ID I-SMLC-48

Report Date: 02/22/13
Collection Date: 02/13/13 16:20
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	18.1	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	81.9	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	24.4	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	33	mg/kg	D	2		SW6010B	02/21/13 17:23 / sld
Barium	172	mg/kg		1		SW6010B	02/21/13 17:23 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 22:03 / dck
Cadmium	1	mg/kg		1		SW6020	02/21/13 22:03 / dck
Chromium	17	mg/kg		1		SW6010B	02/21/13 17:23 / sld
Copper	45	mg/kg		1		SW6010B	02/21/13 17:23 / sld
Lead	80	mg/kg	D	3		SW6010B	02/21/13 17:23 / sld
Manganese	731	mg/kg		1		SW6010B	02/21/13 17:23 / sld
Nickel	11	mg/kg		1		SW6010B	02/21/13 17:23 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 22:03 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 22:03 / dck
Zinc	126	mg/kg		1		SW6010B	02/21/13 17:23 / sld
METALS, TOTAL							
Mercury	1.6	mg/kg-dry		0.50		SW7471A	02/20/13 15:50 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-014
Client Sample ID K-SMLC-91

Report Date: 02/22/13
Collection Date: 02/13/13 09:45
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	18.6	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	81.4	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	21.6	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	113	mg/kg	D	2		SW6010B	02/21/13 17:26 / sld
Barium	215	mg/kg		1		SW6010B	02/21/13 17:26 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 22:08 / dck
Cadmium	2	mg/kg		1		SW6020	02/21/13 22:08 / dck
Chromium	18	mg/kg		1		SW6010B	02/21/13 17:26 / sld
Copper	42	mg/kg		1		SW6010B	02/21/13 17:26 / sld
Lead	128	mg/kg	D	3		SW6010B	02/21/13 17:26 / sld
Manganese	2240	mg/kg		1		SW6010B	02/21/13 17:26 / sld
Nickel	12	mg/kg		1		SW6010B	02/21/13 17:26 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 22:08 / dck
Silver	1	mg/kg		1		SW6020	02/21/13 22:08 / dck
Zinc	222	mg/kg		1		SW6010B	02/21/13 17:26 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:53 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-015
Client Sample ID K-SMLC-92

Report Date: 02/22/13
Collection Date: 02/13/13 09:30
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	21.4	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	78.6	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	24.4	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	36	mg/kg	D	2		SW6010B	02/21/13 17:30 / sld
Barium	206	mg/kg		1		SW6010B	02/21/13 17:30 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 22:13 / dck
Cadmium	1	mg/kg		1		SW6020	02/21/13 22:13 / dck
Chromium	15	mg/kg		1		SW6010B	02/21/13 17:30 / sld
Copper	40	mg/kg		1		SW6010B	02/21/13 17:30 / sld
Lead	100	mg/kg	D	3		SW6010B	02/21/13 17:30 / sld
Manganese	907	mg/kg		1		SW6010B	02/21/13 17:30 / sld
Nickel	12	mg/kg		1		SW6010B	02/21/13 17:30 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 22:13 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 22:13 / dck
Zinc	130	mg/kg		1		SW6010B	02/21/13 17:30 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:55 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-016
Client Sample ID K-SMLC-93

Report Date: 02/22/13
Collection Date: 02/13/13 09:35
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	20.7	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	79.3	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	22.3	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	78	mg/kg	D	2		SW6010B	02/21/13 17:34 / sld
Barium	202	mg/kg		1		SW6010B	02/21/13 17:34 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 22:17 / dck
Cadmium	2	mg/kg		1		SW6020	02/21/13 22:17 / dck
Chromium	16	mg/kg		1		SW6010B	02/21/13 17:34 / sld
Copper	41	mg/kg		1		SW6010B	02/21/13 17:34 / sld
Lead	105	mg/kg	D	3		SW6010B	02/21/13 17:34 / sld
Manganese	1740	mg/kg		1		SW6010B	02/21/13 17:34 / sld
Nickel	11	mg/kg		1		SW6010B	02/21/13 17:34 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 22:17 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 22:17 / dck
Zinc	172	mg/kg		1		SW6010B	02/21/13 17:34 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 15:58 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-017
Client Sample ID K-SMLC-94

Report Date: 02/22/13
Collection Date: 02/13/13 09:50
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	12.6	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	87.4	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	27.6	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	74	mg/kg	D	2		SW6010B	02/21/13 17:38 / sld
Barium	206	mg/kg		1		SW6010B	02/21/13 17:38 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 22:22 / dck
Cadmium	3	mg/kg		1		SW6020	02/21/13 22:22 / dck
Chromium	16	mg/kg		1		SW6010B	02/21/13 17:38 / sld
Copper	47	mg/kg		1		SW6010B	02/21/13 17:38 / sld
Lead	109	mg/kg	D	3		SW6010B	02/21/13 17:38 / sld
Manganese	1580	mg/kg		1		SW6010B	02/21/13 17:38 / sld
Nickel	11	mg/kg		1		SW6010B	02/21/13 17:38 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 22:22 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 22:22 / dck
Zinc	178	mg/kg		1		SW6010B	02/21/13 17:38 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:25 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-018
Client Sample ID K-SMLC-95

Report Date: 02/22/13
Collection Date: 02/13/13 10:00
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	32.4	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	67.6	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	26.2	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	27	mg/kg		1		SW6010B	02/21/13 17:41 / sld
Barium	184	mg/kg		1		SW6010B	02/21/13 17:41 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 22:46 / dck
Cadmium	1	mg/kg		1		SW6020	02/21/13 22:46 / dck
Chromium	15	mg/kg		1		SW6010B	02/21/13 17:41 / sld
Copper	37	mg/kg		1		SW6010B	02/21/13 17:41 / sld
Lead	82	mg/kg	D	3		SW6010B	02/21/13 17:41 / sld
Manganese	597	mg/kg		1		SW6010B	02/21/13 17:41 / sld
Nickel	12	mg/kg		1		SW6010B	02/21/13 17:41 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 22:46 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 22:46 / dck
Zinc	105	mg/kg		1		SW6010B	02/21/13 17:41 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:34 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-019
Client Sample ID K-SMLC-96

Report Date: 02/22/13
Collection Date: 02/13/13 10:20
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	19.8	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	80.2	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	30.0	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	28	mg/kg		1		SW6020	02/21/13 23:39 / dck
Barium	206	mg/kg		1		SW6010B	02/21/13 18:19 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 23:39 / dck
Cadmium	1	mg/kg		1		SW6020	02/21/13 23:39 / dck
Chromium	20	mg/kg		1		SW6010B	02/21/13 18:19 / sld
Copper	38	mg/kg		1		SW6010B	02/21/13 18:19 / sld
Lead	96	mg/kg	D	3		SW6010B	02/21/13 18:19 / sld
Manganese	586	mg/kg		1		SW6010B	02/21/13 18:19 / sld
Nickel	12	mg/kg		1		SW6010B	02/21/13 18:19 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 23:39 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 23:39 / dck
Zinc	131	mg/kg		1		SW6010B	02/21/13 18:19 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:37 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-020
Client Sample ID K-SMLC-97

Report Date: 02/22/13
Collection Date: 02/13/13 10:05
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	23.4	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	76.6	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	31.3	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	31	mg/kg		1		SW6020	02/21/13 23:44 / dck
Barium	158	mg/kg		1		SW6010B	02/21/13 18:23 / sld
Beryllium	ND	mg/kg		1		SW6020	02/21/13 23:44 / dck
Cadmium	ND	mg/kg		1		SW6020	02/21/13 23:44 / dck
Chromium	18	mg/kg		1		SW6010B	02/21/13 18:23 / sld
Copper	36	mg/kg		1		SW6010B	02/21/13 18:23 / sld
Lead	56	mg/kg	D	3		SW6010B	02/21/13 18:23 / sld
Manganese	611	mg/kg		1		SW6010B	02/21/13 18:23 / sld
Nickel	10	mg/kg		1		SW6010B	02/21/13 18:23 / sld
Selenium	ND	mg/kg		1		SW6020	02/21/13 23:44 / dck
Silver	ND	mg/kg		1		SW6020	02/21/13 23:44 / dck
Zinc	98	mg/kg		1		SW6010B	02/21/13 18:23 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:39 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-021
Client Sample ID K-SMLC-98

Report Date: 02/22/13
Collection Date: 02/13/13 10:25
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	53.9	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	46.1	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	19.9	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	24	mg/kg		1		SW6020	02/22/13 00:08 / dck
Barium	236	mg/kg		1		SW6010B	02/21/13 18:26 / sld
Beryllium	ND	mg/kg		1		SW6020	02/22/13 00:08 / dck
Cadmium	ND	mg/kg		1		SW6020	02/22/13 00:08 / dck
Chromium	20	mg/kg		1		SW6010B	02/21/13 18:26 / sld
Copper	42	mg/kg		1		SW6010B	02/21/13 18:26 / sld
Lead	105	mg/kg	D	3		SW6010B	02/21/13 18:26 / sld
Manganese	512	mg/kg		1		SW6010B	02/21/13 18:26 / sld
Nickel	10	mg/kg		1		SW6010B	02/21/13 18:26 / sld
Selenium	ND	mg/kg		1		SW6020	02/22/13 00:08 / dck
Silver	ND	mg/kg		1		SW6020	02/22/13 00:08 / dck
Zinc	129	mg/kg		1		SW6010B	02/21/13 18:26 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:41 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-022
Client Sample ID J-SMLC-109

Report Date: 02/22/13
Collection Date: 02/13/13 13:55
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	19.1	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	80.9	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	35.2	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	39	mg/kg		1		SW6020	02/22/13 00:13 / dck
Barium	182	mg/kg		1		SW6010B	02/21/13 18:30 / sld
Beryllium	ND	mg/kg		1		SW6020	02/22/13 00:13 / dck
Cadmium	ND	mg/kg		1		SW6020	02/22/13 00:13 / dck
Chromium	20	mg/kg		1		SW6010B	02/21/13 18:30 / sld
Copper	39	mg/kg		1		SW6010B	02/21/13 18:30 / sld
Lead	66	mg/kg	D	3		SW6010B	02/21/13 18:30 / sld
Manganese	707	mg/kg		1		SW6010B	02/21/13 18:30 / sld
Nickel	12	mg/kg		1		SW6010B	02/21/13 18:30 / sld
Selenium	ND	mg/kg		1		SW6020	02/22/13 00:13 / dck
Silver	ND	mg/kg		1		SW6020	02/22/13 00:13 / dck
Zinc	114	mg/kg		1		SW6010B	02/21/13 18:30 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:44 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-023
Client Sample ID B-SMLD-1

Report Date: 02/22/13
Collection Date: 02/13/13 08:50
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	23.0	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	77.0	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	27.3	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	21	mg/kg		1		SW6020	02/22/13 00:18 / dck
Barium	212	mg/kg		1		SW6010B	02/21/13 18:41 / sld
Beryllium	ND	mg/kg		1		SW6020	02/22/13 00:18 / dck
Cadmium	ND	mg/kg		1		SW6020	02/22/13 00:18 / dck
Chromium	13	mg/kg		1		SW6010B	02/21/13 18:41 / sld
Copper	31	mg/kg		1		SW6010B	02/21/13 18:41 / sld
Lead	27	mg/kg	D	3		SW6010B	02/21/13 18:41 / sld
Manganese	604	mg/kg		1		SW6010B	02/21/13 18:41 / sld
Nickel	12	mg/kg		1		SW6010B	02/21/13 18:41 / sld
Selenium	ND	mg/kg		1		SW6020	02/22/13 00:18 / dck
Silver	ND	mg/kg		1		SW6020	02/22/13 00:18 / dck
Zinc	92	mg/kg		1		SW6010B	02/21/13 18:41 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:46 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-024
Client Sample ID I-SMLD-11

Report Date: 02/22/13
Collection Date: 02/13/13 15:40
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	30.0	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	70.0	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	20.8	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	27	mg/kg		1		SW6020	02/22/13 00:23 / dck
Barium	196	mg/kg		1		SW6010B	02/21/13 18:45 / sld
Beryllium	ND	mg/kg		1		SW6020	02/22/13 00:23 / dck
Cadmium	ND	mg/kg		1		SW6020	02/22/13 00:23 / dck
Chromium	12	mg/kg		1		SW6010B	02/21/13 18:45 / sld
Copper	30	mg/kg		1		SW6010B	02/21/13 18:45 / sld
Lead	50	mg/kg	D	3		SW6010B	02/21/13 18:45 / sld
Manganese	454	mg/kg		1		SW6010B	02/21/13 18:45 / sld
Nickel	10	mg/kg		1		SW6010B	02/21/13 18:45 / sld
Selenium	ND	mg/kg		1		SW6020	02/22/13 00:23 / dck
Silver	ND	mg/kg		1		SW6020	02/22/13 00:23 / dck
Zinc	94	mg/kg		1		SW6010B	02/21/13 18:45 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:49 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-025
Client Sample ID I-SMLD-12

Report Date: 02/22/13
Collection Date: 02/13/13 15:50
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	12.4	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	87.6	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	38.0	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	53	mg/kg		1		SW6020	02/22/13 00:27 / dck
Barium	160	mg/kg		1		SW6010B	02/21/13 18:49 / sld
Beryllium	ND	mg/kg		1		SW6020	02/22/13 00:27 / dck
Cadmium	2	mg/kg		1		SW6020	02/22/13 00:27 / dck
Chromium	18	mg/kg		1		SW6010B	02/21/13 18:49 / sld
Copper	40	mg/kg		1		SW6010B	02/21/13 18:49 / sld
Lead	111	mg/kg	D	3		SW6010B	02/21/13 18:49 / sld
Manganese	923	mg/kg		1		SW6010B	02/21/13 18:49 / sld
Nickel	11	mg/kg		1		SW6010B	02/21/13 18:49 / sld
Selenium	ND	mg/kg		1		SW6020	02/22/13 00:27 / dck
Silver	ND	mg/kg		1		SW6020	02/22/13 00:27 / dck
Zinc	185	mg/kg		1		SW6010B	02/21/13 18:49 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:51 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-026
Client Sample ID I-SMLD-14

Report Date: 02/22/13
Collection Date: 02/13/13 16:30
DateReceived: 02/14/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	13.5	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	86.5	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	26.5	wt%		0.2		D2974	02/20/13 16:45 / sbk
3050 EXTRACTABLE METALS							
Arsenic	38	mg/kg		1		SW6020	02/22/13 00:32 / dck
Barium	146	mg/kg		1		SW6010B	02/21/13 18:53 / sld
Beryllium	ND	mg/kg		1		SW6020	02/22/13 00:32 / dck
Cadmium	1	mg/kg		1		SW6020	02/22/13 00:32 / dck
Chromium	16	mg/kg		1		SW6010B	02/21/13 18:53 / sld
Copper	44	mg/kg		1		SW6010B	02/21/13 18:53 / sld
Lead	77	mg/kg	D	3		SW6010B	02/21/13 18:53 / sld
Manganese	705	mg/kg		1		SW6010B	02/21/13 18:53 / sld
Nickel	10	mg/kg		1		SW6010B	02/21/13 18:53 / sld
Selenium	ND	mg/kg		1		SW6020	02/22/13 00:32 / dck
Silver	ND	mg/kg		1		SW6020	02/22/13 00:32 / dck
Zinc	142	mg/kg		1		SW6010B	02/21/13 18:53 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 16:54 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-027
Client Sample ID B-SMLW-1

Report Date: 02/22/13
Collection Date: 02/13/13 09:05
DateReceived: 02/14/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, DISSOLVED							
Arsenic	0.008	mg/L		0.001		E200.8	02/19/13 13:01 / dck
Barium	ND	mg/L		0.05		E200.8	02/19/13 13:01 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/19/13 13:01 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/19/13 13:01 / dck
Chromium	ND	mg/L		0.005		E200.8	02/19/13 13:01 / dck
Copper	ND	mg/L		0.005		E200.8	02/19/13 13:01 / dck
Lead	ND	mg/L		0.001		E200.8	02/19/13 13:01 / dck
Manganese	0.190	mg/L		0.001		E200.8	02/19/13 13:01 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 15:19 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/19/13 13:01 / dck
Selenium	ND	mg/L		0.001		E200.8	02/19/13 13:01 / dck
Silver	ND	mg/L		0.001		E200.8	02/19/13 13:01 / dck
Zinc	0.04	mg/L		0.01		E200.8	02/19/13 13:01 / dck
METALS, TOTAL							
Arsenic	0.028	mg/L		0.001		E200.8	02/19/13 13:42 / dck
Barium	ND	mg/L		0.05		E200.8	02/19/13 13:42 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/19/13 13:42 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/19/13 13:42 / dck
Chromium	ND	mg/L		0.005		E200.8	02/19/13 13:42 / dck
Copper	0.209	mg/L		0.005		E200.8	02/19/13 13:42 / dck
Lead	0.031	mg/L		0.001		E200.8	02/19/13 13:42 / dck
Manganese	0.215	mg/L		0.001		E200.8	02/19/13 13:42 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 15:21 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/19/13 13:42 / dck
Selenium	ND	mg/L		0.001		E200.8	02/19/13 13:42 / dck
Silver	ND	mg/L		0.001		E200.8	02/19/13 13:42 / dck
Zinc	0.22	mg/L		0.01		E200.8	02/19/13 13:42 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-028
Client Sample ID I-SMLW-12

Report Date: 02/22/13
Collection Date: 02/13/13 15:20
DateReceived: 02/14/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, DISSOLVED							
Arsenic	0.001	mg/L		0.001		E200.8	02/19/13 13:47 / dck
Barium	ND	mg/L		0.05		E200.8	02/19/13 13:47 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/19/13 13:47 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/19/13 13:47 / dck
Chromium	ND	mg/L		0.005		E200.8	02/19/13 13:47 / dck
Copper	ND	mg/L		0.005		E200.8	02/19/13 13:47 / dck
Lead	ND	mg/L		0.001		E200.8	02/19/13 13:47 / dck
Manganese	0.002	mg/L		0.001		E200.8	02/19/13 13:47 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 15:24 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/19/13 13:47 / dck
Selenium	ND	mg/L		0.001		E200.8	02/19/13 13:47 / dck
Silver	ND	mg/L		0.001		E200.8	02/19/13 13:47 / dck
Zinc	0.01	mg/L		0.01		E200.8	02/19/13 13:47 / dck
METALS, TOTAL							
Arsenic	0.001	mg/L		0.001		E200.8	02/19/13 13:52 / dck
Barium	0.05	mg/L		0.05		E200.8	02/19/13 13:52 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/19/13 13:52 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/19/13 13:52 / dck
Chromium	ND	mg/L		0.005		E200.8	02/19/13 13:52 / dck
Copper	0.009	mg/L		0.005		E200.8	02/19/13 13:52 / dck
Lead	0.002	mg/L		0.001		E200.8	02/19/13 13:52 / dck
Manganese	0.017	mg/L		0.001		E200.8	02/19/13 13:52 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 15:26 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/19/13 13:52 / dck
Selenium	ND	mg/L		0.001		E200.8	02/19/13 13:52 / dck
Silver	ND	mg/L		0.001		E200.8	02/19/13 13:52 / dck
Zinc	0.01	mg/L		0.01		E200.8	02/19/13 13:52 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-029
Client Sample ID J-SMLW-13

Report Date: 02/22/13
Collection Date: 02/13/13 11:35
DateReceived: 02/14/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, DISSOLVED							
Arsenic	0.001	mg/L		0.001		E200.8	02/19/13 13:56 / dck
Barium	ND	mg/L		0.05		E200.8	02/19/13 13:56 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/19/13 13:56 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/19/13 13:56 / dck
Chromium	ND	mg/L		0.005		E200.8	02/19/13 13:56 / dck
Copper	ND	mg/L		0.005		E200.8	02/19/13 13:56 / dck
Lead	ND	mg/L		0.001		E200.8	02/19/13 13:56 / dck
Manganese	0.001	mg/L		0.001		E200.8	02/19/13 13:56 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 15:29 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/19/13 13:56 / dck
Selenium	0.001	mg/L		0.001		E200.8	02/19/13 13:56 / dck
Silver	ND	mg/L		0.001		E200.8	02/19/13 13:56 / dck
Zinc	ND	mg/L		0.01		E200.8	02/19/13 13:56 / dck
METALS, TOTAL							
Arsenic	0.001	mg/L		0.001		E200.8	02/19/13 14:01 / dck
Barium	0.05	mg/L		0.05		E200.8	02/19/13 14:01 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/19/13 14:01 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/19/13 14:01 / dck
Chromium	ND	mg/L		0.005		E200.8	02/19/13 14:01 / dck
Copper	ND	mg/L		0.005		E200.8	02/19/13 14:01 / dck
Lead	ND	mg/L		0.001		E200.8	02/19/13 14:01 / dck
Manganese	ND	mg/L		0.001		E200.8	02/19/13 14:01 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 15:31 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/19/13 14:01 / dck
Selenium	0.001	mg/L		0.001		E200.8	02/19/13 14:01 / dck
Silver	ND	mg/L		0.001		E200.8	02/19/13 14:01 / dck
Zinc	ND	mg/L		0.01		E200.8	02/19/13 14:01 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020182-030
Client Sample ID J-SMLW-14

Report Date: 02/22/13
Collection Date: 02/13/13 11:46
DateReceived: 02/14/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, DISSOLVED							
Arsenic	0.001	mg/L		0.001		E200.8	02/19/13 14:05 / dck
Barium	ND	mg/L		0.05		E200.8	02/19/13 14:05 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/19/13 14:05 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/19/13 14:05 / dck
Chromium	ND	mg/L		0.005		E200.8	02/19/13 14:05 / dck
Copper	ND	mg/L		0.005		E200.8	02/19/13 14:05 / dck
Lead	ND	mg/L		0.001		E200.8	02/19/13 14:05 / dck
Manganese	ND	mg/L		0.001		E200.8	02/19/13 14:05 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 15:38 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/19/13 14:05 / dck
Selenium	0.002	mg/L		0.001		E200.8	02/19/13 14:05 / dck
Silver	ND	mg/L		0.001		E200.8	02/19/13 14:05 / dck
Zinc	ND	mg/L		0.01		E200.8	02/19/13 14:05 / dck
METALS, TOTAL							
Arsenic	0.001	mg/L		0.001		E200.8	02/19/13 14:10 / dck
Barium	0.05	mg/L		0.05		E200.8	02/19/13 14:10 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/19/13 14:10 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/19/13 14:10 / dck
Chromium	ND	mg/L		0.005		E200.8	02/19/13 14:10 / dck
Copper	ND	mg/L		0.005		E200.8	02/19/13 14:10 / dck
Lead	ND	mg/L		0.001		E200.8	02/19/13 14:10 / dck
Manganese	ND	mg/L		0.001		E200.8	02/19/13 14:10 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/15/13 15:40 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/19/13 14:10 / dck
Selenium	0.001	mg/L		0.001		E200.8	02/19/13 14:10 / dck
Silver	ND	mg/L		0.001		E200.8	02/19/13 14:10 / dck
Zinc	ND	mg/L		0.01		E200.8	02/19/13 14:10 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2974										Batch: R86440
Sample ID: H13020182-026BDUP	Sample Duplicate					Run: MISC SOILS_130219A				02/20/13 16:45
Moisture		27.3	wt%	0.20						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP2-HE_130221A	
Sample ID: ICV	8	Initial Calibration Verification Standard							02/21/13 15:30	
Arsenic		0.779	mg/L	0.0092	97	90	110			
Barium		0.793	mg/L	0.10	99	90	110			
Chromium		0.812	mg/L	0.010	102	90	110			
Copper		0.788	mg/L	0.010	98	90	110			
Lead		0.832	mg/L	0.013	104	90	110			
Manganese		3.94	mg/L	0.010	99	90	110			
Nickel		0.804	mg/L	0.010	101	90	110			
Zinc		0.795	mg/L	0.010	99	90	110			
Sample ID: ICSA	8	Interference Check Sample A							02/21/13 15:45	
Arsenic		-0.0148	mg/L	0.0092		0	0			
Barium		0.000270	mg/L	0.10		0	0			
Chromium		-0.00825	mg/L	0.010		0	0			
Copper		0.00189	mg/L	0.010		0	0			
Lead		0.0204	mg/L	0.013		0	0			
Manganese		-0.00923	mg/L	0.010		0	0			
Nickel		0.00839	mg/L	0.010		0	0			
Zinc		0.0133	mg/L	0.010		0	0			
Sample ID: ICSAB	8	Interference Check Sample AB							02/21/13 15:49	
Arsenic		1.01	mg/L	0.0092	101	80	120			
Barium		0.491	mg/L	0.10	98	80	120			
Chromium		0.456	mg/L	0.010	91	80	120			
Copper		0.488	mg/L	0.010	98	80	120			
Lead		0.908	mg/L	0.013	91	80	120			
Manganese		0.449	mg/L	0.010	90	80	120			
Nickel		0.884	mg/L	0.010	88	80	120			
Zinc		0.941	mg/L	0.010	94	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_130219A		
Sample ID: ICV STD	12	Initial Calibration Verification Standard							02/19/13 11:53	
Arsenic		0.0595	mg/L	0.0050	99	90	110			
Barium		0.0596	mg/L	0.10	99	90	110			
Beryllium		0.0308	mg/L	0.0010	103	90	110			
Cadmium		0.0309	mg/L	0.0010	103	90	110			
Chromium		0.0596	mg/L	0.010	99	90	110			
Copper		0.0611	mg/L	0.010	102	90	110			
Lead		0.0596	mg/L	0.010	99	90	110			
Manganese		0.303	mg/L	0.010	101	90	110			
Nickel		0.0607	mg/L	0.010	101	90	110			
Selenium		0.0606	mg/L	0.0050	101	90	110			
Silver		0.0288	mg/L	0.0050	96	90	110			
Zinc		0.0648	mg/L	0.010	108	90	110			
Sample ID: ICSA	12	Interference Check Sample A							02/19/13 11:58	
Arsenic		0.000471	mg/L	0.0050						
Barium		0.000122	mg/L	0.10						
Beryllium		1.50E-05	mg/L	0.0010						
Cadmium		0.00106	mg/L	0.0010						
Chromium		0.00140	mg/L	0.010						
Copper		0.000690	mg/L	0.010						
Lead		0.000195	mg/L	0.010						
Manganese		0.000517	mg/L	0.010						
Nickel		0.000663	mg/L	0.010						
Selenium		0.000873	mg/L	0.0050						
Silver		0.000438	mg/L	0.0050						
Zinc		0.000715	mg/L	0.010						
Sample ID: ICSAB	12	Interference Check Sample AB							02/19/13 12:02	
Arsenic		0.0109	mg/L	0.0050	109	70	130			
Barium		0.000140	mg/L	0.10		0	0			
Beryllium		ND	mg/L	0.0010		0	0			
Cadmium		0.0110	mg/L	0.0010	110	70	130			
Chromium		0.0223	mg/L	0.010	111	70	130			
Copper		0.0205	mg/L	0.010	102	70	130			
Lead		0.000206	mg/L	0.010		0	0			
Manganese		0.0221	mg/L	0.010	111	70	130			
Nickel		0.0212	mg/L	0.010	106	70	130			
Selenium		0.0110	mg/L	0.0050	110	70	130			
Silver		0.0179	mg/L	0.0050	90	70	130			
Zinc		0.0113	mg/L	0.010	113	70	130			
Method: E200.8									Batch: 19511	
Sample ID: MB-19511	12	Method Blank				Run: ICPMS204-B_130219A			02/19/13 13:24	
Arsenic		ND	mg/L	0.0002						
Barium		ND	mg/L	0.0002						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 19511
Sample ID: MB-19511	12	Method Blank				Run: ICPMS204-B_130219A				02/19/13 13:24
Beryllium		ND	mg/L	2E-05						
Cadmium		ND	mg/L	2E-05						
Chromium		0.0003	mg/L	0.0002						
Copper		ND	mg/L	0.0002						
Lead		ND	mg/L	3E-05						
Manganese		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0001						
Selenium		ND	mg/L	0.0002						
Silver		0.0006	mg/L	0.0001						
Zinc		ND	mg/L	0.001						
Sample ID: LCS-19511	12	Laboratory Control Sample				Run: ICPMS204-B_130219A				02/19/13 13:28
Arsenic		0.506	mg/L	0.0010	101	85	115			
Barium		0.534	mg/L	0.050	107	85	115			
Beryllium		0.254	mg/L	0.0010	102	85	115			
Cadmium		0.268	mg/L	0.0010	107	85	115			
Chromium		0.511	mg/L	0.0050	102	85	115			
Copper		0.500	mg/L	0.0050	100	85	115			
Lead		0.498	mg/L	0.0010	100	85	115			
Manganese		2.52	mg/L	0.0010	101	85	115			
Nickel		0.500	mg/L	0.0050	100	85	115			
Selenium		0.523	mg/L	0.0010	105	85	115			
Silver		0.0521	mg/L	0.0010	103	85	115			
Zinc		0.533	mg/L	0.010	107	85	115			
Sample ID: H13020180-001BMS3	12	Sample Matrix Spike				Run: ICPMS204-B_130219A				02/19/13 14:38
Arsenic		0.508	mg/L	0.0010	101	70	130			
Barium		0.561	mg/L	0.050	105	70	130			
Beryllium		0.246	mg/L	0.0010	99	70	130			
Cadmium		0.264	mg/L	0.0010	106	70	130			
Chromium		0.506	mg/L	0.0050	101	70	130			
Copper		0.494	mg/L	0.0050	99	70	130			
Lead		0.524	mg/L	0.0010	105	70	130			
Manganese		2.46	mg/L	0.0010	98	70	130			
Nickel		0.493	mg/L	0.0050	99	70	130			
Selenium		0.549	mg/L	0.0010	110	70	130			
Silver		0.0370	mg/L	0.0010	72	70	130			
Zinc		0.544	mg/L	0.010	109	70	130			
Sample ID: H13020180-001BMSD3	12	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130219A				02/19/13 14:43
Arsenic		0.502	mg/L	0.0010	100	70	130	1.2	20	
Barium		0.550	mg/L	0.050	102	70	130	2.2	20	
Beryllium		0.245	mg/L	0.0010	98	70	130	0.8	20	
Cadmium		0.261	mg/L	0.0010	104	70	130	1.3	20	
Chromium		0.503	mg/L	0.0050	100	70	130	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 19511
Sample ID: H13020180-001BMSD3	12	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130219A				02/19/13 14:43
Copper		0.493	mg/L	0.0050	99	70	130	0.1	20	
Lead		0.520	mg/L	0.0010	104	70	130	0.8	20	
Manganese		2.45	mg/L	0.0010	98	70	130	0.4	20	
Nickel		0.491	mg/L	0.0050	98	70	130	0.3	20	
Selenium		0.537	mg/L	0.0010	107	70	130	2.2	20	
Silver		0.0421	mg/L	0.0010	82	70	130	13	20	
Zinc		0.539	mg/L	0.010	108	70	130	0.8	20	
Sample ID: H13020180-011BMS3	12	Sample Matrix Spike				Run: ICPMS204-B_130219A				02/19/13 16:02
Arsenic		0.506	mg/L	0.0010	101	70	130			
Barium		0.554	mg/L	0.050	103	70	130			
Beryllium		0.251	mg/L	0.0010	100	70	130			
Cadmium		0.266	mg/L	0.0010	106	70	130			
Chromium		0.512	mg/L	0.0050	102	70	130			
Copper		0.502	mg/L	0.0050	100	70	130			
Lead		0.526	mg/L	0.0010	105	70	130			
Manganese		2.49	mg/L	0.0010	100	70	130			
Nickel		0.498	mg/L	0.0050	100	70	130			
Selenium		0.537	mg/L	0.0010	107	70	130			
Silver		0.0372	mg/L	0.0010	74	70	130			
Zinc		0.559	mg/L	0.010	112	70	130			
Sample ID: H13020180-011BMSD3	12	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130219A				02/19/13 16:07
Arsenic		0.505	mg/L	0.0010	101	70	130	0.2	20	
Barium		0.542	mg/L	0.050	101	70	130	2.2	20	
Beryllium		0.245	mg/L	0.0010	98	70	130	2.3	20	
Cadmium		0.263	mg/L	0.0010	105	70	130	1.0	20	
Chromium		0.507	mg/L	0.0050	101	70	130	1.1	20	
Copper		0.495	mg/L	0.0050	99	70	130	1.2	20	
Lead		0.513	mg/L	0.0010	103	70	130	2.4	20	
Manganese		2.43	mg/L	0.0010	97	70	130	2.6	20	
Nickel		0.493	mg/L	0.0050	99	70	130	1.1	20	
Selenium		0.525	mg/L	0.0010	105	70	130	2.2	20	
Silver		0.0428	mg/L	0.0010	86	70	130	14	20	
Zinc		0.545	mg/L	0.010	109	70	130	2.4	20	
Method: E200.8										Batch: R86419
Sample ID: ICB	12	Method Blank				Run: ICPMS204-B_130219A				02/19/13 12:37
Arsenic		ND	mg/L	7E-05						
Barium		ND	mg/L	5E-05						
Beryllium		ND	mg/L	2E-05						
Cadmium		ND	mg/L	7E-06						
Chromium		5E-05	mg/L	4E-05						
Copper		ND	mg/L	3E-05						
Lead		ND	mg/L	6E-06						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R86419
Sample ID: ICB	12	Method Blank				Run: ICPMS204-B_130219A				02/19/13 12:37
Manganese		ND	mg/L	8E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	5E-05						
Silver		0.0002	mg/L	4E-05						
Zinc		ND	mg/L	0.0003						
Sample ID: LFB	12	Laboratory Fortified Blank				Run: ICPMS204-B_130219A				02/19/13 12:42
Arsenic		0.0497	mg/L	0.0050	99	85	115			
Barium		0.0489	mg/L	0.10	98	85	115			
Beryllium		0.0477	mg/L	0.0010	95	85	115			
Cadmium		0.0474	mg/L	0.0010	95	85	115			
Chromium		0.0497	mg/L	0.010	99	85	115			
Copper		0.0474	mg/L	0.010	95	85	115			
Lead		0.0497	mg/L	0.010	99	85	115			
Manganese		0.0494	mg/L	0.010	99	85	115			
Nickel		0.0482	mg/L	0.010	96	85	115			
Selenium		0.0494	mg/L	0.0050	99	85	115			
Silver		0.0196	mg/L	0.0050	97	85	115			
Zinc		0.0505	mg/L	0.010	101	85	115			
Sample ID: MB-19507	12	Method Blank				Run: ICPMS204-B_130219A				02/19/13 12:56
Arsenic		8E-05	mg/L	7E-05						
Barium		0.0002	mg/L	5E-05						
Beryllium		ND	mg/L	2E-05						
Cadmium		2E-05	mg/L	7E-06						
Chromium		0.0004	mg/L	4E-05						
Copper		0.0004	mg/L	3E-05						
Lead		5E-05	mg/L	6E-06						
Manganese		0.0001	mg/L	8E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	5E-05						
Silver		0.0002	mg/L	4E-05						
Zinc		0.002	mg/L	0.0003						
Sample ID: H13020182-027AMS	12	Sample Matrix Spike				Run: ICPMS204-B_130219A				02/19/13 13:05
Arsenic		0.0559	mg/L	0.0010	96	70	130			
Barium		0.0782	mg/L	0.050	101	70	130			
Beryllium		0.0477	mg/L	0.0010	95	70	130			
Cadmium		0.0480	mg/L	0.0010	96	70	130			
Chromium		0.0491	mg/L	0.0050	98	70	130			
Copper		0.0510	mg/L	0.0050	93	70	130			
Lead		0.0513	mg/L	0.0010	102	70	130			
Manganese		0.240	mg/L	0.0010	100	70	130			
Nickel		0.0472	mg/L	0.0050	93	70	130			
Selenium		0.0480	mg/L	0.0010	96	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R86419
Sample ID: H13020182-027AMS	12	Sample Matrix Spike				Run: ICPMS204-B_130219A			02/19/13 13:05	
Silver		0.0148	mg/L	0.0010	74	70	130			
Zinc		0.0855	mg/L	0.010	91	70	130			
Sample ID: H13020182-027AMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130219A			02/19/13 13:10	
Arsenic		0.0560	mg/L	0.0010	96	70	130	0.0	20	
Barium		0.0788	mg/L	0.050	102	70	130	0.6	20	
Beryllium		0.0472	mg/L	0.0010	94	70	130	1.2	20	
Cadmium		0.0478	mg/L	0.0010	95	70	130	0.6	20	
Chromium		0.0496	mg/L	0.0050	99	70	130	1.0	20	
Copper		0.0507	mg/L	0.0050	92	70	130	0.6	20	
Lead		0.0519	mg/L	0.0010	104	70	130	1.3	20	
Manganese		0.241	mg/L	0.0010	102	70	130	0.3	20	
Nickel		0.0471	mg/L	0.0050	93	70	130	0.2	20	
Selenium		0.0482	mg/L	0.0010	96	70	130	0.3	20	
Silver		0.0171	mg/L	0.0010	86	70	130	14	20	
Zinc		0.0854	mg/L	0.010	90	70	130	0.2	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E245.1									Analytical Run: HGCV201-H_130215A	
Sample ID: ICV	Initial Calibration Verification Standard								02/15/13 13:41	
Mercury		0.00022	mg/L	0.00010	108	90	110			
Sample ID: CCV1	Continuing Calibration Verification Standard								02/15/13 13:43	
Mercury		0.00020	mg/L	0.00010	100	95	105			
Sample ID: CCV	Continuing Calibration Verification Standard								02/15/13 15:07	
Mercury		0.00020	mg/L	0.00010	99	90	110			
Method: E245.1									Batch: 19510	
Sample ID: MB-19510	Method Blank					Run: HGCV201-H_130215A			02/15/13 15:12	
Mercury		2E-05	mg/L	6E-06						
Sample ID: LCS-19510	Laboratory Control Sample					Run: HGCV201-H_130215A			02/15/13 15:17	
Mercury		0.00021	mg/L	0.00010	96	90	110			
Sample ID: H13020182-029BMS	Sample Matrix Spike					Run: HGCV201-H_130215A			02/15/13 15:33	
Mercury		0.00020	mg/L	0.00010	88	70	130			
Sample ID: H13020182-029BMSD	Sample Matrix Spike Duplicate					Run: HGCV201-H_130215A			02/15/13 15:36	
Mercury		0.00020	mg/L	0.00010	87	70	130	1.0	30	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B										Batch: 19524
Sample ID: MB-19524	8	Method Blank				Run: ICP2-HE_130221A				02/21/13 16:11
Arsenic		ND	mg/kg	0.4						
Barium		0.04	mg/kg	0.02						
Chromium		ND	mg/kg	0.07						
Copper		ND	mg/kg	0.2						
Lead		ND	mg/kg	1						
Manganese		0.04	mg/kg	0.04						
Nickel		ND	mg/kg	0.08						
Zinc		ND	mg/kg	0.1						
Sample ID: LFB-19524	8	Laboratory Fortified Blank				Run: ICP2-HE_130221A				02/21/13 16:15
Arsenic		46.5	mg/kg	1.0	93	80	120			
Barium		51.4	mg/kg	1.0	103	80	120			
Chromium		50.0	mg/kg	1.0	100	80	120			
Copper		50.1	mg/kg	1.0	100	80	120			
Lead		47.3	mg/kg	1.0	95	80	120			
Manganese		244	mg/kg	1.0	98	80	120			
Nickel		48.3	mg/kg	1.0	97	80	120			
Zinc		47.8	mg/kg	1.0	96	80	120			
Sample ID: LCS-19524	8	Laboratory Control Sample				Run: ICP2-HE_130221A				02/21/13 16:26
Arsenic		263	mg/kg	1.5	78	72.3	106.4			
Barium		556	mg/kg	1.0	92	80.6	112.2			
Chromium		64.9	mg/kg	1.0	87	72.8	109.1			
Copper		247	mg/kg	1.0	90	77.5	109.6			
Lead		173	mg/kg	3.0	94	75.9	108.6			
Manganese		349	mg/kg	1.0	96	80.8	115.7			
Nickel		52.8	mg/kg	1.0	88	72.3	103.4			
Zinc		184	mg/kg	1.0	88	74.2	109.9			
Sample ID: H13020182-018CMS	8	Sample Matrix Spike				Run: ICP2-HE_130221A				02/21/13 18:00
Arsenic		68.2	mg/kg	1.5	83	75	125			
Barium		257	mg/kg	1.0	145	75	125			S
Chromium		62.5	mg/kg	1.0	95	75	125			
Copper		83.2	mg/kg	1.0	92	75	125			
Lead		117	mg/kg	3.1	70	75	125			S
Manganese		830	mg/kg	1.0	93	75	125			
Nickel		54.5	mg/kg	1.0	84	75	125			
Zinc		148	mg/kg	1.0	86	75	125			
Sample ID: H13020182-018CMSD	8	Sample Matrix Spike Duplicate				Run: ICP2-HE_130221A				02/21/13 18:04
Arsenic		68.3	mg/kg	1.5	84	75	125	0.1	20	
Barium		258	mg/kg	1.0	149	75	125	0.4	20	S
Chromium		63.4	mg/kg	1.0	97	75	125	1.5	20	
Copper		84.7	mg/kg	1.0	96	75	125	1.7	20	
Lead		121	mg/kg	3.1	80	75	125	3.6	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division **Report Date:** 02/22/13

Project: Spring Meadow Lake **Work Order:** H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B										Batch: 19524
Sample ID: H13020182-018CMSD	8	Sample Matrix Spike Duplicate				Run: ICP2-HE_130221A				02/21/13 18:04
Manganese		837	mg/kg	1.0	97	75	125	0.7	20	
Nickel		55.2	mg/kg	1.0	87	75	125	1.3	20	
Zinc		152	mg/kg	1.0	94	75	125	2.6	20	
Method: SW6010B										Batch: 19525
Sample ID: MB-19525	7	Method Blank				Run: ICP2-HE_130221A				02/21/13 18:08
Barium		0.03	mg/kg	0.02						
Chromium		ND	mg/kg	0.07						
Copper		ND	mg/kg	0.2						
Lead		ND	mg/kg	1						
Manganese		0.04	mg/kg	0.04						
Nickel		ND	mg/kg	0.08						
Zinc		0.2	mg/kg	0.1						
Sample ID: LFB-19525	7	Laboratory Fortified Blank				Run: ICP2-HE_130221A				02/21/13 18:12
Barium		51.0	mg/kg	1.0	102	80	120			
Chromium		48.8	mg/kg	1.0	98	80	120			
Copper		49.2	mg/kg	1.0	98	80	120			
Lead		46.1	mg/kg	1.0	92	80	120			
Manganese		238	mg/kg	1.0	95	80	120			
Nickel		46.8	mg/kg	1.0	94	80	120			
Zinc		46.4	mg/kg	1.0	93	80	120			
Sample ID: LCS-19525	7	Laboratory Control Sample				Run: ICP2-HE_130221A				02/21/13 18:15
Barium		531	mg/kg	1.0	87	80.6	112.2			
Chromium		61.2	mg/kg	1.0	80	72.8	109.1			
Copper		227	mg/kg	1.0	81	77.5	109.6			
Lead		152	mg/kg	3.1	81	75.9	108.6			
Manganese		328	mg/kg	1.0	89	80.8	115.7			
Nickel		47.5	mg/kg	1.0	78	72.3	103.4			
Zinc		169	mg/kg	1.0	79	74.2	109.9			
Sample ID: H13020182-026CMS	7	Sample Matrix Spike				Run: ICP2-HE_130221A				02/21/13 19:04
Barium		209	mg/kg	1.0	125	75	125			
Chromium		63.6	mg/kg	1.0	94	75	125			
Copper		91.5	mg/kg	1.0	96	75	125			
Lead		121	mg/kg	3.1	88	75	125			
Manganese		929	mg/kg	1.0	90	75	125			
Nickel		54.5	mg/kg	1.0	88	75	125			
Zinc		185	mg/kg	1.0	87	75	125			
Sample ID: H13020182-026CMSD	7	Sample Matrix Spike Duplicate				Run: ICP2-HE_130221A				02/21/13 19:08
Barium		213	mg/kg	1.0	134	75	125	1.9	20	S
Chromium		64.9	mg/kg	1.0	98	75	125	2.1	20	
Copper		114	mg/kg	1.0	142	75	125	22	20	SR
Lead		125	mg/kg	3.1	98	75	125	3.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B										Batch: 19525
Sample ID: H13020182-026CMSD	7	Sample Matrix Spike Duplicate				Run: ICP2-HE_130221A				02/21/13 19:08
Manganese		929	mg/kg	1.0	90	75	125	0.1	20	
Nickel		55.7	mg/kg	1.0	92	75	125	2.1	20	
Zinc		193	mg/kg	1.0	103	75	125	3.9	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division **Report Date:** 02/22/13

Project: Spring Meadow Lake **Work Order:** H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Analytical Run: ICPMS204-B_130221B	
Sample ID: ICV STD	5	Initial Calibration Verification Standard							02/21/13 19:20	
Arsenic		0.0590	mg/L	0.0010	98	90	110			
Beryllium		0.0307	mg/L	0.0010	102	90	110			
Cadmium		0.0306	mg/L	0.0010	102	90	110			
Selenium		0.0616	mg/L	0.0010	103	90	110			
Silver		0.0292	mg/L	0.0010	97	90	110			
Method: SW6020									Batch: 19524	
Sample ID: MB-19524	5	Method Blank				Run: ICPMS204-B_130221B			02/21/13 20:27	
Arsenic		0.03	mg/kg	0.01						
Beryllium		ND	mg/kg	0.005						
Cadmium		0.04	mg/kg	0.007						
Selenium		0.02	mg/kg	0.01						
Silver		ND	mg/kg	0.02						
Sample ID: LCS-19524	5	Laboratory Control Sample				Run: ICPMS204-B_130221B			02/21/13 20:32	
Arsenic		309	mg/kg	1.0	92	72.3	106.4			
Beryllium		47.5	mg/kg	1.0	95	76.3	108.6			
Cadmium		124	mg/kg	1.0	92	73	105.1			
Selenium		195	mg/kg	1.0	101	72.5	112.2			
Silver		65.0	mg/kg	1.0	96	67.8	112.8			
Sample ID: LFB-19524	5	Laboratory Fortified Blank				Run: ICPMS204-B_130221B			02/21/13 20:37	
Arsenic		51.1	mg/kg	1.0	102	80	120			
Beryllium		24.4	mg/kg	1.0	97	80	120			
Cadmium		26.3	mg/kg	1.0	105	80	120			
Selenium		51.6	mg/kg	1.0	103	80	120			
Silver		25.3	mg/kg	1.0	101	80	120			
Sample ID: H13020182-018CMS	5	Sample Matrix Spike				Run: ICPMS204-B_130221B			02/21/13 23:00	
Arsenic		81.4	mg/kg	1.0	97	75	125			
Beryllium		24.8	mg/kg	1.0	97	75	125			
Cadmium		25.1	mg/kg	1.0	96	75	125			
Selenium		54.2	mg/kg	1.0	108	75	125			
Silver		28.0	mg/kg	1.0	110	75	125			
Sample ID: H13020182-018CMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130221B			02/21/13 23:05	
Arsenic		82.9	mg/kg	1.0	101	75	125	1.8	20	
Beryllium		25.7	mg/kg	1.0	101	75	125	3.6	20	
Cadmium		25.3	mg/kg	1.0	98	75	125	0.9	20	
Selenium		53.2	mg/kg	1.0	107	75	125	1.8	20	
Silver		27.3	mg/kg	1.0	109	75	125	2.6	20	
Method: SW6020									Batch: 19525	
Sample ID: MB-19525	5	Method Blank				Run: ICPMS204-B_130221B			02/21/13 23:20	
Arsenic		0.03	mg/kg	0.01						
Beryllium		0.006	mg/kg	0.005						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division **Report Date:** 02/22/13

Project: Spring Meadow Lake **Work Order:** H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 19525
Sample ID: MB-19525	5	Method Blank				Run: ICPMS204-B_130221B				02/21/13 23:20
Cadmium		0.04	mg/kg	0.007						
Selenium		0.02	mg/kg	0.01						
Silver		ND	mg/kg	0.02						
Sample ID: LCS-19525	5	Laboratory Control Sample				Run: ICPMS204-B_130221B				02/21/13 23:25
Arsenic		285	mg/kg	1.0	83	72.3	106.4			
Beryllium		43.3	mg/kg	1.0	85	76.3	108.6			
Cadmium		114	mg/kg	1.0	83	73	105.1			
Selenium		191	mg/kg	1.0	97	72.5	112.2			
Silver		61.3	mg/kg	1.0	89	67.8	112.8			
Sample ID: LFB-19525	5	Laboratory Fortified Blank				Run: ICPMS204-B_130221B				02/21/13 23:29
Arsenic		50.5	mg/kg	1.0	101	80	120			
Beryllium		24.0	mg/kg	1.0	96	80	120			
Cadmium		26.3	mg/kg	1.0	105	80	120			
Selenium		52.9	mg/kg	1.0	106	80	120			
Silver		24.9	mg/kg	1.0	100	80	120			
Sample ID: H13020182-026CMS	5	Sample Matrix Spike				Run: ICPMS204-B_130221B				02/22/13 00:46
Arsenic		94.2	mg/kg	1.0	113	75	125			
Beryllium		26.1	mg/kg	1.0	102	75	125			
Cadmium		25.2	mg/kg	1.0	96	75	125			
Selenium		57.8	mg/kg	1.0	115	75	125			
Silver		30.1	mg/kg	1.0	118	75	125			
Sample ID: H13020182-026CMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130221B				02/22/13 00:51
Arsenic		91.0	mg/kg	1.0	108	75	125	3.5	20	
Beryllium		25.7	mg/kg	1.0	102	75	125	1.5	20	
Cadmium		25.5	mg/kg	1.0	98	75	125	1.0	20	
Selenium		52.6	mg/kg	1.0	105	75	125	9.4	20	
Silver		27.8	mg/kg	1.0	109	75	125	7.9	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/22/13
Project: Spring Meadow Lake
Work Order: H13020182

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW7471A									Analytical Run: HGCV201-H_130220A	
Sample ID: ICV	Initial Calibration Verification Standard								02/19/13 16:14	
Mercury		0.00096	mg/kg	0.50	97	90	110			
Sample ID: CCV	Continuing Calibration Verification Standard								02/19/13 16:24	
Mercury		0.0027	mg/kg	0.50	107	90	110			
Sample ID: ICV	Initial Calibration Verification Standard								02/20/13 14:50	
Mercury		0.0011	mg/kg	0.50	109	90	110			
Sample ID: CCV	Continuing Calibration Verification Standard								02/20/13 14:58	
Mercury		0.0026	mg/kg	0.50	104	90	110			
Sample ID: CCV	Continuing Calibration Verification Standard								02/20/13 15:26	
Mercury		0.0026	mg/kg	0.50	103	90	110			
Sample ID: CCV	Continuing Calibration Verification Standard								02/20/13 16:00	
Mercury		0.0025	mg/kg	0.50	100	90	110			
Method: SW7471A									Batch: 19527	
Sample ID: MB-19527	Method Blank					Run: HGCV201-H_130220A			02/19/13 16:39	
Mercury		ND	mg/kg	0.0009						
Sample ID: LCS-19527	Laboratory Control Sample					Run: HGCV201-H_130220A			02/19/13 16:42	
Mercury		5.1	mg/kg	0.52	99	80	120			
Sample ID: H13020182-011BMS	Sample Matrix Spike					Run: HGCV201-H_130220A			02/20/13 15:33	
Mercury		1.5	mg/kg-dry	0.50	105	80	120			
Sample ID: H13020182-011BMSD	Sample Matrix Spike Duplicate					Run: HGCV201-H_130220A			02/20/13 15:36	
Mercury		1.5	mg/kg-dry	0.50	111	80	120	1.7	20	
Method: SW7471A									Batch: 19528	
Sample ID: MB-19528	Method Blank					Run: HGCV201-H_130220A			02/20/13 16:05	
Mercury		ND	mg/kg	0.0009						
Sample ID: LCS-19528	Laboratory Control Sample					Run: HGCV201-H_130220A			02/20/13 16:22	
Mercury		5.0	mg/kg	0.50	98	80	120			
Sample ID: H13020182-017BMS	Sample Matrix Spike					Run: HGCV201-H_130220A			02/20/13 16:27	
Mercury		1.7	mg/kg-dry	0.50	121	80	120			S
Sample ID: H13020182-017BMSD	Sample Matrix Spike Duplicate					Run: HGCV201-H_130220A			02/20/13 16:30	
Mercury		1.9	mg/kg-dry	0.50	125	80	120	7.5	20	S
Sample ID: H13020202-001BMS	Sample Matrix Spike					Run: HGCV201-H_130220A			02/20/13 17:03	
Mercury		1.7	mg/kg-dry	0.50	99	80	120			
Sample ID: H13020202-001BMSD	Sample Matrix Spike Duplicate					Run: HGCV201-H_130220A			02/20/13 17:05	
Mercury		1.7	mg/kg-dry	0.50	99	80	120	2.5	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Remediation Division H13020182

Login completed by: Tracy L. Lorash
Date Received: 2/14/2013
Reviewed by: BL2000\ablackburn
Received by: wjj
Reviewed Date: 2/22/2013
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	℃ See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Samples left in locked entryway.
No collection time on COC for I-SMLC-246. Sample time estimated in laboratory.
Collection time on COC for I-SMLC-47 is 16:10 - jar E has time of 13:55. Logged in with time from COC.
No collection date and time on I-SMLC-48-B jar. Took from COC.
Collection time on COC for K-SMLC-98 is 9:30 - jars have time of 10:25.

Workorder Receipt Checklist - Continued

MT DEQ-Remediation Division H13020182

Collection time on COC for J-SMLC-109 is 9:35 - jars have time of 13:55.
Collection time on COC for I-SMLD-12 is 9:30 - jars have time of 15:50.
Collection time on COC for I-SMLD-14 is 9:35 - jars have time of 16:30.
No jar received for I-SMLD-14-E as shown on COC.
ID on COC is I-SMLW-13 - bottles have ID as J-SMLW-13.
Per Jamie Mongoven, the bottles are correct and there is no jar E for I-SMLD-14 sample set. As far as the ID on the COC for I-SMLW-13 - bottles have ID as J-SMLW-13. "J" is correct.
Cooler 1 was received at 2.5℃, Cooler 2 at 3.0℃. Samples were received on wet ice.
Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. TI 2/15/13.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- x EDD/EDT (Electronic Data) **Format:** Trihydro
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 2.5 °C C2 3.0 °C

Shipped by: leftinlocked

Cooler ID(s): entry 4

Receipt Temp TB

Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	B-SMLC-9-A	2/13/13	0840	soil	x	x										Composite and
2	B	"	"	"	x	x										label sample
3	C	"	"	"	x	x										B-SMLC-9
4	D	"	"	"	x	x										
5	E		"	"	x	x										
6	B-SMLC-10-A	2/13/13	0845	"	x	x										Composite and
7	B	"	"	"	x	x										label sample
8	C	"	"	"	x	x										B-SMLC-10
9	D	"	"	"	x	x										
10	E		"	"	x	x										

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
		2/14/13 1430				
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client: _____	Lab Disposal: X		Received by Laboratory: Wanda Johnson	Date/Time: 2-14-13 715	Signature:

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Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 2.5 °C C2 3.0

Shipped by: lestin lockedby

Cooler ID(s): 4

Receipt Temp 7B °C

On Ice: Yes No

Custody Seal Intact Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	B-SMLC-11-A	2/13/13	0830	soil	x	x										Composite and
2	B	"	"	"	x	x										label sample
3	C	"	"	"	x	x										B-SMLC-11
4	D	"	"	"	x	x										
5	E	"	"	"	x	x										
6	B-SMLC-12-A	2/13/13	0825	"	x	x										Composite and
7	B	"	"	"	x	x										label sample
8	C	"	"	"	x	x										B-SMLC-12
9	D	"	"	"	x	x										
10	E	"	"	"	x	x										

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/13/13 1930	Signature:	Received by (print):	Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time: / Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Johns	Date/Time: 2-14-13 7:15 / Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: c1 c2

Shipped by: leftin locked

Cooler ID(s): ~~ENRG~~ 4

Receipt Temp TB c1 2.5 °C c2 °C

Temp: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	J-SMLC-40-A	2/13/13	1155	soil	x	x									Composite and	H13020182
2	B				x	x									label sample	
3	C				x	x									J-SMLC-40	
4	D				x	x										
5	E				x	x										
6	J-SMLC-41-A	2/13/13	1215		x	x									Composite and	
7	B				x	x									label sample	
8	C				x	x									B-SMLC-41	
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/13/13/1930	Signature:	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Johnson	Date/Time: 2-15-13 715	Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 2.5 °C C2 3.0

Shipped by: left in locked

Cooler ID(s): entry 4

Receipt Temp 7B C1 2.5 °C C2 3.0 °C

Office: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	J-SMLC-42-A	2/13/13	1415	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									J-SMLC-42
4	D				x	x									
5	E				x	x									
6	J-SMLC-43-A	2/13/13	1440		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									B-SMLC-43
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/13/13/1430	Signature:	Received by (print):	Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time: / Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Johns	Date/Time: 2-14-13 715 / Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids
Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 2.5 °C C2 3.0

Shipped by: Fedex Packed entry

Cooler ID(s): 1

Receipt Temp TB

On Ice: (Yes) No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	I-SMLC-45-A	2/13/13	1530	soil	x	x										Composite and
2	B	"	"	"	x	x										label sample
3	C	"	"	"	x	x										I-SMLC-45
4	D	"	"	"	x	x										
5	E	"	"	"	x	x										
6	I-SMLC-46-A	2/13/13	1515	"	x	x										Composite and
7	B	"	"	"	x	x										label sample
8	C	"	"	"	x	x										I-SMLC-46
9	D	"	"	"	x	x										
10	E	"	"	"	x	x										

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/13/13 1930	Signature:	Received by (print):	Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time: / Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Date/Time: 2-14-13 715	Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 C2

Shipped by: leftinlockedy

Cooler ID(s): 4

Receipt Temp TB C1 2.5 °C C2 3.0 °C

Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	I-SMLC-246-A	2/13/13	—	soil	x	x										Composite and
2	B	"	"	"	x	x										label sample
3	C	"	"	"	x	x										I-SMLC-246
4	D	"	"	"	x	x										
5	E	"	"	"	x	x										
6	I-SMLC-47-A	2/13/13	1610	"	x	x										Composite and
7	B	"	"	"	x	x										label sample
8	C	"	"	"	x	x										I-SMLC-47
9	D	"	"	"	x	x										
10	E	"	"	"	x	x										

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/13/13 1930	Signature:
Relinquished by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____	Lab Disposal: X	

Received by (print):	Date/Time:	Signature:
Received by (print):	Date/Time:	Signature:
Received by Laboratory: Wanda Davis	Date/Time: 2-14-13 7:15	Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 2.5 C2 5.0

Shipped by: leftin locked entr

Cooler ID(s): 4

Receipt Temp B °C

On Ice: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	I-SMLC-48-A	2/13/13	1620	soil	x	x									Composite and	H13020182
2	B	"	"	"	x	x									label sample	
3	C	"	"	"	x	x									I-SMLC-48	
4	D	"	"	"	x	x										
5	E	"	"	"	x	x										
6	K-SMLC-91-A	2/13/13	0945	"	x	x									Composite and	
7	B	"	"	"	x	x									label sample	
8	C	"	"	"	x	x									K-SMLC-91	
9	D	"	"	"	x	x										
10	E	"	"	"	x	x										

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/13/13 1930	Signature:	Received by (print):	Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time: / Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda	Date/Time: 2-14-13 7:15 / Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids
Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: left in locked

Cooler ID(s): enm

Y

Receipt Temp TB
c1 2.5 c2 °C 3.0

On Ice: (Yes) No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	K-SMLC-92-A	2/13/13	0930	soil	x	x										Composite and
2	B				x	x										label sample
3	C				x	x										K-SMLC-92
4	D				x	x										
5	E				x	x										
6	K-SMLC-93-A	2/13/13	0935		x	x										Composite and
7	B				x	x										label sample
8	C				x	x										K-SMLC-93
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
		2/13/13/1930	JDel			
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client: _____	Lab Disposal: X		**Received by Laboratory:** Wanda Dm	Date/Time: 2-14-13 15	Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PL ; much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: Latin hand

Cooler ID(s): 4

Receipt Temp 2.5 °C C1 C2 3.0 TB

On Ice: (Yes) No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	K-SMLC-94-A	2/13/13	0950	soil	x	x									Composite and
2	B	"	"	"	x	x									label sample
3	C	"	"	"	x	x									K-SMLC-94
4	D	"	"	"	x	x									
5	E	"	"	"	x	x									
6	K-SMLC-95-A	2/13/13	1000	"	x	x									Composite and
7	B	"	"	"	x	x									label sample
8	C	"	"	"	x	x									K-SMLC-95
9	D	"	"	"	x	x									
10	E	"	"	"	x	x									

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/13/13 1430	Signature:	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Winn	Date/Time: 2-14-13 15	Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids
Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 C2

Shipped by: letting locked

Cooler ID(s): 4

Receipt Temp 2.5 °C B 3.0 °C

On Ice: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	K-SMLC-96-A	2/13/13	1020	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									K-SMLC-96
4	D				x	x									
5	E				x	x									
6	K-SMLC-97-A	2/13/13	1005		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									K-SMLC-97
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/14/13 1430	Signature:	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanderson	Date/Time: 2-14-13 15	Signature:

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA
x EDD/EDT (Electronic Data)
Format: Trihydro
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1

Shipped by: left in locked enviro

Cooler ID(s): Y

Receipt Temp TB 2.5 °C C2 3.0

On Ice: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	K-SMLC-98-A	2/13/13	0930	soil	x	x									Composite and
2	B	"	"	"	x	x									label sample
3	C	"	"	"	x	x									K-SMLC-98
4	D	"	"	"	x	x									
5	E	"	"	"	x	x									
6	J-SMLC-109-A	2/13/13	0935	"	x	x									Composite and
7	B	"	"	"	x	x									label sample
8	C	"	"	"	x	x									K-SMLC-109
9	D	"	"	"	x	x									
10	E	"	"	"	x	x									

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/13/13 1930	Signature:	Received by (print): / Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print): / Date/Time: / Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Woodson Date/Time: 2-14-13 T 15 Signature:

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: left in locked entry
Cooler ID(s): 1
Receipt Temp TB
C1 25 °C C2 3.0
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	B-SMLD-1-A	2/13/13	0850	soil	x	x									Composite and
2	B	↓	↓		x	x									label sample
3	C	↓	↓		x	x									B-SMLD-1
4					x	x									
5					x	x									
6	I-SMLD-11-A	2/13/13	1540		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									I-SMLD-11
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
		2/13/13/1930				
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
				Received by Laboratory: Wanderson	Date/Time: 2-14-13 1515	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 C2 3.0

Shipped by: left in locked entry

Cooler ID(s): Y

Receipt Temp TB C1 2.5 °C C2 3.0

On Ice: (Yes) No

Custody Seal (Y) N
Intact Y N
Signature Match (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	Comments
1	I-SMLD-12-A	2/13/13	0930	soil	x	x	Composite and
2	B	"	"	"	x	x	label sample
3	C	"	"	"	x	x	I-SMLD-12
4	D	"	"	"	x	x	
5					x	x	
6	I-SMLD-14-A	2/13/13	0935		x	x	Composite and
7	B	"	"	"	x	x	label sample
8	C	"	"	"	x	x	I-SMLD-14
9	D	"	"	"	x	x	
10	E	"	"	"	x	x	

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

Relinquished by (print):	Date/Time: 2/13/13 1930	Signature:	Received by (print): / Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print): / Date/Time: / Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wardson / Date/Time: 2-14-13 7:15 / Signature:

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☒ EDD/EDT (Electronic Data) **Format:** Trihydro
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	Total Metals 6020A	Dissolved Metals 6020A	Total and dissolved mercury 7470A					SEE ATTACHED	Normal Turnaround (TAT)
1 B-SMLW-1	2/13/13	0905	water			X	x	x						
2 I-SMLW-12	2/13/13	1520	water			x	x	x						
3 I-SMLW-13	2/13/13	1135	water			x	x	x						
4 J-SMLW-14	2/13/13	1146	water			x	x	x						
5														
6														
7														
8														
9														
10														

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 C2

Shipped by: left in locker
Cooler ID(s): on
Receipt Temp 7B C1 25 °C C2 3.0
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

LABORATORY USE ONLY H13020182

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Lulu Darmell	02/13/13/1930				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Dow	Date/Time: 2-14-13 715	Signature:

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Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ANALYTICAL SUMMARY REPORT

February 25, 2013

MT DEQ-Remediation Division
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13020202 Quote ID: H825 - Spring Meadow Project

Project Name: Spring Meadow Lake

Energy Laboratories Inc Helena MT received the following 24 samples for MT DEQ-Remediation Division on 2/15/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13020202-001	K-SMLC-73	02/14/13 14:20	02/15/13	Soil	Metals by ICP/ICPMS, Total Composite Fee Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieves Soil Preparation
H13020202-002	K-SMLC-74	02/14/13 14:25	02/15/13	Soil	Same As Above
H13020202-003	K-SMLC-75	02/14/13 14:40	02/15/13	Soil	Same As Above
H13020202-004	K-SMLC-76	02/14/13 14:00	02/15/13	Soil	Same As Above
H13020202-005	K-SMLC-77	02/14/13 15:45	02/15/13	Soil	Same As Above
H13020202-006	K-SMLC-78	02/14/13 15:00	02/15/13	Soil	Same As Above
H13020202-007	K-SMLC-79	02/14/13 15:55	02/15/13	Soil	Same As Above
H13020202-008	K-SMLC-80	02/14/13 16:10	02/15/13	Soil	Same As Above
H13020202-009	K-SMLC-81	02/14/13 10:20	02/15/13	Soil	Same As Above
H13020202-010	K-SMLC-82	02/14/13 10:30	02/15/13	Soil	Same As Above
H13020202-011	K-SMLC-83	02/14/13 10:55	02/15/13	Soil	Same As Above
H13020202-012	K-SMLC-84	02/14/13 10:40	02/15/13	Soil	Same As Above
H13020202-013	K-SMLC-85	02/14/13 11:05	02/15/13	Soil	Same As Above
H13020202-014	K-SMLC-86	02/14/13 11:30	02/15/13	Soil	Same As Above
H13020202-015	K-SMLC-87	02/14/13 12:05	02/15/13	Soil	Same As Above
H13020202-016	K-SMLC-88	02/14/13 12:20	02/15/13	Soil	Same As Above
H13020202-017	K-SMLC-89	02/14/13 12:00	02/15/13	Soil	Same As Above
H13020202-018	K-SMLC-90	02/14/13 11:55	02/15/13	Soil	Same As Above
H13020202-019	J-SMLD-16	02/14/13 9:30	02/15/13	Soil	Same As Above
H13020202-020	J-SMLD-13	02/14/13 9:00	02/15/13	Soil	Same As Above
H13020202-021	J-SMLD-15	02/14/13 9:15	02/15/13	Soil	Same As Above
H13020202-022	J-SMLD-17	02/14/13 9:40	02/15/13	Soil	Same As Above

ANALYTICAL SUMMARY REPORT

H13020202-023	K-SMLC-EB-1	02/14/13 16:25	02/15/13	Aqueous	Metals by ICP/ICPMS, Total Mercury, Total Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA
H13020202-024	K-SMLC-275	02/14/13 16:25	02/15/13	Soil	Metals by ICP/ICPMS, Total Composite Fee Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieves Soil Preparation

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

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

Project Manager - Helena, MT

Digitally signed by
Wanda Johnson
Date: 2013.02.25 16:00:47 -07:00

CLIENT: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Sample Delivery Group: H13020202

Report Date: 02/25/13

CASE NARRATIVE

Multiple jars, as indicated on the Chain of Custody, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for Moisture and Mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which pass through the No.60 sieve was used for the metals analysis. The samples are reported on a dry weight basis as indicated in the report. Abb 2/19/13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-001
Client Sample ID K-SMLC-73

Report Date: 02/25/13
Collection Date: 02/14/13 14:20
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	28.9	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	71.1	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	38.8	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	32	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Barium	198	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Cadmium	3	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Chromium	17	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Copper	72	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Lead	234	mg/kg-dry	D	3		SW6010B	02/22/13 16:16 / sld
Manganese	1260	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Nickel	12	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Silver	2	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
Zinc	384	mg/kg-dry		1		SW6020	02/22/13 13:12 / dck
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:01 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-002
Client Sample ID K-SMLC-74

Report Date: 02/25/13
Collection Date: 02/14/13 14:25
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	67.0	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	33.0	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	22.0	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	46	mg/kg-dry		1		SW6010B	02/21/13 20:15 / sld
Barium	168	mg/kg-dry		1		SW6010B	02/21/13 20:15 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 02:04 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 02:04 / dck
Chromium	17	mg/kg-dry		1		SW6010B	02/21/13 20:15 / sld
Copper	52	mg/kg-dry		1		SW6010B	02/21/13 20:15 / sld
Lead	137	mg/kg-dry	D	3		SW6010B	02/21/13 20:15 / sld
Manganese	1350	mg/kg-dry		1		SW6010B	02/21/13 20:15 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/21/13 20:15 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 02:04 / dck
Silver	1	mg/kg-dry		1		SW6020	02/22/13 02:04 / dck
Zinc	223	mg/kg-dry		1		SW6010B	02/21/13 20:15 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:10 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-003
Client Sample ID K-SMLC-75

Report Date: 02/25/13
Collection Date: 02/14/13 14:40
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	13.8	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	86.2	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	25.9	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	94	mg/kg-dry	D	2		SW6010B	02/21/13 20:19 / sld
Barium	192	mg/kg-dry		1		SW6010B	02/21/13 20:19 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 02:09 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 02:09 / dck
Chromium	17	mg/kg-dry		1		SW6010B	02/21/13 20:19 / sld
Copper	53	mg/kg-dry		1		SW6010B	02/21/13 20:19 / sld
Lead	115	mg/kg-dry	D	3		SW6010B	02/21/13 20:19 / sld
Manganese	1910	mg/kg-dry		1		SW6010B	02/21/13 20:19 / sld
Nickel	13	mg/kg-dry		1		SW6010B	02/21/13 20:19 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 02:09 / dck
Silver	1	mg/kg-dry		1		SW6020	02/22/13 02:09 / dck
Zinc	236	mg/kg-dry		1		SW6010B	02/21/13 20:19 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:13 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-004
Client Sample ID K-SMLC-76

Report Date: 02/25/13
Collection Date: 02/14/13 14:00
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	35.7	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	64.3	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	34.0	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	46	mg/kg-dry	D	2		SW6010B	02/21/13 20:23 / sld
Barium	156	mg/kg-dry		1		SW6010B	02/21/13 20:23 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 02:34 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 02:34 / dck
Chromium	18	mg/kg-dry		1		SW6010B	02/21/13 20:23 / sld
Copper	45	mg/kg-dry		1		SW6010B	02/21/13 20:23 / sld
Lead	110	mg/kg-dry	D	3		SW6010B	02/21/13 20:23 / sld
Manganese	1510	mg/kg-dry		1		SW6010B	02/21/13 20:23 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/21/13 20:23 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 02:34 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 02:34 / dck
Zinc	191	mg/kg-dry		1		SW6010B	02/21/13 20:23 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:15 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-005
Client Sample ID K-SMLC-77

Report Date: 02/25/13
Collection Date: 02/14/13 15:45
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	2.0	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	98.0	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	34.7	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	43	mg/kg-dry	D	2		SW6010B	02/21/13 20:26 / sld
Barium	193	mg/kg-dry		1		SW6010B	02/21/13 20:26 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 02:38 / dck
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 02:38 / dck
Chromium	17	mg/kg-dry		1		SW6010B	02/21/13 20:26 / sld
Copper	41	mg/kg-dry		1		SW6010B	02/21/13 20:26 / sld
Lead	82	mg/kg-dry	D	3		SW6010B	02/21/13 20:26 / sld
Manganese	1130	mg/kg-dry		1		SW6010B	02/21/13 20:26 / sld
Nickel	13	mg/kg-dry		1		SW6010B	02/21/13 20:26 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 02:38 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 02:38 / dck
Zinc	154	mg/kg-dry		1		SW6010B	02/21/13 20:26 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:17 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-006
Client Sample ID K-SMLC-78

Report Date: 02/25/13
Collection Date: 02/14/13 15:00
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	21.9	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	78.1	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	26.7	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	35	mg/kg-dry		1		SW6010B	02/21/13 20:38 / sld
Barium	162	mg/kg-dry		1		SW6010B	02/21/13 20:38 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 02:43 / dck
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 02:43 / dck
Chromium	17	mg/kg-dry		1		SW6010B	02/21/13 20:38 / sld
Copper	43	mg/kg-dry		1		SW6010B	02/21/13 20:38 / sld
Lead	64	mg/kg-dry	D	3		SW6010B	02/21/13 20:38 / sld
Manganese	910	mg/kg-dry		1		SW6010B	02/21/13 20:38 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/21/13 20:38 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 02:43 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 02:43 / dck
Zinc	147	mg/kg-dry		1		SW6010B	02/21/13 20:38 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:20 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-007
Client Sample ID K-SMLC-79

Report Date: 02/25/13
Collection Date: 02/14/13 15:55
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	7.0	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	93.0	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	30.5	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	69	mg/kg-dry	D	2		SW6010B	02/21/13 20:41 / sld
Barium	187	mg/kg-dry		1		SW6010B	02/21/13 20:41 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 02:48 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 02:48 / dck
Chromium	16	mg/kg-dry		1		SW6010B	02/21/13 20:41 / sld
Copper	49	mg/kg-dry		1		SW6010B	02/21/13 20:41 / sld
Lead	107	mg/kg-dry	D	3		SW6010B	02/21/13 20:41 / sld
Manganese	1410	mg/kg-dry		1		SW6010B	02/21/13 20:41 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/21/13 20:41 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 02:48 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 02:48 / dck
Zinc	172	mg/kg-dry		1		SW6010B	02/21/13 20:41 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:32 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-008
Client Sample ID K-SMLC-80

Report Date: 02/25/13
Collection Date: 02/14/13 16:10
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	18.9	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	81.1	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	31.6	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	33	mg/kg-dry	D	2		SW6010B	02/21/13 20:45 / sld
Barium	184	mg/kg-dry		1		SW6010B	02/21/13 20:45 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 02:53 / dck
Cadmium	ND	mg/kg-dry		1		SW6020	02/22/13 02:53 / dck
Chromium	16	mg/kg-dry		1		SW6010B	02/21/13 20:45 / sld
Copper	36	mg/kg-dry		1		SW6010B	02/21/13 20:45 / sld
Lead	55	mg/kg-dry	D	3		SW6010B	02/21/13 20:45 / sld
Manganese	775	mg/kg-dry		1		SW6010B	02/21/13 20:45 / sld
Nickel	11	mg/kg-dry		1		SW6010B	02/21/13 20:45 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 02:53 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 02:53 / dck
Zinc	104	mg/kg-dry		1		SW6010B	02/21/13 20:45 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:41 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-009
Client Sample ID K-SMLC-81

Report Date: 02/25/13
Collection Date: 02/14/13 10:20
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	4.6	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	95.4	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	30.0	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	108	mg/kg-dry	D	2		SW6010B	02/21/13 20:49 / sld
Barium	215	mg/kg-dry		1		SW6010B	02/21/13 20:49 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 02:58 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 02:58 / dck
Chromium	16	mg/kg-dry		1		SW6010B	02/21/13 20:49 / sld
Copper	44	mg/kg-dry		1		SW6010B	02/21/13 20:49 / sld
Lead	128	mg/kg-dry	D	3		SW6010B	02/21/13 20:49 / sld
Manganese	2130	mg/kg-dry		1		SW6010B	02/21/13 20:49 / sld
Nickel	13	mg/kg-dry		1		SW6010B	02/21/13 20:49 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 02:58 / dck
Silver	1	mg/kg-dry		1		SW6020	02/22/13 02:58 / dck
Zinc	235	mg/kg-dry		1		SW6010B	02/21/13 20:49 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:44 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-010
Client Sample ID K-SMLC-82

Report Date: 02/25/13
Collection Date: 02/14/13 10:30
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	4.5	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	95.5	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	31.0	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	66	mg/kg-dry	D	2		SW6010B	02/21/13 20:52 / sld
Barium	205	mg/kg-dry		1		SW6010B	02/21/13 20:52 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 03:03 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 03:03 / dck
Chromium	18	mg/kg-dry		1		SW6010B	02/21/13 20:52 / sld
Copper	48	mg/kg-dry		1		SW6010B	02/21/13 20:52 / sld
Lead	93	mg/kg-dry	D	3		SW6010B	02/21/13 20:52 / sld
Manganese	1560	mg/kg-dry		1		SW6010B	02/21/13 20:52 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/21/13 20:52 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 03:03 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 03:03 / dck
Zinc	183	mg/kg-dry		1		SW6010B	02/21/13 20:52 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:46 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-011
Client Sample ID K-SMLC-83

Report Date: 02/25/13
Collection Date: 02/14/13 10:55
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	12.0	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	88.0	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	33.4	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	83	mg/kg-dry		1		SW6010B	02/21/13 20:56 / sld
Barium	193	mg/kg-dry		1		SW6010B	02/21/13 20:56 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 03:08 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 03:08 / dck
Chromium	15	mg/kg-dry		1		SW6010B	02/21/13 20:56 / sld
Copper	65	mg/kg-dry		1		SW6010B	02/21/13 20:56 / sld
Lead	126	mg/kg-dry	D	3		SW6010B	02/21/13 20:56 / sld
Manganese	1860	mg/kg-dry		1		SW6010B	02/21/13 20:56 / sld
Nickel	11	mg/kg-dry		1		SW6010B	02/21/13 20:56 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 03:08 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 03:08 / dck
Zinc	213	mg/kg-dry		1		SW6010B	02/21/13 20:56 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:49 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-012
Client Sample ID K-SMLC-84

Report Date: 02/25/13
Collection Date: 02/14/13 10:40
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	12.4	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	87.6	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	30.3	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	73	mg/kg-dry		1		SW6010B	02/21/13 21:00 / sld
Barium	190	mg/kg-dry		1		SW6010B	02/21/13 21:00 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 03:12 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 03:12 / dck
Chromium	17	mg/kg-dry		1		SW6010B	02/21/13 21:00 / sld
Copper	49	mg/kg-dry		1		SW6010B	02/21/13 21:00 / sld
Lead	206	mg/kg-dry	D	3		SW6010B	02/21/13 21:00 / sld
Manganese	1630	mg/kg-dry		1		SW6010B	02/21/13 21:00 / sld
Nickel	11	mg/kg-dry		1		SW6010B	02/21/13 21:00 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 03:12 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 03:12 / dck
Zinc	195	mg/kg-dry		1		SW6010B	02/21/13 21:00 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:51 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-013
Client Sample ID K-SMLC-85

Report Date: 02/25/13
Collection Date: 02/14/13 11:05
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	12.5	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	87.5	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	35.9	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	38	mg/kg-dry	D	2		SW6010B	02/21/13 21:04 / sld
Barium	210	mg/kg-dry		1		SW6010B	02/21/13 21:04 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 03:17 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 03:17 / dck
Chromium	18	mg/kg-dry		1		SW6010B	02/21/13 21:04 / sld
Copper	49	mg/kg-dry		1		SW6010B	02/21/13 21:04 / sld
Lead	193	mg/kg-dry	D	3		SW6010B	02/21/13 21:04 / sld
Manganese	828	mg/kg-dry		1		SW6010B	02/21/13 21:04 / sld
Nickel	13	mg/kg-dry		1		SW6010B	02/21/13 21:04 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 03:17 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 03:17 / dck
Zinc	270	mg/kg-dry		1		SW6010B	02/21/13 21:04 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:53 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-014
Client Sample ID K-SMLC-86

Report Date: 02/25/13
Collection Date: 02/14/13 11:30
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	33.9	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	66.1	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	30.8	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	31	mg/kg-dry		1		SW6010B	02/21/13 21:07 / sld
Barium	186	mg/kg-dry		1		SW6010B	02/21/13 21:07 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 03:42 / dck
Cadmium	ND	mg/kg-dry		1		SW6020	02/22/13 03:42 / dck
Chromium	15	mg/kg-dry		1		SW6010B	02/21/13 21:07 / sld
Copper	35	mg/kg-dry		1		SW6010B	02/21/13 21:07 / sld
Lead	65	mg/kg-dry	D	3		SW6010B	02/21/13 21:07 / sld
Manganese	643	mg/kg-dry		1		SW6010B	02/21/13 21:07 / sld
Nickel	11	mg/kg-dry		1		SW6010B	02/21/13 21:07 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 03:42 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 03:42 / dck
Zinc	107	mg/kg-dry		1		SW6010B	02/21/13 21:07 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:56 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-015
Client Sample ID K-SMLC-87

Report Date: 02/25/13
Collection Date: 02/14/13 12:05
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	12.3	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	87.7	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	30.8	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	130	mg/kg-dry	D	2		SW6010B	02/21/13 21:11 / sld
Barium	214	mg/kg-dry		1		SW6010B	02/21/13 21:11 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 03:46 / dck
Cadmium	3	mg/kg-dry		1		SW6020	02/22/13 03:46 / dck
Chromium	17	mg/kg-dry		1		SW6010B	02/21/13 21:11 / sld
Copper	55	mg/kg-dry		1		SW6010B	02/21/13 21:11 / sld
Lead	157	mg/kg-dry	D	3		SW6010B	02/21/13 21:11 / sld
Manganese	2510	mg/kg-dry		1		SW6010B	02/21/13 21:11 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/21/13 21:11 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 03:46 / dck
Silver	1	mg/kg-dry		1		SW6020	02/22/13 03:46 / dck
Zinc	359	mg/kg-dry		1		SW6010B	02/21/13 21:11 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 17:58 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-016
Client Sample ID K-SMLC-88

Report Date: 02/25/13
Collection Date: 02/14/13 12:20
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	10.1	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	89.9	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	33.9	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	189	mg/kg-dry		1		SW6010B	02/21/13 21:22 / sld
Barium	225	mg/kg-dry		1		SW6010B	02/21/13 21:22 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 03:51 / dck
Cadmium	4	mg/kg-dry		1		SW6020	02/22/13 03:51 / dck
Chromium	20	mg/kg-dry		1		SW6010B	02/21/13 21:22 / sld
Copper	54	mg/kg-dry		1		SW6010B	02/21/13 21:22 / sld
Lead	222	mg/kg-dry	D	3		SW6010B	02/21/13 21:22 / sld
Manganese	3690	mg/kg-dry		1		SW6010B	02/21/13 21:22 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/21/13 21:22 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 03:51 / dck
Silver	2	mg/kg-dry		1		SW6020	02/22/13 03:51 / dck
Zinc	433	mg/kg-dry		1		SW6010B	02/21/13 21:22 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/20/13 18:01 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-017
Client Sample ID K-SMLC-89

Report Date: 02/25/13
Collection Date: 02/14/13 12:00
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	24.6	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	75.4	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	23.6	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	110	mg/kg-dry	D	2		SW6010B	02/21/13 21:26 / sld
Barium	211	mg/kg-dry		1		SW6010B	02/21/13 21:26 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 03:56 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 03:56 / dck
Chromium	15	mg/kg-dry		1		SW6010B	02/21/13 21:26 / sld
Copper	47	mg/kg-dry		1		SW6010B	02/21/13 21:26 / sld
Lead	143	mg/kg-dry	D	3		SW6010B	02/21/13 21:26 / sld
Manganese	2200	mg/kg-dry		1		SW6010B	02/21/13 21:26 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/21/13 21:26 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 03:56 / dck
Silver	1	mg/kg-dry		1		SW6020	02/22/13 03:56 / dck
Zinc	253	mg/kg-dry		1		SW6010B	02/21/13 21:26 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 08:58 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-018
Client Sample ID K-SMLC-90

Report Date: 02/25/13
Collection Date: 02/14/13 11:55
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	29.6	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	70.4	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	19.4	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	62	mg/kg-dry	D	2		SW6010B	02/21/13 21:30 / sld
Barium	204	mg/kg-dry		1		SW6010B	02/21/13 21:30 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 04:01 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 04:01 / dck
Chromium	15	mg/kg-dry		1		SW6010B	02/21/13 21:30 / sld
Copper	42	mg/kg-dry		1		SW6010B	02/21/13 21:30 / sld
Lead	129	mg/kg-dry	D	3		SW6010B	02/21/13 21:30 / sld
Manganese	1340	mg/kg-dry		1		SW6010B	02/21/13 21:30 / sld
Nickel	11	mg/kg-dry		1		SW6010B	02/21/13 21:30 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 04:01 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 04:01 / dck
Zinc	218	mg/kg-dry		1		SW6010B	02/21/13 21:30 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:07 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-019
Client Sample ID J-SMLD-16

Report Date: 02/25/13
Collection Date: 02/14/13 09:30
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	25.1	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	74.9	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	29.2	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	39	mg/kg-dry		1		SW6020	02/22/13 01:16 / dck
Barium	194	mg/kg-dry		1		SW6010B	02/21/13 19:12 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 01:16 / dck
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 01:16 / dck
Chromium	13	mg/kg-dry		1		SW6010B	02/21/13 19:12 / sld
Copper	36	mg/kg-dry		1		SW6010B	02/21/13 19:12 / sld
Lead	59	mg/kg-dry	D	3		SW6010B	02/21/13 19:12 / sld
Manganese	701	mg/kg-dry		1		SW6010B	02/21/13 19:12 / sld
Nickel	10	mg/kg-dry		1		SW6010B	02/21/13 19:12 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 01:16 / dck
Silver	2	mg/kg-dry		1		SW6020	02/22/13 01:16 / dck
Zinc	1700	mg/kg-dry		1		SW6010B	02/21/13 19:12 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:10 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-020
Client Sample ID J-SMLD-13

Report Date: 02/25/13
Collection Date: 02/14/13 09:00
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	25.9	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	74.1	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	29.8	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	37	mg/kg-dry		1		SW6020	02/22/13 01:21 / dck
Barium	166	mg/kg-dry		1		SW6010B	02/21/13 19:15 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 01:21 / dck
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 01:21 / dck
Chromium	20	mg/kg-dry		1		SW6010B	02/21/13 19:15 / sld
Copper	36	mg/kg-dry		1		SW6010B	02/21/13 19:15 / sld
Lead	78	mg/kg-dry	D	3		SW6010B	02/21/13 19:15 / sld
Manganese	694	mg/kg-dry		1		SW6010B	02/21/13 19:15 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/21/13 19:15 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 01:21 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 01:21 / dck
Zinc	177	mg/kg-dry		1		SW6010B	02/21/13 19:15 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:12 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-021
Client Sample ID J-SMLD-15

Report Date: 02/25/13
Collection Date: 02/14/13 09:15
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	31.7	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	68.3	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	34.5	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	38	mg/kg-dry		1		SW6020	02/22/13 01:25 / dck
Barium	167	mg/kg-dry		1		SW6010B	02/21/13 19:53 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 01:25 / dck
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 01:25 / dck
Chromium	19	mg/kg-dry		1		SW6010B	02/21/13 19:53 / sld
Copper	42	mg/kg-dry		1		SW6010B	02/21/13 19:53 / sld
Lead	156	mg/kg-dry	D	3		SW6010B	02/21/13 19:53 / sld
Manganese	730	mg/kg-dry		1		SW6010B	02/21/13 19:53 / sld
Nickel	13	mg/kg-dry		1		SW6010B	02/21/13 19:53 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 01:25 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 01:25 / dck
Zinc	229	mg/kg-dry		1		SW6010B	02/21/13 19:53 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:15 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-022
Client Sample ID J-SMLD-17

Report Date: 02/25/13
Collection Date: 02/14/13 09:40
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	23.9	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	76.1	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	27.2	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	48	mg/kg-dry		1		SW6020	02/22/13 01:30 / dck
Barium	214	mg/kg-dry		1		SW6010B	02/21/13 19:57 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 01:30 / dck
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 01:30 / dck
Chromium	22	mg/kg-dry		1		SW6010B	02/21/13 19:57 / sld
Copper	37	mg/kg-dry		1		SW6010B	02/21/13 19:57 / sld
Lead	108	mg/kg-dry	D	3		SW6010B	02/21/13 19:57 / sld
Manganese	1030	mg/kg-dry		1		SW6010B	02/21/13 19:57 / sld
Nickel	13	mg/kg-dry		1		SW6010B	02/21/13 19:57 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 01:30 / dck
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 01:30 / dck
Zinc	300	mg/kg-dry		1		SW6010B	02/21/13 19:57 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:17 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-023
Client Sample ID K-SMLC-EB-1

Report Date: 02/25/13
Collection Date: 02/14/13 16:25
DateReceived: 02/15/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Arsenic	ND	mg/L		0.001		E200.8	02/20/13 14:37 / dck
Barium	ND	mg/L		0.05		E200.8	02/20/13 14:37 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/20/13 14:37 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/20/13 14:37 / dck
Chromium	ND	mg/L		0.005		E200.8	02/20/13 14:37 / dck
Copper	ND	mg/L		0.005		E200.8	02/20/13 14:37 / dck
Lead	ND	mg/L		0.001		E200.8	02/20/13 14:37 / dck
Manganese	ND	mg/L		0.001		E200.8	02/20/13 14:37 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 13:55 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/20/13 14:37 / dck
Selenium	ND	mg/L		0.001		E200.8	02/20/13 14:37 / dck
Silver	ND	mg/L		0.001		E200.8	02/20/13 14:37 / dck
Zinc	ND	mg/L		0.01		E200.8	02/20/13 14:37 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020202-024
Client Sample ID K-SMLC-275

Report Date: 02/25/13
Collection Date: 02/14/13 16:25
DateReceived: 02/15/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	23.3	wt% retaine		0.1		ASA15-2	02/15/13 11:31 / rgk
No. 60 Sieve	76.7	wt% Passe		0.1		ASA15-2	02/15/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	29.0	wt%		0.2		D2974	02/21/13 08:42 / sbk
3050 EXTRACTABLE METALS							
Arsenic	92	mg/kg-dry		1		SW6020	02/22/13 01:35 / dck
Barium	193	mg/kg-dry		1		SW6010B	02/21/13 20:01 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 01:35 / dck
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 01:35 / dck
Chromium	18	mg/kg-dry		1		SW6010B	02/21/13 20:01 / sld
Copper	48	mg/kg-dry		1		SW6010B	02/21/13 20:01 / sld
Lead	130	mg/kg-dry	D	3		SW6010B	02/21/13 20:01 / sld
Manganese	1970	mg/kg-dry		1		SW6010B	02/21/13 20:01 / sld
Nickel	13	mg/kg-dry		1		SW6010B	02/21/13 20:01 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 01:35 / dck
Silver	1	mg/kg-dry		1		SW6020	02/22/13 01:35 / dck
Zinc	243	mg/kg-dry		1		SW6010B	02/21/13 20:01 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:19 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2974										Batch: R86450
Sample ID: H13020202-024BDUP	Sample Duplicate					Run: MISC SOILS_130220A				02/21/13 08:42
Moisture		27.7	wt%	0.20						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP2-HE_130221A	
Sample ID: ICV	8	Initial Calibration Verification Standard							02/21/13 15:30	
Arsenic		0.779	mg/L	0.0092	97	90	110			
Barium		0.793	mg/L	0.10	99	90	110			
Chromium		0.812	mg/L	0.010	102	90	110			
Copper		0.788	mg/L	0.010	98	90	110			
Lead		0.832	mg/L	0.013	104	90	110			
Manganese		3.94	mg/L	0.010	99	90	110			
Nickel		0.804	mg/L	0.010	101	90	110			
Zinc		0.795	mg/L	0.010	99	90	110			
Sample ID: ICSA	8	Interference Check Sample A							02/21/13 15:45	
Arsenic		-0.0148	mg/L	0.0092		0	0			
Barium		0.000270	mg/L	0.10		0	0			
Chromium		-0.00825	mg/L	0.010		0	0			
Copper		0.00189	mg/L	0.010		0	0			
Lead		0.0204	mg/L	0.013		0	0			
Manganese		-0.00923	mg/L	0.010		0	0			
Nickel		0.00839	mg/L	0.010		0	0			
Zinc		0.0133	mg/L	0.010		0	0			
Sample ID: ICSAB	8	Interference Check Sample AB							02/21/13 15:49	
Arsenic		1.01	mg/L	0.0092	101	80	120			
Barium		0.491	mg/L	0.10	98	80	120			
Chromium		0.456	mg/L	0.010	91	80	120			
Copper		0.488	mg/L	0.010	98	80	120			
Lead		0.908	mg/L	0.013	91	80	120			
Manganese		0.449	mg/L	0.010	90	80	120			
Nickel		0.884	mg/L	0.010	88	80	120			
Zinc		0.941	mg/L	0.010	94	80	120			
Method: E200.7									Analytical Run: ICP2-HE_130222A	
Sample ID: ICV		Initial Calibration Verification Standard							02/22/13 13:26	
Lead		0.750	mg/L	0.013	94	90	110			
Sample ID: ICSA		Interference Check Sample A							02/22/13 13:40	
Lead		0.0311	mg/L	0.013		0	0			
Sample ID: ICSAB		Interference Check Sample AB							02/22/13 13:45	
Lead		0.881	mg/L	0.013	88	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS204-B_130220B	
Sample ID: ICV STD	12	Initial Calibration Verification Standard							02/20/13 13:22	
Arsenic		0.0595	mg/L	0.0050	99	90	110			
Barium		0.0574	mg/L	0.10	96	90	110			
Beryllium		0.0298	mg/L	0.0010	99	90	110			
Cadmium		0.0306	mg/L	0.0010	102	90	110			
Chromium		0.0589	mg/L	0.010	98	90	110			
Copper		0.0614	mg/L	0.010	102	90	110			
Lead		0.0588	mg/L	0.010	98	90	110			
Manganese		0.297	mg/L	0.010	99	90	110			
Nickel		0.0618	mg/L	0.010	103	90	110			
Selenium		0.0611	mg/L	0.0050	102	90	110			
Silver		0.0299	mg/L	0.0050	100	90	110			
Zinc		0.0620	mg/L	0.010	103	90	110			
Sample ID: ICSA	12	Interference Check Sample A							02/20/13 13:27	
Arsenic		0.000510	mg/L	0.0050						
Barium		9.90E-05	mg/L	0.10						
Beryllium		7.00E-06	mg/L	0.0010						
Cadmium		0.000982	mg/L	0.0010						
Chromium		0.00134	mg/L	0.010						
Copper		0.000704	mg/L	0.010						
Lead		0.000188	mg/L	0.010						
Manganese		0.000547	mg/L	0.010						
Nickel		0.000696	mg/L	0.010						
Selenium		0.000873	mg/L	0.0050						
Silver		0.000117	mg/L	0.0050						
Zinc		0.00136	mg/L	0.010						
Sample ID: ICSAB	12	Interference Check Sample AB							02/20/13 13:32	
Arsenic		0.0114	mg/L	0.0050	114	70	130			
Barium		0.000119	mg/L	0.10		0	0			
Beryllium		7.00E-06	mg/L	0.0010		0	0			
Cadmium		0.0112	mg/L	0.0010	112	70	130			
Chromium		0.0222	mg/L	0.010	111	70	130			
Copper		0.0210	mg/L	0.010	105	70	130			
Lead		0.000206	mg/L	0.010		0	0			
Manganese		0.0220	mg/L	0.010	110	70	130			
Nickel		0.0215	mg/L	0.010	108	70	130			
Selenium		0.0111	mg/L	0.0050	111	70	130			
Silver		0.0148	mg/L	0.0050	74	70	130			
Zinc		0.0121	mg/L	0.010	121	70	130			
Method: E200.8									Batch: 19533	
Sample ID: MB-19533	12	Method Blank				Run: ICPMS204-B_130220B			02/20/13 14:19	
Arsenic		ND	mg/L	0.0002						
Barium		ND	mg/L	0.0002						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 19533
Sample ID: MB-19533	12	Method Blank				Run: ICPMS204-B_130220B				02/20/13 14:19
Beryllium		ND	mg/L	2E-05						
Cadmium		ND	mg/L	2E-05						
Chromium		ND	mg/L	0.0002						
Copper		ND	mg/L	0.0002						
Lead		ND	mg/L	3E-05						
Manganese		ND	mg/L	0.0001						
Nickel		ND	mg/L	0.0001						
Selenium		ND	mg/L	0.0002						
Silver		ND	mg/L	0.0001						
Zinc		0.001	mg/L	0.001						
Sample ID: LCS-19533	12	Laboratory Control Sample				Run: ICPMS204-B_130220B				02/20/13 14:24
Arsenic		0.504	mg/L	0.0010	101	85	115			
Barium		0.504	mg/L	0.050	101	85	115			
Beryllium		0.257	mg/L	0.0010	103	85	115			
Cadmium		0.269	mg/L	0.0010	108	85	115			
Chromium		0.498	mg/L	0.0050	100	85	115			
Copper		0.495	mg/L	0.0050	99	85	115			
Lead		0.486	mg/L	0.0010	97	85	115			
Manganese		2.48	mg/L	0.0010	99	85	115			
Nickel		0.499	mg/L	0.0050	100	85	115			
Selenium		0.514	mg/L	0.0010	103	85	115			
Silver		0.0478	mg/L	0.0010	96	85	115			
Zinc		0.504	mg/L	0.010	101	85	115			
Sample ID: H13020202-023AMS3	12	Sample Matrix Spike				Run: ICPMS204-B_130220B				02/20/13 14:42
Arsenic		0.500	mg/L	0.0010	100	70	130			
Barium		0.514	mg/L	0.050	103	70	130			
Beryllium		0.252	mg/L	0.0010	101	70	130			
Cadmium		0.270	mg/L	0.0010	108	70	130			
Chromium		0.496	mg/L	0.0050	99	70	130			
Copper		0.499	mg/L	0.0050	100	70	130			
Lead		0.482	mg/L	0.0010	96	70	130			
Manganese		2.54	mg/L	0.0010	102	70	130			
Nickel		0.496	mg/L	0.0050	99	70	130			
Selenium		0.500	mg/L	0.0010	100	70	130			
Silver		0.0510	mg/L	0.0010	101	70	130			
Zinc		0.502	mg/L	0.010	100	70	130			
Sample ID: H13020202-023AMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130220B				02/20/13 14:47
Arsenic		0.502	mg/L	0.0010	100	70	130	0.4	20	
Barium		0.512	mg/L	0.050	102	70	130	0.5	20	
Beryllium		0.251	mg/L	0.0010	100	70	130	0.5	20	
Cadmium		0.267	mg/L	0.0010	107	70	130	0.9	20	
Chromium		0.500	mg/L	0.0050	100	70	130	0.9	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 19533
Sample ID: H13020202-023AMSD	12	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130220B				02/20/13 14:47
Copper		0.502	mg/L	0.0050	100	70	130	0.5	20	
Lead		0.487	mg/L	0.0010	97	70	130	1.0	20	
Manganese		2.49	mg/L	0.0010	100	70	130	1.9	20	
Nickel		0.502	mg/L	0.0050	100	70	130	1.2	20	
Selenium		0.500	mg/L	0.0010	100	70	130	0.1	20	
Silver		0.0547	mg/L	0.0010	109	70	130	7.1	20	
Zinc		0.501	mg/L	0.010	100	70	130	0.3	20	
Method: E200.8										Analytical Run: ICPMS204-B_130221B
Sample ID: ICSA	11	Interference Check Sample A								02/22/13 22:59
Arsenic		0.000431	mg/L	0.0050						
Barium		0.000121	mg/L	0.10						
Beryllium		9.00E-06	mg/L	0.0010						
Cadmium		0.00100	mg/L	0.0010						
Chromium		0.00101	mg/L	0.010						
Copper		0.000639	mg/L	0.010						
Manganese		0.000423	mg/L	0.010						
Nickel		0.000644	mg/L	0.010						
Selenium		0.000819	mg/L	0.0050						
Silver		0.000136	mg/L	0.0050						
Zinc		0.00140	mg/L	0.010						
Sample ID: ICSAB	11	Interference Check Sample AB								02/22/13 23:04
Arsenic		0.0101	mg/L	0.0050	101	70	130			
Barium		0.000108	mg/L	0.10		0	0			
Beryllium		5.00E-06	mg/L	0.0010		0	0			
Cadmium		0.0102	mg/L	0.0010	102	70	130			
Chromium		0.0205	mg/L	0.010	103	70	130			
Copper		0.0192	mg/L	0.010	96	70	130			
Manganese		0.0210	mg/L	0.010	105	70	130			
Nickel		0.0197	mg/L	0.010	98	70	130			
Selenium		0.00998	mg/L	0.0050	100	70	130			
Silver		0.0195	mg/L	0.0050	98	70	130			
Zinc		0.0106	mg/L	0.010	106	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E245.1									Analytical Run: HGCV201-H_130221A	
Sample ID: ICV		Initial Calibration Verification Standard							02/21/13 13:32	
Mercury		0.00020	mg/L	0.00010	102	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard							02/21/13 13:34	
Mercury		0.00020	mg/L	0.00010	99	95	105			
Method: E245.1									Batch: 19555	
Sample ID: MB-19555		Method Blank				Run: HGCV201-H_130221A			02/21/13 13:39	
Mercury		8E-06	mg/L	6E-06						
Sample ID: LCS-19555		Laboratory Control Sample				Run: HGCV201-H_130221A			02/21/13 13:46	
Mercury		0.00020	mg/L	0.00010	94	90	110			
Sample ID: H13020202-023AMS		Sample Matrix Spike				Run: HGCV201-H_130221A			02/21/13 13:58	
Mercury		0.00020	mg/L	0.00010	69	70	130			S
Sample ID: H13020202-023AMSD		Sample Matrix Spike Duplicate				Run: HGCV201-H_130221A			02/21/13 14:00	
Mercury		0.00019	mg/L	0.00010	61	70	130	8.6	30	S

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B										Batch: 19525
Sample ID: MB-19525	7	Method Blank				Run: ICP2-HE_130221A				02/21/13 18:08
Barium		0.03	mg/kg	0.02						
Chromium		ND	mg/kg	0.07						
Copper		ND	mg/kg	0.2						
Lead		ND	mg/kg	1						
Manganese		0.04	mg/kg	0.04						
Nickel		ND	mg/kg	0.08						
Zinc		0.2	mg/kg	0.1						
Sample ID: LFB-19525	7	Laboratory Fortified Blank				Run: ICP2-HE_130221A				02/21/13 18:12
Barium		51.0	mg/kg	1.0	102	80	120			
Chromium		48.8	mg/kg	1.0	98	80	120			
Copper		49.2	mg/kg	1.0	98	80	120			
Lead		46.1	mg/kg	1.0	92	80	120			
Manganese		238	mg/kg	1.0	95	80	120			
Nickel		46.8	mg/kg	1.0	94	80	120			
Zinc		46.4	mg/kg	1.0	93	80	120			
Sample ID: LCS-19525	7	Laboratory Control Sample				Run: ICP2-HE_130221A				02/21/13 18:15
Barium		531	mg/kg	1.0	87	80.6	112.2			
Chromium		61.2	mg/kg	1.0	80	72.8	109.1			
Copper		227	mg/kg	1.0	81	77.5	109.6			
Lead		152	mg/kg	3.1	81	75.9	108.6			
Manganese		328	mg/kg	1.0	89	80.8	115.7			
Nickel		47.5	mg/kg	1.0	78	72.3	103.4			
Zinc		169	mg/kg	1.0	79	74.2	109.9			
Sample ID: H13020182-026CMS	7	Sample Matrix Spike				Run: ICP2-HE_130221A				02/21/13 19:04
Barium		209	mg/kg	1.0	125	75	125			
Chromium		63.6	mg/kg	1.0	94	75	125			
Copper		91.5	mg/kg	1.0	96	75	125			
Lead		121	mg/kg	3.1	88	75	125			
Manganese		929	mg/kg	1.0	90	75	125			
Nickel		54.5	mg/kg	1.0	88	75	125			
Zinc		185	mg/kg	1.0	87	75	125			
Sample ID: H13020182-026CMSD	7	Sample Matrix Spike Duplicate				Run: ICP2-HE_130221A				02/21/13 19:08
Barium		213	mg/kg	1.0	134	75	125	1.9	20	S
Chromium		64.9	mg/kg	1.0	98	75	125	2.1	20	
Copper		114	mg/kg	1.0	142	75	125	22	20	SR
Lead		125	mg/kg	3.1	98	75	125	3.6	20	
Manganese		929	mg/kg	1.0	90	75	125	0.1	20	
Nickel		55.7	mg/kg	1.0	92	75	125	2.1	20	
Zinc		193	mg/kg	1.0	103	75	125	3.9	20	
Method: SW6010B										Batch: 19540

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
R - RPD exceeds advisory limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B										Batch: 19540
Sample ID: MB-19540	8	Method Blank				Run: ICP2-HE_130221A				02/21/13 20:04
Arsenic		1	mg/kg	0.4						
Barium		ND	mg/kg	0.02						
Chromium		0.07	mg/kg	0.07						
Copper		ND	mg/kg	0.2						
Lead		ND	mg/kg	1						
Manganese		ND	mg/kg	0.04						
Nickel		ND	mg/kg	0.08						
Zinc		0.2	mg/kg	0.1						
Sample ID: LFB-19540	8	Laboratory Fortified Blank				Run: ICP2-HE_130221A				02/21/13 20:08
Arsenic		53.3	mg/kg	1.0	105	80	120			
Barium		51.9	mg/kg	1.0	104	80	120			
Chromium		52.9	mg/kg	1.0	106	80	120			
Copper		51.5	mg/kg	1.0	103	80	120			
Lead		54.9	mg/kg	1.0	110	80	120			
Manganese		263	mg/kg	1.0	105	80	120			
Nickel		52.2	mg/kg	1.0	104	80	120			
Zinc		53.6	mg/kg	1.0	107	80	120			
Sample ID: LCS-19540	8	Laboratory Control Sample				Run: ICP2-HE_130221A				02/21/13 20:12
Arsenic		296	mg/kg	1.5	88	72.3	106.4			
Barium		557	mg/kg	1.0	92	80.6	112.2			
Chromium		67.9	mg/kg	1.0	91	72.8	109.1			
Copper		248	mg/kg	1.0	90	77.5	109.6			
Lead		194	mg/kg	3.0	106	75.9	108.6			
Manganese		378	mg/kg	1.0	105	80.8	115.7			
Nickel		55.2	mg/kg	1.0	92	72.3	103.4			
Zinc		199	mg/kg	1.0	95	74.2	109.9			
Sample ID: H13020202-018CMS	8	Sample Matrix Spike				Run: ICP2-HE_130221A				02/21/13 21:41
Arsenic		112	mg/kg	1.5	99	75	125			
Barium		269	mg/kg	1.0		75	125			A
Chromium		67.7	mg/kg	1.0	105	75	125			
Copper		88.9	mg/kg	1.0	94	75	125			
Lead		179	mg/kg	3.1	100	75	125			
Manganese		1610	mg/kg	1.0		75	125			A
Nickel		60.6	mg/kg	1.0	99	75	125			
Zinc		271	mg/kg	1.0		75	125			A
Sample ID: H13020202-018CMSD	8	Sample Matrix Spike Duplicate				Run: ICP2-HE_130221A				02/21/13 21:44
Arsenic		109	mg/kg	1.5	94	75	125	2.8	20	
Barium		261	mg/kg	1.0		75	125	3.1	20	A
Chromium		63.9	mg/kg	1.0	98	75	125	5.8	20	
Copper		85.5	mg/kg	1.0	88	75	125	3.9	20	
Lead		171	mg/kg	3.1	84	75	125	4.7	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B										Batch: 19540
Sample ID: H13020202-018CMSD	8	Sample Matrix Spike Duplicate				Run: ICP2-HE_130221A			02/21/13 21:44	
Manganese		1600	mg/kg	1.0		75	125	0.7	20	A
Nickel		58.8	mg/kg	1.0	96	75	125	2.9	20	
Zinc		263	mg/kg	1.0		75	125	3.0	20	A
Method: SW6010B										Batch: 19558
Sample ID: MB-19558		Method Blank				Run: ICP2-HE_130222A			02/22/13 16:05	
Lead		ND	mg/kg	1						
Sample ID: LFB-19558		Laboratory Fortified Blank				Run: ICP2-HE_130222A			02/22/13 16:09	
Lead		47.9	mg/kg	1.0	96	80	120			
Sample ID: LCS-19558		Laboratory Control Sample				Run: ICP2-HE_130222A			02/22/13 16:12	
Lead		183	mg/kg	3.1	99	75.9	108.6			
Sample ID: H13020220-026CMS		Sample Matrix Spike				Run: ICP2-HE_130222A			02/22/13 17:04	
Lead		107	mg/kg-dry	3.1	88	75	125			
Sample ID: H13020220-026CMSD		Sample Matrix Spike Duplicate				Run: ICP2-HE_130222A			02/22/13 17:08	
Lead		108	mg/kg-dry	3.1	89	75	125	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Analytical Run: ICPMS204-B_130221B	
Sample ID: ICV STD	11	Initial Calibration Verification Standard							02/21/13 19:20	
Arsenic		0.0590	mg/L	0.0010	98	90	110			
Barium		0.0591	mg/L	0.0010	99	90	110			
Beryllium		0.0307	mg/L	0.0010	102	90	110			
Cadmium		0.0306	mg/L	0.0010	102	90	110			
Chromium		0.0587	mg/L	0.0010	98	90	110			
Copper		0.0606	mg/L	0.0010	101	90	110			
Manganese		0.301	mg/L	0.0010	100	90	110			
Nickel		0.0604	mg/L	0.0010	101	90	110			
Selenium		0.0616	mg/L	0.0010	103	90	110			
Silver		0.0292	mg/L	0.0010	97	90	110			
Zinc		0.0621	mg/L	0.0010	104	90	110			
Sample ID: ICV STD	11	Initial Calibration Verification Standard							02/22/13 10:55	
Arsenic		0.0580	mg/L	0.0010	97	90	110			
Barium		0.0599	mg/L	0.0010	100	90	110			
Beryllium		0.0307	mg/L	0.0010	102	90	110			
Cadmium		0.0310	mg/L	0.0010	103	90	110			
Chromium		0.0576	mg/L	0.0010	96	90	110			
Copper		0.0598	mg/L	0.0010	100	90	110			
Manganese		0.297	mg/L	0.0010	99	90	110			
Nickel		0.0589	mg/L	0.0010	98	90	110			
Selenium		0.0582	mg/L	0.0010	97	90	110			
Silver		0.0296	mg/L	0.0010	99	90	110			
Zinc		0.0613	mg/L	0.0010	102	90	110			
Method: SW6020									Batch: 19525	
Sample ID: MB-19525	5	Method Blank				Run: ICPMS204-B_130221B			02/21/13 23:20	
Arsenic		0.03	mg/kg	0.01						
Beryllium		0.006	mg/kg	0.005						
Cadmium		0.04	mg/kg	0.007						
Selenium		0.02	mg/kg	0.01						
Silver		ND	mg/kg	0.02						
Sample ID: LCS-19525	5	Laboratory Control Sample				Run: ICPMS204-B_130221B			02/21/13 23:25	
Arsenic		285	mg/kg	1.0	83	72.3	106.4			
Beryllium		43.3	mg/kg	1.0	85	76.3	108.6			
Cadmium		114	mg/kg	1.0	83	73	105.1			
Selenium		191	mg/kg	1.0	97	72.5	112.2			
Silver		61.3	mg/kg	1.0	89	67.8	112.8			
Sample ID: LFB-19525	5	Laboratory Fortified Blank				Run: ICPMS204-B_130221B			02/21/13 23:29	
Arsenic		50.5	mg/kg	1.0	101	80	120			
Beryllium		24.0	mg/kg	1.0	96	80	120			
Cadmium		26.3	mg/kg	1.0	105	80	120			
Selenium		52.9	mg/kg	1.0	106	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 19525
Sample ID: LFB-19525	5	Laboratory Fortified Blank				Run: ICPMS204-B_130221B				02/21/13 23:29
Silver		24.9	mg/kg	1.0	100	80	120			
Sample ID: H13020182-026CMS	5	Sample Matrix Spike				Run: ICPMS204-B_130221B				02/22/13 00:46
Arsenic		94.2	mg/kg	1.0	113	75	125			
Beryllium		26.1	mg/kg	1.0	102	75	125			
Cadmium		25.2	mg/kg	1.0	96	75	125			
Selenium		57.8	mg/kg	1.0	115	75	125			
Silver		30.1	mg/kg	1.0	118	75	125			
Sample ID: H13020182-026CMSD	5	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130221B				02/22/13 00:51
Arsenic		91.0	mg/kg	1.0	108	75	125	3.5	20	
Beryllium		25.7	mg/kg	1.0	102	75	125	1.5	20	
Cadmium		25.5	mg/kg	1.0	98	75	125	1.0	20	
Selenium		52.6	mg/kg	1.0	105	75	125	9.4	20	
Silver		27.8	mg/kg	1.0	109	75	125	7.9	20	
Method: SW6020										Batch: 19540
Sample ID: MB-19540	4	Method Blank				Run: ICPMS204-B_130221B				02/22/13 01:45
Beryllium		ND	mg/kg	0.005						
Cadmium		0.04	mg/kg	0.007						
Selenium		0.01	mg/kg	0.01						
Silver		ND	mg/kg	0.02						
Sample ID: LCS-19540	4	Laboratory Control Sample				Run: ICPMS204-B_130221B				02/22/13 01:50
Beryllium		47.1	mg/kg	1.0	94	76.3	108.6			
Cadmium		124	mg/kg	1.0	92	73	105.1			
Selenium		199	mg/kg	1.0	104	72.5	112.2			
Silver		64.9	mg/kg	1.0	96	67.8	112.8			
Sample ID: LFB-19540	4	Laboratory Fortified Blank				Run: ICPMS204-B_130221B				02/22/13 01:54
Beryllium		25.4	mg/kg	1.0	101	80	120			
Cadmium		26.3	mg/kg	1.0	105	80	120			
Selenium		55.9	mg/kg	1.0	112	80	120			
Silver		25.9	mg/kg	1.0	104	80	120			
Sample ID: H13020202-018CMS	4	Sample Matrix Spike				Run: ICPMS204-B_130221B				02/22/13 04:15
Beryllium		25.0	mg/kg	1.0	98	75	125			
Cadmium		25.8	mg/kg	1.0	96	75	125			
Selenium		55.1	mg/kg	1.0	110	75	125			
Silver		29.0	mg/kg	1.0	113	75	125			
Sample ID: H13020202-018CMSD	4	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130221B				02/22/13 04:20
Beryllium		25.0	mg/kg	1.0	99	75	125	0.0	20	
Cadmium		25.4	mg/kg	1.0	96	75	125	1.5	20	
Selenium		53.3	mg/kg	1.0	107	75	125	3.3	20	
Silver		27.5	mg/kg	1.0	108	75	125	5.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 19558
Sample ID: MB-19558	11	Method Blank				Run: ICPMS204-B_130221B				02/22/13 12:53
Arsenic		0.5	mg/kg	0.1						
Barium		0.5	mg/kg	0.1						
Beryllium		ND	mg/kg	0.05						
Cadmium		0.5	mg/kg	0.07						
Chromium		0.7	mg/kg	0.1						
Copper		0.7	mg/kg	0.3						
Manganese		0.9	mg/kg	0.1						
Nickel		ND	mg/kg	0.2						
Selenium		0.3	mg/kg	0.1						
Silver		ND	mg/kg	0.2						
Zinc		2	mg/kg	0.4						
Sample ID: LCS-19558	11	Laboratory Control Sample				Run: ICPMS204-B_130221B				02/22/13 12:58
Arsenic		306	mg/kg	1.0	90	72.3	106.4			
Barium		635	mg/kg	1.0	104	80.6	112.2			
Beryllium		50.0	mg/kg	1.0	99	76.3	108.6			
Cadmium		129	mg/kg	1.0	95	73	105.1			
Chromium		75.7	mg/kg	1.0	100	72.8	109.1			
Copper		287	mg/kg	1.0	103	77.5	109.6			
Manganese		407	mg/kg	1.0	111	80.8	115.7			
Nickel		61.2	mg/kg	1.0	101	72.3	103.4			
Selenium		189	mg/kg	1.0	97	72.5	112.2			
Silver		72.0	mg/kg	1.0	105	67.8	112.8			
Zinc		221	mg/kg	1.0	104	74.2	109.9			
Sample ID: LFB-19558	11	Laboratory Fortified Blank				Run: ICPMS204-B_130221B				02/22/13 13:02
Arsenic		48.6	mg/kg	1.0	96	80	120			
Barium		51.9	mg/kg	1.0	103	80	120			
Beryllium		25.1	mg/kg	1.0	100	80	120			
Cadmium		26.6	mg/kg	1.0	105	80	120			
Chromium		50.8	mg/kg	1.0	100	80	120			
Copper		51.2	mg/kg	1.0	101	80	120			
Manganese		263	mg/kg	1.0	105	80	120			
Nickel		51.5	mg/kg	1.0	103	80	120			
Selenium		51.9	mg/kg	1.0	103	80	120			
Silver		26.2	mg/kg	1.0	105	80	120			
Zinc		52.2	mg/kg	1.0	100	80	120			
Sample ID: H13020220-026CMS	11	Sample Matrix Spike				Run: ICPMS204-B_130221B				02/22/13 14:35
Arsenic		93.6	mg/kg	1.0	97	75	125			
Barium		186	mg/kg	1.0	119	75	125			
Beryllium		25.3	mg/kg	1.0	100	75	125			
Cadmium		24.8	mg/kg	1.0	96	75	125			
Chromium		65.5	mg/kg	1.0	103	75	125			
Copper		87.9	mg/kg	1.0	100	75	125			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Batch: 19558	
Sample ID: H13020220-026CMS	11	Sample Matrix Spike				Run: ICPMS204-B_130221B			02/22/13 14:35	
Manganese		1330	mg/kg	1.0		75	125			A
Nickel		60.7	mg/kg	1.0	101	75	125			
Selenium		51.3	mg/kg	1.0	103	75	125			
Silver		28.2	mg/kg	1.0	111	75	125			
Zinc		187	mg/kg	1.0	105	75	125			
Sample ID: H13020220-026CMSD	11	Sample Matrix Spike Duplicate				Run: ICPMS204-B_130221B			02/22/13 14:40	
Arsenic		94.3	mg/kg	1.0	99	75	125	0.7	20	
Barium		192	mg/kg	1.0	132	75	125	3.3	20	S
Beryllium		25.4	mg/kg	1.0	100	75	125	0.3	20	
Cadmium		25.1	mg/kg	1.0	97	75	125	1.5	20	
Chromium		66.6	mg/kg	1.0	105	75	125	1.7	20	
Copper		87.3	mg/kg	1.0	99	75	125	0.6	20	
Manganese		1290	mg/kg	1.0		75	125	2.4	20	A
Nickel		61.0	mg/kg	1.0	102	75	125	0.6	20	
Selenium		46.9	mg/kg	1.0	94	75	125	8.9	20	
Silver		27.5	mg/kg	1.0	108	75	125	2.7	20	
Zinc		186	mg/kg	1.0	103	75	125	0.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW7471A									Analytical Run: HGCV201-H_130220A	
Sample ID: ICV		Initial Calibration Verification Standard							02/19/13 16:14	
Mercury		0.00096	mg/kg	0.50	97	90	110			
Sample ID: ICV		Initial Calibration Verification Standard							02/20/13 14:50	
Mercury		0.0011	mg/kg	0.50	109	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard							02/20/13 16:56	
Mercury		0.0026	mg/kg	0.50	103	90	110			
Sample ID: CCV		Continuing Calibration Verification Standard							02/20/13 17:22	
Mercury		0.0026	mg/kg	0.50	102	90	110			
Method: SW7471A									Batch: 19528	
Sample ID: MB-19528		Method Blank				Run: HGCV201-H_130220A			02/20/13 16:05	
Mercury		ND	mg/kg	0.0009						
Sample ID: LCS-19528		Laboratory Control Sample				Run: HGCV201-H_130220A			02/20/13 16:22	
Mercury		5.0	mg/kg	0.50	98	80	120			
Sample ID: H13020182-017BDIL		Serial Dilution				Run: HGCV201-H_130220A			02/20/13 16:32	
Mercury		0.062	mg/kg-dry	0.50		0	0		20	
Sample ID: H13020202-001BMS		Sample Matrix Spike				Run: HGCV201-H_130220A			02/20/13 17:03	
Mercury		1.7	mg/kg-dry	0.50	99	80	120			
Sample ID: H13020202-001BMSD		Sample Matrix Spike Duplicate				Run: HGCV201-H_130220A			02/20/13 17:05	
Mercury		1.7	mg/kg-dry	0.50	99	80	120	2.5	20	
Sample ID: H13020202-001BDIL		Serial Dilution				Run: HGCV201-H_130220A			02/20/13 17:08	
Mercury		0.084	mg/kg-dry	0.50		0	0		20	
Method: SW7471A									Batch: 19536	
Sample ID: MB-19536		Method Blank				Run: HGCV201-H_130220A			02/20/13 17:27	
Mercury		ND	mg/kg	0.0009						
Sample ID: LCS-19536		Laboratory Control Sample				Run: HGCV201-H_130220A			02/20/13 17:29	
Mercury		4.9	mg/kg	0.50	98	80	120			
Sample ID: H13020202-007BMS		Sample Matrix Spike				Run: HGCV201-H_130220A			02/20/13 17:34	
Mercury		1.4	mg/kg-dry	0.50	94	80	120			
Sample ID: H13020202-007BMSD		Sample Matrix Spike Duplicate				Run: HGCV201-H_130220A			02/20/13 17:37	
Mercury		1.5	mg/kg-dry	0.50	98	80	120	4.7	20	
Sample ID: H13020202-007BDIL		Serial Dilution				Run: HGCV201-H_130220A			02/20/13 17:39	
Mercury		0.067	mg/kg-dry	0.50		0	0		20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Report Date: 02/25/13
Project: Spring Meadow Lake
Work Order: H13020202

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW7471A									Analytical Run: HGCV201-H_130221B	
Sample ID: ICV	Initial Calibration Verification Standard								02/21/13 08:49	
Mercury		0.00100	mg/kg	0.50	100	90	110			
Sample ID: CCV	Continuing Calibration Verification Standard								02/21/13 08:51	
Mercury		0.0025	mg/kg	0.50	101	90	110			
Method: SW7471A									Batch: 19536	
Sample ID: MB-19536	Method Blank				Run: HGCV201-H_130221B				02/21/13 08:56	
Mercury		0.002	mg/kg	0.0009						
Sample ID: H13020202-017BMS	Sample Matrix Spike				Run: HGCV201-H_130221B				02/21/13 09:00	
Mercury		1.4	mg/kg-dry	0.50	104	80	120			
Sample ID: H13020202-017BMSD	Sample Matrix Spike Duplicate				Run: HGCV201-H_130221B				02/21/13 09:03	
Mercury		1.4	mg/kg-dry	0.50	98	80	120	3.0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Remediation Division H13020202

Login completed by: Tracy L. Lorash
Date Received: 2/15/2013
Reviewed by: BL2000\ablackburn
Received by: elm
Reviewed Date: 2/22/2013
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	℃ See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

Samples left in locked entry.
Pages 2 -12 of the Chain of Custody were not signed by the client.
No collection date and time on K-SMLC-73-E jar. Took from COC.
No collection time on K-SMLC-79-D jar and K-SMLC-81-A jar. Took from COC.
No collection time on COC or jars for K-SMLC-275. Sample time estimated in laboratory.

Workorder Receipt Checklist - Continued

MT DEQ-Remediation Division H13020202

Cooler 1 was received at 4.8℃, Cooler 2 at 4.0℃. Samples were received on wet ice. TI 2/15/13.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 4
Receipt Temp: See coversheet
On Ice: (Yes) No
Custody Seal (Y) N
Intact (Y) N
Signature Match (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal Turnaround (TAT)	RUSH	
1	K-SMLC-73-A	2/14/13	1420	soil	x	x										Composite and
2	B	"	"	"	x	x										label sample
3	C	"	"	"	x	x										K-SMLC-73
4	D	"	"	"	x	x										
5	E				x	x										
6	K-SMLC-74-A	2/14/13	1425		x	x										Composite and
7	B	"	"		x	x										label sample
8	C	"	"		x	x										K-SMLC-74
9	D	"	"		x	x										
10	E				x	x										

LABORATORY USE ONLY H13020202

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815	[signature] page 1-12			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Esther Wermit	Date/Time: 2/15/13 8:00	Signature: [signature]

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
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Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 4
Receipt Temp: See Comment
On Ice: (Yes) No
Custody Seal: (Y) N
Intact: (Y) N
Signature Match: (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	K-SMLC-75-A	2/14/13	1440	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									K-SMLC-75
4	D				x	x									
5	E				x	x									
6	K-SMLC-76-A	2/14/13	1400		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									K-SMLC-76
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY H13020202

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:
			Esther Merritt	2/15/13 8:00	Esther Merritt

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 1
Receipt Temp: See comments
On Ice: Yes No
Custody Seal: Y N
Intact: Y N
Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal TAT	RUSH		LABORATORY USE ONLY
2	1 K-SMLC-77-A	2/14/13	1545	soil	x	x										Composite and	H13020202
	2 B				x	x										label sample	
	3 C				x	x										K-SMLC-77	
	4 D				x	x											
	5 E				x	x											
2	6 K-SMLC-78-A	2/14/13	1500		x	x										Composite and	
	7 B				x	x										label sample	
	8 C				x	x										K-SMLC-78	
	9 D				x	x											
	10 E				x	x											

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Esther Mbuthia	Date/Time: 2/15/13 8:0	Signature: Esther Mbuthia

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments
1	K-SMLC-79-A	2/14/13	1555	soil	x	x										Composite and
2	B				x	x										label sample
3	C				x	x										K-SMLC-79
4	D				x	x										
5	E				x	x										
6	K-SMLC-80-A	2/14/13	1610		x	x										Composite and
7	B				x	x										label sample
8	C				x	x										K-SMLC-80
9	D				x	x										
10	E				x	x										

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See Comments
On Ice: (Y) N
Custody Seal (Y) N
Intact (Y) N
Signature Match (Y) N

LABORATORY USE ONLY
H13020202

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:
			Esther Mervitz	2/15/13 8:00	Esther Mervitz

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State:MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

TB
C1 → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 4
Receipt Temp: See comment
On Ice: (Yes) No
Custody Seal (Y) N
Intact (Y) N
Signature Match (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
2	1 K-SMLC-81-A	2/14/13	1020	soil	x	x										Composite and
	2 B				x	x										label sample
	3 C				x	x										K-SMLC-81
	4 D				x	x										
	5 E				x	x										
2	6 K-SMLC-82-A	2/14/13	1030		x	x										Composite and
	7 B				x	x										label sample
	8 C				x	x										K-SMLC-82
	9 D				x	x										
	10 E				x	x										

LABORATORY USE ONLY H13020202

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:
			Esther Morrill	2/15/13 8:00	Esther Morrill

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- x EDD/EDT (Electronic Data) **Format:** Trihydro
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 4
Receipt Temp: See comment
On Ice: (Yes) No
Custody Seal: (Y) N
Intact: (Y) N
Signature Match: (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal TAT	RUSH	
2	1 K-SMLC-83-A	2/14/13	1055	soil	x	x										Composite and
	2 B				x	x										label sample
	3 C				x	x										K-SMLC-83
	4 D				x	x										
	5 E				x	x										
2	6 K-SMLC-84-A	2/14/13	1040		x	x										Composite and
	7 B				x	x										label sample
	8 C				x	x										K-SMLC-84
	9 D				x	x										
	10 E				x	x										

LABORATORY USE ONLY H13020202

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:
			Esther Merritt	2/15/13 8:00	Esther Merritt

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
Cl → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 4
Receipt Temp: See Comments °C
On Ice: (Yes) No
Custody Seal: (Y) N
Intact: (Y) N
Signature Match: (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal Turnaround (TAT)	RUSH	
1	K-SMLC-85-A	2/14/13	1105	soil	x	x										Composite and
2	B				x	x										label sample
3	C				x	x										K-SMLC-85
4	D				x	x										
5	E				x	x										
6	K-SMLC-86-A	2/14/13	1130		x	x										Composite and
7	B				x	x										label sample
8	C				x	x										K-SMLC-86
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY H13020202

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:
			Esther Merritt	2/15/13 8:00	Esther Merritt

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 4
Receipt Temp: See comments
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	K-SMLC-87-A	2/14/13	1205	soil	x	x									Composite and	H13020202
2	B				x	x									label sample	
3	C				x	x									K-SMLC-87	
4	D				x	x										
5	E				x	x										
6	K-SMLC-88-A	2/14/13	1220		x	x									Composite and	
7	B				x	x									label sample	
8	C				x	x									K-SMLC-88	
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Esther Merritt	2/15/13 8:00	Signature: Esther Merritt

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 1
Receipt Temp: See comment
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	K-SMLC-89-A	2/14/13	1200	soil	x	x									Composite and	H13020207
2	B				x	x									label sample	
3	C				x	x									K-SMLC-89	
4	D				x	x										
5	E				x	x										
6	K-SMLC-90-A	2/14/13	1155		x	x									Composite and	
7	B				x	x									label sample	
8	C				x	x									K-SMLC-90	
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:
			Esther Merritt	2-15-13 8:00	Esther Merritt

Sample Disposal: Return to Client: _____ Lab Disposal: X

ENERGY LABORATORIES

In circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
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Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 1
Receipt Temp: See Comments
On Ice: (Yes) No
Custody Seal (Y) N
Intact (Y) N
Signature Match (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
2	1 J-SMLD-16-A	2/14/13	0930	soil	x	x									Composite and	H13020202
	2 B				x	x									label sample	
	3 C				x	x									J-SMLD-16	
	4				x	x										
	5				x	x										
2	6 J-SMLD-13-A	2/14/13	0900		x	x									Composite and	
	7 B				x	x									label sample	
	8 C				x	x									J-SMLD-13	
	9 D				x	x										
	10 E				x	x										

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Damell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:
			Esther Merritt	2/15/13 8:00	Esther Merritt

Sample Disposal: Return to Client: _____ Lab Disposal: X

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
Cl → 4.8
Cl → 4.0

Shipped by: Hand
Cooler ID(s): 1
Receipt Temp: See Comments °C
On Ice: (Yes) No
Custody Seal (Y) N
Intact (Y) N
Signature Match (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	J-SMLD-15-A	2/14/13	0915	soil	x	x										Composite and
2	B				x	x										label sample
3	C				x	x										J-SMLD-15
4	D				x	x										
5					x	x										
6	J-SMLD-17-A	2/14/13	0940		x	x										Composite and
7	B				x	x										label sample
8	C				x	x										J-SMLD-17
9	D				x	x										
10	E				x	x										25

LABORATORY USE ONLY H13020202

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

Esther Merritt 2/15/13 8:00 Esther Merritt

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☒ EDD/EDT (Electronic Data) Format: Trihydro
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	Total Metals 6020A	Dissolved Metals 6020A	Total mercury 7470A					SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments
1	K-SMLC-EB-1	2/14/13	1625	water			X		X								
2	K-SMLC-275-A	2/14/13	--	soil	x	x											Composite and
3	B				x	x											Label sample
4	C				x	x											K-SMLC-275
5	D				x	x											
6	E				x	x											
7																	
8																	
9																	
10																	

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

TB
Cl → 4.8
C2 → 4.0

Shipped by: Hand
Cooler ID(s): 1
Receipt Temp: See Comment
On Ice: (Yes) No
Custody Seal (Y) N
Intact (Y) N
Signature Match (Y) N

LABORATORY USE ONLY H13020202

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/14/13 1815				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:
				2/15/13 8:00	Esther Merritt

Sample Disposal: Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ANALYTICAL SUMMARY REPORT

March 01, 2013

MT DEQ-Remediation Division
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13020220 Quote ID: H825 - Spring Meadow Project

Project Name: Spring Meadow Lake

Energy Laboratories Inc Helena MT received the following 28 samples for MT DEQ-Remediation Division on 2/15/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13020220-001	I-SMCL-38	02/15/13 14:25	02/15/13	Soil	Metals by ICP/ICPMS, Total Composite Fee Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieves Soil Preparation
H13020220-002	I-SMLC-39	02/15/13 14:15	02/15/13	Soil	Same As Above
H13020220-003	K-SMLC-44	02/15/13 14:05	02/15/13	Soil	Same As Above
H13020220-004	H-SMLC-49	02/15/13 13:15	02/15/13	Soil	Same As Above
H13020220-005	H-SMLC-50	02/15/13 13:05	02/15/13	Soil	Same As Above
H13020220-006	H-SMLC-51	02/15/13 12:55	02/15/13	Soil	Same As Above
H13020220-007	H-SMLC-52	02/15/13 12:45	02/15/13	Soil	Same As Above
H13020220-008	H-SMLC-53	02/15/13 13:20	02/15/13	Soil	Same As Above
H13020220-009	H-SMLC-54	02/15/13 12:35	02/15/13	Soil	Same As Above
H13020220-010	H-SMLC-55	02/15/13 13:25	02/15/13	Soil	Same As Above
H13020220-011	H-SMLC-56	02/15/13 12:25	02/15/13	Soil	Same As Above
H13020220-012	L-SMLC-61	02/15/13 9:20	02/15/13	Soil	Same As Above
H13020220-013	L-SMLC-62	02/15/13 9:35	02/15/13	Soil	Same As Above
H13020220-014	L-SMLC-63	02/15/13 9:55	02/15/13	Soil	Same As Above
H13020220-015	L-SMLC-64	02/15/13 10:00	02/15/13	Soil	Same As Above
H13020220-016	L-SMLC-65	02/15/13 10:15	02/15/13	Soil	Same As Above
H13020220-017	L-SMLC-66	02/15/13 10:25	02/15/13	Soil	Same As Above
H13020220-018	L-SMLC-67	02/15/13 10:45	02/15/13	Soil	Same As Above
H13020220-019	L-SMLC-68	02/15/13 10:55	02/15/13	Soil	Same As Above
H13020220-020	O-SMLC-103	02/15/13 8:25	02/15/13	Soil	Same As Above
H13020220-021	O-SMLC-104	02/15/13 8:10	02/15/13	Soil	Same As Above
H13020220-022	O-SMLC-105	02/15/13 8:15	02/15/13	Soil	Same As Above
H13020220-023	O-SMLC-106	02/15/13 8:25	02/15/13	Soil	Same As Above
H13020220-024	H-SMLC-251	02/15/13 8:30	02/15/13	Soil	Same As Above

ANALYTICAL SUMMARY REPORT

H13020220-025	I-SMLD-10	02/15/13 14:30	02/15/13	Soil	Same As Above
H13020220-026	H-SMLG-2	02/15/13 13:50	02/15/13	Soil	Same As Above
H13020220-027	I-SMLC-EB-2	02/15/13 15:40	02/15/13	Aqueous	Metals by ICP/ICPMS, Total Mercury, Total Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA
H13020220-028	I-SMLW-11	02/14/13 14:40	02/15/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Mercury, Dissolved Mercury, Total Metals Digestion by EPA 200.2 Preparation, Dissolved Filtration Digestion, Mercury by CVAA

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

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Sample Delivery Group: H13020220

Revised Date: 03/01/13
Report Date: 03/01/13

CASE NARRATIVE

Multiple jars, as indicated on the Chain of Custody, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for Moisture and Mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which pass through the No.60 sieve was used for the metals analysis. The samples are reported on a dry weight basis as indicated in the report. Abb 2/19/13

Attached is a revised report with Results and QC being reported in a detailed format. Wj 3/1/13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID I-SMCL-38
Lab ID: H13020220-001
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 14:25
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	21.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	1	R86489
No. 60 Sieve	78.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	1	R86489
PHYSICAL CHARACTERISTICS											
Moisture	22.2	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	1	R86494
3050 EXTRACTABLE METALS											
Arsenic	46	mg/kg-dry		1		SW6010B	02/22/13 18:00 / sld	02/20/13 18:04	ICP2-HE_130222A	50	19557
Barium	184	mg/kg-dry		1		SW6010B	02/22/13 18:00 / sld	02/20/13 18:04	ICP2-HE_130222A	50	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 15:19 / dck	02/20/13 18:04	ICPMS204-B_130221B	222	19557
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 15:19 / dck	02/20/13 18:04	ICPMS204-B_130221B	222	19557
Chromium	15	mg/kg-dry		1		SW6010B	02/22/13 18:00 / sld	02/20/13 18:04	ICP2-HE_130222A	50	19557
Copper	34	mg/kg-dry		1		SW6010B	02/22/13 18:00 / sld	02/20/13 18:04	ICP2-HE_130222A	50	19557
Lead	100	mg/kg-dry	D	3		SW6010B	02/22/13 18:00 / sld	02/20/13 18:04	ICP2-HE_130222A	50	19557
Manganese	840	mg/kg-dry		1		SW6010B	02/22/13 18:00 / sld	02/20/13 18:04	ICP2-HE_130222A	50	19557
Nickel	12	mg/kg-dry		1		SW6010B	02/22/13 18:00 / sld	02/20/13 18:04	ICP2-HE_130222A	50	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 15:19 / dck	02/20/13 18:04	ICPMS204-B_130221B	222	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 15:19 / dck	02/20/13 18:04	ICPMS204-B_130221B	222	19557
Zinc	132	mg/kg-dry		1		SW6010B	02/22/13 18:00 / sld	02/20/13 18:04	ICP2-HE_130222A	50	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:31 / sbk	02/20/13 08:00	HGCV201-H_130221B	19	19542

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID I-SMLC-39
Lab ID: H13020220-002
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 14:15
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	15.5	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C : 2		R86489
No. 60 Sieve	84.5	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C : 2		R86489
PHYSICAL CHARACTERISTICS											
Moisture	33.7	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B : 2		R86494
3050 EXTRACTABLE METALS											
Arsenic	38	mg/kg-dry		1		SW6010B	02/22/13 18:04 / sld	02/20/13 18:04	ICP2-HE_130222A : 51		19557
Barium	171	mg/kg-dry		1		SW6010B	02/22/13 18:04 / sld	02/20/13 18:04	ICP2-HE_130222A : 51		19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 15:23 / dck	02/20/13 18:04	ICPMS204-B_130221B : 223		19557
Cadmium	ND	mg/kg-dry		1		SW6020	02/22/13 15:23 / dck	02/20/13 18:04	ICPMS204-B_130221B : 223		19557
Chromium	16	mg/kg-dry		1		SW6010B	02/22/13 18:04 / sld	02/20/13 18:04	ICP2-HE_130222A : 51		19557
Copper	36	mg/kg-dry		1		SW6010B	02/22/13 18:04 / sld	02/20/13 18:04	ICP2-HE_130222A : 51		19557
Lead	86	mg/kg-dry	D	3		SW6010B	02/22/13 18:04 / sld	02/20/13 18:04	ICP2-HE_130222A : 51		19557
Manganese	780	mg/kg-dry		1		SW6010B	02/22/13 18:04 / sld	02/20/13 18:04	ICP2-HE_130222A : 51		19557
Nickel	12	mg/kg-dry		1		SW6010B	02/22/13 18:04 / sld	02/20/13 18:04	ICP2-HE_130222A : 51		19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 15:23 / dck	02/20/13 18:04	ICPMS204-B_130221B : 223		19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 15:23 / dck	02/20/13 18:04	ICPMS204-B_130221B : 223		19557
Zinc	124	mg/kg-dry		1		SW6010B	02/22/13 18:04 / sld	02/20/13 18:04	ICP2-HE_130222A : 51		19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:34 / sbk	02/20/13 08:00	HGCV201-H_130221B : 20		19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID K-SMLC-44
Lab ID: H13020220-003
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 14:05
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	20.7	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	3	R86489
No. 60 Sieve	79.3	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	3	R86489
PHYSICAL CHARACTERISTICS											
Moisture	20.0	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	3	R86494
3050 EXTRACTABLE METALS											
Arsenic	81	mg/kg-dry	D	2		SW6010B	02/22/13 18:08 / sld	02/20/13 18:04	ICP2-HE_130222A	52	19557
Barium	202	mg/kg-dry		1		SW6010B	02/22/13 18:08 / sld	02/20/13 18:04	ICP2-HE_130222A	52	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 15:28 / dck	02/20/13 18:04	ICPMS204-B_130221B	224	19557
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 15:28 / dck	02/20/13 18:04	ICPMS204-B_130221B	224	19557
Chromium	14	mg/kg-dry		1		SW6010B	02/22/13 18:08 / sld	02/20/13 18:04	ICP2-HE_130222A	52	19557
Copper	84	mg/kg-dry		1		SW6010B	02/22/13 18:08 / sld	02/20/13 18:04	ICP2-HE_130222A	52	19557
Lead	134	mg/kg-dry	D	3		SW6010B	02/22/13 18:08 / sld	02/20/13 18:04	ICP2-HE_130222A	52	19557
Manganese	1520	mg/kg-dry		1		SW6010B	02/22/13 18:08 / sld	02/20/13 18:04	ICP2-HE_130222A	52	19557
Nickel	12	mg/kg-dry		1		SW6010B	02/22/13 18:08 / sld	02/20/13 18:04	ICP2-HE_130222A	52	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 15:28 / dck	02/20/13 18:04	ICPMS204-B_130221B	224	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 15:28 / dck	02/20/13 18:04	ICPMS204-B_130221B	224	19557
Zinc	182	mg/kg-dry		1		SW6010B	02/22/13 18:08 / sld	02/20/13 18:04	ICP2-HE_130222A	52	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:36 / sbk	02/20/13 08:00	HGCV201-H_130221B	21	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-49
Lab ID: H13020220-004
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 13:15
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	71.5	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	4	R86489
No. 60 Sieve	28.5	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	4	R86489
PHYSICAL CHARACTERISTICS											
Moisture	11.5	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	4	R86494
3050 EXTRACTABLE METALS											
Arsenic	63	mg/kg-dry		1		SW6010B	02/22/13 18:11 / sld	02/20/13 18:04	ICP2-HE_130222A	53	19557
Barium	88	mg/kg-dry		1		SW6010B	02/22/13 18:11 / sld	02/20/13 18:04	ICP2-HE_130222A	53	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 15:33 / dck	02/20/13 18:04	ICPMS204-B_130221B	225	19557
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 15:33 / dck	02/20/13 18:04	ICPMS204-B_130221B	225	19557
Chromium	17	mg/kg-dry		1		SW6010B	02/22/13 18:11 / sld	02/20/13 18:04	ICP2-HE_130222A	53	19557
Copper	42	mg/kg-dry		1		SW6010B	02/22/13 18:11 / sld	02/20/13 18:04	ICP2-HE_130222A	53	19557
Lead	100	mg/kg-dry	D	3		SW6010B	02/22/13 18:11 / sld	02/20/13 18:04	ICP2-HE_130222A	53	19557
Manganese	1480	mg/kg-dry		1		SW6010B	02/22/13 18:11 / sld	02/20/13 18:04	ICP2-HE_130222A	53	19557
Nickel	9	mg/kg-dry		1		SW6010B	02/22/13 18:11 / sld	02/20/13 18:04	ICP2-HE_130222A	53	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 15:33 / dck	02/20/13 18:04	ICPMS204-B_130221B	225	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 15:33 / dck	02/20/13 18:04	ICPMS204-B_130221B	225	19557
Zinc	140	mg/kg-dry		1		SW6010B	02/22/13 18:11 / sld	02/20/13 18:04	ICP2-HE_130222A	53	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:46 / sbk	02/20/13 08:00	HGCV201-H_130221B	25	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-50
Lab ID: H13020220-005
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 13:05
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	62.0	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	5	R86489
No. 60 Sieve	38.0	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	5	R86489
PHYSICAL CHARACTERISTICS											
Moisture	14.1	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	5	R86494
3050 EXTRACTABLE METALS											
Arsenic	36	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Barium	97	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Chromium	21	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Copper	46	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Lead	75	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Manganese	1070	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Nickel	9	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
Zinc	126	mg/kg-dry		1		SW6020	02/22/13 11:36 / dck	02/20/13 18:04	ICPMS204-B_130221B	186	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:48 / sbk	02/20/13 08:00	HGCV201-H_130221B	26	19542

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-51
Lab ID: H13020220-006
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 12:55
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	45.1	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	6	R86489
No. 60 Sieve	54.9	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	6	R86489
PHYSICAL CHARACTERISTICS											
Moisture	15.3	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	6	R86494
3050 EXTRACTABLE METALS											
Arsenic	45	mg/kg-dry	D	2		SW6010B	02/22/13 18:19 / sld	02/20/13 18:04	ICP2-HE_130222A	55	19557
Barium	98	mg/kg-dry		1		SW6010B	02/22/13 18:19 / sld	02/20/13 18:04	ICP2-HE_130222A	55	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 15:45 / dck	02/20/13 18:04	ICPMS204-B_130221B	227	19557
Cadmium	ND	mg/kg-dry		1		SW6020	02/22/13 15:45 / dck	02/20/13 18:04	ICPMS204-B_130221B	227	19557
Chromium	17	mg/kg-dry		1		SW6010B	02/22/13 18:19 / sld	02/20/13 18:04	ICP2-HE_130222A	55	19557
Copper	36	mg/kg-dry		1		SW6010B	02/22/13 18:19 / sld	02/20/13 18:04	ICP2-HE_130222A	55	19557
Lead	67	mg/kg-dry	D	3		SW6010B	02/22/13 18:19 / sld	02/20/13 18:04	ICP2-HE_130222A	55	19557
Manganese	1220	mg/kg-dry		1		SW6010B	02/22/13 18:19 / sld	02/20/13 18:04	ICP2-HE_130222A	55	19557
Nickel	10	mg/kg-dry		1		SW6010B	02/22/13 18:19 / sld	02/20/13 18:04	ICP2-HE_130222A	55	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 15:45 / dck	02/20/13 18:04	ICPMS204-B_130221B	227	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 15:45 / dck	02/20/13 18:04	ICPMS204-B_130221B	227	19557
Zinc	115	mg/kg-dry		1		SW6010B	02/22/13 18:19 / sld	02/20/13 18:04	ICP2-HE_130222A	55	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:50 / sbk	02/20/13 08:00	HGCV201-H_130221B	27	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-52
Lab ID: H13020220-007
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 12:45
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	41.4	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	7	R86489
No. 60 Sieve	58.6	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	7	R86489
PHYSICAL CHARACTERISTICS											
Moisture	16.7	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	7	R86494
3050 EXTRACTABLE METALS											
Arsenic	32	mg/kg-dry	D	2		SW6010B	02/22/13 18:23 / sld	02/20/13 18:04	ICP2-HE_130222A	56	19557
Barium	113	mg/kg-dry		1		SW6010B	02/22/13 18:23 / sld	02/20/13 18:04	ICP2-HE_130222A	56	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 15:49 / dck	02/20/13 18:04	ICPMS204-B_130221B	228	19557
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 15:49 / dck	02/20/13 18:04	ICPMS204-B_130221B	228	19557
Chromium	17	mg/kg-dry		1		SW6010B	02/22/13 18:23 / sld	02/20/13 18:04	ICP2-HE_130222A	56	19557
Copper	28	mg/kg-dry		1		SW6010B	02/22/13 18:23 / sld	02/20/13 18:04	ICP2-HE_130222A	56	19557
Lead	69	mg/kg-dry	D	3		SW6010B	02/22/13 18:23 / sld	02/20/13 18:04	ICP2-HE_130222A	56	19557
Manganese	856	mg/kg-dry		1		SW6010B	02/22/13 18:23 / sld	02/20/13 18:04	ICP2-HE_130222A	56	19557
Nickel	10	mg/kg-dry		1		SW6010B	02/22/13 18:23 / sld	02/20/13 18:04	ICP2-HE_130222A	56	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 15:49 / dck	02/20/13 18:04	ICPMS204-B_130221B	228	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 15:49 / dck	02/20/13 18:04	ICPMS204-B_130221B	228	19557
Zinc	134	mg/kg-dry		1		SW6010B	02/22/13 18:23 / sld	02/20/13 18:04	ICP2-HE_130222A	56	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:53 / sbk	02/20/13 08:00	HGCV201-H_130221B	28	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-53
Lab ID: H13020220-008
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 13:20
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	24.5	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	8	R86489
No. 60 Sieve	75.5	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	8	R86489
PHYSICAL CHARACTERISTICS											
Moisture	24.6	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	8	R86494
3050 EXTRACTABLE METALS											
Arsenic	80	mg/kg-dry		1		SW6010B	02/22/13 18:34 / sld	02/20/13 18:04	ICP2-HE_130222A	59	19557
Barium	122	mg/kg-dry		1		SW6010B	02/22/13 18:34 / sld	02/20/13 18:04	ICP2-HE_130222A	59	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 16:14 / dck	02/20/13 18:04	ICPMS204-B_130221B	233	19557
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 16:14 / dck	02/20/13 18:04	ICPMS204-B_130221B	233	19557
Chromium	15	mg/kg-dry		1		SW6010B	02/22/13 18:34 / sld	02/20/13 18:04	ICP2-HE_130222A	59	19557
Copper	43	mg/kg-dry		1		SW6010B	02/22/13 18:34 / sld	02/20/13 18:04	ICP2-HE_130222A	59	19557
Lead	99	mg/kg-dry	D	3		SW6010B	02/22/13 18:34 / sld	02/20/13 18:04	ICP2-HE_130222A	59	19557
Manganese	1420	mg/kg-dry		1		SW6010B	02/22/13 18:34 / sld	02/20/13 18:04	ICP2-HE_130222A	59	19557
Nickel	12	mg/kg-dry		1		SW6010B	02/22/13 18:34 / sld	02/20/13 18:04	ICP2-HE_130222A	59	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 16:14 / dck	02/20/13 18:04	ICPMS204-B_130221B	233	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 16:14 / dck	02/20/13 18:04	ICPMS204-B_130221B	233	19557
Zinc	149	mg/kg-dry		1		SW6010B	02/22/13 18:34 / sld	02/20/13 18:04	ICP2-HE_130222A	59	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:55 / sbk	02/20/13 08:00	HGCV201-H_130221B	29	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-54
Lab ID: H13020220-009
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 12:35
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	26.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	9	R86489
No. 60 Sieve	73.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	9	R86489
PHYSICAL CHARACTERISTICS											
Moisture	22.7	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	9	R86494
3050 EXTRACTABLE METALS											
Arsenic	149	mg/kg-dry		1		SW6010B	02/22/13 18:37 / sld	02/20/13 18:04	ICP2-HE_130222A	60	19557
Barium	353	mg/kg-dry		1		SW6010B	02/22/13 18:37 / sld	02/20/13 18:04	ICP2-HE_130222A	60	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 16:18 / dck	02/20/13 18:04	ICPMS204-B_130221B	234	19557
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 16:18 / dck	02/20/13 18:04	ICPMS204-B_130221B	234	19557
Chromium	13	mg/kg-dry		1		SW6010B	02/22/13 18:37 / sld	02/20/13 18:04	ICP2-HE_130222A	60	19557
Copper	43	mg/kg-dry		1		SW6010B	02/22/13 18:37 / sld	02/20/13 18:04	ICP2-HE_130222A	60	19557
Lead	157	mg/kg-dry	D	3		SW6010B	02/22/13 18:37 / sld	02/20/13 18:04	ICP2-HE_130222A	60	19557
Manganese	2600	mg/kg-dry		1		SW6010B	02/22/13 18:37 / sld	02/20/13 18:04	ICP2-HE_130222A	60	19557
Nickel	9	mg/kg-dry		1		SW6010B	02/22/13 18:37 / sld	02/20/13 18:04	ICP2-HE_130222A	60	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 16:18 / dck	02/20/13 18:04	ICPMS204-B_130221B	234	19557
Silver	2	mg/kg-dry		1		SW6020	02/22/13 16:18 / dck	02/20/13 18:04	ICPMS204-B_130221B	234	19557
Zinc	250	mg/kg-dry		1		SW6010B	02/22/13 18:37 / sld	02/20/13 18:04	ICP2-HE_130222A	60	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 09:58 / sbk	02/20/13 08:00	HGCV201-H_130221B	30	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-55
Lab ID: H13020220-010
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 13:25
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	23.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	10	R86489
No. 60 Sieve	76.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	10	R86489
PHYSICAL CHARACTERISTICS											
Moisture	20.4	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	10	R86494
3050 EXTRACTABLE METALS											
Arsenic	55	mg/kg-dry		1		SW6010B	02/22/13 18:41 / sld	02/20/13 18:04	ICP2-HE_130222A	61	19557
Barium	78	mg/kg-dry		1		SW6010B	02/22/13 18:41 / sld	02/20/13 18:04	ICP2-HE_130222A	61	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 16:23 / dck	02/20/13 18:04	ICPMS204-B_130221B	235	19557
Cadmium	ND	mg/kg-dry		1		SW6020	02/22/13 16:23 / dck	02/20/13 18:04	ICPMS204-B_130221B	235	19557
Chromium	16	mg/kg-dry		1		SW6010B	02/22/13 18:41 / sld	02/20/13 18:04	ICP2-HE_130222A	61	19557
Copper	33	mg/kg-dry		1		SW6010B	02/22/13 18:41 / sld	02/20/13 18:04	ICP2-HE_130222A	61	19557
Lead	63	mg/kg-dry	D	3		SW6010B	02/22/13 18:41 / sld	02/20/13 18:04	ICP2-HE_130222A	61	19557
Manganese	991	mg/kg-dry		1		SW6010B	02/22/13 18:41 / sld	02/20/13 18:04	ICP2-HE_130222A	61	19557
Nickel	8	mg/kg-dry		1		SW6010B	02/22/13 18:41 / sld	02/20/13 18:04	ICP2-HE_130222A	61	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 16:23 / dck	02/20/13 18:04	ICPMS204-B_130221B	235	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 16:23 / dck	02/20/13 18:04	ICPMS204-B_130221B	235	19557
Zinc	105	mg/kg-dry		1		SW6010B	02/22/13 18:41 / sld	02/20/13 18:04	ICP2-HE_130222A	61	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:00 / sbk	02/20/13 08:00	HGCV201-H_130221B	31	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-56
Lab ID: H13020220-011
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 12:25
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	33.4	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	11	R86489
No. 60 Sieve	66.6	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	11	R86489
PHYSICAL CHARACTERISTICS											
Moisture	22.2	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	11	R86494
3050 EXTRACTABLE METALS											
Arsenic	53	mg/kg-dry		1		SW6010B	02/22/13 18:45 / sld	02/20/13 18:04	ICP2-HE_130222A	62	19557
Barium	453	mg/kg-dry		1		SW6010B	02/22/13 18:45 / sld	02/20/13 18:04	ICP2-HE_130222A	62	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 16:28 / dck	02/20/13 18:04	ICPMS204-B_130221B	236	19557
Cadmium	ND	mg/kg-dry		1		SW6020	02/22/13 16:28 / dck	02/20/13 18:04	ICPMS204-B_130221B	236	19557
Chromium	15	mg/kg-dry		1		SW6010B	02/22/13 18:45 / sld	02/20/13 18:04	ICP2-HE_130222A	62	19557
Copper	35	mg/kg-dry		1		SW6010B	02/22/13 18:45 / sld	02/20/13 18:04	ICP2-HE_130222A	62	19557
Lead	56	mg/kg-dry	D	3		SW6010B	02/22/13 18:45 / sld	02/20/13 18:04	ICP2-HE_130222A	62	19557
Manganese	944	mg/kg-dry		1		SW6010B	02/22/13 18:45 / sld	02/20/13 18:04	ICP2-HE_130222A	62	19557
Nickel	13	mg/kg-dry		1		SW6010B	02/22/13 18:45 / sld	02/20/13 18:04	ICP2-HE_130222A	62	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 16:28 / dck	02/20/13 18:04	ICPMS204-B_130221B	236	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 16:28 / dck	02/20/13 18:04	ICPMS204-B_130221B	236	19557
Zinc	107	mg/kg-dry		1		SW6010B	02/22/13 18:45 / sld	02/20/13 18:04	ICP2-HE_130222A	62	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:07 / sbk	02/20/13 08:00	HGCV201-H_130221B	34	19542

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID L-SMLC-61
Lab ID: H13020220-012
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 09:20
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	61.4	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	12	R86489
No. 60 Sieve	38.6	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	12	R86489
PHYSICAL CHARACTERISTICS											
Moisture	12.8	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	12	R86494
3050 EXTRACTABLE METALS											
Arsenic	64	mg/kg-dry		1		SW6010B	02/25/13 13:03 / sld	02/21/13 17:11	ICP2-HE_130225A	18	19573
Barium	105	mg/kg-dry		1		SW6010B	02/25/13 13:03 / sld	02/21/13 17:11	ICP2-HE_130225A	18	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 14:19 / sld	02/21/13 17:11	ICPMS204-B_130226A	46	19573
Cadmium	3	mg/kg-dry		1		SW6020	02/26/13 14:19 / sld	02/21/13 17:11	ICPMS204-B_130226A	46	19573
Chromium	21	mg/kg-dry		1		SW6010B	02/25/13 13:03 / sld	02/21/13 17:11	ICP2-HE_130225A	18	19573
Copper	79	mg/kg-dry		1		SW6020	02/26/13 14:19 / sld	02/21/13 17:11	ICPMS204-B_130226A	46	19573
Lead	266	mg/kg-dry	D	3		SW6010B	02/25/13 13:03 / sld	02/21/13 17:11	ICP2-HE_130225A	18	19573
Manganese	1150	mg/kg-dry		1		SW6010B	02/25/13 13:03 / sld	02/21/13 17:11	ICP2-HE_130225A	18	19573
Nickel	14	mg/kg-dry		1		SW6010B	02/25/13 13:03 / sld	02/21/13 17:11	ICP2-HE_130225A	18	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 14:19 / sld	02/21/13 17:11	ICPMS204-B_130226A	46	19573
Silver	2	mg/kg-dry		1		SW6020	02/26/13 14:19 / sld	02/21/13 17:11	ICPMS204-B_130226A	46	19573
Zinc	314	mg/kg-dry		1		SW6010B	02/25/13 13:03 / sld	02/21/13 17:11	ICP2-HE_130225A	18	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:09 / sbk	02/20/13 08:00	HGCV201-H_130221B	35	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID L-SMLC-62
Lab ID: H13020220-013
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 09:35
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	72.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	13	R86489
No. 60 Sieve	27.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	13	R86489
PHYSICAL CHARACTERISTICS											
Moisture	15.9	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	13	R86494
3050 EXTRACTABLE METALS											
Arsenic	40	mg/kg-dry		1		SW6010B	02/22/13 18:48 / sld	02/20/13 18:04	ICP2-HE_130222A	63	19557
Barium	98	mg/kg-dry		1		SW6010B	02/22/13 18:48 / sld	02/20/13 18:04	ICP2-HE_130222A	63	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 16:33 / dck	02/20/13 18:04	ICPMS204-B_130221B	237	19557
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 16:33 / dck	02/20/13 18:04	ICPMS204-B_130221B	237	19557
Chromium	15	mg/kg-dry		1		SW6010B	02/22/13 18:48 / sld	02/20/13 18:04	ICP2-HE_130222A	63	19557
Copper	40	mg/kg-dry		1		SW6010B	02/22/13 18:48 / sld	02/20/13 18:04	ICP2-HE_130222A	63	19557
Lead	124	mg/kg-dry	D	3		SW6010B	02/22/13 18:48 / sld	02/20/13 18:04	ICP2-HE_130222A	63	19557
Manganese	1250	mg/kg-dry		1		SW6010B	02/22/13 18:48 / sld	02/20/13 18:04	ICP2-HE_130222A	63	19557
Nickel	12	mg/kg-dry		1		SW6010B	02/22/13 18:48 / sld	02/20/13 18:04	ICP2-HE_130222A	63	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 16:33 / dck	02/20/13 18:04	ICPMS204-B_130221B	237	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 16:33 / dck	02/20/13 18:04	ICPMS204-B_130221B	237	19557
Zinc	161	mg/kg-dry		1		SW6010B	02/22/13 18:48 / sld	02/20/13 18:04	ICP2-HE_130222A	63	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:12 / sbk	02/20/13 08:00	HGCV201-H_130221B	36	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID L-SMLC-63
Lab ID: H13020220-014
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 09:55
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	65.3	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	14	R86489
No. 60 Sieve	34.7	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	14	R86489
PHYSICAL CHARACTERISTICS											
Moisture	20.2	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	14	R86494
3050 EXTRACTABLE METALS											
Arsenic	62	mg/kg-dry		1		SW6010B	02/22/13 18:52 / sld	02/20/13 18:04	ICP2-HE_130222A	64	19557
Barium	143	mg/kg-dry		1		SW6010B	02/22/13 18:52 / sld	02/20/13 18:04	ICP2-HE_130222A	64	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 16:44 / dck	02/20/13 18:04	ICPMS204-B_130221B	239	19557
Cadmium	3	mg/kg-dry		1		SW6020	02/22/13 16:44 / dck	02/20/13 18:04	ICPMS204-B_130221B	239	19557
Chromium	13	mg/kg-dry		1		SW6010B	02/22/13 18:52 / sld	02/20/13 18:04	ICP2-HE_130222A	64	19557
Copper	56	mg/kg-dry		1		SW6010B	02/22/13 18:52 / sld	02/20/13 18:04	ICP2-HE_130222A	64	19557
Lead	246	mg/kg-dry	D	3		SW6010B	02/22/13 18:52 / sld	02/20/13 18:04	ICP2-HE_130222A	64	19557
Manganese	1510	mg/kg-dry		1		SW6010B	02/22/13 18:52 / sld	02/20/13 18:04	ICP2-HE_130222A	64	19557
Nickel	11	mg/kg-dry		1		SW6010B	02/22/13 18:52 / sld	02/20/13 18:04	ICP2-HE_130222A	64	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 16:44 / dck	02/20/13 18:04	ICPMS204-B_130221B	239	19557
Silver	2	mg/kg-dry		1		SW6020	02/22/13 16:44 / dck	02/20/13 18:04	ICPMS204-B_130221B	239	19557
Zinc	303	mg/kg-dry		1		SW6010B	02/22/13 18:52 / sld	02/20/13 18:04	ICP2-HE_130222A	64	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:14 / sbk	02/20/13 08:00	HGCV201-H_130221B	37	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID L-SMLC-64
Lab ID: H13020220-015
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 10:00
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	44.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	15	R86489
No. 60 Sieve	55.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	15	R86489
PHYSICAL CHARACTERISTICS											
Moisture	25.1	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	15	R86494
3050 EXTRACTABLE METALS											
Arsenic	24	mg/kg-dry		1		SW6020	02/22/13 16:48 / dck	02/20/13 18:04	ICPMS204-B_130221B	240	19557
Barium	601	mg/kg-dry		1		SW6010B	02/22/13 18:56 / sld	02/20/13 18:04	ICP2-HE_130222A	65	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 16:48 / dck	02/20/13 18:04	ICPMS204-B_130221B	240	19557
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 16:48 / dck	02/20/13 18:04	ICPMS204-B_130221B	240	19557
Chromium	17	mg/kg-dry		1		SW6010B	02/22/13 18:56 / sld	02/20/13 18:04	ICP2-HE_130222A	65	19557
Copper	42	mg/kg-dry		1		SW6010B	02/22/13 18:56 / sld	02/20/13 18:04	ICP2-HE_130222A	65	19557
Lead	85	mg/kg-dry	D	3		SW6010B	02/22/13 18:56 / sld	02/20/13 18:04	ICP2-HE_130222A	65	19557
Manganese	786	mg/kg-dry		1		SW6010B	02/22/13 18:56 / sld	02/20/13 18:04	ICP2-HE_130222A	65	19557
Nickel	13	mg/kg-dry		1		SW6010B	02/22/13 18:56 / sld	02/20/13 18:04	ICP2-HE_130222A	65	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 16:48 / dck	02/20/13 18:04	ICPMS204-B_130221B	240	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 16:48 / dck	02/20/13 18:04	ICPMS204-B_130221B	240	19557
Zinc	136	mg/kg-dry		1		SW6010B	02/22/13 18:56 / sld	02/20/13 18:04	ICP2-HE_130222A	65	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:17 / sbk	02/20/13 08:00	HGCV201-H_130221B	38	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID L-SMLC-65
Lab ID: H13020220-016
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 10:15
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	37.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	16	R86489
No. 60 Sieve	62.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	16	R86489
PHYSICAL CHARACTERISTICS											
Moisture	34.7	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	16	R86494
3050 EXTRACTABLE METALS											
Arsenic	31	mg/kg-dry		1		SW6020	02/22/13 16:53 / dck	02/20/13 18:04	ICPMS204-B_130221B	241	19557
Barium	694	mg/kg-dry		1		SW6010B	02/22/13 18:59 / sld	02/20/13 18:04	ICP2-HE_130222A	66	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 16:53 / dck	02/20/13 18:04	ICPMS204-B_130221B	241	19557
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 16:53 / dck	02/20/13 18:04	ICPMS204-B_130221B	241	19557
Chromium	13	mg/kg-dry		1		SW6010B	02/22/13 18:59 / sld	02/20/13 18:04	ICP2-HE_130222A	66	19557
Copper	52	mg/kg-dry		1		SW6010B	02/22/13 18:59 / sld	02/20/13 18:04	ICP2-HE_130222A	66	19557
Lead	116	mg/kg-dry	D	3		SW6010B	02/22/13 18:59 / sld	02/20/13 18:04	ICP2-HE_130222A	66	19557
Manganese	851	mg/kg-dry		1		SW6010B	02/22/13 18:59 / sld	02/20/13 18:04	ICP2-HE_130222A	66	19557
Nickel	13	mg/kg-dry		1		SW6010B	02/22/13 18:59 / sld	02/20/13 18:04	ICP2-HE_130222A	66	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 16:53 / dck	02/20/13 18:04	ICPMS204-B_130221B	241	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 16:53 / dck	02/20/13 18:04	ICPMS204-B_130221B	241	19557
Zinc	153	mg/kg-dry		1		SW6010B	02/22/13 18:59 / sld	02/20/13 18:04	ICP2-HE_130222A	66	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:26 / sbk	02/20/13 08:00	HGCV201-H_130221B	42	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID L-SMLC-66
Lab ID: H13020220-017
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 10:25
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	40.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	17	R86489
No. 60 Sieve	59.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	17	R86489
PHYSICAL CHARACTERISTICS											
Moisture	36.8	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	17	R86494
3050 EXTRACTABLE METALS											
Arsenic	24	mg/kg-dry		1		SW6020	02/22/13 16:58 / dck	02/20/13 18:04	ICPMS204-B_130221B	242	19557
Barium	1160	mg/kg-dry		1		SW6010B	02/22/13 19:03 / sld	02/20/13 18:04	ICP2-HE_130222A	67	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 16:58 / dck	02/20/13 18:04	ICPMS204-B_130221B	242	19557
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 16:58 / dck	02/20/13 18:04	ICPMS204-B_130221B	242	19557
Chromium	10	mg/kg-dry		1		SW6010B	02/22/13 19:03 / sld	02/20/13 18:04	ICP2-HE_130222A	67	19557
Copper	43	mg/kg-dry		1		SW6010B	02/22/13 19:03 / sld	02/20/13 18:04	ICP2-HE_130222A	67	19557
Lead	77	mg/kg-dry	D	3		SW6010B	02/22/13 19:03 / sld	02/20/13 18:04	ICP2-HE_130222A	67	19557
Manganese	840	mg/kg-dry		1		SW6010B	02/22/13 19:03 / sld	02/20/13 18:04	ICP2-HE_130222A	67	19557
Nickel	9	mg/kg-dry		1		SW6010B	02/22/13 19:03 / sld	02/20/13 18:04	ICP2-HE_130222A	67	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 16:58 / dck	02/20/13 18:04	ICPMS204-B_130221B	242	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 16:58 / dck	02/20/13 18:04	ICPMS204-B_130221B	242	19557
Zinc	95	mg/kg-dry		1		SW6010B	02/22/13 19:03 / sld	02/20/13 18:04	ICP2-HE_130222A	67	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:29 / sbk	02/20/13 08:00	HGCV201-H_130221B	43	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID L-SMLC-67
Lab ID: H13020220-018
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 10:45
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	42.5	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	18	R86489
No. 60 Sieve	57.5	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	18	R86489
PHYSICAL CHARACTERISTICS											
Moisture	31.7	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	18	R86494
3050 EXTRACTABLE METALS											
Arsenic	38	mg/kg-dry	D	2		SW6010B	02/22/13 19:07 / sld	02/20/13 18:04	ICP2-HE_130222A	68	19557
Barium	821	mg/kg-dry		1		SW6010B	02/22/13 19:07 / sld	02/20/13 18:04	ICP2-HE_130222A	68	19557
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 17:22 / dck	02/20/13 18:04	ICPMS204-B_130221B	247	19557
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 17:22 / dck	02/20/13 18:04	ICPMS204-B_130221B	247	19557
Chromium	10	mg/kg-dry		1		SW6010B	02/22/13 19:07 / sld	02/20/13 18:04	ICP2-HE_130222A	68	19557
Copper	55	mg/kg-dry		1		SW6010B	02/22/13 19:07 / sld	02/20/13 18:04	ICP2-HE_130222A	68	19557
Lead	123	mg/kg-dry	D	3		SW6010B	02/22/13 19:07 / sld	02/20/13 18:04	ICP2-HE_130222A	68	19557
Manganese	948	mg/kg-dry		1		SW6010B	02/22/13 19:07 / sld	02/20/13 18:04	ICP2-HE_130222A	68	19557
Nickel	9	mg/kg-dry		1		SW6010B	02/22/13 19:07 / sld	02/20/13 18:04	ICP2-HE_130222A	68	19557
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 17:22 / dck	02/20/13 18:04	ICPMS204-B_130221B	247	19557
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 17:22 / dck	02/20/13 18:04	ICPMS204-B_130221B	247	19557
Zinc	174	mg/kg-dry		1		SW6010B	02/22/13 19:07 / sld	02/20/13 18:04	ICP2-HE_130222A	68	19557
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:31 / sbk	02/20/13 08:00	HGCV201-H_130221B	44	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID L-SMLC-68
Lab ID: H13020220-019
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 10:55
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	26.5	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	19	R86489
No. 60 Sieve	73.5	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	19	R86489
PHYSICAL CHARACTERISTICS											
Moisture	40.6	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	19	R86494
3050 EXTRACTABLE METALS											
Arsenic	106	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Barium	502	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Cadmium	3	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Chromium	13	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Copper	54	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Lead	201	mg/kg-dry	D	3		SW6010B	02/22/13 16:20 / sld	02/20/13 18:05	ICP2-HE_130222A	23	19558
Manganese	2310	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Nickel	11	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Silver	1	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
Zinc	265	mg/kg-dry		1		SW6020	02/22/13 13:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	199	19558
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:33 / sbk	02/20/13 08:00	HGCV201-H_130221B	45	19542

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID O-SMLC-103
Lab ID: H13020220-020
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 08:25
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	37.3	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 20	R86489
No. 60 Sieve	62.7	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 20	R86489
PHYSICAL CHARACTERISTICS											
Moisture	31.0	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	: 20	R86494
3050 EXTRACTABLE METALS											
Arsenic	20	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Barium	187	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Cadmium	ND	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Chromium	14	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Copper	43	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Lead	61	mg/kg-dry	D	3		SW6010B	02/22/13 16:23 / sld	02/20/13 18:05	ICP2-HE_130222A	: 24	19558
Manganese	594	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Nickel	13	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
Zinc	112	mg/kg-dry		1		SW6020	02/22/13 13:53 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 204	19558
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:45 / sbk	02/20/13 08:01	HGCV201-H_130221B	: 50	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID O-SMLC-104
Lab ID: H13020220-021
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 08:10
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	40.2	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	21	R86489
No. 60 Sieve	59.8	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	21	R86489
PHYSICAL CHARACTERISTICS											
Moisture	23.4	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	21	R86494
3050 EXTRACTABLE METALS											
Arsenic	16	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Barium	239	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Cadmium	2	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Chromium	21	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Copper	165	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Lead	491	mg/kg-dry	D	3		SW6010B	02/22/13 16:27 / sld	02/20/13 18:05	ICP2-HE_130222A	25	19558
Manganese	496	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Nickel	17	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
Zinc	742	mg/kg-dry		1		SW6020	02/22/13 13:58 / dck	02/20/13 18:05	ICPMS204-B_130221B	205	19558
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:48 / sbk	02/20/13 08:01	HGCV201-H_130221B	51	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID O-SMLC-105
Lab ID: H13020220-022
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 08:15
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	42.3	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 22	R86489
No. 60 Sieve	57.7	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 22	R86489
PHYSICAL CHARACTERISTICS											
Moisture	21.4	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	: 22	R86494
3050 EXTRACTABLE METALS											
Arsenic	16	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Barium	230	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Cadmium	ND	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Chromium	18	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Copper	61	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Lead	103	mg/kg-dry	D	3		SW6010B	02/22/13 16:38 / sld	02/20/13 18:05	ICP2-HE_130222A	: 28	19558
Manganese	484	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Nickel	14	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
Zinc	312	mg/kg-dry		1		SW6020	02/22/13 14:02 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 206	19558
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:50 / sbk	02/20/13 08:01	HGCV201-H_130221B	: 52	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID O-SMLC-106
Lab ID: H13020220-023
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 08:25
Report Date: 03/01/13
DateReceived: 02/15/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	32.1	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	23	R86489
No. 60 Sieve	67.9	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	23	R86489
PHYSICAL CHARACTERISTICS											
Moisture	31.1	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	23	R86494
3050 EXTRACTABLE METALS											
Arsenic	13	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Barium	298	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Chromium	15	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Copper	78	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Lead	74	mg/kg-dry	D	3		SW6010B	02/22/13 16:42 / sld	02/20/13 18:05	ICP2-HE_130222A	29	19558
Manganese	483	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Nickel	13	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
Zinc	762	mg/kg-dry		1		SW6020	02/22/13 14:07 / dck	02/20/13 18:05	ICPMS204-B_130221B	207	19558
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:53 / sbk	02/20/13 08:01	HGCV201-H_130221B	53	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-251
Lab ID: H13020220-024
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 08:30
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	53.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 24	R86489
No. 60 Sieve	46.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 24	R86489
PHYSICAL CHARACTERISTICS											
Moisture	20.3	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	: 24	R86494
3050 EXTRACTABLE METALS											
Arsenic	43	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Barium	112	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Chromium	23	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Copper	38	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Lead	71	mg/kg-dry	D	3		SW6010B	02/22/13 16:46 / sld	02/20/13 18:05	ICP2-HE_130222A	: 30	19558
Manganese	1340	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Nickel	9	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
Zinc	123	mg/kg-dry		1		SW6020	02/22/13 14:12 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 208	19558
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:55 / sbk	02/20/13 08:01	HGCV201-H_130221B	: 54	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Client Sample ID I-SMLD-10
Collection Date: 02/15/13 14:30 **DateReceived:** 02/15/13
Lab ID: H13020220-025
Report Date: 03/01/13 **Revised Date:** 03/01/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	35.2	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 25	R86489
No. 60 Sieve	64.8	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 25	R86489
PHYSICAL CHARACTERISTICS											
Moisture	27.2	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	: 25	R86494
3050 EXTRACTABLE METALS											
Arsenic	49	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Barium	188	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Chromium	17	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Copper	45	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Lead	143	mg/kg-dry	D	3		SW6010B	02/22/13 16:50 / sld	02/20/13 18:05	ICP2-HE_130222A	: 31	19558
Manganese	1070	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Nickel	13	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
Zinc	642	mg/kg-dry		1		SW6020	02/22/13 14:17 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 209	19558
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 10:57 / sbk	02/20/13 08:01	HGCV201-H_130221B	: 55	19543

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLG-2
Lab ID: H13020220-026
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/15/13 13:50
DateReceived: 02/15/13
Report Date: 03/01/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	29.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 26	R86489
No. 60 Sieve	70.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	: 26	R86489
PHYSICAL CHARACTERISTICS											
Moisture	24.5	wt%		0.2		D2974	02/22/13 12:05 / sbk		MISC SOILS_130221B	: 26	R86494
3050 EXTRACTABLE METALS											
Arsenic	45	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Barium	127	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Beryllium	ND	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Cadmium	1	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Chromium	15	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Copper	38	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Lead	64	mg/kg-dry	D	3		SW6010B	02/22/13 16:53 / sld	02/20/13 18:05	ICP2-HE_130222A	: 32	19558
Manganese	1050	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Nickel	10	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Selenium	ND	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Silver	ND	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
Zinc	136	mg/kg-dry		1		SW6020	02/22/13 14:21 / dck	02/20/13 18:05	ICPMS204-B_130221B	: 210	19558
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:00 / sbk	02/20/13 08:01	HGCV201-H_130221B	: 56	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Client Sample ID I-SMLC-EB-2
Collection Date: 02/15/13 15:40
DateReceived: 02/15/13
Lab ID: H13020220-027
Report Date: 03/01/13
Revised Date: 03/01/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Arsenic	ND	mg/L		0.001		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Barium	ND	mg/L		0.05		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Beryllium	ND	mg/L		0.001		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Cadmium	ND	mg/L		0.001		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Chromium	ND	mg/L		0.005		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Copper	ND	mg/L		0.005		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Lead	ND	mg/L		0.001		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Manganese	ND	mg/L		0.001		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:07 / sbk	02/20/13 17:08	HGCV201-H_130221A	16	19555
Nickel	ND	mg/L		0.005		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Selenium	ND	mg/L		0.001		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Silver	ND	mg/L		0.001		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533
Zinc	ND	mg/L		0.01		E200.8	02/20/13 15:01 / dck	02/19/13 08:58	ICPMS204-B_130220B	29	19533

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Client Sample ID I-SMLW-11
Collection Date: 02/14/13 14:40 **DateReceived:** 02/15/13
Lab ID: H13020220-028
Report Date: 03/01/13 **Revised Date:** 03/01/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Arsenic	0.001	mg/L		0.001		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Barium	ND	mg/L		0.05		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Beryllium	ND	mg/L		0.001		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Cadmium	ND	mg/L		0.001		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Chromium	ND	mg/L		0.005		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Copper	ND	mg/L		0.005		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Lead	ND	mg/L		0.001		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Manganese	ND	mg/L		0.001		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:10 / sbk	02/20/13 17:08	HGCV201-H_130221A : 17		19555
Nickel	ND	mg/L		0.005		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Selenium	0.001	mg/L		0.001		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
Silver	ND	mg/L		0.001		E200.8	02/21/13 14:32 / dck	02/19/13 08:14	ICPMS204-B_130221A : 22		R86477
Zinc	ND	mg/L		0.01		E200.8	02/20/13 15:15 / dck	02/19/13 08:14	ICPMS204-B_130220B : 32		R86447
METALS, TOTAL											
Arsenic	0.001	mg/L		0.001		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Barium	ND	mg/L		0.05		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Beryllium	ND	mg/L		0.001		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Cadmium	ND	mg/L		0.001		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Chromium	ND	mg/L		0.005		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Copper	ND	mg/L		0.005		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Lead	ND	mg/L		0.001		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Manganese	ND	mg/L		0.001		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:12 / sbk	02/20/13 17:08	HGCV201-H_130221A : 18		19555
Nickel	ND	mg/L		0.005		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Selenium	0.001	mg/L		0.001		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Silver	0.001	mg/L		0.001		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533
Zinc	ND	mg/L		0.01		E200.8	02/20/13 15:34 / dck	02/19/13 08:58	ICPMS204-B_130220B : 36		19533

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 130221sa

Run ID :Run Order: **HGCV201-H_130221B: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **SW7471A**

Analysis Date: **02/21/13 08:49** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00100	0.50	0.001		100	90	110				

Associated samples: **H13020220-001B; H13020220-002B; H13020220-003B; H13020220-004B; H13020220-005B; H13020220-006B; H13020220-007B; H13020220-008B; H13020220-009B; H13020220-010B; H13020220-011B; H13020220-012B; H13020220-013B; H13020220-014B; H13020220-015B; H13020220-016B; H13020220-017B; H13020220-018B; H13020220-019B; H13020220-020B; H13020220-021B; H13020220-022B; H13020220-023B; H13020220-024B; H13020220-025B; H13020220-026B**

Run ID :Run Order: **HGCV201-H_130221B: 15** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**

Analysis Date: **02/21/13 09:22** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025		101	90	110				

Associated samples: **H13020220-001B; H13020220-002B; H13020220-003B; H13020220-004B; H13020220-005B; H13020220-006B; H13020220-007B; H13020220-008B; H13020220-009B; H13020220-010B**

Run ID :Run Order: **HGCV201-H_130221B: 32** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**

Analysis Date: **02/21/13 10:02** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025		106	90	110				

Associated samples: **H13020220-011B; H13020220-012B; H13020220-013B; H13020220-014B; H13020220-015B; H13020220-016B; H13020220-017B; H13020220-018B; H13020220-019B**

Run ID :Run Order: **HGCV201-H_130221B: 46** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**

Analysis Date: **02/21/13 10:36** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0027	0.50	0.0025		106	90	110				

Associated samples: **H13020220-020B; H13020220-021B; H13020220-022B; H13020220-023B; H13020220-024B; H13020220-025B; H13020220-026B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 130221wa

Date: *28-Feb-13*

Run ID :Run Order: **HGCV201-H_130221A: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E245.1**

Analysis Date: **02/21/13 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002		102	90	110				

Associated samples: **H13020220-027A; H13020220-028A; H13020220-028B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19533

Run ID :Run Order: **ICPMS204-B_130220B: 20** SampType: **Method Blank** Sample ID: **MB-19533** Method: **E200.8**

Analysis Date: **02/20/13 14:19** Units: **mg/L** **Prep Info:** Prep Date: **2/19/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	2E-05									
Cadmium	ND	2E-05									
Chromium	ND	0.0002									
Copper	ND	0.0002									
Lead	ND	3E-05									
Manganese	ND	0.0001									
Nickel	ND	0.0001									
Selenium	ND	0.0002									
Silver	ND	0.0001									
Zinc	0.001	0.001									

Associated samples: **H13020220-027A; H13020220-028B**

Run ID :Run Order: **ICPMS204-B_130220B: 21** SampType: **Laboratory Control Sample** Sample ID: **LCS-19533** Method: **E200.8**

Analysis Date: **02/20/13 14:24** Units: **mg/L** **Prep Info:** Prep Date: **2/19/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.504	0.0010	0.5		101	85	115				
Barium	0.504	0.050	0.5		101	85	115				
Beryllium	0.257	0.0010	0.25		103	85	115				
Cadmium	0.269	0.0010	0.25		108	85	115				
Chromium	0.498	0.0050	0.5		100	85	115				
Copper	0.495	0.0050	0.5		99	85	115				
Lead	0.486	0.0010	0.5		97	85	115				
Manganese	2.48	0.0010	2.5		99	85	115				
Nickel	0.499	0.0050	0.5		100	85	115				
Selenium	0.514	0.0010	0.5		103	85	115				
Silver	0.0478	0.0010	0.05		96	85	115				
Zinc	0.504	0.010	0.5	0.001182	101	85	115				

Associated samples: **H13020220-027A; H13020220-028B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19533

Run ID :Run Order: **ICPMS204-B_130220B: 25** SampType: **Sample Matrix Spike** Sample ID: **H13020202-023AMS3** Method: **E200.8**

Analysis Date: **02/20/13 14:42** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.500	0.0010	0.5		100	70	130				
Barium	0.514	0.050	0.5		103	70	130				
Beryllium	0.252	0.0010	0.25		101	70	130				
Cadmium	0.270	0.0010	0.25		108	70	130				
Chromium	0.496	0.0050	0.5	0.0002478	99	70	130				
Copper	0.499	0.0050	0.5	0.001428	100	70	130				
Lead	0.482	0.0010	0.5	0.0000601	96	70	130				
Manganese	2.54	0.0010	2.5	0.0002293	102	70	130				
Nickel	0.496	0.0050	0.5	0.0001371	99	70	130				
Selenium	0.500	0.0010	0.5		100	70	130				
Silver	0.0510	0.0010	0.05	0.0004782	101	70	130				
Zinc	0.502	0.010	0.5	0.001052	100	70	130				

Associated samples: **H13020220-027A; H13020220-028B**

Run ID :Run Order: **ICPMS204-B_130220B: 26** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020202-023AMSD3** Method: **E200.8**

Analysis Date: **02/20/13 14:47** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.502	0.0010	0.5		100	70	130	0.5	0.4	20	
Barium	0.512	0.050	0.5		102	70	130	0.5143	0.5	20	
Beryllium	0.251	0.0010	0.25		100	70	130	0.2523	0.5	20	
Cadmium	0.267	0.0010	0.25		107	70	130	0.2695	0.9	20	
Chromium	0.500	0.0050	0.5	0.0002478	100	70	130	0.4957	0.9	20	
Copper	0.502	0.0050	0.5	0.001428	100	70	130	0.4991	0.5	20	
Lead	0.487	0.0010	0.5	0.0000601	97	70	130	0.4821	1.0	20	
Manganese	2.49	0.0010	2.5	0.0002293	100	70	130	2.539	1.9	20	
Nickel	0.502	0.0050	0.5	0.0001371	100	70	130	0.4961	1.2	20	
Selenium	0.500	0.0010	0.5		100	70	130	0.5001	0.1	20	
Silver	0.0547	0.0010	0.05	0.0004782	109	70	130	0.05096	7.1	20	
Zinc	0.501	0.010	0.5	0.001052	100	70	130	0.5022	0.3	20	

Associated samples: **H13020220-027A; H13020220-028B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19542

Run ID :Run Order: **HGCV201-H_130221B: 17** SampType: **Method Blank** Sample ID: **MB-19542** Method: **SW7471A**
Analysis Date: **02/21/13 09:27** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.001	0.0009									

Associated samples: **H13020220-001B; H13020220-002B; H13020220-003B; H13020220-004B; H13020220-005B; H13020220-006B; H13020220-007B; H13020220-008B; H13020220-009B; H13020220-010B; H13020220-011B; H13020220-012B; H13020220-013B; H13020220-014B; H13020220-015B; H13020220-016B; H13020220-017B; H13020220-018B; H13020220-019B**

Run ID :Run Order: **HGCV201-H_130221B: 18** SampType: **Laboratory Control Sample** Sample ID: **LCS-19542** Method: **SW7471A**
Analysis Date: **02/21/13 09:29** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.6	0.50	5.01	0.001133	112	80	120				

Associated samples: **H13020220-001B; H13020220-002B; H13020220-003B; H13020220-004B; H13020220-005B; H13020220-006B; H13020220-007B; H13020220-008B; H13020220-009B; H13020220-010B; H13020220-011B; H13020220-012B; H13020220-013B; H13020220-014B; H13020220-015B; H13020220-016B; H13020220-017B; H13020220-018B; H13020220-019B**

Run ID :Run Order: **HGCV201-H_130221B: 22** SampType: **Sample Matrix Spike** Sample ID: **H13020220-003BMS** Method: **SW7471A**
Analysis Date: **02/21/13 09:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.3	0.50	1.24	0.09733	94	80	120				

Associated samples: **H13020220-001B; H13020220-002B; H13020220-003B; H13020220-004B; H13020220-005B; H13020220-006B; H13020220-007B; H13020220-008B; H13020220-009B; H13020220-010B; H13020220-011B; H13020220-012B; H13020220-013B; H13020220-014B; H13020220-015B; H13020220-016B; H13020220-017B; H13020220-018B; H13020220-019B**

Run ID :Run Order: **HGCV201-H_130221B: 23** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-003BMSD** Method: **SW7471A**
Analysis Date: **02/21/13 09:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.3	0.50	1.242	0.09733	97	80	120	1.263	3.1	20	

Associated samples: **H13020220-001B; H13020220-002B; H13020220-003B; H13020220-004B; H13020220-005B; H13020220-006B; H13020220-007B; H13020220-008B; H13020220-009B; H13020220-010B; H13020220-011B; H13020220-012B; H13020220-013B; H13020220-014B; H13020220-015B; H13020220-016B; H13020220-017B; H13020220-018B; H13020220-019B**

Run ID :Run Order: **HGCV201-H_130221B: 39** SampType: **Sample Matrix Spike** Sample ID: **H13020220-015BMS** Method: **SW7471A**
Analysis Date: **02/21/13 10:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.324	0.04457	101	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19542

Run ID :Run Order: **HGCV201-H_130221B: 39** SampType: **Sample Matrix Spike** Sample ID: **H13020220-015BMS** Method: **SW7471A**

Analysis Date: **02/21/13 10:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020220-001B; H13020220-002B; H13020220-003B; H13020220-004B; H13020220-005B; H13020220-006B; H13020220-007B; H13020220-008B; H13020220-009B; H13020220-010B; H13020220-011B; H13020220-012B; H13020220-013B; H13020220-014B; H13020220-015B; H13020220-016B; H13020220-017B; H13020220-018B; H13020220-019B**

Run ID :Run Order: **HGCV201-H_130221B: 40** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-015BMSD** Method: **SW7471A**

Analysis Date: **02/21/13 10:21** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.328	0.04457	**101**	80	120	1.387	**0.5**	20	

Associated samples: **H13020220-001B; H13020220-002B; H13020220-003B; H13020220-004B; H13020220-005B; H13020220-006B; H13020220-007B; H13020220-008B; H13020220-009B; H13020220-010B; H13020220-011B; H13020220-012B; H13020220-013B; H13020220-014B; H13020220-015B; H13020220-016B; H13020220-017B; H13020220-018B; H13020220-019B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19543

Run ID :Run Order: **HGCV201-H_130221B: 48** SampType: **Method Blank** Sample ID: **MB-19543** Method: **SW7471A**
Analysis Date: **02/21/13 10:41** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0009									

Associated samples: **H13020220-020B; H13020220-021B; H13020220-022B; H13020220-023B; H13020220-024B; H13020220-025B; H13020220-026B**

Run ID :Run Order: **HGCV201-H_130221B: 49** SampType: **Laboratory Control Sample** Sample ID: **LCS-19543** Method: **SW7471A**
Analysis Date: **02/21/13 10:43** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.4	0.50	4.985		88	80	120				

Associated samples: **H13020220-020B; H13020220-021B; H13020220-022B; H13020220-023B; H13020220-024B; H13020220-025B; H13020220-026B**

Run ID :Run Order: **HGCV201-H_130221B: 57** SampType: **Sample Matrix Spike** Sample ID: **H13020220-026BMS** Method: **SW7471A**
Analysis Date: **02/21/13 11:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.307	0.03605	103	80	120				

Associated samples: **H13020220-020B; H13020220-021B; H13020220-022B; H13020220-023B; H13020220-024B; H13020220-025B; H13020220-026B**

Run ID :Run Order: **HGCV201-H_130221B: 58** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-026BMSD** Method: **SW7471A**
Analysis Date: **02/21/13 11:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.308	0.03605	106	80	120	1.377	3.1	20	

Associated samples: **H13020220-020B; H13020220-021B; H13020220-022B; H13020220-023B; H13020220-024B; H13020220-025B; H13020220-026B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19555

Run ID :Run Order: **HGCV201-H_130221A: 4** SampType: **Method Blank** Sample ID: **MB-19555** Method: **E245.1**
Analysis Date: **02/21/13 13:39** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8E-06	6E-06									

Associated samples: **H13020220-027A; H13020220-028A; H13020220-028B**

Run ID :Run Order: **HGCV201-H_130221A: 7** SampType: **Laboratory Control Sample** Sample ID: **LCS-19555** Method: **E245.1**
Analysis Date: **02/21/13 13:46** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0.00000806	94	90	110				

Associated samples: **H13020220-027A; H13020220-028A; H13020220-028B**

Run ID :Run Order: **HGCV201-H_130221A: 12** SampType: **Sample Matrix Spike** Sample ID: **H13020202-023AMS** Method: **E245.1**
Analysis Date: **02/21/13 13:58** Units: **mg/L** **Prep Info:** Prep Date: **2/22/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0.00006571	69	70	130				S

Associated samples: **H13020220-027A; H13020220-028A; H13020220-028B**

Run ID :Run Order: **HGCV201-H_130221A: 13** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020202-023AMSD** Method: **E245.1**
Analysis Date: **02/21/13 14:00** Units: **mg/L** **Prep Info:** Prep Date: **2/22/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002	0.00006571	61	70	130	0.0002041	8.6	30	S

Associated samples: **H13020220-027A; H13020220-028A; H13020220-028B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19557

Run ID :Run Order: **ICP2-HE_130222A: 47** SampType: **Method Blank** Sample ID: **MB-19557** Method: **SW6010B**
Analysis Date: **02/22/13 17:49** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.4									
Barium	0.02	0.02									
Chromium	ND	0.07									
Copper	ND	0.2									
Lead	ND	1									
Manganese	0.06	0.04									
Nickel	ND	0.08									
Zinc	ND	0.1									

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Run ID :Run Order: **ICP2-HE_130222A: 48** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19557** Method: **SW6010B**
Analysis Date: **02/22/13 17:53** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	48.9	1.0	50		98	80	120				
Barium	48.2	1.0	50	0.0215	96	80	120				
Chromium	51.6	1.0	50		103	80	120				
Copper	47.6	1.0	50		95	80	120				
Lead	48.6	1.0	50		97	80	120				
Manganese	240	1.0	250	0.061	96	80	120				
Nickel	50.9	1.0	50		102	80	120				
Zinc	48.7	1.0	50		97	80	120				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Run ID :Run Order: **ICP2-HE_130222A: 49** SampType: **Laboratory Control Sample** Sample ID: **LCS-19557** Method: **SW6010B**
Analysis Date: **02/22/13 17:56** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	284	1.4	329.8		86	72.3	106.4				
Barium	556	1.0	590.4	0.0215	94	80.6	112.2				
Chromium	67.5	1.0	73.08		92	72.8	109.1				
Copper	251	1.0	269.2		93	77.5	109.6				
Lead	176	3.0	179.8		98	75.9	108.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19557

Run ID :Run Order: **ICP2-HE_130222A: 49** SampType: **Laboratory Control Sample** Sample ID: **LCS-19557** Method: **SW6010B**

Analysis Date: **02/22/13 17:56** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	353	1.0	354.8	0.061	99	80.8	115.7				
Nickel	56.6	1.0	58.65		96	72.3	103.4				
Zinc	193	1.0	204.8		94	74.2	109.9				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Run ID :Run Order: **ICP2-HE_130222A: 73** SampType: **Sample Matrix Spike** Sample ID: **H13020220-018CMS** Method: **SW6010B**

Analysis Date: **02/22/13 19:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	85.1	1.5	50	38.17	94	75	125				
Barium	954	1.0	50	820.8		75	125				A
Chromium	59.2	1.0	50	9.721	99	75	125				
Copper	102	1.0	50	55.04	94	75	125				
Lead	169	3.1	50	123.1	93	75	125				
Manganese	1190	1.0	250	947.8	96	75	125				
Nickel	58.3	1.0	50	9.053	99	75	125				
Zinc	228	1.0	50	174.4	107	75	125				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Run ID :Run Order: **ICP2-HE_130222A: 74** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-018CMSD** Method: **SW6010B**

Analysis Date: **02/22/13 19:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	81.8	1.5	50	38.17	87	75	125	85.14	3.9	20	
Barium	935	1.0	50	820.8		75	125	954	2.0	20	A
Chromium	59.3	1.0	50	9.721	99	75	125	59.24	0.0	20	
Copper	100	1.0	50	55.04	91	75	125	102.1	1.6	20	
Lead	184	3.1	50	123.1	122	75	125	169.5	8.4	20	
Manganese	1160	1.0	250	947.8	87	75	125	1188	2.0	20	
Nickel	57.2	1.0	50	9.053	96	75	125	58.34	2.0	20	
Zinc	221	1.0	50	174.4	93	75	125	227.8	3.0	20	

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19557

Run ID :Run Order: **ICPMS204-B_130221B: 218** SampType: **Method Blank** Sample ID: **MB-19557** Method: **SW6020**

Analysis Date: **02/22/13 14:59** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.05	0.01									
Barium	0.1	0.01									
Beryllium	ND	0.005									
Cadmium	0.04	0.007									
Chromium	0.07	0.01									
Copper	0.1	0.03									
Manganese	0.1	0.01									
Selenium	0.02	0.01									
Silver	ND	0.02									
Zinc	0.2	0.04									

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-005C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Run ID :Run Order: **ICPMS204-B_130221B: 219** SampType: **Laboratory Control Sample** Sample ID: **LCS-19557** Method: **SW6020**

Analysis Date: **02/22/13 15:04** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	306	1.0	329.8	0.04661	93	72.3	106.4				
Barium	622	1.0	590.4	0.1134	105	80.6	112.2				
Beryllium	48.6	1.0	49.04		99	76.3	108.6				
Cadmium	128	1.0	131.7	0.04232	97	73	105.1				
Chromium	75.8	1.0	73.08	0.06639	104	72.8	109.1				
Copper	287	1.0	269.2	0.1008	106	77.5	109.6				
Manganese	405	1.0	354.8	0.1073	114	80.8	115.7				
Selenium	192	1.0	188.5	0.01964	102	72.5	112.2				
Silver	70.2	1.0	66.35		106	67.8	112.8				
Zinc	218	1.0	204.8	0.2363	107	74.2	109.9				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-005C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19557

Run ID :Run Order: **ICPMS204-B_130221B: 220** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19557** Method: **SW6020**

Analysis Date: **02/22/13 15:09** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.1	1.0	50	0.04661	100	80	120				
Barium	52.8	1.0	50	0.1134	105	80	120				
Beryllium	25.2	1.0	25		101	80	120				
Cadmium	27.1	1.0	25	0.04232	108	80	120				
Chromium	52.3	1.0	50	0.06639	104	80	120				
Copper	53.4	1.0	50	0.1008	107	80	120				
Manganese	270	1.0	250	0.1073	108	80	120				
Selenium	49.8	1.0	50	0.01964	100	80	120				
Silver	26.4	1.0	25		105	80	120				
Zinc	54.5	1.0	50	0.2363	108	80	120				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-005C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Run ID :Run Order: **ICPMS204-B_130221B: 250** SampType: **Sample Matrix Spike** Sample ID: **H13020220-018CMS** Method: **SW6020**

Analysis Date: **02/22/13 17:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	83.4	1.0	50	35.78	95	75	125				
Barium	1060	1.0	50	871		75	125				A
Beryllium	25.3	1.0	25	0.6876	98	75	125				
Cadmium	26.4	1.0	25	2.117	97	75	125				
Chromium	62.4	1.0	50	10.53	104	75	125				
Copper	113	1.0	50	61.23	103	75	125				
Manganese	1340	1.0	250	1049		75	125				A
Selenium	51.3	1.0	50	0.6725	101	75	125				
Silver	26.2	1.0	25	0.6535	102	75	125				
Zinc	234	1.0	50	180.1	108	75	125				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-005C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19557

Run ID :Run Order: **ICPMS204-B_130221B: 251** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-018CMSD** Method: **SW6020**

Analysis Date: **02/22/13 17:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	83.6	1.0	50	35.78	96	75	125	83.45	0.2	20	
Barium	1030	1.0	50	871		75	125	1059	2.4	20	A
Beryllium	25.6	1.0	25	0.6876	100	75	125	25.26	1.5	20	
Cadmium	27.0	1.0	25	2.117	99	75	125	26.44	1.9	20	
Chromium	62.0	1.0	50	10.53	103	75	125	62.45	0.7	20	
Copper	111	1.0	50	61.23	100	75	125	112.9	1.4	20	
Manganese	1350	1.0	250	1049		75	125	1337	1.0	20	A
Selenium	52.1	1.0	50	0.6725	103	75	125	51.32	1.5	20	
Silver	26.0	1.0	25	0.6535	101	75	125	26.24	1.0	20	
Zinc	232	1.0	50	180.1	103	75	125	233.9	1.0	20	

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-005C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19558

Run ID :Run Order: **ICP2-HE_130222A: 19** SampType: **Method Blank** Sample ID: **MB-19558** Method: **SW6010B**
Analysis Date: **02/22/13 16:05** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1									

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICP2-HE_130222A: 20** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19558** Method: **SW6010B**
Analysis Date: **02/22/13 16:09** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	47.9	1.0	50		96	80	120				

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICP2-HE_130222A: 21** SampType: **Laboratory Control Sample** Sample ID: **LCS-19558** Method: **SW6010B**
Analysis Date: **02/22/13 16:12** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	183	3.1	185.1		99	75.9	108.6				

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICP2-HE_130222A: 35** SampType: **Sample Matrix Spike** Sample ID: **H13020220-026CMS** Method: **SW6010B**
Analysis Date: **02/22/13 17:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	107	3.1	49.5	63.81	88	75	125				

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICP2-HE_130222A: 36** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-026CMSD** Method: **SW6010B**
Analysis Date: **02/22/13 17:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	108	3.1	49.5	63.81	89	75	125	107.4	0.6	20	

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19558

Run ID :Run Order: **ICPMS204-B_130221B: 194** SampType: **Method Blank** Sample ID: **MB-19558** Method: **SW6020**

Analysis Date: **02/22/13 12:53** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5	0.1									
Barium	0.5	0.1									
Beryllium	ND	0.05									
Cadmium	0.5	0.07									
Chromium	0.7	0.1									
Copper	0.7	0.3									
Manganese	0.9	0.1									
Nickel	ND	0.2									
Selenium	0.3	0.1									
Silver	ND	0.2									
Zinc	2	0.4									

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICPMS204-B_130221B: 195** SampType: **Laboratory Control Sample** Sample ID: **LCS-19558** Method: **SW6020**

Analysis Date: **02/22/13 12:58** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	306	1.0	339.6	0.4793	90	72.3	106.4				
Barium	635	1.0	607.9	0.529	104	80.6	112.2				
Beryllium	50.0	1.0	50.5		99	76.3	108.6				
Cadmium	129	1.0	135.6	0.4527	95	73	105.1				
Chromium	75.7	1.0	75.25	0.7187	100	72.8	109.1				
Copper	287	1.0	277.2	0.7303	103	77.5	109.6				
Manganese	407	1.0	365.3	0.9045	111	80.8	115.7				
Nickel	61.2	1.0	60.4		101	72.3	103.4				
Selenium	189	1.0	194.1	0.2867	97	72.5	112.2				
Silver	72.0	1.0	68.32		105	67.8	112.8				
Zinc	221	1.0	210.9	2.123	104	74.2	109.9				

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19558

Run ID :Run Order: **ICPMS204-B_130221B: 196** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19558** Method: **SW6020**

Analysis Date: **02/22/13 13:02** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	48.6	1.0	50	0.4793	96	80	120				
Barium	51.9	1.0	50	0.529	103	80	120				
Beryllium	25.1	1.0	25		100	80	120				
Cadmium	26.6	1.0	25	0.4527	105	80	120				
Chromium	50.8	1.0	50	0.7187	100	80	120				
Copper	51.2	1.0	50	0.7303	101	80	120				
Manganese	263	1.0	250	0.9045	105	80	120				
Nickel	51.5	1.0	50		103	80	120				
Selenium	51.9	1.0	50	0.2867	103	80	120				
Silver	26.2	1.0	25		105	80	120				
Zinc	52.2	1.0	50	2.123	100	80	120				

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICPMS204-B_130221B: 213** SampType: **Sample Matrix Spike** Sample ID: **H13020220-026CMS** Method: **SW6020**

Analysis Date: **02/22/13 14:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	93.6	1.0	49.5	45.5	97	75	125				
Barium	186	1.0	49.5	127.1	119	75	125				
Beryllium	25.3	1.0	24.75	0.5362	100	75	125				
Cadmium	24.8	1.0	24.75	1.021	96	75	125				
Chromium	65.5	1.0	49.5	14.7	103	75	125				
Copper	87.9	1.0	49.5	38.14	100	75	125				
Manganese	1330	1.0	247.5	1054		75	125				A
Nickel	60.7	1.0	49.5	10.48	101	75	125				
Selenium	51.3	1.0	49.5	0.2351	103	75	125				
Silver	28.2	1.0	24.75	0.6532	111	75	125				
Zinc	187	1.0	49.5	135.6	105	75	125				

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19558

Run ID :Run Order: **ICPMS204-B_130221B: 214** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-026CMSD** Method: **SW6020**

Analysis Date: **02/22/13 14:40** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW3050 B**

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	94.3	1.0	49.5	45.5	99	75	125	93.61	0.7	20	
Barium	192	1.0	49.5	127.1	132	75	125	186	3.3	20	S
Beryllium	25.4	1.0	24.75	0.5362	100	75	125	25.28	0.3	20	
Cadmium	25.1	1.0	24.75	1.021	97	75	125	24.77	1.5	20	
Chromium	66.6	1.0	49.5	14.7	105	75	125	65.5	1.7	20	
Copper	87.3	1.0	49.5	38.14	99	75	125	87.85	0.6	20	
Manganese	1290	1.0	247.5	1054		75	125	1326	2.4	20	A
Nickel	61.0	1.0	49.5	10.48	102	75	125	60.69	0.6	20	
Selenium	46.9	1.0	49.5	0.2351	94	75	125	51.26	8.9	20	
Silver	27.5	1.0	24.75	0.6532	108	75	125	28.23	2.7	20	
Zinc	186	1.0	49.5	135.6	103	75	125	187.3	0.5	20	

Associated samples: **H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19573

Run ID :Run Order: **ICP2-HE_130225A: 15** SampType: **Method Blank** Sample ID: **MB-19573** Method: **SW6010B**

Analysis Date: **02/25/13 12:52** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.4									
Barium	0.04	0.02									
Chromium	ND	0.07									
Lead	ND	1									
Manganese	ND	0.04									
Nickel	ND	0.08									
Zinc	0.2	0.1									

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICP2-HE_130225A: 16** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19573** Method: **SW6010B**

Analysis Date: **02/25/13 12:55** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	48.2	1.0	50		96	80	120				
Barium	49.9	1.0	50	0.0375	100	80	120				
Chromium	51.3	1.0	50		103	80	120				
Lead	49.6	1.0	50		99	80	120				
Manganese	244	1.0	250		98	80	120				
Nickel	50.4	1.0	50		101	80	120				
Zinc	48.1	1.0	50	0.236	96	80	120				

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICP2-HE_130225A: 17** SampType: **Laboratory Control Sample** Sample ID: **LCS-19573** Method: **SW6010B**

Analysis Date: **02/25/13 12:59** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	273	1.5	339.6		80	72.3	106.4				
Barium	548	1.0	607.9	0.0375	90	80.6	112.2				
Chromium	69.8	1.0	75.25		93	72.8	109.1				
Lead	170	3.1	185.1		92	75.9	108.6				
Manganese	347	1.0	365.3		95	80.8	115.7				
Nickel	54.0	1.0	60.4		89	72.3	103.4				
Zinc	185	1.0	210.9	0.236	88	74.2	109.9				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19573

Run ID :Run Order: **ICP2-HE_130225A: 17** SampType: **Laboratory Control Sample** Sample ID: **LCS-19573** Method: **SW6010B**

Analysis Date: **02/25/13 12:59** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICP2-HE_130225A: 40** SampType: **Sample Matrix Spike** Sample ID: **H13020221-033CMS** Method: **SW6010B**

Analysis Date: **02/25/13 14:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1390	1.5	49.02	1391		75	125				A
Barium	299	1.0	49.02	248		75	125				A
Chromium	63.0	1.0	49.02	14.84	98	75	125				
Lead	1130	3.0	49.02	1117		75	125				A
Manganese	32500	1.0	245.1	33030		75	125				A
Nickel	56.9	1.0	49.02	10.3	95	75	125				
Zinc	1430	1.0	49.02	1440		75	125				A

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICP2-HE_130225A: 41** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-033CMSD** Method: **SW6010B**

Analysis Date: **02/25/13 14:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1420	1.5	48.54	1391		75	125	1385	2.2	20	A
Barium	305	1.0	48.54	248		75	125	298.8	2.0	20	A
Chromium	63.3	1.0	48.54	14.84	100	75	125	63.04	0.5	20	
Lead	1170	3.0	48.54	1117		75	125	1130	3.2	20	A
Manganese	32300	1.0	242.7	33030		75	125	32520	0.8	20	A
Nickel	56.9	1.0	48.54	10.3	96	75	125	56.9	0.0	20	
Zinc	1470	1.0	48.54	1440		75	125	1428	3.1	20	A

Associated samples: **H13020220-012C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19573

Run ID :Run Order: **ICPMS204-B_130226A: 37** SampType: **Method Blank** Sample ID: **MB-19573** Method: **SW6020**
Analysis Date: **02/26/13 13:34** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.005									
Cadmium	0.05	0.007									
Copper	0.09	0.03									
Selenium	0.01	0.01									
Silver	ND	0.02									

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICPMS204-B_130226A: 38** SampType: **Laboratory Control Sample** Sample ID: **LCS-19573** Method: **SW6020**
Analysis Date: **02/26/13 13:39** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	45.8	1.0	50.5		91	76.3	108.6				
Cadmium	125	1.0	135.6	0.04786	92	73	105.1				
Copper	268	1.0	277.2	0.09049	97	77.5	109.6				
Selenium	191	1.0	194.1	0.01154	98	72.5	112.2				
Silver	66.0	1.0	68.32		97	67.8	112.8				

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICPMS204-B_130226A: 43** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19573** Method: **SW6020**
Analysis Date: **02/26/13 14:04** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	24.1	1.0	25		97	80	120				
Cadmium	27.1	1.0	25	0.04786	108	80	120				
Copper	51.6	1.0	50	0.09049	103	80	120				
Selenium	51.4	1.0	50	0.01154	103	80	120				
Silver	25.4	1.0	25		102	80	120				

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICPMS204-B_130226A: 50** SampType: **Sample Matrix Spike** Sample ID: **H13020221-033CMS** Method: **SW6020**
Analysis Date: **02/26/13 14:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	24.2	1.0	24.51	0.7083	96	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19573

Run ID :Run Order: **ICPMS204-B_130226A: 50** SampType: **Sample Matrix Spike** Sample ID: **H13020221-033CMS** Method: **SW6020**

Analysis Date: **02/26/13 14:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	30.6	1.0	24.51	7.053	96	75	125				
Copper	212	1.0	49.02	181.2	63	75	125				S
Selenium	51.3	1.0	49.02	0.2647	104	75	125				
Silver	40.7	1.0	24.51	14.73	106	75	125				

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICPMS204-B_130226A: 51** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-033CMSD** Method: **SW6020**

Analysis Date: **02/26/13 14:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	24.4	1.0	24.27	0.7083	97	75	125	24.17	0.8	20	
Cadmium	31.4	1.0	24.27	7.053	100	75	125	30.65	2.5	20	
Copper	208	1.0	48.54	181.2	55	75	125	212.2	2.0	20	S
Selenium	49.3	1.0	48.54	0.2647	101	75	125	51.34	4.0	20	
Silver	39.9	1.0	24.27	14.73	104	75	125	40.68	2.0	20	

Associated samples: **H13020220-012C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86447

Run ID :Run Order: **ICPMS204-B_130220B: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **02/20/13 13:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0595	0.0050	0.06		99	90	110				
Barium	0.0574	0.10	0.06		96	90	110				
Beryllium	0.0298	0.0010	0.03		99	90	110				
Cadmium	0.0306	0.0010	0.03		102	90	110				
Chromium	0.0589	0.010	0.06		98	90	110				
Copper	0.0614	0.010	0.06		102	90	110				
Lead	0.0588	0.010	0.06		98	90	110				
Manganese	0.297	0.010	0.3		99	90	110				
Nickel	0.0618	0.010	0.06		103	90	110				
Selenium	0.0611	0.0050	0.06		102	90	110				
Silver	0.0299	0.0050	0.03		100	90	110				
Zinc	0.0620	0.010	0.06		103	90	110				

Associated samples: **H13020220-027A; H13020220-028A; H13020220-028B**

Run ID :Run Order: **ICPMS204-B_130220B: 9** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/20/13 13:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000510	0.0050									
Barium	9.90E-05	0.10									
Beryllium	7.00E-06	0.0010									
Cadmium	0.000982	0.0010									
Chromium	0.00134	0.010									
Copper	0.000704	0.010									
Lead	0.000188	0.010									
Manganese	0.000547	0.010									
Nickel	0.000696	0.010									
Selenium	0.000873	0.0050									
Silver	0.000117	0.0050									
Zinc	0.00136	0.010									

Associated samples: **H13020220-027A; H13020220-028A; H13020220-028B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86447

Run ID :Run Order: **ICPMS204-B_130220B: 10** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/20/13 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0114	0.0050	0.01		114	70	130				
Barium	0.000119	0.10				0	0				
Beryllium	7.00E-06	0.0010				0	0				
Cadmium	0.0112	0.0010	0.01		112	70	130				
Chromium	0.0222	0.010	0.02		111	70	130				
Copper	0.0210	0.010	0.02		105	70	130				
Lead	0.000206	0.010				0	0				
Manganese	0.0220	0.010	0.02		110	70	130				
Nickel	0.0215	0.010	0.02		108	70	130				
Selenium	0.0111	0.0050	0.01		111	70	130				
Silver	0.0148	0.0050	0.02		74	70	130				
Zinc	0.0121	0.010	0.01		121	70	130				

Associated samples: **H13020220-027A; H13020220-028A; H13020220-028B**

Run ID :Run Order: **ICPMS204-B_130220B: 16** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**

Analysis Date: **02/20/13 14:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Barium	8E-05	5E-05									
Beryllium	ND	2E-05									
Cadmium	9E-06	7E-06									
Chromium	5E-05	4E-05									
Copper	3E-05	3E-05									
Lead	1E-05	6E-06									
Manganese	ND	8E-05									
Nickel	ND	6E-05									
Selenium	ND	5E-05									
Zinc	0.0009	0.0003									

Associated samples: **H13020220-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86447

Run ID :Run Order: **ICPMS204-B_130220B: 17** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**

Analysis Date: **02/20/13 14:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0474	0.0050	0.05		95	85	115				
Barium	0.0476	0.10	0.05	0.0000753	95	85	115				
Beryllium	0.0482	0.0010	0.05		96	85	115				
Cadmium	0.0500	0.0010	0.05	0.0000088	100	85	115				
Chromium	0.0479	0.010	0.05	0.0000515	96	85	115				
Copper	0.0486	0.010	0.05	0.000027	97	85	115				
Lead	0.0476	0.010	0.05	0.0000136	95	85	115				
Manganese	0.0492	0.010	0.05		98	85	115				
Nickel	0.0487	0.010	0.05		97	85	115				
Selenium	0.0474	0.0050	0.05		95	85	115				
Zinc	0.0490	0.010	0.05	0.0009171	96	85	115				

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130220B: 33** SampType: **Sample Matrix Spike** Sample ID: **H13020220-028AMS** Method: **E200.8**

Analysis Date: **02/20/13 15:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0519	0.0010	0.05	0.001334	101	70	130				
Barium	0.0938	0.050	0.05	0.0469	94	70	130				
Beryllium	0.0480	0.0010	0.05		96	70	130				
Cadmium	0.0487	0.0010	0.05		97	70	130				
Chromium	0.0494	0.0050	0.05	0.0001496	99	70	130				
Copper	0.0497	0.0050	0.05	0.0004671	98	70	130				
Lead	0.0492	0.0010	0.05	0.0000812	98	70	130				
Manganese	0.0489	0.0010	0.05	0.0002292	97	70	130				
Nickel	0.0486	0.0050	0.05	0.0002238	97	70	130				
Selenium	0.0520	0.0010	0.05	0.001139	102	70	130				
Zinc	0.0508	0.010	0.05	0.002497	97	70	130				

Associated samples: **H13020220-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86447

Run ID :Run Order: **ICPMS204-B_130220B: 34** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-028AMSD** Method: **E200.8**

Analysis Date: **02/20/13 15:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0510	0.0010	0.05	0.001334	99	70	130	0.05191	1.7	20	
Barium	0.0957	0.050	0.05	0.0469	98	70	130	0.09378	2.0	20	
Beryllium	0.0484	0.0010	0.05		97	70	130	0.04797	0.8	20	
Cadmium	0.0501	0.0010	0.05		100	70	130	0.04872	2.9	20	
Chromium	0.0488	0.0050	0.05	0.0001496	97	70	130	0.04941	1.3	20	
Copper	0.0489	0.0050	0.05	0.0004671	97	70	130	0.0497	1.5	20	
Lead	0.0504	0.0010	0.05	0.0000812	101	70	130	0.0492	2.5	20	
Manganese	0.0504	0.0010	0.05	0.0002292	100	70	130	0.04887	3.1	20	
Nickel	0.0487	0.0050	0.05	0.0002238	97	70	130	0.04865	0.0	20	
Selenium	0.0526	0.0010	0.05	0.001139	103	70	130	0.05205	1.0	20	
Zinc	0.0508	0.010	0.05	0.002497	97	70	130	0.05077	0.1	20	

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130220B: 88** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**

Analysis Date: **02/20/13 19:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0505	0.0050	0.05		101	85	115				
Barium	0.0474	0.10	0.05	0.0000753	95	85	115				
Beryllium	0.0467	0.0010	0.05		93	85	115				
Cadmium	0.0489	0.0010	0.05	0.0000088	98	85	115				
Chromium	0.0495	0.010	0.05	0.0000515	99	85	115				
Copper	0.0508	0.010	0.05	0.000027	102	85	115				
Lead	0.0478	0.010	0.05	0.0000136	96	85	115				
Manganese	0.0472	0.010	0.05		94	85	115				
Nickel	0.0510	0.010	0.05		102	85	115				
Selenium	0.0518	0.0050	0.05		104	85	115				
Zinc	0.0515	0.010	0.05	0.0009171	101	85	115				

Associated samples: **H13020220-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **02/21/13 13:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0296	0.0050	0.03		99	90	110				

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **02/21/13 13:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.000114	0.0050									

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **02/21/13 13:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0206	0.0050	0.02		103	70	130				

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 17** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**
Analysis Date: **02/21/13 14:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	4E-05									

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 18** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **02/21/13 14:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0196	0.0050	0.02		98	85	115				

Associated samples: **H13020220-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 23** SampType: **Sample Matrix Spike** Sample ID: **H13020220-028AMS** Method: **E200.8**
Analysis Date: **02/21/13 14:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0187	0.0010	0.02		94	70	130				

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 24** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-028AMSD** Method: **E200.8**
Analysis Date: **02/21/13 14:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0190	0.0010	0.02		95	70	130	0.01873	1.5	20	

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 82** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **02/21/13 19:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0292	0.0050	0.03		97	90	110				

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 83** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **02/21/13 19:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.000185	0.0050									

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 84** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **02/21/13 19:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0206	0.0050	0.02		103	70	130				

Associated samples: **H13020220-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 93** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **02/22/13 08:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.000191	0.0050									

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 94** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **02/22/13 08:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0207	0.0050	0.02		104	70	130				

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 122** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **02/22/13 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0296	0.0050	0.03		99	90	110				

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 123** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **02/22/13 11:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.000131	0.0050									

Associated samples: **H13020220-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 124** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **02/22/13 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0196	0.0050	0.02		98	70	130				

Associated samples: **H13020220-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86481

Run ID :Run Order: **ICPMS204-B_130221B: 317** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/22/13 22:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000431	0.0050									
Barium	0.000121	0.10									
Beryllium	9.00E-06	0.0010									
Cadmium	0.00100	0.0010									
Chromium	0.00101	0.010									
Copper	0.000639	0.010									
Lead	0.000174	0.010									
Manganese	0.000423	0.010									
Nickel	0.000644	0.010									
Selenium	0.000819	0.0050									
Silver	0.000136	0.0050									
Zinc	0.00140	0.010									

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-005C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C; H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICPMS204-B_130221B: 318** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/22/13 23:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0101	0.0050	0.01		101	70	130				
Barium	0.000108	0.10				0	0				
Beryllium	5.00E-06	0.0010				0	0				
Cadmium	0.0102	0.0010	0.01		102	70	130				
Chromium	0.0205	0.010	0.02		103	70	130				
Copper	0.0192	0.010	0.02		96	70	130				
Lead	0.000181	0.010				0	0				
Manganese	0.0210	0.010	0.02		105	70	130				
Nickel	0.0197	0.010	0.02		98	70	130				
Selenium	0.00998	0.0050	0.01		100	70	130				
Silver	0.0195	0.0050	0.02		98	70	130				
Zinc	0.0106	0.010	0.01		106	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R86481

Date: *28-Feb-13*

Run ID :Run Order: **ICPMS204-B_130221B: 318** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/22/13 23:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-005C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C; H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86481

Run ID :Run Order: **ICPMS204-B_130221B: 8** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **02/21/13 19:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0590	0.0010	0.06		98	90	110				
Barium	0.0591	0.0010	0.06		99	90	110				
Beryllium	0.0307	0.0010	0.03		102	90	110				
Cadmium	0.0306	0.0010	0.03		102	90	110				
Chromium	0.0587	0.0010	0.06		98	90	110				
Copper	0.0606	0.0010	0.06		101	90	110				
Lead	0.0595	0.0010	0.06		99	90	110				
Manganese	0.301	0.0010	0.3		100	90	110				
Nickel	0.0604	0.0010	0.06		101	90	110				
Selenium	0.0616	0.0010	0.06		103	90	110				
Silver	0.0292	0.0010	0.03		97	90	110				
Zinc	0.0621	0.0010	0.06		104	90	110				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-005C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C; H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICPMS204-B_130221B: 178** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **02/22/13 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0580	0.0010	0.06		97	90	110				
Barium	0.0599	0.0010	0.06		100	90	110				
Beryllium	0.0307	0.0010	0.03		102	90	110				
Cadmium	0.0310	0.0010	0.03		103	90	110				
Chromium	0.0576	0.0010	0.06		96	90	110				
Copper	0.0598	0.0010	0.06		100	90	110				
Lead	0.0595	0.0010	0.06		99	90	110				
Manganese	0.297	0.0010	0.3		99	90	110				
Nickel	0.0589	0.0010	0.06		98	90	110				
Selenium	0.0582	0.0010	0.06		97	90	110				
Silver	0.0296	0.0010	0.03		99	90	110				
Zinc	0.0613	0.0010	0.06		102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R86481

Date: *28-Feb-13*

Run ID :Run Order: **ICPMS204-B_130221B: 178** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **02/22/13 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-005C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C; H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R86483

Date: *28-Feb-13*

Run ID :Run Order: **HGCV201-H_130221A: 2** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **E245.1**

Analysis Date: **02/21/13 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002		99	95	105				

Associated samples: **H13020220-027A; H13020220-028A; H13020220-028B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R86494

Date: *28-Feb-13*

Run ID :Run Order: **MISC SOILS_130221B: 27** SampType: **Sample Duplicate** Sample ID: **H13020220-026BDUP** Method: **D2974**

Analysis Date: **02/22/13 12:05** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	23.7	0.20						24.47			

Associated samples: **H13020220-001B; H13020220-002B; H13020220-003B; H13020220-004B; H13020220-005B; H13020220-006B; H13020220-007B; H13020220-008B; H13020220-009B; H13020220-010B; H13020220-011B; H13020220-012B; H13020220-013B; H13020220-014B; H13020220-015B; H13020220-016B; H13020220-017B; H13020220-018B; H13020220-019B; H13020220-020B; H13020220-021B; H13020220-022B; H13020220-023B; H13020220-024B; H13020220-025B; H13020220-026B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86522

Run ID :Run Order: **ICP2-HE_130222A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**

Analysis Date: **02/22/13 13:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.759	0.0092	0.8		95	90	110				
Barium	0.794	0.10	0.8		99	90	110				
Chromium	0.779	0.010	0.8		97	90	110				
Copper	0.780	0.010	0.8		97	90	110				
Lead	0.750	0.013	0.8		94	90	110				
Manganese	3.83	0.010	4		96	90	110				
Nickel	0.765	0.010	0.8		96	90	110				
Zinc	0.763	0.010	0.8		95	90	110				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C; H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICP2-HE_130222A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**

Analysis Date: **02/22/13 13:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	-0.0140	0.0092				0	0				
Barium	0.000270	0.10				0	0				
Chromium	-0.00444	0.010				0	0				
Copper	-0.00139	0.010				0	0				
Lead	0.0311	0.013				0	0				
Manganese	-0.00923	0.010				0	0				
Nickel	0.00826	0.010				0	0				
Zinc	0.0126	0.010				0	0				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C; H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Run ID :Run Order: **ICP2-HE_130222A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/22/13 13:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.01	0.0092	1		101	80	120				
Barium	0.499	0.10	0.5		100	80	120				
Chromium	0.445	0.010	0.5		89	80	120				
Copper	0.496	0.010	0.5		99	80	120				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86522

Run ID :Run Order: **ICP2-HE_130222A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/22/13 13:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.881	0.013	1		88	80	120				
Manganese	0.444	0.010	0.5		89	80	120				
Nickel	0.867	0.010	1		87	80	120				
Zinc	0.931	0.010	1		93	80	120				

Associated samples: **H13020220-001C; H13020220-002C; H13020220-003C; H13020220-004C; H13020220-006C; H13020220-007C; H13020220-008C; H13020220-009C; H13020220-010C; H13020220-011C; H13020220-013C; H13020220-014C; H13020220-015C; H13020220-016C; H13020220-017C; H13020220-018C; H13020220-019C; H13020220-020C; H13020220-021C; H13020220-022C; H13020220-023C; H13020220-024C; H13020220-025C; H13020220-026C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86542

Run ID :Run Order: **ICP2-HE_130225A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**

Analysis Date: **02/25/13 12:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.779	0.0092	0.8		97	90	110				
Barium	0.806	0.10	0.8		101	90	110				
Chromium	0.812	0.010	0.8		101	90	110				
Lead	0.740	0.013	0.8		93	90	110				
Manganese	3.88	0.010	4		97	90	110				
Nickel	0.802	0.010	0.8		100	90	110				
Zinc	0.768	0.010	0.8		96	90	110				

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICP2-HE_130225A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**

Analysis Date: **02/25/13 12:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	-0.00652	0.0092				0	0				
Barium	0.000420	0.10				0	0				
Chromium	-0.00532	0.010				0	0				
Lead	0.0434	0.013				0	0				
Manganese	-0.00861	0.010				0	0				
Nickel	0.00911	0.010				0	0				
Zinc	0.0122	0.010				0	0				

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICP2-HE_130225A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/25/13 12:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.02	0.0092	1		102	80	120				
Barium	0.494	0.10	0.5		99	80	120				
Chromium	0.472	0.010	0.5		94	80	120				
Lead	0.945	0.013	1		95	80	120				
Manganese	0.454	0.010	0.5		91	80	120				
Nickel	0.934	0.010	1		93	80	120				
Zinc	0.955	0.010	1		95	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R86542

Date: *28-Feb-13*

Run ID :Run Order: **ICP2-HE_130225A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/25/13 12:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020220-012C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020220
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86567

Run ID :Run Order: **ICPMS204-B_130226A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **02/26/13 10:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0295	0.0010	0.03		98	90	110				
Cadmium	0.0314	0.0010	0.03		105	90	110				
Copper	0.0614	0.0010	0.06		102	90	110				
Selenium	0.0610	0.0010	0.06		102	90	110				
Silver	0.0288	0.0010	0.03		96	90	110				

Associated samples: **H13020220-012C**

Run ID :Run Order: **ICPMS204-B_130226A: 133** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **02/26/13 21:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0296	0.0010	0.03		99	90	110				
Cadmium	0.0305	0.0010	0.03		102	90	110				
Copper	0.0597	0.0010	0.06		100	90	110				
Selenium	0.0580	0.0010	0.06		97	90	110				
Silver	0.0297	0.0010	0.03		99	90	110				

Associated samples: **H13020220-012C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

PREP BATCH REPORT

Technician: **Dustin C. Kono**

Prep Batch **19533** Prep Code: **PRP-200.2** Batch Units: **ML**

Prep Start Date: **2/19/2013 8:57:47 AM**

Prep End Date: **2/20/2013 9:40:00 AM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19533			50	0	0	50	1		2/19/2013	2/20/2013
LCS-19533			50	0	0	50	1		2/19/2013	2/20/2013
H13020202-023A	Aqueous		50	0	0	50	1		2/19/2013	2/20/2013
H13020203-001B	Aqueous		50	0	0	50	1		2/19/2013	2/20/2013
H13020204-001C sediment	Groundwater		5	0	0	50	10		2/19/2013	2/20/2013
H13020204-002C sulfide smell	Groundwater		5	0	0	50	10		2/19/2013	2/20/2013
H13020220-027A	Aqueous		50	0	0	50	1		2/19/2013	2/20/2013
H13020220-028B	Aqueous		50	0	0	50	1		2/19/2013	2/20/2013
H13020202-023AMS3	Aqueous		50	0	0	50	1		2/20/2013	2/20/2013
H13020202-023AMSD3	Aqueous		50	0	0	50	1		2/20/2013	2/20/2013

Number	Reagent Name
3070	50mL Digestion Vessel with Screw Cap
3175	Disposable Watch Glass

Spk ID	Spike Name	SampType	AmtAdd
1:1 HCl-121112	1:1 HCl-121112	All	.5ml
1:1 HNO3-12121	HNO3-121218	All	1ml
200.2SPK 13013	AUDIGSPK	LCS, MS3, MS	.25ml
EL-200.2MS 6/13	EL-200.2MS	LCS, MS3, MS	.25ml
EL-MSICV-2-120	EL-MSICV-2-120424	LCS, MS3, MS	.25ml
SulfurSpk-13011	100 ppm Sulfur	LCS, MS3, MS	.25mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19542** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/20/2013 7:59:56 AM**

Prep End Date: **2/22/2013 2:44:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19542			1	0	0	100	100	LecoBalance	2/20/2013	2/20/2013
LCS-19542			0.998	0	0	100	100.2004008	LecoBalance	2/20/2013	2/20/2013
H13020220-001B	Soil		1.02	0	0	100	98.03921569	LecoBalance	2/20/2013	2/20/2013
H13020220-002B	Soil		0.998	0	0	100	100.2004008	LecoBalance	2/20/2013	2/20/2013
H13020220-003B	Soil		1.004	0	0	100	99.60159363	LecoBalance	2/20/2013	2/20/2013
H13020220-004B	Soil		0.996	0	0	100	100.4016064	LecoBalance	2/20/2013	2/20/2013
H13020220-005B	Soil		1.011	0	0	100	98.91196835	LecoBalance	2/20/2013	2/20/2013
H13020220-006B	Soil		1.009	0	0	100	99.10802775	LecoBalance	2/20/2013	2/20/2013
H13020220-007B	Soil		1.011	0	0	100	98.91196835	LecoBalance	2/20/2013	2/20/2013
H13020220-008B	Soil		1.02	0	0	100	98.03921569	LecoBalance	2/20/2013	2/20/2013
H13020220-009B	Soil		1.003	0	0	100	99.70089731	LecoBalance	2/20/2013	2/20/2013
H13020220-010B	Soil		1.01	0	0	100	99.00990099	LecoBalance	2/20/2013	2/20/2013
H13020220-011B	Soil		0.996	0	0	100	100.4016064	LecoBalance	2/20/2013	2/20/2013
H13020220-012B	Soil		1.004	0	0	100	99.60159363	LecoBalance	2/20/2013	2/20/2013
H13020220-013B	Soil		1.013	0	0	100	98.71668312	LecoBalance	2/20/2013	2/20/2013
H13020220-014B	Soil		1.019	0	0	100	98.13542689	LecoBalance	2/20/2013	2/20/2013
H13020220-015B	Soil		1.005	0	0	100	99.50248756	LecoBalance	2/20/2013	2/20/2013
H13020220-016B	Soil		1.005	0	0	100	99.50248756	LecoBalance	2/20/2013	2/20/2013
H13020220-017B	Soil		1.019	0	0	100	98.13542689	LecoBalance	2/20/2013	2/20/2013
H13020220-018B	Soil		1.017	0	0	100	98.32841691	LecoBalance	2/20/2013	2/20/2013
H13020220-019B	Soil		1.023	0	0	100	97.75171065	LecoBalance	2/20/2013	2/20/2013
H13020220-003BMS	Soil		1.008	0	0	100	99.20634921	LecoBalance	2/20/2013	2/20/2013
H13020220-003BMSD	Soil		1.006	0	0	100	99.40357853	LecoBalance	2/20/2013	2/20/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19542** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/20/2013 7:59:56 AM**
Prep End Date: **2/22/2013 2:44:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
H13020220-015BMS	Soil		1.008	0	0	100	99.20634921	LecoBalance	2/20/2013	2/20/2013
H13020220-015BMSD	Soil		1.005	0	0	100	99.50248756	LecoBalance	2/20/2013	2/20/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19543** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/20/2013 8:01:14 AM**

Prep End Date: **2/20/2013 11:22:00 A**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19543			1	0	0	100	100	LecoBalance	2/20/2013	2/20/2013
LCS-19543			1.003	0	0	100	99.70089731	LecoBalance	2/20/2013	2/20/2013
H13020220-020B	Soil		1.002	0	0	100	99.8003992	LecoBalance	2/20/2013	2/20/2013
H13020220-021B	Soil		1.003	0	0	100	99.70089731	LecoBalance	2/20/2013	2/20/2013
H13020220-022B	Soil		0.996	0	0	100	100.4016064	LecoBalance	2/20/2013	2/20/2013
H13020220-023B	Soil		1.012	0	0	100	98.81422925	LecoBalance	2/20/2013	2/20/2013
H13020220-024B	Soil		1.018	0	0	100	98.23182711	LecoBalance	2/20/2013	2/20/2013
H13020220-025B	Soil		1.011	0	0	100	98.91196835	LecoBalance	2/20/2013	2/20/2013
H13020220-026B	Soil		1.013	0	0	100	98.71668312	LecoBalance	2/20/2013	2/20/2013
H13020221-001B	Soil		0.995	0	0	100	100.5025126	LecoBalance	2/20/2013	2/20/2013
H13020221-002B	Soil		0.998	0	0	100	100.2004008	LecoBalance	2/20/2013	2/20/2013
H13020221-003B	Soil		1.003	0	0	100	99.70089731	LecoBalance	2/20/2013	2/20/2013
H13020221-004B	Soil		0.997	0	0	100	100.3009027	LecoBalance	2/20/2013	2/20/2013
H13020221-005B	Soil		1.017	0	0	100	98.32841691	LecoBalance	2/20/2013	2/20/2013
H13020221-006B	Soil		1.025	0	0	100	97.56097561	LecoBalance	2/20/2013	2/20/2013
H13020221-007B	Soil		1.017	0	0	100	98.32841691	LecoBalance	2/20/2013	2/20/2013
H13020221-008B	Soil		1.002	0	0	100	99.8003992	LecoBalance	2/20/2013	2/20/2013
H13020221-009B	Soil		1.014	0	0	100	98.61932939	LecoBalance	2/20/2013	2/20/2013
H13020221-010B	Soil		1.013	0	0	100	98.71668312	LecoBalance	2/20/2013	2/20/2013
H13020221-011B	Soil		1.004	0	0	100	99.60159363	LecoBalance	2/20/2013	2/20/2013
H13020221-012B	Soil		0.999	0	0	100	100.1001001	LecoBalance	2/20/2013	2/20/2013
H13020220-026BMS	Soil		1.013	0	0	100	98.71668312	LecoBalance	2/20/2013	2/20/2013
H13020220-026BMSD	Soil		1.012	0	0	100	98.81422925	LecoBalance	2/20/2013	2/20/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19543** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/20/2013 8:01:14 AM**
Prep End Date: **2/20/2013 11:22:00 A**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
H13020221-009BMS	Soil		1.016	0	0	100	98.42519685	LecoBalance	2/20/2013	2/20/2013
H13020221-009BMSD	Soil		1.014	0	0	100	98.61932939	LecoBalance	2/20/2013	2/20/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Start Date: **2/20/2013 5:07:51 PM**

Prep Batch **19555** Prep Code: **PRP-HG-245.1** Batch Units: **ML**

Prep End Date: **2/22/2013 2:43:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19555			10	0	0	10	1		2/20/2013	2/21/2013
LCS-19555			10	0	0	10	1		2/20/2013	2/21/2013
H13020196-003C	Drinking Water		10	0	0	10	1		2/20/2013	2/21/2013
H13020200-001A	Drinking Water		10	0	0	10	1		2/20/2013	2/21/2013
H13020200-002A	Drinking Water		10	0	0	10	1		2/20/2013	2/21/2013
H13020202-023A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020204-001C	Groundwater		10	0	0	10	1		2/20/2013	2/21/2013
Large amount of sediment in sample.										
H13020204-002C	Groundwater		10	0	0	10	1		2/20/2013	2/21/2013
Strong sulfur odor to sample.										
H13020220-027A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020220-028A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020220-028B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-034A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-034B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-035A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-035B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-036A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-036B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-037A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-038A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020243-025A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020243-025B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020243-026A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013

Number	Reagent Name
2908	Sulfuric Acid (Concentrated)
2942	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-K2S2O8-11/2	Mercury Potassium Persulfate	ALL	8 mL
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	1.5 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	.6 mL
HgWorkSS-.02 p	SS .02 ppm Mercury from stock	LCS	.1 mL
HgWork-.02 ppm	.02 ppm Mercury from stock	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19555** Prep Code: **PRP-HG-245.1** Batch Units: **ML**

Prep Start Date: **2/20/2013 5:07:51 PM**

Prep End Date: **2/22/2013 2:43:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
H13020202-023AMS	Aqueous		10	0	0	10	1		2/22/2013	2/21/2013
H13020202-023AMSD	Aqueous		10	0	0	10	1		2/22/2013	2/21/2013
H13020221-038AMS	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-038AMSD	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
MB-19531			10	0	0	10	1		2/20/2013	2/21/2013
MB-19545			10	0	0	10	1		2/20/2013	2/21/2013

Number	Reagent Name
2908	Sulfuric Acid (Concentrated)
2942	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-K2S2O8-11/2	Mercury Potassium Persulfate	ALL	8 mL
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	1.5 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	.6 mL
HgWorkSS-.02 p	SS .02 ppm Mercury from stock	LCS	.1 mL
HgWork-.02 ppm	.02 ppm Mercury from stock	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Stephanie Dull**

Prep Batch **19557** Prep Code: **PRP-3050** Batch Units: **G**

Prep Start Date: **2/20/2013 6:03:40 PM**

Prep End Date: **2/21/2013 5:09:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19557			1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
LCS-19557			1.04	0	0	50	48.07692308	East Lab Extractio	2/20/2013	2/21/2013
LFB-19557			1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-001C	Soil		1.05	0	0	50	47.61904762	East Lab Extractio	2/20/2013	2/21/2013
H13020220-002C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020220-003C	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-004C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020220-005C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020220-006C	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-007C	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-008C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/20/2013	2/21/2013
H13020220-009C	Soil		1.04	0	0	50	48.07692308	East Lab Extractio	2/20/2013	2/21/2013
H13020220-010C	Soil		1.03	0	0	50	48.54368932	East Lab Extractio	2/20/2013	2/21/2013
H13020220-011C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/20/2013	2/21/2013
H13020220-013C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020220-014C	Soil		1.04	0	0	50	48.07692308	East Lab Extractio	2/20/2013	2/21/2013
H13020220-015C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020220-016C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020220-017C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020220-018C	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-018CMS	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-018CMSD	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013

Number	Reagent Name
2581	Custom Metals in Soil - ERA
2694	EL-MSICV-2
3025	1000 ppm Sulfur (0.05 mL for LFB, MS/MSD)
3072	Hydrochloric Acid, 36.5-38.0%
3073	Hydrogen Peroxide, 30%
3082	Nitric Acid, 69.0-70.0%
3097	EL-MSICV-1A
3159	3 oz. EDM 3050 Vial
3175	Disposable Watch Glass

Spk ID	Spike Name	SampType	AmtAdd
200.2SPK 13013	AUDIGSPK	LFB, MS3, MSD	0.50ml
1:1 HNO3-13020	HNO3-130207-3050	Reagent	10 mL

PREP BATCH REPORT

Technician: **Stephanie Dull**

Prep Batch **19558** Prep Code: **PRP-3050** Batch Units: **G**

Prep Start Date: **2/20/2013 6:04:28 PM**

Prep End Date: **2/21/2013 5:09:11 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19558			1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
LCS-19558			1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
LFB-19558			1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-019C	Soil		1.04	0	0	50	48.07692308	East Lab Extractio	2/20/2013	2/21/2013
H13020220-020C	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-021C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020220-022C	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-023C	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-024C	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-025C	Soil		1	0	0	50	50	East Lab Extractio	2/20/2013	2/21/2013
H13020220-026C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/20/2013	2/21/2013
H13020220-026CMS	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020220-026CMSD	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020202-001C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/20/2013	2/21/2013
H13020241-001A	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/20/2013	2/21/2013

Number	Reagent Name
2581	Custom Metals in Soil - ERA
2694	EL-MSICV-2
3025	1000 ppm Sulfur (0.05 mL for LFB, MS/MSD)
3072	Hydrochloric Acid, 36.5-38.0%
3073	Hydrogen Peroxide, 30%
3082	Nitric Acid, 69.0-70.0%
3097	EL-MSICV-1A
3159	3 oz. EDM 3050 Vial
3175	Disposable Watch Glass

Spk ID	Spike Name	SampType	AmtAdd
200.2SPK 13013	AUDIGSPK	LFB, MS3, MSD	0.50ml
1:1 HNO3-13020	HNO3-130207-3050	Reagent	10 mL

PREP BATCH REPORT

Prep Batch **19573** Prep Code: **PRP-3050** Technician: **Stephanie Dull** Batch Units: **G** Prep Start Date: **2/21/2013 5:10:40 PM** Prep End Date: **2/22/2013 4:00:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19573			1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
LCS-19573			1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
LFB-19573			1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020220-012C	Soil		1.03	0	0	50	48.54368932	East Lab Extractio	2/21/2013	2/22/2013
H13020221-019C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-020C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-021C	Soil		1.03	0	0	50	48.54368932	East Lab Extractio	2/21/2013	2/22/2013
H13020221-022C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-023C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-024C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-025C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-026C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-027C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-028C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-029C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-030C	Soil		1.04	0	0	50	48.07692308	East Lab Extractio	2/21/2013	2/22/2013
H13020221-031C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-032C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-033C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-033CMS	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-033CMSD	Soil		1.03	0	0	50	48.54368932	East Lab Extractio	2/21/2013	2/22/2013

Number	Reagent Name
2581	Custom Metals in Soil - ERA
2694	EL-MSICV-2
3025	1000 ppm Sulfur (0.05 mL)
3072	Hydrochloric Acid, 36.5-38.0%
3073	Hydrogen Peroxide, 30%
3082	Nitric Acid, 69.0-70.0%
3097	EL-MSICV-1A
3159	3 oz. EDM 3050 Vial
3175	Disposable Watch Glass

Spk ID	Spike Name	SampType	AmtAdd
200.2SPK 13022	AUDIGSPK	LFB, MS, MSD	0.5 mL
1:1 HNO3-13020	HNO3-130207-3050	Reagent	10 mL

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Remediation Division H13020220

Login completed by: Tracy L. Lorash
Date Received: 2/15/2013
Reviewed by: BL2000\wjohnson
Received by: TLL
Reviewed Date: 2/27/2013
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	℃ See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Pages 2-14 of the Chain of Custody were not signed by client. Relinquished time from client does not match when samples were received in laboratory.
No collection time on COC or jar for sample H-SMLC-251. Sample time estimated in laboratory.
Cooler 1 was received at 9.4℃, Cooler 2 at 5.0℃. Samples were received on wet ice.
Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric

Workorder Receipt Checklist - Continued

MT DEQ-Remediation Division H13020220

acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. TI 2/21/13.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- x EDD/EDT (Electronic Data) **Format:** Trihydro
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4°
C2 5.0°

Shipped by: Hand

Cooler ID(s): Y

Receipt Temp: See comments

On Ice: (Yes) No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	I-SMLC-38-A	2/15/13	1425	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									I-SMLC-38
4	D				x	x									
5	E				x	x									
6	I-SMLC-39-A	2/15/13	1415		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									I-SMLC-39
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY H13020220

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615	page 1 of 4			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time: 2/15/13 16:50	Signature: Tracy Lorash

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
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Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW
☐ GSA
☐ POTW/WWTP
☐ State: _____
☐ Other: _____
☐ A2LA
x EDD/EDT (Electronic Data)
Format: Trihydro
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

R U S H

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal Intact Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	K-SMLC-44-A	2/15/13	1405	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									K-SMLC-44
4	D				x	x									
5	E				x	x									
6	H-SMLC-49-A	2/15/13	1315		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									H-SMLC-49
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lervold	Date/Time: 2/15/13 16:50	Signature: Tracy Lervold

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW
☐ GSA
☐ POTW/WWTP
☐ State: _____
☐ Other: _____
☐ A2LA
x EDD/EDT (Electronic Data)
Format: Trihydro
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	H-SMLC-50-A	2/15/13	1305	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									H-SMLC-50
4	D				x	x									
5	E				x	x									
6	H-SMLC-51-A	2/15/13	1255		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									H-SMLC-51
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lovell	Date/Time: 2/15/13 16:50	Signature: Tracy Lovell

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids
Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal Intact Signature Match: Y N / Y N / Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	H-SMLC-52-A	2/15/13	1245	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									H-SMLC-52
4	D				x	x									
5	E				x	x									
6	H-SMLC-53-A	2/15/13	1320		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									H-SMLC-53
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lorash	Date/Time: 2/15/13 16:50	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State:MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	H-SMLC-54-A	2/15/13	1235	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									H-SMLC-54
4	D				x	x									
5	E				x	x									
6	H-SMLC-55-A	2/15/13	1325		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									H-SMLC-55
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Crosh	Date/Time: 2/15/13 16:50	Signature: Tracy Crosh

Sample Disposal: Return to Client: _____ Lab Disposal: X

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This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	H-SMLC-56-A	2/15/13	1225	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									H-SMLC-56
4	D				x	x									
5	E				x	x									
6	L-SMLC-61-A	2/15/13	0920		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									L-SMLC-61
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lovas	Date/Time: 2/15/13 16:50	Signature: Tracy Lovas

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 8.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	SEE ATTACHED	Normal Turnaround (TAT)
2	1 L-SMLC-62-A	2/15/13	0935	soil	x	x		
	2 B				x	x		
	3 C				x	x		
	4 D				x	x		
	5 E				x	x		
2	6 L-SMLC-63-A	2/15/13	0955		x	x		
	7 B				x	x		
	8 C				x	x		
	9 D				x	x		
	10 E				x	x		

Composite and label sample L-SMLC-62

Composite and label sample L-SMLC-63

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lovell	Date/Time: 2/15/13 16:50	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids
Vegetation Bioassay Other

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B								SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments
2 1 L-SMLC-64-A	2/15/13	1000	soil	x	x											Composite and
2 B				x	x											label sample
3 C				x	x											L-SMLC-64
4 D				x	x											
5 E				x	x											
2 6 L-SMLC-65-A	2/15/13	1015		x	x											Composite and
7 B				x	x											label sample
8 C				x	x											L-SMLC-65
9 D				x	x											
10 E				x	x											

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal Intact: Y N
Signature Match: Y N

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lorash	Date/Time: 2/15/13 16:50	Signature: Tracy Lorash

Sample Disposal: Return to Client: _____ Lab Disposal: X

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This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal Turnaround (TAT)	RUSH	
2	1 L-SMLC-66-A	2/15/13	1025	soil	x	x										Composite and
	2 B				x	x										label sample
	3 C				x	x										L-SMLC-66
	4 D				x	x										
	5 E				x	x										
2	6 L-SMLC-67-A	2/15/13	1045		x	x										Composite and
	7 B				x	x										label sample
	8 C				x	x										L-SMLC-67
	9 D				x	x										
	10 E				x	x										

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See Comments
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lorash	Date/Time: 2/15/13 16:50	Signature: Tracy Lorash

Sample Disposal: Return to Client: _____ Lab Disposal: X

ENERGY LABORATORIES

In circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc.: Spring Meadow Lake	Sample Origin: State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901, Helena, MT59620	Contact Name: Aimee Reynolds; Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA
x EDD/EDT (Electronic Data) Format: Trihydro
☐ LEVEL IV
☐ NELAC

Number of Containers; Sample Type: A Air, W Water, S Soils/Solids, V Vegetation, B Bioassay, O Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments °C
On Ice: (Yes) No
Custody Seal Intact: Y N
Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
2	1 L-SMLC-68-A	2/15/13	1055	soil	x	x								Composite and	
	2 B				x	x								label sample	
	3 C				x	x								L-SMLC-68	
	4 D				x	x									
	5 E				x	x									
2	6 ~~O-SMLC-68-A~~ O-SMLC-103A	2/15/13	0825		x	x								Composite and	
	7 B				x	x								label sample	
	8 C				x	x								O-SMLC-103	
	9 D				x	x									
	10 E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lorash	Date/Time: 2/15/13 16:50	Signature: Tracy Lorash

Sample Disposal: Return to Client: _____ Lab Disposal: X

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
2	1 O-SMLC-104-A	2/15/13	0810	soil	x	x								Composite and	
	2 B				x	x								label sample	
	3 C				x	x								O-SMLC-104	
	4 D				x	x									
	5 E				x	x									
2	6 O-SMLC-105-A	2/15/13	0815		x	x								Composite and	
	7 B				x	x								label sample	
	8 C				x	x								O-SMLC-105	
	9 D				x	x									
	10 E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Corash	Date/Time: 2/15/13 16:50	Signature: Tracy Corash

Sample Disposal: Return to Client: _____ Lab Disposal: X

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA
x EDD/EDT (Electronic Data)
Format: Trihydro
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): 4
Receipt Temp: See comments
On Ice: Yes No
Custody Seal Intact Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
2	1 O-SMLC-106-A	2/15/13	0825	soil	x	x									Composite and
	2 B				x	x									label sample
	3 C				x	x									O-SMLC-106
	4 D				x	x									
	5 E				x	x									
1	6 H-SMLC-251-A	2/15/13	—		x	x									Composite and
	7 B				x	x									label sample
	8 C				x	x									H-SMLC-251
	9 D				x	x									
	10 E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lorash	Date/Time: 2/15/13 16:50	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW
☐ GSA
☐ POTW/WWTP
☐ State: _____
☐ Other: _____
☐ A2LA
x EDD/EDT (Electronic Data)
Format: Trihydro
☐ LEVEL IV
☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal: X N
Intact: Y N
Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	I-SMLD-10-A	2/15/13	1430	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									I-SMLD-10
4	D				x	x									
5	E				x	x									
6	H-SMLG-2-A	2/15/13	1350		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									H-SMLG-2
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Brasl	Date/Time: 2/15/13 16:50	Signature: Tracy Brasl

Sample Disposal: Return to Client: _____ Lab Disposal: X

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA ☒ EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	Total Metals 6020A	Dissolved Metals 6020A	Total mercury 7470A					SEE ATTACHED	Normal Turnaround (TAT)
2 1 I-SMLC-EB-2	2/15/13	1540	water			X		X						
2 2 I-SMLW-11	2/14/13	1440	water			x	x	x						
3														
4														
5														
6														
7														
8														
9														
10														

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:
TB
C1 9.4
C2 5.0

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal Intact Signature Match: Y N / Y N / Y N

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/15/13 1615				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Unash	Date/Time: 2/15/13 16:50	Signature: Tracy Unash

Sample Disposal: Return to Client: _____ Lab Disposal: _____

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Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ANALYTICAL SUMMARY REPORT

March 01, 2013

MT DEQ-Remediation Division
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13020221 Quote ID: H825 - Spring Meadow Project

Project Name: Spring Meadow Lake

Energy Laboratories Inc Helena MT received the following 38 samples for MT DEQ-Remediation Division on 2/19/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13020221-001	A-SMLC-1	02/18/13 9:55	02/19/13	Soil	Metals by ICP/ICPMS, Total Composite Fee Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieves Soil Preparation
H13020221-002	A-SMLC-2	02/18/13 9:50	02/19/13	Soil	Same As Above
H13020221-003	A-SMLC-3	02/18/13 11:00	02/19/13	Soil	Same As Above
H13020221-004	A-SMLC-4	02/18/13 11:10	02/19/13	Soil	Same As Above
H13020221-005	A-SMLC-5	02/18/13 10:30	02/19/13	Soil	Same As Above
H13020221-006	A-SMLC-6	02/18/13 10:20	02/19/13	Soil	Same As Above
H13020221-007	A-SMLC-7	02/18/13 11:15	02/19/13	Soil	Same As Above
H13020221-008	A-SMLC-8	02/18/13 11:30	02/19/13	Soil	Same As Above
H13020221-009	C-SMLC-17	02/18/13 13:25	02/19/13	Soil	Same As Above
H13020221-010	C-SMLC-18	02/18/13 13:20	02/19/13	Soil	Same As Above
H13020221-011	C-SMLC-19	02/18/13 13:35	02/19/13	Soil	Same As Above
H13020221-012	C-SMLC-20	02/18/13 13:10	02/19/13	Soil	Same As Above
H13020221-013	G-SMLC-29	02/18/13 8:25	02/19/13	Soil	Same As Above
H13020221-014	G-SMLC-30	02/18/13 8:35	02/19/13	Soil	Same As Above
H13020221-015	G-SMLC-31	02/18/13 8:45	02/19/13	Soil	Same As Above
H13020221-016	G-SMLC-32	02/18/13 8:20	02/19/13	Soil	Same As Above
H13020221-017	H-SMLC-57	02/18/13 15:55	02/19/13	Soil	Same As Above
H13020221-018	H-SMLC-58	02/18/13 16:05	02/19/13	Soil	Same As Above
H13020221-019	H-SMLC-59	02/18/13 15:45	02/19/13	Soil	Same As Above
H13020221-020	H-SMLC-60	02/18/13 15:40	02/19/13	Soil	Same As Above
H13020221-021	M-SMLC-69	02/18/13 14:50	02/19/13	Soil	Same As Above
H13020221-022	M-SMLC-70	02/18/13 14:35	02/19/13	Soil	Same As Above
H13020221-023	M-SMLC-71	02/18/13 14:45	02/19/13	Soil	Same As Above
H13020221-024	M-SMLC-72	02/18/13 14:30	02/19/13	Soil	Same As Above

ANALYTICAL SUMMARY REPORT

H13020221-025	A-SMLC-107	02/18/13 10:40	02/19/13	Soil	Same As Above
H13020221-026	A-SMLC-108	02/18/13 10:55	02/19/13	Soil	Same As Above
H13020221-027	G-SMLC-231	02/18/13 10:00	02/19/13	Soil	Same As Above
H13020221-028	H-SMLC-258	02/18/13 10:00	02/19/13	Soil	Same As Above
H13020221-029	C-SMLD-3	02/18/13 13:40	02/19/13	Soil	Same As Above
H13020221-030	G-SMLD-6	02/18/13 9:00	02/19/13	Soil	Same As Above
H13020221-031	H-SMLD-8	02/18/13 16:20	02/19/13	Soil	Same As Above
H13020221-032	G-SMLD-18	02/18/13 9:10	02/19/13	Soil	Same As Above
H13020221-033	C-SMLD-19	02/18/13 13:50	02/19/13	Soil	Same As Above
H13020221-034	C-SMLW-3	02/18/13 13:50	02/19/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Mercury, Dissolved Mercury, Total Metals Digestion by EPA 200.2 Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H13020221-035	G-SMLW-6	02/18/13 9:25	02/19/13	Aqueous	Same As Above
H13020221-036	H-SMLW-8	02/18/13 16:05	02/19/13	Aqueous	Same As Above
H13020221-037	G-SMLC-EB-3	02/18/13 9:00	02/19/13	Aqueous	Metals by ICP/ICPMS, Total Mercury, Total Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA
H13020221-038	M-SMLC-EB-4	02/18/13 14:15	02/19/13	Aqueous	Same As Above

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

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Sample Delivery Group: H13020221

Revised Date: 03/01/13
Report Date: 02/28/13

CASE NARRATIVE

Multiple jars, as indicated on the Chain of Custody, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for Moisture and Mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which pass through the No.60 sieve was used for the metals analysis. The samples are reported on a dry weight basis as indicated in the report. Abb 2/19/13

Attached is a revised report with Results and QC being reported in a detailed format. Wj 3/1/13

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-1
Lab ID: H13020221-001
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 09:55
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	41.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	27	R86489
No. 60 Sieve	58.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	27	R86489
PHYSICAL CHARACTERISTICS											
Moisture	17.9	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	1	R86528
3050 EXTRACTABLE METALS											
Arsenic	29	mg/kg-dry		1		SW6010B	02/26/13 11:35 / sld	02/21/13 17:10	ICP2-HE_130226A	24	19572
Barium	119	mg/kg-dry		1		SW6010B	02/26/13 11:35 / sld	02/21/13 17:10	ICP2-HE_130226A	24	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 17:41 / sld	02/21/13 17:10	ICPMS204-B_130226A	87	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 17:41 / sld	02/21/13 17:10	ICPMS204-B_130226A	87	19572
Chromium	19	mg/kg-dry		1		SW6010B	02/26/13 11:35 / sld	02/21/13 17:10	ICP2-HE_130226A	24	19572
Copper	47	mg/kg-dry		1		SW6010B	02/26/13 11:35 / sld	02/21/13 17:10	ICP2-HE_130226A	24	19572
Lead	90	mg/kg-dry	D	3		SW6010B	02/26/13 11:35 / sld	02/21/13 17:10	ICP2-HE_130226A	24	19572
Manganese	699	mg/kg-dry		1		SW6010B	02/26/13 11:35 / sld	02/21/13 17:10	ICP2-HE_130226A	24	19572
Nickel	8	mg/kg-dry		1		SW6010B	02/26/13 11:35 / sld	02/21/13 17:10	ICP2-HE_130226A	24	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 17:41 / sld	02/21/13 17:10	ICPMS204-B_130226A	87	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 17:41 / sld	02/21/13 17:10	ICPMS204-B_130226A	87	19572
Zinc	125	mg/kg-dry		1		SW6010B	02/26/13 11:35 / sld	02/21/13 17:10	ICP2-HE_130226A	24	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:09 / sbk	02/20/13 08:01	HGCV201-H_130221B	119	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-2
Lab ID: H13020221-002
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 09:50
DateReceived: 02/19/13
Report Date: 02/28/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	32.7	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	28	R86489
No. 60 Sieve	67.3	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	28	R86489
PHYSICAL CHARACTERISTICS											
Moisture	31.4	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	2	R86528
3050 EXTRACTABLE METALS											
Arsenic	25	mg/kg-dry		1		SW6010B	02/26/13 11:39 / sld	02/21/13 17:10	ICP2-HE_130226A	25	19572
Barium	139	mg/kg-dry		1		SW6010B	02/26/13 11:39 / sld	02/21/13 17:10	ICP2-HE_130226A	25	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 17:46 / sld	02/21/13 17:10	ICPMS204-B_130226A	88	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 17:46 / sld	02/21/13 17:10	ICPMS204-B_130226A	88	19572
Chromium	16	mg/kg-dry		1		SW6010B	02/26/13 11:39 / sld	02/21/13 17:10	ICP2-HE_130226A	25	19572
Copper	41	mg/kg-dry		1		SW6010B	02/26/13 11:39 / sld	02/21/13 17:10	ICP2-HE_130226A	25	19572
Lead	93	mg/kg-dry	D	3		SW6010B	02/26/13 11:39 / sld	02/21/13 17:10	ICP2-HE_130226A	25	19572
Manganese	629	mg/kg-dry		1		SW6010B	02/26/13 11:39 / sld	02/21/13 17:10	ICP2-HE_130226A	25	19572
Nickel	9	mg/kg-dry		1		SW6010B	02/26/13 11:39 / sld	02/21/13 17:10	ICP2-HE_130226A	25	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 17:46 / sld	02/21/13 17:10	ICPMS204-B_130226A	88	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 17:46 / sld	02/21/13 17:10	ICPMS204-B_130226A	88	19572
Zinc	123	mg/kg-dry		1		SW6010B	02/26/13 11:39 / sld	02/21/13 17:10	ICP2-HE_130226A	25	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:12 / sbk	02/20/13 08:01	HGCV201-H_130221B	120	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-3
Lab ID: H13020221-003
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 11:00
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	36.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	29	R86489
No. 60 Sieve	63.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	29	R86489
PHYSICAL CHARACTERISTICS											
Moisture	25.9	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	3	R86528
3050 EXTRACTABLE METALS											
Arsenic	32	mg/kg-dry		1		SW6010B	02/26/13 11:42 / sld	02/21/13 17:10	ICP2-HE_130226A	26	19572
Barium	127	mg/kg-dry		1		SW6010B	02/26/13 11:42 / sld	02/21/13 17:10	ICP2-HE_130226A	26	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 17:50 / sld	02/21/13 17:10	ICPMS204-B_130226A	89	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 17:50 / sld	02/21/13 17:10	ICPMS204-B_130226A	89	19572
Chromium	20	mg/kg-dry		1		SW6010B	02/26/13 11:42 / sld	02/21/13 17:10	ICP2-HE_130226A	26	19572
Copper	71	mg/kg-dry		1		SW6010B	02/26/13 11:42 / sld	02/21/13 17:10	ICP2-HE_130226A	26	19572
Lead	107	mg/kg-dry	D	3		SW6010B	02/26/13 11:42 / sld	02/21/13 17:10	ICP2-HE_130226A	26	19572
Manganese	885	mg/kg-dry		1		SW6010B	02/26/13 11:42 / sld	02/21/13 17:10	ICP2-HE_130226A	26	19572
Nickel	8	mg/kg-dry		1		SW6010B	02/26/13 11:42 / sld	02/21/13 17:10	ICP2-HE_130226A	26	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 17:50 / sld	02/21/13 17:10	ICPMS204-B_130226A	89	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 17:50 / sld	02/21/13 17:10	ICPMS204-B_130226A	89	19572
Zinc	148	mg/kg-dry		1		SW6010B	02/26/13 11:42 / sld	02/21/13 17:10	ICP2-HE_130226A	26	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:14 / sbk	02/20/13 08:01	HGCV201-H_130221B	121	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-4
Lab ID: H13020221-004
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 11:10
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	37.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	30	R86489
No. 60 Sieve	62.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	30	R86489
PHYSICAL CHARACTERISTICS											
Moisture	25.3	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	4	R86528
3050 EXTRACTABLE METALS											
Arsenic	28	mg/kg-dry		1		SW6010B	02/26/13 11:46 / sld	02/21/13 17:10	ICP2-HE_130226A	27	19572
Barium	130	mg/kg-dry		1		SW6010B	02/26/13 11:46 / sld	02/21/13 17:10	ICP2-HE_130226A	27	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 17:55 / sld	02/21/13 17:10	ICPMS204-B_130226A	90	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 17:55 / sld	02/21/13 17:10	ICPMS204-B_130226A	90	19572
Chromium	19	mg/kg-dry		1		SW6010B	02/26/13 11:46 / sld	02/21/13 17:10	ICP2-HE_130226A	27	19572
Copper	48	mg/kg-dry		1		SW6010B	02/26/13 11:46 / sld	02/21/13 17:10	ICP2-HE_130226A	27	19572
Lead	82	mg/kg-dry	D	3		SW6010B	02/26/13 11:46 / sld	02/21/13 17:10	ICP2-HE_130226A	27	19572
Manganese	984	mg/kg-dry		1		SW6010B	02/26/13 11:46 / sld	02/21/13 17:10	ICP2-HE_130226A	27	19572
Nickel	9	mg/kg-dry		1		SW6010B	02/26/13 11:46 / sld	02/21/13 17:10	ICP2-HE_130226A	27	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 17:55 / sld	02/21/13 17:10	ICPMS204-B_130226A	90	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 17:55 / sld	02/21/13 17:10	ICPMS204-B_130226A	90	19572
Zinc	150	mg/kg-dry		1		SW6010B	02/26/13 11:46 / sld	02/21/13 17:10	ICP2-HE_130226A	27	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:21 / sbk	02/20/13 08:01	HGCV201-H_130221B	124	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-5
Lab ID: H13020221-005
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 10:30
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	33.5	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	31	R86489
No. 60 Sieve	66.5	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	31	R86489
PHYSICAL CHARACTERISTICS											
Moisture	34.7	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	5	R86528
3050 EXTRACTABLE METALS											
Arsenic	33	mg/kg-dry	D	2		SW6010B	02/26/13 11:50 / sld	02/21/13 17:10	ICP2-HE_130226A	28	19572
Barium	147	mg/kg-dry		1		SW6010B	02/26/13 11:50 / sld	02/21/13 17:10	ICP2-HE_130226A	28	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 18:20 / sld	02/21/13 17:10	ICPMS204-B_130226A	95	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 18:20 / sld	02/21/13 17:10	ICPMS204-B_130226A	95	19572
Chromium	17	mg/kg-dry		1		SW6010B	02/26/13 11:50 / sld	02/21/13 17:10	ICP2-HE_130226A	28	19572
Copper	58	mg/kg-dry		1		SW6010B	02/26/13 11:50 / sld	02/21/13 17:10	ICP2-HE_130226A	28	19572
Lead	90	mg/kg-dry	D	3		SW6010B	02/26/13 11:50 / sld	02/21/13 17:10	ICP2-HE_130226A	28	19572
Manganese	965	mg/kg-dry		1		SW6010B	02/26/13 11:50 / sld	02/21/13 17:10	ICP2-HE_130226A	28	19572
Nickel	10	mg/kg-dry		1		SW6010B	02/26/13 11:50 / sld	02/21/13 17:10	ICP2-HE_130226A	28	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 18:20 / sld	02/21/13 17:10	ICPMS204-B_130226A	95	19572
Silver	2	mg/kg-dry		1		SW6020	02/26/13 18:20 / sld	02/21/13 17:10	ICPMS204-B_130226A	95	19572
Zinc	146	mg/kg-dry		1		SW6010B	02/26/13 11:50 / sld	02/21/13 17:10	ICP2-HE_130226A	28	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:24 / sbk	02/20/13 08:01	HGCV201-H_130221B	125	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-6
Lab ID: H13020221-006
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 10:20
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	68.0	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	32	R86489
No. 60 Sieve	32.0	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	32	R86489
PHYSICAL CHARACTERISTICS											
Moisture	14.0	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	6	R86528
3050 EXTRACTABLE METALS											
Arsenic	24	mg/kg-dry		1		SW6010B	02/26/13 11:53 / sld	02/21/13 17:10	ICP2-HE_130226A	29	19572
Barium	113	mg/kg-dry		1		SW6010B	02/26/13 11:53 / sld	02/21/13 17:10	ICP2-HE_130226A	29	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 18:25 / sld	02/21/13 17:10	ICPMS204-B_130226A	96	19572
Cadmium	ND	mg/kg-dry		1		SW6020	02/26/13 18:25 / sld	02/21/13 17:10	ICPMS204-B_130226A	96	19572
Chromium	30	mg/kg-dry		1		SW6010B	02/26/13 11:53 / sld	02/21/13 17:10	ICP2-HE_130226A	29	19572
Copper	100	mg/kg-dry		1		SW6010B	02/26/13 11:53 / sld	02/21/13 17:10	ICP2-HE_130226A	29	19572
Lead	38	mg/kg-dry		1		SW6020	02/26/13 18:25 / sld	02/21/13 17:10	ICPMS204-B_130226A	96	19572
Manganese	607	mg/kg-dry		1		SW6010B	02/26/13 11:53 / sld	02/21/13 17:10	ICP2-HE_130226A	29	19572
Nickel	15	mg/kg-dry		1		SW6010B	02/26/13 11:53 / sld	02/21/13 17:10	ICP2-HE_130226A	29	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 18:25 / sld	02/21/13 17:10	ICPMS204-B_130226A	96	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 18:25 / sld	02/21/13 17:10	ICPMS204-B_130226A	96	19572
Zinc	82	mg/kg-dry		1		SW6010B	02/26/13 11:53 / sld	02/21/13 17:10	ICP2-HE_130226A	29	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:26 / sbk	02/20/13 08:01	HGCV201-H_130221B	126	19543

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-7
Lab ID: H13020221-007
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 11:15
DateReceived: 02/19/13
Report Date: 02/28/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	49.0	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	33	R86489
No. 60 Sieve	51.0	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	33	R86489
PHYSICAL CHARACTERISTICS											
Moisture	36.1	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	7	R86528
3050 EXTRACTABLE METALS											
Arsenic	18	mg/kg-dry	D	2		SW6010B	02/26/13 11:57 / sld	02/21/13 17:10	ICP2-HE_130226A	30	19572
Barium	115	mg/kg-dry		1		SW6010B	02/26/13 11:57 / sld	02/21/13 17:10	ICP2-HE_130226A	30	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 18:30 / sld	02/21/13 17:10	ICPMS204-B_130226A	97	19572
Cadmium	ND	mg/kg-dry		1		SW6020	02/26/13 18:30 / sld	02/21/13 17:10	ICPMS204-B_130226A	97	19572
Chromium	35	mg/kg-dry		1		SW6010B	02/26/13 11:57 / sld	02/21/13 17:10	ICP2-HE_130226A	30	19572
Copper	43	mg/kg-dry		1		SW6010B	02/26/13 11:57 / sld	02/21/13 17:10	ICP2-HE_130226A	30	19572
Lead	40	mg/kg-dry		1		SW6020	02/26/13 18:30 / sld	02/21/13 17:10	ICPMS204-B_130226A	97	19572
Manganese	643	mg/kg-dry		1		SW6010B	02/26/13 11:57 / sld	02/21/13 17:10	ICP2-HE_130226A	30	19572
Nickel	10	mg/kg-dry		1		SW6010B	02/26/13 11:57 / sld	02/21/13 17:10	ICP2-HE_130226A	30	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 18:30 / sld	02/21/13 17:10	ICPMS204-B_130226A	97	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 18:30 / sld	02/21/13 17:10	ICPMS204-B_130226A	97	19572
Zinc	89	mg/kg-dry		1		SW6010B	02/26/13 11:57 / sld	02/21/13 17:10	ICP2-HE_130226A	30	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:29 / sbk	02/20/13 08:01	HGCV201-H_130221B	127	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-8
Lab ID: H13020221-008
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 11:30
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	60.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	34	R86489
No. 60 Sieve	39.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	34	R86489
PHYSICAL CHARACTERISTICS											
Moisture	14.2	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	8	R86528
3050 EXTRACTABLE METALS											
Arsenic	27	mg/kg-dry		1		SW6020	02/26/13 18:35 / sld	02/21/13 17:10	ICPMS204-B_130226A	98	19572
Barium	123	mg/kg-dry		1		SW6010B	02/26/13 12:08 / sld	02/21/13 17:10	ICP2-HE_130226A	33	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 18:35 / sld	02/21/13 17:10	ICPMS204-B_130226A	98	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 18:35 / sld	02/21/13 17:10	ICPMS204-B_130226A	98	19572
Chromium	24	mg/kg-dry		1		SW6010B	02/26/13 12:08 / sld	02/21/13 17:10	ICP2-HE_130226A	33	19572
Copper	47	mg/kg-dry		1		SW6010B	02/26/13 12:08 / sld	02/21/13 17:10	ICP2-HE_130226A	33	19572
Lead	94	mg/kg-dry	D	3		SW6010B	02/26/13 12:08 / sld	02/21/13 17:10	ICP2-HE_130226A	33	19572
Manganese	781	mg/kg-dry		1		SW6010B	02/26/13 12:08 / sld	02/21/13 17:10	ICP2-HE_130226A	33	19572
Nickel	9	mg/kg-dry		1		SW6010B	02/26/13 12:08 / sld	02/21/13 17:10	ICP2-HE_130226A	33	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 18:35 / sld	02/21/13 17:10	ICPMS204-B_130226A	98	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 18:35 / sld	02/21/13 17:10	ICPMS204-B_130226A	98	19572
Zinc	117	mg/kg-dry		1		SW6010B	02/26/13 12:08 / sld	02/21/13 17:10	ICP2-HE_130226A	33	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:31 / sbk	02/20/13 08:01	HGCV201-H_130221B	128	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID C-SMLC-17
Lab ID: H13020221-009
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 13:25
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	29.7	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	35	R86489
No. 60 Sieve	70.3	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	35	R86489
PHYSICAL CHARACTERISTICS											
Moisture	31.5	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	9	R86528
3050 EXTRACTABLE METALS											
Arsenic	352	mg/kg-dry		1		SW6010B	02/26/13 12:12 / sld	02/21/13 17:10	ICP2-HE_130226A	34	19572
Barium	194	mg/kg-dry		1		SW6010B	02/26/13 12:12 / sld	02/21/13 17:10	ICP2-HE_130226A	34	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 18:40 / sld	02/21/13 17:10	ICPMS204-B_130226A	99	19572
Cadmium	3	mg/kg-dry		1		SW6020	02/26/13 18:40 / sld	02/21/13 17:10	ICPMS204-B_130226A	99	19572
Chromium	17	mg/kg-dry		1		SW6010B	02/26/13 12:12 / sld	02/21/13 17:10	ICP2-HE_130226A	34	19572
Copper	79	mg/kg-dry		1		SW6010B	02/26/13 12:12 / sld	02/21/13 17:10	ICP2-HE_130226A	34	19572
Lead	371	mg/kg-dry	D	3		SW6010B	02/26/13 12:12 / sld	02/21/13 17:10	ICP2-HE_130226A	34	19572
Manganese	14200	mg/kg-dry		1		SW6010B	02/26/13 12:12 / sld	02/21/13 17:10	ICP2-HE_130226A	34	19572
Nickel	10	mg/kg-dry		1		SW6010B	02/26/13 12:12 / sld	02/21/13 17:10	ICP2-HE_130226A	34	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 18:40 / sld	02/21/13 17:10	ICPMS204-B_130226A	99	19572
Silver	5	mg/kg-dry		1		SW6020	02/26/13 18:40 / sld	02/21/13 17:10	ICPMS204-B_130226A	99	19572
Zinc	560	mg/kg-dry		1		SW6010B	02/26/13 12:12 / sld	02/21/13 17:10	ICP2-HE_130226A	34	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:33 / sbk	02/20/13 08:01	HGCV201-H_130221B	129	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID C-SMLC-18
Lab ID: H13020221-010
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 13:20
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	29.8	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	36	R86489
No. 60 Sieve	70.2	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	36	R86489
PHYSICAL CHARACTERISTICS											
Moisture	55.6	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	10	R86528
3050 EXTRACTABLE METALS											
Arsenic	125	mg/kg-dry		1		SW6010B	02/26/13 12:16 / sld	02/21/13 17:10	ICP2-HE_130226A	35	19572
Barium	145	mg/kg-dry		1		SW6010B	02/26/13 12:16 / sld	02/21/13 17:10	ICP2-HE_130226A	35	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 18:45 / sld	02/21/13 17:10	ICPMS204-B_130226A	100	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 18:45 / sld	02/21/13 17:10	ICPMS204-B_130226A	100	19572
Chromium	15	mg/kg-dry		1		SW6010B	02/26/13 12:16 / sld	02/21/13 17:10	ICP2-HE_130226A	35	19572
Copper	74	mg/kg-dry		1		SW6010B	02/26/13 12:16 / sld	02/21/13 17:10	ICP2-HE_130226A	35	19572
Lead	142	mg/kg-dry	D	3		SW6010B	02/26/13 12:16 / sld	02/21/13 17:10	ICP2-HE_130226A	35	19572
Manganese	5460	mg/kg-dry		1		SW6010B	02/26/13 12:16 / sld	02/21/13 17:10	ICP2-HE_130226A	35	19572
Nickel	10	mg/kg-dry		1		SW6010B	02/26/13 12:16 / sld	02/21/13 17:10	ICP2-HE_130226A	35	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 18:45 / sld	02/21/13 17:10	ICPMS204-B_130226A	100	19572
Silver	2	mg/kg-dry		1		SW6020	02/26/13 18:45 / sld	02/21/13 17:10	ICPMS204-B_130226A	100	19572
Zinc	308	mg/kg-dry		1		SW6010B	02/26/13 12:16 / sld	02/21/13 17:10	ICP2-HE_130226A	35	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:43 / sbk	02/20/13 08:01	HGCV201-H_130221B	133	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID C-SMLC-19
Lab ID: H13020221-011
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 13:35
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	26.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	37	R86489
No. 60 Sieve	73.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	37	R86489
PHYSICAL CHARACTERISTICS											
Moisture	29.9	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	11	R86528
3050 EXTRACTABLE METALS											
Arsenic	714	mg/kg-dry		1		SW6010B	02/26/13 12:19 / sld	02/21/13 17:10	ICP2-HE_130226A	36	19572
Barium	253	mg/kg-dry		1		SW6010B	02/26/13 12:19 / sld	02/21/13 17:10	ICP2-HE_130226A	36	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 18:50 / sld	02/21/13 17:10	ICPMS204-B_130226A	101	19572
Cadmium	5	mg/kg-dry		1		SW6020	02/26/13 18:50 / sld	02/21/13 17:10	ICPMS204-B_130226A	101	19572
Chromium	17	mg/kg-dry		1		SW6010B	02/26/13 12:19 / sld	02/21/13 17:10	ICP2-HE_130226A	36	19572
Copper	118	mg/kg-dry		1		SW6010B	02/26/13 12:19 / sld	02/21/13 17:10	ICP2-HE_130226A	36	19572
Lead	753	mg/kg-dry	D	3		SW6010B	02/26/13 12:19 / sld	02/21/13 17:10	ICP2-HE_130226A	36	19572
Manganese	29200	mg/kg-dry		1		SW6010B	02/27/13 12:04 / sld	02/21/13 17:10	ICP2-HE_130227A	18	19572
Nickel	11	mg/kg-dry		1		SW6010B	02/26/13 12:19 / sld	02/21/13 17:10	ICP2-HE_130226A	36	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 18:50 / sld	02/21/13 17:10	ICPMS204-B_130226A	101	19572
Silver	12	mg/kg-dry		1		SW6020	02/26/13 18:50 / sld	02/21/13 17:10	ICPMS204-B_130226A	101	19572
Zinc	1070	mg/kg-dry		1		SW6010B	02/26/13 12:19 / sld	02/21/13 17:10	ICP2-HE_130226A	36	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/21/13 11:45 / sbk	02/20/13 08:01	HGCV201-H_130221B	134	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID C-SMLC-20
Lab ID: H13020221-012
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 13:10
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	27.2	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	38	R86489
No. 60 Sieve	72.8	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	38	R86489
PHYSICAL CHARACTERISTICS											
Moisture	31.6	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	12	R86528
3050 EXTRACTABLE METALS											
Arsenic	457	mg/kg-dry		1		SW6010B	02/26/13 12:23 / sld	02/21/13 17:10	ICP2-HE_130226A	37	19572
Barium	289	mg/kg-dry		1		SW6010B	02/26/13 12:23 / sld	02/21/13 17:10	ICP2-HE_130226A	37	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 18:55 / sld	02/21/13 17:10	ICPMS204-B_130226A	102	19572
Cadmium	5	mg/kg-dry		1		SW6020	02/26/13 18:55 / sld	02/21/13 17:10	ICPMS204-B_130226A	102	19572
Chromium	13	mg/kg-dry		1		SW6010B	02/26/13 12:23 / sld	02/21/13 17:10	ICP2-HE_130226A	37	19572
Copper	150	mg/kg-dry		1		SW6010B	02/26/13 12:23 / sld	02/21/13 17:10	ICP2-HE_130226A	37	19572
Lead	641	mg/kg-dry	D	3		SW6010B	02/26/13 12:23 / sld	02/21/13 17:10	ICP2-HE_130226A	37	19572
Manganese	39800	mg/kg-dry		1		SW6010B	02/27/13 12:15 / sld	02/21/13 17:10	ICP2-HE_130227A	21	19572
Nickel	9	mg/kg-dry		1		SW6010B	02/26/13 12:23 / sld	02/21/13 17:10	ICP2-HE_130226A	37	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 18:55 / sld	02/21/13 17:10	ICPMS204-B_130226A	102	19572
Silver	11	mg/kg-dry		1		SW6020	02/26/13 18:55 / sld	02/21/13 17:10	ICPMS204-B_130226A	102	19572
Zinc	1270	mg/kg-dry		1		SW6010B	02/26/13 12:23 / sld	02/21/13 17:10	ICP2-HE_130226A	37	19572
METALS, TOTAL											
Mercury	0.90	mg/kg-dry		0.50		SW7471A	02/21/13 11:54 / sbk	02/20/13 08:01	HGCV201-H_130221B	136	19543

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID G-SMLC-29
Lab ID: H13020221-013
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 08:25
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	40.8	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	39	R86489
No. 60 Sieve	59.2	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	39	R86489
PHYSICAL CHARACTERISTICS											
Moisture	34.7	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	13	R86528
3050 EXTRACTABLE METALS											
Arsenic	46	mg/kg-dry		1		SW6010B	02/26/13 12:27 / sld	02/21/13 17:10	ICP2-HE_130226A	38	19572
Barium	159	mg/kg-dry		1		SW6010B	02/26/13 12:27 / sld	02/21/13 17:10	ICP2-HE_130226A	38	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 18:59 / sld	02/21/13 17:10	ICPMS204-B_130226A	103	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 18:59 / sld	02/21/13 17:10	ICPMS204-B_130226A	103	19572
Chromium	20	mg/kg-dry		1		SW6010B	02/26/13 12:27 / sld	02/21/13 17:10	ICP2-HE_130226A	38	19572
Copper	43	mg/kg-dry		1		SW6010B	02/26/13 12:27 / sld	02/21/13 17:10	ICP2-HE_130226A	38	19572
Lead	93	mg/kg-dry	D	3		SW6010B	02/26/13 12:27 / sld	02/21/13 17:10	ICP2-HE_130226A	38	19572
Manganese	1190	mg/kg-dry		1		SW6010B	02/26/13 12:27 / sld	02/21/13 17:10	ICP2-HE_130226A	38	19572
Nickel	10	mg/kg-dry		1		SW6010B	02/26/13 12:27 / sld	02/21/13 17:10	ICP2-HE_130226A	38	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 18:59 / sld	02/21/13 17:10	ICPMS204-B_130226A	103	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 18:59 / sld	02/21/13 17:10	ICPMS204-B_130226A	103	19572
Zinc	173	mg/kg-dry		1		SW6010B	02/26/13 12:27 / sld	02/21/13 17:10	ICP2-HE_130226A	38	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:18 / sbk	02/20/13 08:03	HGCV201-H_130222A	6	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID G-SMLC-30
Lab ID: H13020221-014
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 08:35
DateReceived: 02/19/13
Report Date: 02/28/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	14.8	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	40	R86489
No. 60 Sieve	85.2	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	40	R86489
PHYSICAL CHARACTERISTICS											
Moisture	39.7	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	14	R86528
3050 EXTRACTABLE METALS											
Arsenic	40	mg/kg-dry		1		SW6010B	02/26/13 12:31 / sld	02/21/13 17:10	ICP2-HE_130226A	39	19572
Barium	175	mg/kg-dry		1		SW6010B	02/26/13 12:31 / sld	02/21/13 17:10	ICP2-HE_130226A	39	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 19:24 / sld	02/21/13 17:10	ICPMS204-B_130226A	108	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 19:24 / sld	02/21/13 17:10	ICPMS204-B_130226A	108	19572
Chromium	23	mg/kg-dry		1		SW6010B	02/26/13 12:31 / sld	02/21/13 17:10	ICP2-HE_130226A	39	19572
Copper	43	mg/kg-dry		1		SW6010B	02/26/13 12:31 / sld	02/21/13 17:10	ICP2-HE_130226A	39	19572
Lead	87	mg/kg-dry	D	3		SW6010B	02/26/13 12:31 / sld	02/21/13 17:10	ICP2-HE_130226A	39	19572
Manganese	1190	mg/kg-dry		1		SW6010B	02/26/13 12:31 / sld	02/21/13 17:10	ICP2-HE_130226A	39	19572
Nickel	11	mg/kg-dry		1		SW6010B	02/26/13 12:31 / sld	02/21/13 17:10	ICP2-HE_130226A	39	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 19:24 / sld	02/21/13 17:10	ICPMS204-B_130226A	108	19572
Silver	1	mg/kg-dry		1		SW6020	02/26/13 19:24 / sld	02/21/13 17:10	ICPMS204-B_130226A	108	19572
Zinc	174	mg/kg-dry		1		SW6010B	02/26/13 12:31 / sld	02/21/13 17:10	ICP2-HE_130226A	39	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:20 / sbk	02/20/13 08:03	HGCV201-H_130222A	7	19544

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID G-SMLC-31
Lab ID: H13020221-015
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 08:45
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	19.1	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	41	R86489
No. 60 Sieve	80.9	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	41	R86489
PHYSICAL CHARACTERISTICS											
Moisture	46.7	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	15	R86528
3050 EXTRACTABLE METALS											
Arsenic	29	mg/kg-dry		1		SW6020	02/26/13 19:29 / sld	02/21/13 17:10	ICPMS204-B_130226A	109	19572
Barium	191	mg/kg-dry		1		SW6010B	02/26/13 12:34 / sld	02/21/13 17:10	ICP2-HE_130226A	40	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 19:29 / sld	02/21/13 17:10	ICPMS204-B_130226A	109	19572
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 19:29 / sld	02/21/13 17:10	ICPMS204-B_130226A	109	19572
Chromium	16	mg/kg-dry		1		SW6010B	02/26/13 12:34 / sld	02/21/13 17:10	ICP2-HE_130226A	40	19572
Copper	48	mg/kg-dry		1		SW6010B	02/26/13 12:34 / sld	02/21/13 17:10	ICP2-HE_130226A	40	19572
Lead	79	mg/kg-dry	D	3		SW6010B	02/26/13 12:34 / sld	02/21/13 17:10	ICP2-HE_130226A	40	19572
Manganese	842	mg/kg-dry		1		SW6010B	02/26/13 12:34 / sld	02/21/13 17:10	ICP2-HE_130226A	40	19572
Nickel	9	mg/kg-dry		1		SW6010B	02/26/13 12:34 / sld	02/21/13 17:10	ICP2-HE_130226A	40	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 19:29 / sld	02/21/13 17:10	ICPMS204-B_130226A	109	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 19:29 / sld	02/21/13 17:10	ICPMS204-B_130226A	109	19572
Zinc	164	mg/kg-dry		1		SW6010B	02/26/13 12:34 / sld	02/21/13 17:10	ICP2-HE_130226A	40	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:23 / sbk	02/20/13 08:03	HGCV201-H_130222A	8	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID G-SMLC-32
Lab ID: H13020221-016
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 08:20
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	15.0	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	42	R86489
No. 60 Sieve	85.0	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	42	R86489
PHYSICAL CHARACTERISTICS											
Moisture	34.5	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	16	R86528
3050 EXTRACTABLE METALS											
Arsenic	73	mg/kg-dry		1		SW6010B	02/26/13 12:38 / sld	02/21/13 17:10	ICP2-HE_130226A	41	19572
Barium	162	mg/kg-dry		1		SW6010B	02/26/13 12:38 / sld	02/21/13 17:10	ICP2-HE_130226A	41	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 19:34 / sld	02/21/13 17:10	ICPMS204-B_130226A	110	19572
Cadmium	2	mg/kg-dry		1		SW6020	02/26/13 19:34 / sld	02/21/13 17:10	ICPMS204-B_130226A	110	19572
Chromium	20	mg/kg-dry		1		SW6010B	02/26/13 12:38 / sld	02/21/13 17:10	ICP2-HE_130226A	41	19572
Copper	46	mg/kg-dry		1		SW6010B	02/26/13 12:38 / sld	02/21/13 17:10	ICP2-HE_130226A	41	19572
Lead	107	mg/kg-dry	D	3		SW6010B	02/26/13 12:38 / sld	02/21/13 17:10	ICP2-HE_130226A	41	19572
Manganese	1360	mg/kg-dry		1		SW6010B	02/26/13 12:38 / sld	02/21/13 17:10	ICP2-HE_130226A	41	19572
Nickel	11	mg/kg-dry		1		SW6010B	02/26/13 12:38 / sld	02/21/13 17:10	ICP2-HE_130226A	41	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 19:34 / sld	02/21/13 17:10	ICPMS204-B_130226A	110	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 19:34 / sld	02/21/13 17:10	ICPMS204-B_130226A	110	19572
Zinc	188	mg/kg-dry		1		SW6010B	02/26/13 12:38 / sld	02/21/13 17:10	ICP2-HE_130226A	41	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:32 / sbk	02/20/13 08:03	HGCV201-H_130222A	12	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-57
Lab ID: H13020221-017
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 15:55
DateReceived: 02/19/13
Report Date: 02/28/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	22.0	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	43	R86489
No. 60 Sieve	78.0	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	43	R86489
PHYSICAL CHARACTERISTICS											
Moisture	37.0	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	17	R86528
3050 EXTRACTABLE METALS											
Arsenic	24	mg/kg-dry		1		SW6020	02/26/13 19:39 / sld	02/21/13 17:10	ICPMS204-B_130226A	111	19572
Barium	162	mg/kg-dry		1		SW6010B	02/26/13 12:42 / sld	02/21/13 17:10	ICP2-HE_130226A	42	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 19:39 / sld	02/21/13 17:10	ICPMS204-B_130226A	111	19572
Cadmium	ND	mg/kg-dry		1		SW6020	02/26/13 19:39 / sld	02/21/13 17:10	ICPMS204-B_130226A	111	19572
Chromium	19	mg/kg-dry		1		SW6010B	02/26/13 12:42 / sld	02/21/13 17:10	ICP2-HE_130226A	42	19572
Copper	34	mg/kg-dry		1		SW6010B	02/26/13 12:42 / sld	02/21/13 17:10	ICP2-HE_130226A	42	19572
Lead	49	mg/kg-dry	D	3		SW6010B	02/26/13 12:42 / sld	02/21/13 17:10	ICP2-HE_130226A	42	19572
Manganese	492	mg/kg-dry		1		SW6010B	02/26/13 12:42 / sld	02/21/13 17:10	ICP2-HE_130226A	42	19572
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 12:42 / sld	02/21/13 17:10	ICP2-HE_130226A	42	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 19:39 / sld	02/21/13 17:10	ICPMS204-B_130226A	111	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 19:39 / sld	02/21/13 17:10	ICPMS204-B_130226A	111	19572
Zinc	83	mg/kg-dry		1		SW6010B	02/26/13 12:42 / sld	02/21/13 17:10	ICP2-HE_130226A	42	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:35 / sbk	02/20/13 08:03	HGCV201-H_130222A	13	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-58
Lab ID: H13020221-018
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 16:05
DateReceived: 02/19/13
Report Date: 02/28/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	23.1	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	44	R86489
No. 60 Sieve	76.9	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	44	R86489
PHYSICAL CHARACTERISTICS											
Moisture	28.4	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	18	R86528
3050 EXTRACTABLE METALS											
Arsenic	50	mg/kg-dry		1		SW6010B	02/26/13 12:53 / sld	02/21/13 17:10	ICP2-HE_130226A	45	19572
Barium	171	mg/kg-dry		1		SW6010B	02/26/13 12:53 / sld	02/21/13 17:10	ICP2-HE_130226A	45	19572
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 19:44 / sld	02/21/13 17:10	ICPMS204-B_130226A	112	19572
Cadmium	ND	mg/kg-dry		1		SW6020	02/26/13 19:44 / sld	02/21/13 17:10	ICPMS204-B_130226A	112	19572
Chromium	18	mg/kg-dry		1		SW6010B	02/26/13 12:53 / sld	02/21/13 17:10	ICP2-HE_130226A	45	19572
Copper	34	mg/kg-dry		1		SW6010B	02/26/13 12:53 / sld	02/21/13 17:10	ICP2-HE_130226A	45	19572
Lead	66	mg/kg-dry	D	3		SW6010B	02/26/13 12:53 / sld	02/21/13 17:10	ICP2-HE_130226A	45	19572
Manganese	1010	mg/kg-dry		1		SW6010B	02/26/13 12:53 / sld	02/21/13 17:10	ICP2-HE_130226A	45	19572
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 12:53 / sld	02/21/13 17:10	ICP2-HE_130226A	45	19572
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 19:44 / sld	02/21/13 17:10	ICPMS204-B_130226A	112	19572
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 19:44 / sld	02/21/13 17:10	ICPMS204-B_130226A	112	19572
Zinc	126	mg/kg-dry		1		SW6010B	02/26/13 12:53 / sld	02/21/13 17:10	ICP2-HE_130226A	45	19572
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:37 / sbk	02/20/13 08:03	HGCV201-H_130222A	14	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-59
Lab ID: H13020221-019
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 15:45
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	15.5	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	45	R86489
No. 60 Sieve	84.5	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	45	R86489
PHYSICAL CHARACTERISTICS											
Moisture	43.4	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	19	R86528
3050 EXTRACTABLE METALS											
Arsenic	23	mg/kg-dry	D	2		SW6010B	02/25/13 13:14 / sld	02/21/13 17:11	ICP2-HE_130225A	21	19573
Barium	134	mg/kg-dry		1		SW6010B	02/25/13 13:14 / sld	02/21/13 17:11	ICP2-HE_130225A	21	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 15:17 / sld	02/21/13 17:11	ICPMS204-B_130226A	58	19573
Cadmium	ND	mg/kg-dry		1		SW6020	02/26/13 15:17 / sld	02/21/13 17:11	ICPMS204-B_130226A	58	19573
Chromium	25	mg/kg-dry		1		SW6010B	02/25/13 13:14 / sld	02/21/13 17:11	ICP2-HE_130225A	21	19573
Copper	47	mg/kg-dry		1		SW6020	02/26/13 15:17 / sld	02/21/13 17:11	ICPMS204-B_130226A	58	19573
Lead	39	mg/kg-dry	D	3		SW6010B	02/25/13 13:14 / sld	02/21/13 17:11	ICP2-HE_130225A	21	19573
Manganese	523	mg/kg-dry		1		SW6010B	02/25/13 13:14 / sld	02/21/13 17:11	ICP2-HE_130225A	21	19573
Nickel	15	mg/kg-dry		1		SW6010B	02/25/13 13:14 / sld	02/21/13 17:11	ICP2-HE_130225A	21	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 15:17 / sld	02/21/13 17:11	ICPMS204-B_130226A	58	19573
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 15:17 / sld	02/21/13 17:11	ICPMS204-B_130226A	58	19573
Zinc	85	mg/kg-dry		1		SW6010B	02/25/13 13:14 / sld	02/21/13 17:11	ICP2-HE_130225A	21	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:40 / sbk	02/20/13 08:03	HGCV201-H_130222A	15	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-60
Lab ID: H13020221-020
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 15:40
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	28.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	46	R86489
No. 60 Sieve	71.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	46	R86489
PHYSICAL CHARACTERISTICS											
Moisture	24.9	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	20	R86528
3050 EXTRACTABLE METALS											
Arsenic	31	mg/kg-dry		1		SW6010B	02/25/13 13:17 / sld	02/21/13 17:11	ICP2-HE_130225A	22	19573
Barium	173	mg/kg-dry		1		SW6010B	02/25/13 13:17 / sld	02/21/13 17:11	ICP2-HE_130225A	22	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 15:22 / sld	02/21/13 17:11	ICPMS204-B_130226A	59	19573
Cadmium	ND	mg/kg-dry		1		SW6020	02/26/13 15:22 / sld	02/21/13 17:11	ICPMS204-B_130226A	59	19573
Chromium	19	mg/kg-dry		1		SW6010B	02/25/13 13:17 / sld	02/21/13 17:11	ICP2-HE_130225A	22	19573
Copper	34	mg/kg-dry		1		SW6020	02/26/13 15:22 / sld	02/21/13 17:11	ICPMS204-B_130226A	59	19573
Lead	46	mg/kg-dry	D	3		SW6010B	02/25/13 13:17 / sld	02/21/13 17:11	ICP2-HE_130225A	22	19573
Manganese	555	mg/kg-dry		1		SW6010B	02/25/13 13:17 / sld	02/21/13 17:11	ICP2-HE_130225A	22	19573
Nickel	13	mg/kg-dry		1		SW6010B	02/25/13 13:17 / sld	02/21/13 17:11	ICP2-HE_130225A	22	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 15:22 / sld	02/21/13 17:11	ICPMS204-B_130226A	59	19573
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 15:22 / sld	02/21/13 17:11	ICPMS204-B_130226A	59	19573
Zinc	94	mg/kg-dry		1		SW6010B	02/25/13 13:17 / sld	02/21/13 17:11	ICP2-HE_130225A	22	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:42 / sbk	02/20/13 08:03	HGCV201-H_130222A	16	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID M-SMLC-69
Lab ID: H13020221-021
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 14:50
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	59.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	47	R86489
No. 60 Sieve	40.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	47	R86489
PHYSICAL CHARACTERISTICS											
Moisture	13.1	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	21	R86528
3050 EXTRACTABLE METALS											
Arsenic	82	mg/kg-dry		1		SW6010B	02/25/13 13:21 / sld	02/21/13 17:11	ICP2-HE_130225A	23	19573
Barium	127	mg/kg-dry		1		SW6010B	02/25/13 13:21 / sld	02/21/13 17:11	ICP2-HE_130225A	23	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 15:27 / sld	02/21/13 17:11	ICPMS204-B_130226A	60	19573
Cadmium	2	mg/kg-dry		1		SW6020	02/26/13 15:27 / sld	02/21/13 17:11	ICPMS204-B_130226A	60	19573
Chromium	19	mg/kg-dry		1		SW6010B	02/25/13 13:21 / sld	02/21/13 17:11	ICP2-HE_130225A	23	19573
Copper	63	mg/kg-dry		1		SW6020	02/26/13 15:27 / sld	02/21/13 17:11	ICPMS204-B_130226A	60	19573
Lead	178	mg/kg-dry	D	3		SW6010B	02/25/13 13:21 / sld	02/21/13 17:11	ICP2-HE_130225A	23	19573
Manganese	1460	mg/kg-dry		1		SW6010B	02/25/13 13:21 / sld	02/21/13 17:11	ICP2-HE_130225A	23	19573
Nickel	13	mg/kg-dry		1		SW6010B	02/25/13 13:21 / sld	02/21/13 17:11	ICP2-HE_130225A	23	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 15:27 / sld	02/21/13 17:11	ICPMS204-B_130226A	60	19573
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 15:27 / sld	02/21/13 17:11	ICPMS204-B_130226A	60	19573
Zinc	206	mg/kg-dry		1		SW6010B	02/25/13 13:21 / sld	02/21/13 17:11	ICP2-HE_130225A	23	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:44 / sbk	02/20/13 08:03	HGCV201-H_130222A	17	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID M-SMLC-70
Lab ID: H13020221-022
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 14:35
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	67.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	48	R86489
No. 60 Sieve	32.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	48	R86489
PHYSICAL CHARACTERISTICS											
Moisture	11.4	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	22	R86528
3050 EXTRACTABLE METALS											
Arsenic	55	mg/kg-dry	D	2		SW6010B	02/25/13 13:25 / sld	02/21/13 17:11	ICP2-HE_130225A	24	19573
Barium	141	mg/kg-dry		1		SW6010B	02/25/13 13:25 / sld	02/21/13 17:11	ICP2-HE_130225A	24	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 15:32 / sld	02/21/13 17:11	ICPMS204-B_130226A	61	19573
Cadmium	4	mg/kg-dry		1		SW6020	02/26/13 15:32 / sld	02/21/13 17:11	ICPMS204-B_130226A	61	19573
Chromium	18	mg/kg-dry		1		SW6010B	02/25/13 13:25 / sld	02/21/13 17:11	ICP2-HE_130225A	24	19573
Copper	103	mg/kg-dry		1		SW6020	02/26/13 15:32 / sld	02/21/13 17:11	ICPMS204-B_130226A	61	19573
Lead	368	mg/kg-dry	D	3		SW6010B	02/25/13 13:25 / sld	02/21/13 17:11	ICP2-HE_130225A	24	19573
Manganese	1940	mg/kg-dry		1		SW6010B	02/25/13 13:25 / sld	02/21/13 17:11	ICP2-HE_130225A	24	19573
Nickel	11	mg/kg-dry		1		SW6010B	02/25/13 13:25 / sld	02/21/13 17:11	ICP2-HE_130225A	24	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 15:32 / sld	02/21/13 17:11	ICPMS204-B_130226A	61	19573
Silver	3	mg/kg-dry		1		SW6020	02/26/13 15:32 / sld	02/21/13 17:11	ICPMS204-B_130226A	61	19573
Zinc	434	mg/kg-dry		1		SW6010B	02/25/13 13:25 / sld	02/21/13 17:11	ICP2-HE_130225A	24	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:47 / sbk	02/20/13 08:03	HGCV201-H_130222A	18	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID M-SMLC-71
Lab ID: H13020221-023
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 14:45
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	70.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	49	R86489
No. 60 Sieve	29.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	49	R86489
PHYSICAL CHARACTERISTICS											
Moisture	15.0	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	23	R86528
3050 EXTRACTABLE METALS											
Arsenic	43	mg/kg-dry	D	2		SW6010B	02/25/13 13:29 / sld	02/21/13 17:11	ICP2-HE_130225A	25	19573
Barium	110	mg/kg-dry		1		SW6010B	02/25/13 13:29 / sld	02/21/13 17:11	ICP2-HE_130225A	25	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 15:37 / sld	02/21/13 17:11	ICPMS204-B_130226A	62	19573
Cadmium	2	mg/kg-dry		1		SW6020	02/26/13 15:37 / sld	02/21/13 17:11	ICPMS204-B_130226A	62	19573
Chromium	21	mg/kg-dry		1		SW6010B	02/25/13 13:29 / sld	02/21/13 17:11	ICP2-HE_130225A	25	19573
Copper	56	mg/kg-dry		1		SW6020	02/26/13 15:37 / sld	02/21/13 17:11	ICPMS204-B_130226A	62	19573
Lead	154	mg/kg-dry	D	3		SW6010B	02/25/13 13:29 / sld	02/21/13 17:11	ICP2-HE_130225A	25	19573
Manganese	1210	mg/kg-dry		1		SW6010B	02/25/13 13:29 / sld	02/21/13 17:11	ICP2-HE_130225A	25	19573
Nickel	11	mg/kg-dry		1		SW6010B	02/25/13 13:29 / sld	02/21/13 17:11	ICP2-HE_130225A	25	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 15:37 / sld	02/21/13 17:11	ICPMS204-B_130226A	62	19573
Silver	1	mg/kg-dry		1		SW6020	02/26/13 15:37 / sld	02/21/13 17:11	ICPMS204-B_130226A	62	19573
Zinc	177	mg/kg-dry		1		SW6010B	02/25/13 13:29 / sld	02/21/13 17:11	ICP2-HE_130225A	25	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:54 / sbk	02/20/13 08:03	HGCV201-H_130222A	21	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID M-SMLC-72
Lab ID: H13020221-024
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 14:30
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	68.1	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	50	R86489
No. 60 Sieve	31.9	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	50	R86489
PHYSICAL CHARACTERISTICS											
Moisture	12.3	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	24	R86528
3050 EXTRACTABLE METALS											
Arsenic	64	mg/kg-dry	D	2		SW6010B	02/25/13 13:32 / sld	02/21/13 17:11	ICP2-HE_130225A	26	19573
Barium	183	mg/kg-dry		1		SW6010B	02/25/13 13:32 / sld	02/21/13 17:11	ICP2-HE_130225A	26	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 15:42 / sld	02/21/13 17:11	ICPMS204-B_130226A	63	19573
Cadmium	3	mg/kg-dry		1		SW6020	02/26/13 15:42 / sld	02/21/13 17:11	ICPMS204-B_130226A	63	19573
Chromium	19	mg/kg-dry		1		SW6010B	02/25/13 13:32 / sld	02/21/13 17:11	ICP2-HE_130225A	26	19573
Copper	77	mg/kg-dry		1		SW6020	02/26/13 15:42 / sld	02/21/13 17:11	ICPMS204-B_130226A	63	19573
Lead	276	mg/kg-dry	D	3		SW6010B	02/25/13 13:32 / sld	02/21/13 17:11	ICP2-HE_130225A	26	19573
Manganese	2480	mg/kg-dry		1		SW6010B	02/25/13 13:32 / sld	02/21/13 17:11	ICP2-HE_130225A	26	19573
Nickel	14	mg/kg-dry		1		SW6010B	02/25/13 13:32 / sld	02/21/13 17:11	ICP2-HE_130225A	26	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 15:42 / sld	02/21/13 17:11	ICPMS204-B_130226A	63	19573
Silver	3	mg/kg-dry		1		SW6020	02/26/13 15:42 / sld	02/21/13 17:11	ICPMS204-B_130226A	63	19573
Zinc	314	mg/kg-dry		1		SW6010B	02/25/13 13:32 / sld	02/21/13 17:11	ICP2-HE_130225A	26	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:56 / sbk	02/20/13 08:03	HGCV201-H_130222A	22	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-107
Lab ID: H13020221-025
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 10:40
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	64.9	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	51	R86489
No. 60 Sieve	35.1	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	51	R86489
PHYSICAL CHARACTERISTICS											
Moisture	13.8	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	25	R86528
3050 EXTRACTABLE METALS											
Arsenic	17	mg/kg-dry		1		SW6010B	02/25/13 13:36 / sld	02/21/13 17:11	ICP2-HE_130225A	27	19573
Barium	124	mg/kg-dry		1		SW6010B	02/25/13 13:36 / sld	02/21/13 17:11	ICP2-HE_130225A	27	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 15:47 / sld	02/21/13 17:11	ICPMS204-B_130226A	64	19573
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 15:47 / sld	02/21/13 17:11	ICPMS204-B_130226A	64	19573
Chromium	21	mg/kg-dry		1		SW6010B	02/25/13 13:36 / sld	02/21/13 17:11	ICP2-HE_130225A	27	19573
Copper	164	mg/kg-dry		1		SW6020	02/26/13 15:47 / sld	02/21/13 17:11	ICPMS204-B_130226A	64	19573
Lead	46	mg/kg-dry	D	3		SW6010B	02/25/13 13:36 / sld	02/21/13 17:11	ICP2-HE_130225A	27	19573
Manganese	596	mg/kg-dry		1		SW6010B	02/25/13 13:36 / sld	02/21/13 17:11	ICP2-HE_130225A	27	19573
Nickel	11	mg/kg-dry		1		SW6010B	02/25/13 13:36 / sld	02/21/13 17:11	ICP2-HE_130225A	27	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 15:47 / sld	02/21/13 17:11	ICPMS204-B_130226A	64	19573
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 15:47 / sld	02/21/13 17:11	ICPMS204-B_130226A	64	19573
Zinc	100	mg/kg-dry		1		SW6010B	02/25/13 13:36 / sld	02/21/13 17:11	ICP2-HE_130225A	27	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 10:59 / sbk	02/20/13 08:03	HGCV201-H_130222A	23	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID A-SMLC-108
Lab ID: H13020221-026
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 10:55
DateReceived: 02/19/13
Report Date: 02/28/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	53.7	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	52	R86489
No. 60 Sieve	46.3	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	52	R86489
PHYSICAL CHARACTERISTICS											
Moisture	23.1	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	26	R86528
3050 EXTRACTABLE METALS											
Arsenic	25	mg/kg-dry		1		SW6010B	02/25/13 13:40 / sld	02/21/13 17:11	ICP2-HE_130225A	28	19573
Barium	122	mg/kg-dry		1		SW6010B	02/25/13 13:40 / sld	02/21/13 17:11	ICP2-HE_130225A	28	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 16:12 / sld	02/21/13 17:11	ICPMS204-B_130226A	69	19573
Cadmium	ND	mg/kg-dry		1		SW6020	02/26/13 16:12 / sld	02/21/13 17:11	ICPMS204-B_130226A	69	19573
Chromium	22	mg/kg-dry		1		SW6010B	02/25/13 13:40 / sld	02/21/13 17:11	ICP2-HE_130225A	28	19573
Copper	111	mg/kg-dry		1		SW6020	02/26/13 16:12 / sld	02/21/13 17:11	ICPMS204-B_130226A	69	19573
Lead	61	mg/kg-dry	D	3		SW6010B	02/25/13 13:40 / sld	02/21/13 17:11	ICP2-HE_130225A	28	19573
Manganese	748	mg/kg-dry		1		SW6010B	02/25/13 13:40 / sld	02/21/13 17:11	ICP2-HE_130225A	28	19573
Nickel	11	mg/kg-dry		1		SW6010B	02/25/13 13:40 / sld	02/21/13 17:11	ICP2-HE_130225A	28	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 16:12 / sld	02/21/13 17:11	ICPMS204-B_130226A	69	19573
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 16:12 / sld	02/21/13 17:11	ICPMS204-B_130226A	69	19573
Zinc	115	mg/kg-dry		1		SW6010B	02/25/13 13:40 / sld	02/21/13 17:11	ICP2-HE_130225A	28	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:01 / sbk	02/20/13 08:03	HGCV201-H_130222A	24	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID G-SMLC-231
Lab ID: H13020221-027
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 10:00
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	23.4	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	53	R86489
No. 60 Sieve	76.6	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	53	R86489
PHYSICAL CHARACTERISTICS											
Moisture	41.7	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	27	R86528
3050 EXTRACTABLE METALS											
Arsenic	31	mg/kg-dry		1		SW6010B	02/25/13 13:43 / sld	02/21/13 17:11	ICP2-HE_130225A	29	19573
Barium	191	mg/kg-dry		1		SW6010B	02/25/13 13:43 / sld	02/21/13 17:11	ICP2-HE_130225A	29	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 16:16 / sld	02/21/13 17:11	ICPMS204-B_130226A	70	19573
Cadmium	2	mg/kg-dry		1		SW6020	02/26/13 16:16 / sld	02/21/13 17:11	ICPMS204-B_130226A	70	19573
Chromium	17	mg/kg-dry		1		SW6010B	02/25/13 13:43 / sld	02/21/13 17:11	ICP2-HE_130225A	29	19573
Copper	53	mg/kg-dry		1		SW6020	02/26/13 16:16 / sld	02/21/13 17:11	ICPMS204-B_130226A	70	19573
Lead	72	mg/kg-dry	D	3		SW6010B	02/25/13 13:43 / sld	02/21/13 17:11	ICP2-HE_130225A	29	19573
Manganese	919	mg/kg-dry		1		SW6010B	02/25/13 13:43 / sld	02/21/13 17:11	ICP2-HE_130225A	29	19573
Nickel	9	mg/kg-dry		1		SW6010B	02/25/13 13:43 / sld	02/21/13 17:11	ICP2-HE_130225A	29	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 16:16 / sld	02/21/13 17:11	ICPMS204-B_130226A	70	19573
Silver	1	mg/kg-dry		1		SW6020	02/26/13 16:16 / sld	02/21/13 17:11	ICPMS204-B_130226A	70	19573
Zinc	172	mg/kg-dry		1		SW6010B	02/25/13 13:43 / sld	02/21/13 17:11	ICP2-HE_130225A	29	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:03 / sbk	02/20/13 08:03	HGCV201-H_130222A	25	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLC-258
Lab ID: H13020221-028
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 10:00
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	26.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	54	R86489
No. 60 Sieve	73.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	54	R86489
PHYSICAL CHARACTERISTICS											
Moisture	31.2	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	28	R86528
3050 EXTRACTABLE METALS											
Arsenic	51	mg/kg-dry	D	2		SW6010B	02/25/13 13:47 / sld	02/21/13 17:11	ICP2-HE_130225A	30	19573
Barium	163	mg/kg-dry		1		SW6010B	02/25/13 13:47 / sld	02/21/13 17:11	ICP2-HE_130225A	30	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 16:21 / sld	02/21/13 17:11	ICPMS204-B_130226A	71	19573
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 16:21 / sld	02/21/13 17:11	ICPMS204-B_130226A	71	19573
Chromium	20	mg/kg-dry		1		SW6010B	02/25/13 13:47 / sld	02/21/13 17:11	ICP2-HE_130225A	30	19573
Copper	38	mg/kg-dry		1		SW6020	02/26/13 16:21 / sld	02/21/13 17:11	ICPMS204-B_130226A	71	19573
Lead	62	mg/kg-dry	D	3		SW6010B	02/25/13 13:47 / sld	02/21/13 17:11	ICP2-HE_130225A	30	19573
Manganese	1020	mg/kg-dry		1		SW6010B	02/25/13 13:47 / sld	02/21/13 17:11	ICP2-HE_130225A	30	19573
Nickel	12	mg/kg-dry		1		SW6010B	02/25/13 13:47 / sld	02/21/13 17:11	ICP2-HE_130225A	30	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 16:21 / sld	02/21/13 17:11	ICPMS204-B_130226A	71	19573
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 16:21 / sld	02/21/13 17:11	ICPMS204-B_130226A	71	19573
Zinc	126	mg/kg-dry		1		SW6010B	02/25/13 13:47 / sld	02/21/13 17:11	ICP2-HE_130225A	30	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:13 / sbk	02/20/13 08:03	HGCV201-H_130222A	29	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID C-SMLD-3
Lab ID: H13020221-029
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 13:40
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	38.5	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	55	R86489
No. 60 Sieve	61.5	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	55	R86489
PHYSICAL CHARACTERISTICS											
Moisture	32.4	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	29	R86528
3050 EXTRACTABLE METALS											
Arsenic	624	mg/kg-dry		1		SW6010B	02/25/13 13:58 / sld	02/21/13 17:11	ICP2-HE_130225A	33	19573
Barium	249	mg/kg-dry		1		SW6010B	02/25/13 13:58 / sld	02/21/13 17:11	ICP2-HE_130225A	33	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 16:26 / sld	02/21/13 17:11	ICPMS204-B_130226A	72	19573
Cadmium	5	mg/kg-dry		1		SW6020	02/26/13 16:26 / sld	02/21/13 17:11	ICPMS204-B_130226A	72	19573
Chromium	14	mg/kg-dry		1		SW6010B	02/25/13 13:58 / sld	02/21/13 17:11	ICP2-HE_130225A	33	19573
Copper	132	mg/kg-dry		1		SW6020	02/26/13 16:26 / sld	02/21/13 17:11	ICPMS204-B_130226A	72	19573
Lead	759	mg/kg-dry	D	3		SW6010B	02/25/13 13:58 / sld	02/21/13 17:11	ICP2-HE_130225A	33	19573
Manganese	27000	mg/kg-dry		1		SW6010B	02/26/13 16:32 / sld	02/21/13 17:11	ICP2-HE_130226A	104	19573
Nickel	10	mg/kg-dry		1		SW6010B	02/25/13 13:58 / sld	02/21/13 17:11	ICP2-HE_130225A	33	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 16:26 / sld	02/21/13 17:11	ICPMS204-B_130226A	72	19573
Silver	12	mg/kg-dry		1		SW6020	02/26/13 16:26 / sld	02/21/13 17:11	ICPMS204-B_130226A	72	19573
Zinc	1060	mg/kg-dry		1		SW6010B	02/25/13 13:58 / sld	02/21/13 17:11	ICP2-HE_130225A	33	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:15 / sbk	02/20/13 08:03	HGCV201-H_130222A	30	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID G-SMLD-6
Lab ID: H13020221-030
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 09:00
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	28.3	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	56	R86489
No. 60 Sieve	71.7	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	56	R86489
PHYSICAL CHARACTERISTICS											
Moisture	29.4	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	30	R86528
3050 EXTRACTABLE METALS											
Arsenic	42	mg/kg-dry		1		SW6010B	02/25/13 14:02 / sld	02/21/13 17:11	ICP2-HE_130225A	34	19573
Barium	154	mg/kg-dry		1		SW6010B	02/25/13 14:02 / sld	02/21/13 17:11	ICP2-HE_130225A	34	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 16:31 / sld	02/21/13 17:11	ICPMS204-B_130226A	73	19573
Cadmium	2	mg/kg-dry		1		SW6020	02/26/13 16:31 / sld	02/21/13 17:11	ICPMS204-B_130226A	73	19573
Chromium	25	mg/kg-dry		1		SW6010B	02/25/13 14:02 / sld	02/21/13 17:11	ICP2-HE_130225A	34	19573
Copper	67	mg/kg-dry		1		SW6020	02/26/13 16:31 / sld	02/21/13 17:11	ICPMS204-B_130226A	73	19573
Lead	93	mg/kg-dry	D	3		SW6010B	02/25/13 14:02 / sld	02/21/13 17:11	ICP2-HE_130225A	34	19573
Manganese	1100	mg/kg-dry		1		SW6010B	02/25/13 14:02 / sld	02/21/13 17:11	ICP2-HE_130225A	34	19573
Nickel	13	mg/kg-dry		1		SW6010B	02/25/13 14:02 / sld	02/21/13 17:11	ICP2-HE_130225A	34	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 16:31 / sld	02/21/13 17:11	ICPMS204-B_130226A	73	19573
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 16:31 / sld	02/21/13 17:11	ICPMS204-B_130226A	73	19573
Zinc	221	mg/kg-dry		1		SW6010B	02/25/13 14:02 / sld	02/21/13 17:11	ICP2-HE_130225A	34	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:18 / sbk	02/20/13 08:03	HGCV201-H_130222A	31	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID H-SMLD-8
Lab ID: H13020221-031
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 16:20
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	48.6	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	57	R86489
No. 60 Sieve	51.4	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	57	R86489
PHYSICAL CHARACTERISTICS											
Moisture	19.4	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	31	R86528
3050 EXTRACTABLE METALS											
Arsenic	24	mg/kg-dry	D	2		SW6010B	02/25/13 14:06 / sld	02/21/13 17:11	ICP2-HE_130225A	35	19573
Barium	193	mg/kg-dry		1		SW6010B	02/25/13 14:06 / sld	02/21/13 17:11	ICP2-HE_130225A	35	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 16:36 / sld	02/21/13 17:11	ICPMS204-B_130226A	74	19573
Cadmium	2	mg/kg-dry		1		SW6020	02/26/13 16:36 / sld	02/21/13 17:11	ICPMS204-B_130226A	74	19573
Chromium	25	mg/kg-dry		1		SW6010B	02/25/13 14:06 / sld	02/21/13 17:11	ICP2-HE_130225A	35	19573
Copper	69	mg/kg-dry		1		SW6020	02/26/13 16:36 / sld	02/21/13 17:11	ICPMS204-B_130226A	74	19573
Lead	71	mg/kg-dry	D	3		SW6010B	02/25/13 14:06 / sld	02/21/13 17:11	ICP2-HE_130225A	35	19573
Manganese	991	mg/kg-dry		1		SW6010B	02/25/13 14:06 / sld	02/21/13 17:11	ICP2-HE_130225A	35	19573
Nickel	15	mg/kg-dry		1		SW6010B	02/25/13 14:06 / sld	02/21/13 17:11	ICP2-HE_130225A	35	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 16:36 / sld	02/21/13 17:11	ICPMS204-B_130226A	74	19573
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 16:36 / sld	02/21/13 17:11	ICPMS204-B_130226A	74	19573
Zinc	203	mg/kg-dry		1		SW6010B	02/25/13 14:06 / sld	02/21/13 17:11	ICP2-HE_130225A	35	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:20 / sbk	02/20/13 08:03	HGCV201-H_130222A	32	19544

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID G-SMLD-18
Lab ID: H13020221-032
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 09:10
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	17.5	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	58	R86489
No. 60 Sieve	82.5	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	58	R86489
PHYSICAL CHARACTERISTICS											
Moisture	35.6	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	32	R86528
3050 EXTRACTABLE METALS											
Arsenic	42	mg/kg-dry	D	2		SW6010B	02/25/13 14:10 / sld	02/21/13 17:11	ICP2-HE_130225A	36	19573
Barium	185	mg/kg-dry		1		SW6010B	02/25/13 14:10 / sld	02/21/13 17:11	ICP2-HE_130225A	36	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 16:41 / sld	02/21/13 17:11	ICPMS204-B_130226A	75	19573
Cadmium	1	mg/kg-dry		1		SW6020	02/26/13 16:41 / sld	02/21/13 17:11	ICPMS204-B_130226A	75	19573
Chromium	22	mg/kg-dry		1		SW6010B	02/25/13 14:10 / sld	02/21/13 17:11	ICP2-HE_130225A	36	19573
Copper	44	mg/kg-dry		1		SW6020	02/26/13 16:41 / sld	02/21/13 17:11	ICPMS204-B_130226A	75	19573
Lead	97	mg/kg-dry	D	3		SW6010B	02/25/13 14:10 / sld	02/21/13 17:11	ICP2-HE_130225A	36	19573
Manganese	1320	mg/kg-dry		1		SW6010B	02/25/13 14:10 / sld	02/21/13 17:11	ICP2-HE_130225A	36	19573
Nickel	13	mg/kg-dry		1		SW6010B	02/25/13 14:10 / sld	02/21/13 17:11	ICP2-HE_130225A	36	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 16:41 / sld	02/21/13 17:11	ICPMS204-B_130226A	75	19573
Silver	ND	mg/kg-dry		1		SW6020	02/26/13 16:41 / sld	02/21/13 17:11	ICPMS204-B_130226A	75	19573
Zinc	196	mg/kg-dry		1		SW6010B	02/25/13 14:10 / sld	02/21/13 17:11	ICP2-HE_130225A	36	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:32 / sbk	02/21/13 12:47	HGCV201-H_130222A	37	19568

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Client Sample ID C-SMLD-19
Lab ID: H13020221-033
Matrix: Soil

Project: Spring Meadow Lake
Collection Date: 02/18/13 13:50
Report Date: 02/28/13
DateReceived: 02/19/13
Revised Date: 03/01/13

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS											
No. 60 Sieve, Retained	32.7	wt% retained		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	59	R86489
No. 60 Sieve	67.3	wt% Passed		0.1		ASA15-2	02/22/13 11:31 / rgk		MISC SOILS_130222C	59	R86489
PHYSICAL CHARACTERISTICS											
Moisture	25.4	wt%		0.2		D2974	02/25/13 09:41 / sbk		MISC SOILS_130222E	33	R86528
3050 EXTRACTABLE METALS											
Arsenic	1390	mg/kg-dry		1		SW6010B	02/25/13 14:13 / sld	02/21/13 17:11	ICP2-HE_130225A	37	19573
Barium	248	mg/kg-dry		1		SW6010B	02/25/13 14:13 / sld	02/21/13 17:11	ICP2-HE_130225A	37	19573
Beryllium	ND	mg/kg-dry		1		SW6020	02/26/13 14:24 / sld	02/21/13 17:11	ICPMS204-B_130226A	47	19573
Cadmium	7	mg/kg-dry		1		SW6020	02/26/13 14:24 / sld	02/21/13 17:11	ICPMS204-B_130226A	47	19573
Chromium	15	mg/kg-dry		1		SW6010B	02/25/13 14:13 / sld	02/21/13 17:11	ICP2-HE_130225A	37	19573
Copper	181	mg/kg-dry		1		SW6020	02/26/13 14:24 / sld	02/21/13 17:11	ICPMS204-B_130226A	47	19573
Lead	1120	mg/kg-dry	D	3		SW6010B	02/25/13 14:13 / sld	02/21/13 17:11	ICP2-HE_130225A	37	19573
Manganese	33700	mg/kg-dry		1		SW6010B	02/26/13 16:36 / sld	02/21/13 17:11	ICP2-HE_130226A	105	19573
Nickel	10	mg/kg-dry		1		SW6010B	02/25/13 14:13 / sld	02/21/13 17:11	ICP2-HE_130225A	37	19573
Selenium	ND	mg/kg-dry		1		SW6020	02/26/13 14:24 / sld	02/21/13 17:11	ICPMS204-B_130226A	47	19573
Silver	15	mg/kg-dry		1		SW6020	02/26/13 14:24 / sld	02/21/13 17:11	ICPMS204-B_130226A	47	19573
Zinc	1440	mg/kg-dry		1		SW6010B	02/25/13 14:13 / sld	02/21/13 17:11	ICP2-HE_130225A	37	19573
METALS, TOTAL											
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:34 / sbk	02/21/13 12:47	HGCV201-H_130222A	38	19568

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Client Sample ID C-SMLW-3
Collection Date: 02/18/13 13:50
DateReceived: 02/19/13
Lab ID: H13020221-034
Report Date: 02/28/13
Revised Date: 03/01/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Arsenic	0.009	mg/L		0.001		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Barium	ND	mg/L		0.05		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Beryllium	ND	mg/L		0.001		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Cadmium	ND	mg/L		0.001		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Chromium	ND	mg/L		0.005		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Copper	0.030	mg/L		0.005		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Lead	0.001	mg/L		0.001		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Manganese	ND	mg/L		0.001		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:14 / sbk	02/20/13 17:08	HGCV201-H_130221A : 19		19555
Nickel	ND	mg/L		0.005		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Selenium	ND	mg/L		0.001		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Silver	ND	mg/L		0.001		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
Zinc	0.06	mg/L		0.01		E200.8	02/21/13 14:51 / dck	02/19/13 12:55	ICPMS204-B_130221A : 26		R86477
METALS, TOTAL											
Arsenic	0.010	mg/L		0.001		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Barium	ND	mg/L		0.05		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Beryllium	ND	mg/L		0.001		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Cadmium	ND	mg/L		0.001		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Chromium	ND	mg/L		0.005		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Copper	0.134	mg/L		0.005		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Lead	0.008	mg/L		0.001		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Manganese	0.003	mg/L		0.001		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:21 / sbk	02/20/13 17:08	HGCV201-H_130221A : 22		19555
Nickel	0.006	mg/L		0.005		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Selenium	ND	mg/L		0.001		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Silver	ND	mg/L		0.001		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546
Zinc	0.13	mg/L		0.01		E200.8	02/21/13 15:28 / dck	02/20/13 09:10	ICPMS204-B_130221A : 34		19546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Client Sample ID G-SMLW-6
Collection Date: 02/18/13 09:25
DateReceived: 02/19/13
Lab ID: H13020221-035
Report Date: 02/28/13
Revised Date: 03/01/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Arsenic	0.004	mg/L		0.001		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Barium	0.05	mg/L		0.05		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Beryllium	ND	mg/L		0.001		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Cadmium	ND	mg/L		0.001		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Chromium	ND	mg/L		0.005		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Copper	0.042	mg/L		0.005		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Lead	ND	mg/L		0.001		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Manganese	ND	mg/L		0.001		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:24 / sbk	02/20/13 17:08	HGCV201-H_130221A	23	19555
Nickel	ND	mg/L		0.005		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Selenium	ND	mg/L		0.001		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Silver	ND	mg/L		0.001		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
Zinc	0.03	mg/L		0.01		E200.8	02/21/13 15:51 / dck	02/19/13 12:55	ICPMS204-B_130221A	39	R86477
METALS, TOTAL											
Arsenic	0.004	mg/L		0.001		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Barium	0.05	mg/L		0.05		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Beryllium	ND	mg/L		0.001		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Cadmium	ND	mg/L		0.001		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Chromium	ND	mg/L		0.005		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Copper	0.114	mg/L		0.005		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Lead	0.008	mg/L		0.001		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Manganese	ND	mg/L		0.001		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:26 / sbk	02/20/13 17:08	HGCV201-H_130221A	24	19555
Nickel	ND	mg/L		0.005		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Selenium	0.001	mg/L		0.001		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Silver	ND	mg/L		0.001		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546
Zinc	0.05	mg/L		0.01		E200.8	02/21/13 15:56 / dck	02/20/13 09:10	ICPMS204-B_130221A	40	19546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Client Sample ID H-SMLW-8
Collection Date: 02/18/13 16:05 **DateReceived:** 02/19/13
Lab ID: H13020221-036
Report Date: 02/28/13 **Revised Date:** 03/01/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, DISSOLVED											
Arsenic	0.003	mg/L		0.001		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Barium	ND	mg/L		0.05		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Beryllium	ND	mg/L		0.001		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Cadmium	ND	mg/L		0.001		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Chromium	ND	mg/L		0.005		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Copper	0.015	mg/L		0.005		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Lead	ND	mg/L		0.001		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Manganese	ND	mg/L		0.001		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:29 / sbk	02/20/13 17:08	HGCV201-H_130221A	25	19555
Nickel	ND	mg/L		0.005		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Selenium	0.001	mg/L		0.001		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Silver	ND	mg/L		0.001		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
Zinc	0.06	mg/L		0.01		E200.8	02/21/13 16:00 / dck	02/19/13 12:55	ICPMS204-B_130221A	41	R86477
METALS, TOTAL											
Arsenic	0.003	mg/L		0.001		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Barium	ND	mg/L		0.05		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Beryllium	ND	mg/L		0.001		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Cadmium	ND	mg/L		0.001		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Chromium	ND	mg/L		0.005		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Copper	0.016	mg/L		0.005		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Lead	ND	mg/L		0.001		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Manganese	ND	mg/L		0.001		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:31 / sbk	02/20/13 17:08	HGCV201-H_130221A	26	19555
Nickel	ND	mg/L		0.005		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Selenium	0.001	mg/L		0.001		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Silver	ND	mg/L		0.001		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546
Zinc	0.12	mg/L		0.01		E200.8	02/21/13 16:05 / dck	02/20/13 09:10	ICPMS204-B_130221A	42	19546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Client Sample ID G-SMLC-EB-3
Collection Date: 02/18/13 09:00
DateReceived: 02/19/13
Lab ID: H13020221-037
Report Date: 02/28/13
Revised Date: 03/01/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Arsenic	ND	mg/L		0.001		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Barium	ND	mg/L		0.05		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Beryllium	ND	mg/L		0.001		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Cadmium	ND	mg/L		0.001		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Chromium	ND	mg/L		0.005		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Copper	ND	mg/L		0.005		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Lead	ND	mg/L		0.001		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Manganese	ND	mg/L		0.001		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:33 / sbk	02/20/13 17:08	HGCV201-H_130221A	27	19555
Nickel	ND	mg/L		0.005		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Selenium	ND	mg/L		0.001		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Silver	ND	mg/L		0.001		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546
Zinc	ND	mg/L		0.01		E200.8	02/21/13 16:10 / dck	02/20/13 09:10	ICPMS204-B_130221A	43	19546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Client Sample ID M-SMLC-EB-4
Collection Date: 02/18/13 14:15
DateReceived: 02/19/13
Lab ID: H13020221-038
Report Date: 02/28/13
Revised Date: 03/01/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
METALS, TOTAL											
Arsenic	ND	mg/L		0.001		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Barium	ND	mg/L		0.05		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Beryllium	ND	mg/L		0.001		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Cadmium	ND	mg/L		0.001		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Chromium	ND	mg/L		0.005		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Copper	ND	mg/L		0.005		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Lead	ND	mg/L		0.001		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Manganese	ND	mg/L		0.001		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:36 / sbk	02/20/13 17:08	HGCV201-H_130221A	28	19555
Nickel	ND	mg/L		0.005		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Selenium	ND	mg/L		0.001		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Silver	ND	mg/L		0.001		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546
Zinc	ND	mg/L		0.01		E200.8	02/21/13 16:15 / dck	02/20/13 09:10	ICPMS204-B_130221A	44	19546

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 130221sa

Run ID :Run Order: **HGCV201-H_130221B: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **SW7471A**

Analysis Date: **02/21/13 08:49** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00100	0.50	0.001		100	90	110				

Associated samples: **H13020221-001B; H13020221-002B; H13020221-003B; H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B**

Run ID :Run Order: **HGCV201-H_130221B: 46** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**

Analysis Date: **02/21/13 10:36** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0027	0.50	0.0025		106	90	110				

Associated samples:

Run ID :Run Order: **HGCV201-H_130221B: 122** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**

Analysis Date: **02/21/13 11:17** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0024	0.50	0.0025		97	90	110				

Associated samples: **H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 130221wa

Date: *28-Feb-13*

Run ID :Run Order: **HGCV201-H_130221A: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E245.1**

Analysis Date: **02/21/13 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002		102	90	110				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **HGCV201-H_130221A: 20** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **E245.1**

Analysis Date: **02/21/13 14:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002		94	90	110				

Associated samples: **H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 130222sa

Run ID :Run Order: **HGCV201-H_130222A: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **SW7471A**

Analysis Date: **02/22/13 10:06** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001		100	90	110				

Associated samples: **H13020221-013B; H13020221-014B; H13020221-015B; H13020221-016B; H13020221-017B; H13020221-018B; H13020221-019B; H13020221-020B; H13020221-021B; H13020221-022B; H13020221-023B; H13020221-024B; H13020221-025B; H13020221-026B; H13020221-027B; H13020221-028B; H13020221-029B; H13020221-030B; H13020221-031B; H13020221-032B; H13020221-033B**

Run ID :Run Order: **HGCV201-H_130222A: 2** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**

Analysis Date: **02/22/13 10:09** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025		100	90	110				

Associated samples: **H13020221-013B; H13020221-014B; H13020221-015B; H13020221-016B; H13020221-017B; H13020221-018B; H13020221-019B; H13020221-020B; H13020221-021B; H13020221-022B**

Run ID :Run Order: **HGCV201-H_130222A: 19** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**

Analysis Date: **02/22/13 10:49** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025		99	90	110				

Associated samples: **H13020221-023B; H13020221-024B; H13020221-025B; H13020221-026B; H13020221-027B; H13020221-028B; H13020221-029B; H13020221-030B; H13020221-031B**

Run ID :Run Order: **HGCV201-H_130222A: 33** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**

Analysis Date: **02/22/13 11:22** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025		99	90	110				

Associated samples: **H13020221-032B; H13020221-033B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19543

Run ID :Run Order: **HGCV201-H_130221B: 48** SampType: **Method Blank** Sample ID: **MB-19543** Method: **SW7471A**
Analysis Date: **02/21/13 10:41** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0009									

Associated samples: **H13020221-001B; H13020221-002B; H13020221-003B; H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B**

Run ID :Run Order: **HGCV201-H_130221B: 49** SampType: **Laboratory Control Sample** Sample ID: **LCS-19543** Method: **SW7471A**
Analysis Date: **02/21/13 10:43** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.4	0.50	4.985		88	80	120				

Associated samples: **H13020221-001B; H13020221-002B; H13020221-003B; H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B**

Run ID :Run Order: **HGCV201-H_130221B: 57** SampType: **Sample Matrix Spike** Sample ID: **H13020220-026BMS** Method: **SW7471A**
Analysis Date: **02/21/13 11:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.307	0.03605	103	80	120				

Associated samples: **H13020221-001B; H13020221-002B; H13020221-003B; H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B**

Run ID :Run Order: **HGCV201-H_130221B: 58** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-026BMSD** Method: **SW7471A**
Analysis Date: **02/21/13 11:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.308	0.03605	106	80	120	1.377	3.1	20	

Associated samples: **H13020221-001B; H13020221-002B; H13020221-003B; H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B**

Run ID :Run Order: **HGCV201-H_130221B: 130** SampType: **Sample Matrix Spike** Sample ID: **H13020221-009BMS** Method: **SW7471A**
Analysis Date: **02/21/13 11:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.9	0.50	1.436	0.2668	110	80	120				

Associated samples: **H13020221-001B; H13020221-002B; H13020221-003B; H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 19543

Date: *28-Feb-13*

Run ID :Run Order: **HGCV201-H_130221B: 131** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-009BMSD** Method: **SW7471A**

Analysis Date: **02/21/13 11:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.8	0.50	1.439	0.2668	106	80	120	1.853	3.5	20	

Associated samples: **H13020221-001B; H13020221-002B; H13020221-003B; H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B**

Run ID :Run Order: **HGCV201-H_130221B: 132** SampType: **Serial Dilution** Sample ID: **H13020221-009BDIL** Method: **SW7471A**

Analysis Date: **02/21/13 11:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.50				0	0	0.2668		20	

Associated samples: **H13020221-001B; H13020221-002B; H13020221-003B; H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19544

Run ID :Run Order: **HGCV201-H_130222A: 4** SampType: **Method Blank** Sample ID: **MB-19544** Method: **SW7471A**
Analysis Date: **02/22/13 10:13** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0009									

Associated samples: **H13020221-013B; H13020221-014B; H13020221-015B; H13020221-016B; H13020221-017B; H13020221-018B; H13020221-019B; H13020221-020B; H13020221-021B; H13020221-022B; H13020221-023B; H13020221-024B; H13020221-025B; H13020221-026B; H13020221-027B; H13020221-028B; H13020221-029B; H13020221-030B; H13020221-031B**

Run ID :Run Order: **HGCV201-H_130222A: 5** SampType: **Laboratory Control Sample** Sample ID: **LCS-19544** Method: **SW7471A**
Analysis Date: **02/22/13 10:16** Units: **mg/kg** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.6	0.50	4.995		93	80	120				

Associated samples: **H13020221-013B; H13020221-014B; H13020221-015B; H13020221-016B; H13020221-017B; H13020221-018B; H13020221-019B; H13020221-020B; H13020221-021B; H13020221-022B; H13020221-023B; H13020221-024B; H13020221-025B; H13020221-026B; H13020221-027B; H13020221-028B; H13020221-029B; H13020221-030B; H13020221-031B**

Run ID :Run Order: **HGCV201-H_130222A: 9** SampType: **Sample Matrix Spike** Sample ID: **H13020221-015BMS** Method: **SW7471A**
Analysis Date: **02/22/13 10:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.1	0.50	1.864	0.3099	97	80	120				

Associated samples: **H13020221-013B; H13020221-014B; H13020221-015B; H13020221-016B; H13020221-017B; H13020221-018B; H13020221-019B; H13020221-020B; H13020221-021B; H13020221-022B; H13020221-023B; H13020221-024B; H13020221-025B; H13020221-026B; H13020221-027B; H13020221-028B; H13020221-029B; H13020221-030B; H13020221-031B**

Run ID :Run Order: **HGCV201-H_130222A: 10** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-015BMSD** Method: **SW7471A**
Analysis Date: **02/22/13 10:28** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.1	0.50	1.864	0.3099	95	80	120	2.124	1.8	20	

Associated samples: **H13020221-013B; H13020221-014B; H13020221-015B; H13020221-016B; H13020221-017B; H13020221-018B; H13020221-019B; H13020221-020B; H13020221-021B; H13020221-022B; H13020221-023B; H13020221-024B; H13020221-025B; H13020221-026B; H13020221-027B; H13020221-028B; H13020221-029B; H13020221-030B; H13020221-031B**

Run ID :Run Order: **HGCV201-H_130222A: 26** SampType: **Sample Matrix Spike** Sample ID: **H13020221-027BMS** Method: **SW7471A**
Analysis Date: **02/22/13 11:06** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.9	0.50	1.713	0.3149	92	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19544

Run ID :Run Order: **HGCV201-H_130222A: 26** SampType: **Sample Matrix Spike** Sample ID: **H13020221-027BMS** Method: **SW7471A**

Analysis Date: **02/22/13 11:06** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020221-013B; H13020221-014B; H13020221-015B; H13020221-016B; H13020221-017B; H13020221-018B; H13020221-019B; H13020221-020B; H13020221-021B; H13020221-022B; H13020221-023B; H13020221-024B; H13020221-025B; H13020221-026B; H13020221-027B; H13020221-028B; H13020221-029B; H13020221-030B; H13020221-031B**

Run ID :Run Order: **HGCV201-H_130222A: 27** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-027BMSD** Method: **SW7471A**

Analysis Date: **02/22/13 11:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.8	0.50	1.715	0.3149	88	80	120	1.895	3.8	20	

Associated samples: **H13020221-013B; H13020221-014B; H13020221-015B; H13020221-016B; H13020221-017B; H13020221-018B; H13020221-019B; H13020221-020B; H13020221-021B; H13020221-022B; H13020221-023B; H13020221-024B; H13020221-025B; H13020221-026B; H13020221-027B; H13020221-028B; H13020221-029B; H13020221-030B; H13020221-031B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19546

Run ID :Run Order: **ICPMS204-B_130221A: 28** SampType: **Method Blank** Sample ID: **MB-19546** Method: **E200.8**

Analysis Date: **02/21/13 15:00** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	2E-05									
Cadmium	ND	2E-05									
Chromium	0.0002	0.0002									
Copper	ND	0.0002									
Lead	ND	3E-05									
Manganese	ND	0.0001									
Nickel	ND	0.0001									
Selenium	ND	0.0002									
Silver	ND	0.0001									
Zinc	ND	0.001									

Associated samples: **H13020221-034B; H13020221-035B; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **ICPMS204-B_130221A: 29** SampType: **Laboratory Control Sample** Sample ID: **LCS-19546** Method: **E200.8**

Analysis Date: **02/21/13 15:05** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.501	0.0010	0.5		100	85	115				
Barium	0.508	0.050	0.5		102	85	115				
Beryllium	0.264	0.0010	0.25		106	85	115				
Cadmium	0.250	0.0010	0.25		100	85	115				
Chromium	0.506	0.0050	0.5	0.0001799	101	85	115				
Copper	0.468	0.0050	0.5		94	85	115				
Lead	0.504	0.0010	0.5		101	85	115				
Manganese	2.51	0.0010	2.5		100	85	115				
Nickel	0.508	0.0050	0.5		102	85	115				
Selenium	0.518	0.0010	0.5		104	85	115				
Silver	0.0513	0.0010	0.05		103	85	115				
Zinc	0.516	0.010	0.5		103	85	115				

Associated samples: **H13020221-034B; H13020221-035B; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19546

Run ID :Run Order: **ICPMS204-B_130221A: 35** SampType: **Sample Matrix Spike** Sample ID: **H13020221-034BMS3** Method: **E200.8**

Analysis Date: **02/21/13 15:33** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.508	0.0010	0.5	0.009777	100	70	130				
Barium	0.557	0.050	0.5	0.03797	104	70	130				
Beryllium	0.252	0.0010	0.25		101	70	130				
Cadmium	0.247	0.0010	0.25	0.0000851	99	70	130				
Chromium	0.501	0.0050	0.5	0.000323	100	70	130				
Copper	0.582	0.0050	0.5	0.1337	90	70	130				
Lead	0.512	0.0010	0.5	0.008446	101	70	130				
Manganese	2.54	0.0010	2.5	0.003437	101	70	130				
Nickel	0.500	0.0050	0.5	0.006296	99	70	130				
Selenium	0.507	0.0010	0.5	0.000441	101	70	130				
Silver	0.0509	0.0010	0.05	0.0001555	101	70	130				
Zinc	0.624	0.010	0.5	0.1283	99	70	130				

Associated samples: **H13020221-034B; H13020221-035B; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **ICPMS204-B_130221A: 36** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-034BMSD3** Method: **E200.8**

Analysis Date: **02/21/13 15:37** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.505	0.0010	0.5	0.009777	99	70	130	0.508	0.6	20	
Barium	0.552	0.050	0.5	0.03797	103	70	130	0.5571	0.8	20	
Beryllium	0.253	0.0010	0.25		101	70	130	0.2524	0.3	20	
Cadmium	0.255	0.0010	0.25	0.0000851	102	70	130	0.2469	3.1	20	
Chromium	0.501	0.0050	0.5	0.000323	100	70	130	0.5009	0.1	20	
Copper	0.579	0.0050	0.5	0.1337	89	70	130	0.5815	0.4	20	
Lead	0.521	0.0010	0.5	0.008446	103	70	130	0.512	1.8	20	
Manganese	2.50	0.0010	2.5	0.003437	100	70	130	2.537	1.4	20	
Nickel	0.493	0.0050	0.5	0.006296	97	70	130	0.4995	1.3	20	
Selenium	0.494	0.0010	0.5	0.000441	99	70	130	0.5068	2.5	20	
Silver	0.0502	0.0010	0.05	0.0001555	100	70	130	0.0509	1.4	20	
Zinc	0.616	0.010	0.5	0.1283	97	70	130	0.6244	1.4	20	

Associated samples: **H13020221-034B; H13020221-035B; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19555

Run ID :Run Order: **HGCV201-H_130221A: 4** SampType: **Method Blank** Sample ID: **MB-19555** Method: **E245.1**
Analysis Date: **02/21/13 13:39** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8E-06	6E-06									

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **HGCV201-H_130221A: 7** SampType: **Laboratory Control Sample** Sample ID: **LCS-19555** Method: **E245.1**
Analysis Date: **02/21/13 13:46** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0.00000806	94	90	110				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **HGCV201-H_130221A: 12** SampType: **Sample Matrix Spike** Sample ID: **H13020202-023AMS** Method: **E245.1**
Analysis Date: **02/21/13 13:58** Units: **mg/L** **Prep Info:** Prep Date: **2/22/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0.00006571	69	70	130				S

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **HGCV201-H_130221A: 13** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020202-023AMSD** Method: **E245.1**
Analysis Date: **02/21/13 14:00** Units: **mg/L** **Prep Info:** Prep Date: **2/22/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002	0.00006571	61	70	130	0.0002041	8.6	30	S

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **HGCV201-H_130221A: 29** SampType: **Sample Matrix Spike** Sample ID: **H13020221-038AMS** Method: **E245.1**
Analysis Date: **02/21/13 14:38** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002	0.00000851	92	70	130				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 19555

Date: *28-Feb-13*

Run ID :Run Order: **HGCV201-H_130221A: 30** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-038AMSD** Method: **E245.1**

Analysis Date: **02/21/13 14:41** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002	0.00000851	**89**	70	130	0.0001924	**3.6**	30	

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19568

Run ID :Run Order: **HGCV201-H_130222A: 35** SampType: **Method Blank** Sample ID: **MB-19568** Method: **SW7471A**
Analysis Date: **02/22/13 11:27** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0009									

Associated samples: **H13020221-032B; H13020221-033B**

Run ID :Run Order: **HGCV201-H_130222A: 36** SampType: **Laboratory Control Sample** Sample ID: **LCS-19568** Method: **SW7471A**
Analysis Date: **02/22/13 11:30** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.4	0.50	4.99		87	80	120				

Associated samples: **H13020221-032B; H13020221-033B**

Run ID :Run Order: **HGCV201-H_130222A: 79** SampType: **Sample Matrix Spike** Sample ID: **H13020243-002BMS** Method: **SW7471A**
Analysis Date: **02/22/13 11:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.8	0.50	1.642	0.1832	101	80	120				

Associated samples: **H13020221-032B; H13020221-033B**

Run ID :Run Order: **HGCV201-H_130222A: 80** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-002BMSD** Method: **SW7471A**
Analysis Date: **02/22/13 11:44** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.8	0.50	1.635	0.1832	96	80	120	1.846	4.8	20	

Associated samples: **H13020221-032B; H13020221-033B**

Run ID :Run Order: **HGCV201-H_130222A: 81** SampType: **Serial Dilution** Sample ID: **H13020243-002BDIL** Method: **SW7471A**
Analysis Date: **02/22/13 11:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.18	0.50				0	0	0.1832		20	

Associated samples: **H13020221-032B; H13020221-033B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19568

Run ID :Run Order: **HGCV201-H_130222A: 95** SampType: **Sample Matrix Spike** Sample ID: **H13020243-013BMS** Method: **SW7471A**
Analysis Date: **02/22/13 12:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.392	0.09022	95	80	120				

Associated samples: **H13020221-032B; H13020221-033B**

Run ID :Run Order: **HGCV201-H_130222A: 96** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-013BMSD** Method: **SW7471A**
Analysis Date: **02/22/13 12:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.397	0.09022	96	80	120	1.41	1.6	20	

Associated samples: **H13020221-032B; H13020221-033B**

Run ID :Run Order: **HGCV201-H_130222A: 97** SampType: **Serial Dilution** Sample ID: **H13020243-013BDIL** Method: **SW7471A**
Analysis Date: **02/22/13 12:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.095	0.50				0	0	0.09022		20	

Associated samples: **H13020221-032B; H13020221-033B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19572

Run ID :Run Order: **ICP2-HE_130226A: 21** SampType: **Method Blank** Sample ID: **MB-19572** Method: **SW6010B**

Analysis Date: **02/26/13 11:24** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1	0.4									
Barium	0.02	0.02									
Chromium	ND	0.07									
Copper	ND	0.2									
Lead	1	1									
Manganese	0.7	0.04									
Nickel	ND	0.08									
Zinc	0.2	0.1									

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Run ID :Run Order: **ICP2-HE_130226A: 22** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19572** Method: **SW6010B**

Analysis Date: **02/26/13 11:28** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.3	1.0	50	1.01	93	80	120				
Barium	50.0	1.0	50	0.0195	100	80	120				
Chromium	47.4	1.0	50		95	80	120				
Copper	49.1	1.0	50		98	80	120				
Lead	46.2	1.0	50	1.456	89	80	120				
Manganese	241	1.0	250	0.739	96	80	120				
Nickel	46.0	1.0	50		92	80	120				
Zinc	46.1	1.0	50	0.1715	92	80	120				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Run ID :Run Order: **ICP2-HE_130226A: 23** SampType: **Laboratory Control Sample** Sample ID: **LCS-19572** Method: **SW6010B**

Analysis Date: **02/26/13 11:31** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	284	1.5	343	1.01	82	72.3	106.4				
Barium	553	1.0	614	0.0195	90	80.6	112.2				
Chromium	68.4	1.0	76		90	72.8	109.1				
Copper	250	1.0	280		89	77.5	109.6				

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limit; R - RPD outside accepted recovery limits; N - Analyte concentration was not sufficiently high to calculate RPD; A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19572

Run ID :Run Order: **ICP2-HE_130226A: 23** SampType: **Laboratory Control Sample** Sample ID: **LCS-19572** Method: **SW6010B**

Analysis Date: **02/26/13 11:31** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	186	3.1	187	1.456	99	75.9	108.6				
Manganese	340	1.0	369	0.739	92	80.8	115.7				
Nickel	53.3	1.0	61		87	72.3	103.4				
Zinc	189	1.0	213	0.1715	89	74.2	109.9				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Run ID :Run Order: **ICP2-HE_130226A: 48** SampType: **Sample Matrix Spike** Sample ID: **H13020221-018CMS** Method: **SW6010B**

Analysis Date: **02/26/13 13:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	97.7	1.5	49.5	50.42	95	75	125				
Barium	230	1.0	49.5	170.8	120	75	125				
Chromium	67.6	1.0	49.5	17.87	100	75	125				
Copper	81.0	1.0	49.5	34.15	95	75	125				
Lead	109	3.1	49.5	65.88	88	75	125				
Manganese	1220	1.0	247.5	1009		75	125				A
Nickel	57.3	1.0	49.5	12	92	75	125				
Zinc	170	1.0	49.5	126	89	75	125				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Run ID :Run Order: **ICP2-HE_130226A: 49** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-018CMSD** Method: **SW6010B**

Analysis Date: **02/26/13 13:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	97.1	1.5	49.5	50.42	94	75	125	97.67	0.6	20	
Barium	221	1.0	49.5	170.8	102	75	125	230	3.9	20	
Chromium	66.1	1.0	49.5	17.87	97	75	125	67.55	2.2	20	
Copper	80.3	1.0	49.5	34.15	93	75	125	80.98	0.8	20	
Lead	111	3.1	49.5	65.88	91	75	125	109.3	1.6	20	
Manganese	1200	1.0	247.5	1009		75	125	1221	1.7	20	A
Nickel	57.2	1.0	49.5	12	91	75	125	57.32	0.2	20	
Zinc	169	1.0	49.5	126	87	75	125	170.3	0.8	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19572

Run ID :Run Order: **ICP2-HE_130226A: 49** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-018CMSD** Method: **SW6010B**

Analysis Date: **02/26/13 13:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Run ID :Run Order: **ICP2-HE_130227A: 17** SampType: **Method Blank** Sample ID: **MB-19572** Method: **SW6010B**

Analysis Date: **02/27/13 12:00** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.6	0.4									
Barium	0.03	0.02									
Chromium	ND	0.07									
Copper	ND	0.2									
Lead	ND	1									
Manganese	0.6	0.04									
Nickel	ND	0.08									
Zinc	ND	0.1									

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19572

Run ID :Run Order: **ICPMS204-B_130226A: 82** SampType: **Method Blank** Sample ID: **MB-19572** Method: **SW6020**

Analysis Date: **02/26/13 17:16** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.03	0.01									
Beryllium	ND	0.005									
Cadmium	0.04	0.007									
Lead	0.03	0.003									
Selenium	ND	0.01									
Silver	ND	0.02									

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Run ID :Run Order: **ICPMS204-B_130226A: 83** SampType: **Laboratory Control Sample** Sample ID: **LCS-19572** Method: **SW6020**

Analysis Date: **02/26/13 17:21** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	309	1.0	343	0.03227	90	72.3	106.4				
Beryllium	43.4	1.0	51		85	76.3	108.6				
Cadmium	125	1.0	137	0.03838	91	73	105.1				
Lead	186	1.0	187	0.03375	100	75.9	108.6				
Selenium	192	1.0	196		98	72.5	112.2				
Silver	67.4	1.0	69		98	67.8	112.8				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Run ID :Run Order: **ICPMS204-B_130226A: 84** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19572** Method: **SW6020**

Analysis Date: **02/26/13 17:26** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.2	1.0	50	0.03227	98	80	120				
Beryllium	22.9	1.0	25		92	80	120				
Cadmium	26.1	1.0	25	0.03838	104	80	120				
Lead	51.0	1.0	50	0.03375	102	80	120				
Selenium	51.1	1.0	50		102	80	120				
Silver	25.1	1.0	25		100	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19572

Run ID :Run Order: **ICPMS204-B_130226A: 84** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19572** Method: **SW6020**

Analysis Date: **02/26/13 17:26** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Run ID :Run Order: **ICPMS204-B_130226A: 115** SampType: **Sample Matrix Spike** Sample ID: **H13020221-018CMS** Method: **SW6020**

Analysis Date: **02/26/13 19:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	103	1.0	49.5	54.5	98	75	125				
Beryllium	23.4	1.0	24.75	0.5052	92	75	125				
Cadmium	24.6	1.0	24.75	0.9742	96	75	125				
Lead	114	1.0	49.5	64.91	100	75	125				
Selenium	50.7	1.0	49.5	0.3243	102	75	125				
Silver	26.9	1.0	24.75	0.5276	107	75	125				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Run ID :Run Order: **ICPMS204-B_130226A: 116** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-018CMSD** Method: **SW6020**

Analysis Date: **02/26/13 20:03** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	106	1.0	49.5	54.5	104	75	125	103.1	2.8	20	
Beryllium	24.7	1.0	24.75	0.5052	98	75	125	23.4	5.4	20	
Cadmium	25.3	1.0	24.75	0.9742	98	75	125	24.62	2.8	20	
Lead	119	1.0	49.5	64.91	110	75	125	114.5	4.2	20	
Selenium	52.8	1.0	49.5	0.3243	106	75	125	50.7	4.1	20	
Silver	26.5	1.0	24.75	0.5276	105	75	125	26.9	1.7	20	

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19573

Run ID :Run Order: **ICP2-HE_130225A: 15** SampType: **Method Blank** Sample ID: **MB-19573** Method: **SW6010B**

Analysis Date: **02/25/13 12:52** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.4									
Barium	0.04	0.02									
Chromium	ND	0.07									
Lead	ND	1									
Manganese	ND	0.04									
Nickel	ND	0.08									
Zinc	0.2	0.1									

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICP2-HE_130225A: 16** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19573** Method: **SW6010B**

Analysis Date: **02/25/13 12:55** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	48.2	1.0	50		96	80	120				
Barium	49.9	1.0	50	0.0375	100	80	120				
Chromium	51.3	1.0	50		103	80	120				
Lead	49.6	1.0	50		99	80	120				
Manganese	244	1.0	250		98	80	120				
Nickel	50.4	1.0	50		101	80	120				
Zinc	48.1	1.0	50	0.236	96	80	120				

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICP2-HE_130225A: 17** SampType: **Laboratory Control Sample** Sample ID: **LCS-19573** Method: **SW6010B**

Analysis Date: **02/25/13 12:59** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	273	1.5	339.6		80	72.3	106.4				
Barium	548	1.0	607.9	0.0375	90	80.6	112.2				
Chromium	69.8	1.0	75.25		93	72.8	109.1				
Lead	170	3.1	185.1		92	75.9	108.6				
Manganese	347	1.0	365.3		95	80.8	115.7				
Nickel	54.0	1.0	60.4		89	72.3	103.4				
Zinc	185	1.0	210.9	0.236	88	74.2	109.9				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19573

Run ID :Run Order: **ICP2-HE_130225A: 17** SampType: **Laboratory Control Sample** Sample ID: **LCS-19573** Method: **SW6010B**
Analysis Date: **02/25/13 12:59** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICP2-HE_130225A: 40** SampType: **Sample Matrix Spike** Sample ID: **H13020221-033CMS** Method: **SW6010B**
Analysis Date: **02/25/13 14:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1390	1.5	49.02	1391		75	125				A
Barium	299	1.0	49.02	248		75	125				A
Chromium	63.0	1.0	49.02	14.84	98	75	125				
Lead	1130	3.0	49.02	1117		75	125				A
Manganese	32500	1.0	245.1	33030		75	125				A
Nickel	56.9	1.0	49.02	10.3	95	75	125				
Zinc	1430	1.0	49.02	1440		75	125				A

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICP2-HE_130225A: 41** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-033CMSD** Method: **SW6010B**
Analysis Date: **02/25/13 14:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1420	1.5	48.54	1391		75	125	1385	2.2	20	A
Barium	305	1.0	48.54	248		75	125	298.8	2.0	20	A
Chromium	63.3	1.0	48.54	14.84	100	75	125	63.04	0.5	20	
Lead	1170	3.0	48.54	1117		75	125	1130	3.2	20	A
Manganese	32300	1.0	242.7	33030		75	125	32520	0.8	20	A
Nickel	56.9	1.0	48.54	10.3	96	75	125	56.9	0.0	20	
Zinc	1470	1.0	48.54	1440		75	125	1428	3.1	20	A

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICP2-HE_130226A: 103** SampType: **Method Blank** Sample ID: **MB-19573** Method: **SW6010B**
Analysis Date: **02/26/13 16:28** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.6	0.4									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19573

Run ID :Run Order: **ICP2-HE_130226A: 103** SampType: **Method Blank** Sample ID: **MB-19573** Method: **SW6010B**

Analysis Date: **02/26/13 16:28** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.04	0.02									
Chromium	ND	0.7									
Lead	2	1									
Manganese	0.09	0.04									
Nickel	ND	0.08									
Zinc	0.2	0.1									

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19573

Run ID :Run Order: **ICPMS204-B_130226A: 37** SampType: **Method Blank** Sample ID: **MB-19573** Method: **SW6020**

Analysis Date: **02/26/13 13:34** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.005									
Cadmium	0.05	0.007									
Copper	0.09	0.03									
Selenium	0.01	0.01									
Silver	ND	0.02									

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICPMS204-B_130226A: 38** SampType: **Laboratory Control Sample** Sample ID: **LCS-19573** Method: **SW6020**

Analysis Date: **02/26/13 13:39** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	45.8	1.0	50.5		91	76.3	108.6				
Cadmium	125	1.0	135.6	0.04786	92	73	105.1				
Copper	268	1.0	277.2	0.09049	97	77.5	109.6				
Selenium	191	1.0	194.1	0.01154	98	72.5	112.2				
Silver	66.0	1.0	68.32		97	67.8	112.8				

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICPMS204-B_130226A: 43** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19573** Method: **SW6020**

Analysis Date: **02/26/13 14:04** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	24.1	1.0	25		97	80	120				
Cadmium	27.1	1.0	25	0.04786	108	80	120				
Copper	51.6	1.0	50	0.09049	103	80	120				
Selenium	51.4	1.0	50	0.01154	103	80	120				
Silver	25.4	1.0	25		102	80	120				

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19573

Run ID :Run Order: **ICPMS204-B_130226A: 50** SampType: **Sample Matrix Spike** Sample ID: **H13020221-033CMS** Method: **SW6020**

Analysis Date: **02/26/13 14:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	24.2	1.0	24.51	0.7083	96	75	125				
Cadmium	30.6	1.0	24.51	7.053	96	75	125				
Copper	212	1.0	49.02	181.2	63	75	125				S
Selenium	51.3	1.0	49.02	0.2647	104	75	125				
Silver	40.7	1.0	24.51	14.73	106	75	125				

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICPMS204-B_130226A: 51** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-033CMSD** Method: **SW6020**

Analysis Date: **02/26/13 14:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	24.4	1.0	24.27	0.7083	97	75	125	24.17	0.8	20	
Cadmium	31.4	1.0	24.27	7.053	100	75	125	30.65	2.5	20	
Copper	208	1.0	48.54	181.2	55	75	125	212.2	2.0	20	S
Selenium	49.3	1.0	48.54	0.2647	101	75	125	51.34	4.0	20	
Silver	39.9	1.0	24.27	14.73	104	75	125	40.68	2.0	20	

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **02/21/13 13:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0593	0.0050	0.06		99	90	110				
Barium	0.0601	0.10	0.06		100	90	110				
Beryllium	0.0305	0.0010	0.03		102	90	110				
Cadmium	0.0310	0.0010	0.03		103	90	110				
Chromium	0.0592	0.010	0.06		99	90	110				
Copper	0.0609	0.010	0.06		101	90	110				
Lead	0.0589	0.010	0.06		98	90	110				
Manganese	0.294	0.010	0.3		98	90	110				
Nickel	0.0607	0.010	0.06		101	90	110				
Selenium	0.0618	0.0050	0.06		103	90	110				
Silver	0.0296	0.0050	0.03		99	90	110				
Zinc	0.0622	0.010	0.06		104	90	110				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **ICPMS204-B_130221A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/21/13 13:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000485	0.0050									
Barium	0.000179	0.10									
Beryllium	8.00E-06	0.0010									
Cadmium	0.00107	0.0010									
Chromium	0.00128	0.010									
Copper	0.000755	0.010									
Lead	0.000230	0.010									
Manganese	0.000445	0.010									
Nickel	0.000770	0.010									
Selenium	0.00104	0.0050									
Silver	0.000114	0.0050									
Zinc	0.00146	0.010									

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/21/13 13:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0112	0.0050	0.01		113	70	130				
Barium	0.000131	0.10				0	0				
Beryllium	-1.60E-05	0.0010				0	0				
Cadmium	0.0111	0.0010	0.01		111	70	130				
Chromium	0.0224	0.010	0.02		112	70	130				
Copper	0.0212	0.010	0.02		106	70	130				
Lead	0.000205	0.010				0	0				
Manganese	0.0216	0.010	0.02		108	70	130				
Nickel	0.0222	0.010	0.02		111	70	130				
Selenium	0.0109	0.0050	0.01		109	70	130				
Silver	0.0206	0.0050	0.02		103	70	130				
Zinc	0.0124	0.010	0.01		124	70	130				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **ICPMS204-B_130221A: 17** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**

Analysis Date: **02/21/13 14:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Barium	ND	5E-05									
Beryllium	ND	2E-05									
Cadmium	ND	7E-06									
Chromium	ND	4E-05									
Copper	4E-05	3E-05									
Lead	ND	6E-06									
Manganese	0.0001	8E-05									
Nickel	ND	6E-05									
Selenium	ND	5E-05									
Silver	ND	4E-05									
Zinc	0.0007	0.0003									

Associated samples: **H13020221-034A; H13020221-035A; H13020221-036A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 18** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**

Analysis Date: **02/21/13 14:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0482	0.0050	0.05		96	85	115				
Barium	0.0476	0.10	0.05		95	85	115				
Beryllium	0.0465	0.0010	0.05		93	85	115				
Cadmium	0.0479	0.0010	0.05		96	85	115				
Chromium	0.0482	0.010	0.05		96	85	115				
Copper	0.0488	0.010	0.05	0.0000364	97	85	115				
Lead	0.0465	0.010	0.05		93	85	115				
Manganese	0.0482	0.010	0.05	0.0001058	96	85	115				
Nickel	0.0492	0.010	0.05		98	85	115				
Selenium	0.0505	0.0050	0.05		101	85	115				
Silver	0.0196	0.0050	0.02		98	85	115				
Zinc	0.0521	0.010	0.05	0.0007175	103	85	115				

Associated samples: **H13020221-034A; H13020221-035A; H13020221-036A**

Run ID :Run Order: **ICPMS204-B_130221A: 23** SampType: **Sample Matrix Spike** Sample ID: **H13020220-028AMS** Method: **E200.8**

Analysis Date: **02/21/13 14:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0545	0.0010	0.05	0.00137	106	70	130				
Barium	0.0946	0.050	0.05	0.04632	96	70	130				
Beryllium	0.0464	0.0010	0.05		93	70	130				
Cadmium	0.0479	0.0010	0.05		96	70	130				
Chromium	0.0493	0.0050	0.05	0.0000968	98	70	130				
Copper	0.0487	0.0050	0.05	0.0006425	96	70	130				
Lead	0.0482	0.0010	0.05	0.0001833	96	70	130				
Manganese	0.0479	0.0010	0.05		96	70	130				
Nickel	0.0493	0.0050	0.05	0.0001179	98	70	130				
Selenium	0.0600	0.0010	0.05	0.001159	118	70	130				
Silver	0.0187	0.0010	0.02		94	70	130				
Zinc	0.0526	0.010	0.05	0.002548	100	70	130				

Associated samples: **H13020221-034A; H13020221-035A; H13020221-036A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 24** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-028AMSD** Method: **E200.8**

Analysis Date: **02/21/13 14:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0542	0.0010	0.05	0.00137	106	70	130	0.05452	0.6	20	
Barium	0.0952	0.050	0.05	0.04632	98	70	130	0.09456	0.7	20	
Beryllium	0.0471	0.0010	0.05		94	70	130	0.0464	1.5	20	
Cadmium	0.0479	0.0010	0.05		96	70	130	0.04789	0.1	20	
Chromium	0.0488	0.0050	0.05	0.0000968	97	70	130	0.04926	0.9	20	
Copper	0.0488	0.0050	0.05	0.0006425	96	70	130	0.04872	0.2	20	
Lead	0.0485	0.0010	0.05	0.0001833	97	70	130	0.04824	0.5	20	
Manganese	0.0485	0.0010	0.05		97	70	130	0.04789	1.2	20	
Nickel	0.0484	0.0050	0.05	0.0001179	97	70	130	0.04929	1.8	20	
Selenium	0.0601	0.0010	0.05	0.001159	118	70	130	0.06001	0.1	20	
Silver	0.0190	0.0010	0.02		95	70	130	0.01873	1.5	20	
Zinc	0.0516	0.010	0.05	0.002548	98	70	130	0.05258	1.9	20	

Associated samples: **H13020221-034A; H13020221-035A; H13020221-036A**

Run ID :Run Order: **ICPMS204-B_130221A: 82** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **02/21/13 19:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0590	0.0050	0.06		98	90	110				
Barium	0.0591	0.10	0.06		99	90	110				
Beryllium	0.0307	0.0010	0.03		102	90	110				
Cadmium	0.0306	0.0010	0.03		102	90	110				
Chromium	0.0587	0.010	0.06		98	90	110				
Copper	0.0606	0.010	0.06		101	90	110				
Lead	0.0595	0.010	0.06		99	90	110				
Manganese	0.301	0.010	0.3		100	90	110				
Nickel	0.0604	0.010	0.06		101	90	110				
Selenium	0.0616	0.0050	0.06		103	90	110				
Silver	0.0292	0.0050	0.03		97	90	110				
Zinc	0.0621	0.010	0.06		104	90	110				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 83** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/21/13 19:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000464	0.0050									
Barium	0.000132	0.10									
Beryllium	2.40E-05	0.0010									
Cadmium	0.00104	0.0010									
Chromium	0.00126	0.010									
Copper	0.000751	0.010									
Lead	0.000199	0.010									
Manganese	0.000477	0.010									
Nickel	0.000766	0.010									
Selenium	0.00106	0.0050									
Silver	0.000185	0.0050									
Zinc	0.00159	0.010									

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **ICPMS204-B_130221A: 84** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/21/13 19:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0110	0.0050	0.01		110	70	130				
Barium	0.000159	0.10				0	0				
Beryllium	1.00E-05	0.0010				0	0				
Cadmium	0.0111	0.0010	0.01		111	70	130				
Chromium	0.0220	0.010	0.02		110	70	130				
Copper	0.0209	0.010	0.02		105	70	130				
Lead	0.000215	0.010				0	0				
Manganese	0.0219	0.010	0.02		109	70	130				
Nickel	0.0214	0.010	0.02		107	70	130				
Selenium	0.0107	0.0050	0.01		107	70	130				
Silver	0.0206	0.0050	0.02		103	70	130				
Zinc	0.0122	0.010	0.01		122	70	130				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 93** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/22/13 08:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000486	0.0050									
Barium	0.000176	0.10									
Beryllium	4.80E-05	0.0010									
Cadmium	0.00103	0.0010									
Chromium	0.00112	0.010									
Copper	0.000789	0.010									
Lead	0.000206	0.010									
Manganese	0.000279	0.010									
Nickel	0.000785	0.010									
Selenium	0.000925	0.0050									
Silver	0.000191	0.0050									
Zinc	0.00163	0.010									

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **ICPMS204-B_130221A: 94** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/22/13 08:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0118	0.0050	0.01		118	70	130				
Barium	0.000161	0.10				0	0				
Beryllium	4.80E-05	0.0010				0	0				
Cadmium	0.0112	0.0010	0.01		112	70	130				
Chromium	0.0220	0.010	0.02		110	70	130				
Copper	0.0215	0.010	0.02		108	70	130				
Lead	0.000226	0.010				0	0				
Manganese	0.0228	0.010	0.02		114	70	130				
Nickel	0.0219	0.010	0.02		110	70	130				
Selenium	0.0118	0.0050	0.01		118	70	130				
Silver	0.0207	0.0050	0.02		104	70	130				
Zinc	0.0119	0.010	0.01		119	70	130				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 122** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **02/22/13 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0580	0.0050	0.06		97	90	110				
Barium	0.0599	0.10	0.06		100	90	110				
Beryllium	0.0307	0.0010	0.03		102	90	110				
Cadmium	0.0310	0.0010	0.03		103	90	110				
Chromium	0.0576	0.010	0.06		96	90	110				
Copper	0.0598	0.010	0.06		100	90	110				
Lead	0.0595	0.010	0.06		99	90	110				
Manganese	0.297	0.010	0.3		99	90	110				
Nickel	0.0589	0.010	0.06		98	90	110				
Selenium	0.0582	0.0050	0.06		97	90	110				
Silver	0.0296	0.0050	0.03		99	90	110				
Zinc	0.0613	0.010	0.06		102	90	110				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Run ID :Run Order: **ICPMS204-B_130221A: 123** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/22/13 11:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000416	0.0050									
Barium	0.000102	0.10									
Beryllium	1.60E-05	0.0010									
Cadmium	0.000934	0.0010									
Chromium	0.00111	0.010									
Copper	0.000669	0.010									
Lead	0.000179	0.010									
Manganese	0.000401	0.010									
Nickel	0.000634	0.010									
Selenium	0.000817	0.0050									
Silver	0.000131	0.0050									
Zinc	0.00135	0.010									

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 124** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/22/13 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0101	0.0050	0.01		101	70	130				
Barium	0.000122	0.10				0	0				
Beryllium	8.00E-06	0.0010				0	0				
Cadmium	0.0101	0.0010	0.01		101	70	130				
Chromium	0.0203	0.010	0.02		102	70	130				
Copper	0.0196	0.010	0.02		98	70	130				
Lead	0.000188	0.010				0	0				
Manganese	0.0197	0.010	0.02		98	70	130				
Nickel	0.0201	0.010	0.02		101	70	130				
Selenium	0.00984	0.0050	0.01		98	70	130				
Silver	0.0196	0.0050	0.02		98	70	130				
Zinc	0.0107	0.010	0.01		107	70	130				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R86483

Date: *28-Feb-13*

Run ID :Run Order: **HGCV201-H_130221A: 2** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **E245.1**

Analysis Date: **02/21/13 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002		99	95	105				

Associated samples: **H13020221-034A; H13020221-034B; H13020221-035A; H13020221-035B; H13020221-036A; H13020221-036B; H13020221-037A; H13020221-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86528

Run ID :Run Order: **MISC SOILS_130222E: 34** SampType: **Sample Duplicate** Sample ID: **H13020221-033BDUP** Method: **D2974**

Analysis Date: **02/25/13 09:41** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	24.5	0.20						25.4			

Associated samples: **H13020221-001B; H13020221-002B; H13020221-003B; H13020221-004B; H13020221-005B; H13020221-006B; H13020221-007B; H13020221-008B; H13020221-009B; H13020221-010B; H13020221-011B; H13020221-012B; H13020221-013B; H13020221-014B; H13020221-015B; H13020221-016B; H13020221-017B; H13020221-018B; H13020221-019B; H13020221-020B; H13020221-021B; H13020221-022B; H13020221-023B; H13020221-024B; H13020221-025B; H13020221-026B; H13020221-027B; H13020221-028B; H13020221-029B; H13020221-030B; H13020221-031B; H13020221-032B; H13020221-033B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86542

Run ID :Run Order: **ICP2-HE_130225A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**

Analysis Date: **02/25/13 12:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.779	0.0092	0.8		97	90	110				
Barium	0.806	0.10	0.8		101	90	110				
Chromium	0.812	0.010	0.8		101	90	110				
Lead	0.740	0.013	0.8		93	90	110				
Manganese	3.88	0.010	4		97	90	110				
Nickel	0.802	0.010	0.8		100	90	110				
Zinc	0.768	0.010	0.8		96	90	110				

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICP2-HE_130225A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**

Analysis Date: **02/25/13 12:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	-0.00652	0.0092				0	0				
Barium	0.000420	0.10				0	0				
Chromium	-0.00532	0.010				0	0				
Lead	0.0434	0.013				0	0				
Manganese	-0.00861	0.010				0	0				
Nickel	0.00911	0.010				0	0				
Zinc	0.0122	0.010				0	0				

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICP2-HE_130225A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/25/13 12:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.02	0.0092	1		102	80	120				
Barium	0.494	0.10	0.5		99	80	120				
Chromium	0.472	0.010	0.5		94	80	120				
Lead	0.945	0.013	1		95	80	120				
Manganese	0.454	0.010	0.5		91	80	120				
Nickel	0.934	0.010	1		93	80	120				
Zinc	0.955	0.010	1		95	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R86542

Date: *28-Feb-13*

Run ID :Run Order: **ICP2-HE_130225A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/25/13 12:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86567

Run ID :Run Order: **ICPMS204-B_130226A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **02/26/13 10:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0603	0.0010	0.06		101	90	110				
Beryllium	0.0295	0.0010	0.03		98	90	110				
Cadmium	0.0314	0.0010	0.03		105	90	110				
Copper	0.0614	0.0010	0.06		102	90	110				
Lead	0.0594	0.0010	0.06		99	90	110				
Selenium	0.0610	0.0010	0.06		102	90	110				
Silver	0.0288	0.0010	0.03		96	90	110				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C; H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Run ID :Run Order: **ICPMS204-B_130226A: 133** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **02/26/13 21:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0578	0.0010	0.06		96	90	110				
Beryllium	0.0296	0.0010	0.03		99	90	110				
Cadmium	0.0305	0.0010	0.03		102	90	110				
Copper	0.0597	0.0010	0.06		100	90	110				
Lead	0.0592	0.0010	0.06		99	90	110				
Selenium	0.0580	0.0010	0.06		97	90	110				
Silver	0.0297	0.0010	0.03		99	90	110				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C; H13020221-019C; H13020221-020C; H13020221-021C; H13020221-022C; H13020221-023C; H13020221-024C; H13020221-025C; H13020221-026C; H13020221-027C; H13020221-028C; H13020221-029C; H13020221-030C; H13020221-031C; H13020221-032C; H13020221-033C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86575

Run ID :Run Order: **ICP2-HE_130226A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**

Analysis Date: **02/26/13 10:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.813	0.0092	0.8		102	90	110				
Barium	0.796	0.10	0.8		100	90	110				
Chromium	0.800	0.010	0.8		100	90	110				
Copper	0.791	0.010	0.8		99	90	110				
Lead	0.785	0.013	0.8		98	90	110				
Manganese	3.92	0.010	4		98	90	110				
Nickel	0.785	0.010	0.8		98	90	110				
Zinc	0.785	0.010	0.8		98	90	110				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C; H13020221-029C; H13020221-033C**

Run ID :Run Order: **ICP2-HE_130226A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**

Analysis Date: **02/26/13 10:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.00148	0.0092				0	0				
Barium	0.000590	0.10				0	0				
Chromium	-0.00428	0.010				0	0				
Copper	0.000130	0.010				0	0				
Lead	0.0432	0.013				0	0				
Manganese	-0.00504	0.010				0	0				
Nickel	0.00657	0.010				0	0				
Zinc	0.0131	0.010				0	0				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C; H13020221-029C; H13020221-033C**

Run ID :Run Order: **ICP2-HE_130226A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/26/13 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.06	0.0092	1		106	80	120				
Barium	0.496	0.10	0.5		99	80	120				
Chromium	0.470	0.010	0.5		94	80	120				
Copper	0.500	0.010	0.5		100	80	120				

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limit; N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits; A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86575

Run ID :Run Order: **ICP2-HE_130226A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/26/13 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.951	0.013	1		95	80	120				
Manganese	0.460	0.010	0.5		92	80	120				
Nickel	0.909	0.010	1		91	80	120				
Zinc	0.962	0.010	1		96	80	120				

Associated samples: **H13020221-001C; H13020221-002C; H13020221-003C; H13020221-004C; H13020221-005C; H13020221-006C; H13020221-007C; H13020221-008C; H13020221-009C; H13020221-010C; H13020221-011C; H13020221-012C; H13020221-013C; H13020221-014C; H13020221-015C; H13020221-016C; H13020221-017C; H13020221-018C; H13020221-029C; H13020221-033C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020221
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86593

Run ID :Run Order: **ICP2-HE_130227A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**
Analysis Date: **02/27/13 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	3.92	0.010	4		98	90	110				

Associated samples: **H13020221-011C; H13020221-012C**

Run ID :Run Order: **ICP2-HE_130227A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**
Analysis Date: **02/27/13 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	-0.00441	0.010				0	0				

Associated samples: **H13020221-011C; H13020221-012C**

Run ID :Run Order: **ICP2-HE_130227A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**
Analysis Date: **02/27/13 11:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.461	0.010	0.5		92	80	120				

Associated samples: **H13020221-011C; H13020221-012C**

Run ID :Run Order: **ICP2-HE_130227A: 13** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**
Analysis Date: **02/27/13 11:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	-0.00287	0.010				0	0				

Associated samples: **H13020221-011C; H13020221-012C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19543** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/20/2013 8:01:14 AM**

Prep End Date: **2/20/2013 11:22:00 A**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19543			1	0	0	100	100	LecoBalance	2/20/2013	2/20/2013
LCS-19543			1.003	0	0	100	99.70089731	LecoBalance	2/20/2013	2/20/2013
H13020220-020B	Soil		1.002	0	0	100	99.8003992	LecoBalance	2/20/2013	2/20/2013
H13020220-021B	Soil		1.003	0	0	100	99.70089731	LecoBalance	2/20/2013	2/20/2013
H13020220-022B	Soil		0.996	0	0	100	100.4016064	LecoBalance	2/20/2013	2/20/2013
H13020220-023B	Soil		1.012	0	0	100	98.81422925	LecoBalance	2/20/2013	2/20/2013
H13020220-024B	Soil		1.018	0	0	100	98.23182711	LecoBalance	2/20/2013	2/20/2013
H13020220-025B	Soil		1.011	0	0	100	98.91196835	LecoBalance	2/20/2013	2/20/2013
H13020220-026B	Soil		1.013	0	0	100	98.71668312	LecoBalance	2/20/2013	2/20/2013
H13020221-001B	Soil		0.995	0	0	100	100.5025126	LecoBalance	2/20/2013	2/20/2013
H13020221-002B	Soil		0.998	0	0	100	100.2004008	LecoBalance	2/20/2013	2/20/2013
H13020221-003B	Soil		1.003	0	0	100	99.70089731	LecoBalance	2/20/2013	2/20/2013
H13020221-004B	Soil		0.997	0	0	100	100.3009027	LecoBalance	2/20/2013	2/20/2013
H13020221-005B	Soil		1.017	0	0	100	98.32841691	LecoBalance	2/20/2013	2/20/2013
H13020221-006B	Soil		1.025	0	0	100	97.56097561	LecoBalance	2/20/2013	2/20/2013
H13020221-007B	Soil		1.017	0	0	100	98.32841691	LecoBalance	2/20/2013	2/20/2013
H13020221-008B	Soil		1.002	0	0	100	99.8003992	LecoBalance	2/20/2013	2/20/2013
H13020221-009B	Soil		1.014	0	0	100	98.61932939	LecoBalance	2/20/2013	2/20/2013
H13020221-010B	Soil		1.013	0	0	100	98.71668312	LecoBalance	2/20/2013	2/20/2013
H13020221-011B	Soil		1.004	0	0	100	99.60159363	LecoBalance	2/20/2013	2/20/2013
H13020221-012B	Soil		0.999	0	0	100	100.1001001	LecoBalance	2/20/2013	2/20/2013
H13020220-026BMS	Soil		1.013	0	0	100	98.71668312	LecoBalance	2/20/2013	2/20/2013
H13020220-026BMSD	Soil		1.012	0	0	100	98.81422925	LecoBalance	2/20/2013	2/20/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19543** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/20/2013 8:01:14 AM**
Prep End Date: **2/20/2013 11:22:00 A**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
H13020221-009BMS	Soil		1.016	0	0	100	98.42519685	LecoBalance	2/20/2013	2/20/2013
H13020221-009BMSD	Soil		1.014	0	0	100	98.61932939	LecoBalance	2/20/2013	2/20/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19544** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/20/2013 8:02:29 AM**

Prep End Date: **2/22/2013 9:32:00 AM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19544			1	0	0	100	100	LecoBalance	2/20/2013	2/22/2013
LCS-19544			1.001	0	0	100	99.9000999	LecoBalance	2/20/2013	2/22/2013
H13020221-013B	Soil		1.014	0	0	100	98.61932939	LecoBalance	2/20/2013	2/22/2013
H13020221-014B	Soil		1.007	0	0	100	99.30486594	LecoBalance	2/20/2013	2/22/2013
H13020221-015B	Soil		1.003	0	0	100	99.70089731	LecoBalance	2/20/2013	2/22/2013
H13020221-016B	Soil		1.001	0	0	100	99.9000999	LecoBalance	2/20/2013	2/22/2013
H13020221-017B	Soil		1.003	0	0	100	99.70089731	LecoBalance	2/20/2013	2/22/2013
H13020221-018B	Soil		1.008	0	0	100	99.20634921	LecoBalance	2/20/2013	2/22/2013
H13020221-019B	Soil		0.997	0	0	100	100.3009027	LecoBalance	2/20/2013	2/22/2013
H13020221-020B	Soil		1	0	0	100	100	LecoBalance	2/20/2013	2/22/2013
H13020221-021B	Soil		1.009	0	0	100	99.10802775	LecoBalance	2/20/2013	2/22/2013
H13020221-022B	Soil		0.998	0	0	100	100.2004008	LecoBalance	2/20/2013	2/22/2013
H13020221-023B	Soil		1.011	0	0	100	98.91196835	LecoBalance	2/20/2013	2/22/2013
H13020221-024B	Soil		0.999	0	0	100	100.1001001	LecoBalance	2/20/2013	2/22/2013
H13020221-025B	Soil		1	0	0	100	100	LecoBalance	2/20/2013	2/22/2013
H13020221-026B	Soil		1.018	0	0	100	98.23182711	LecoBalance	2/20/2013	2/22/2013
H13020221-027B	Soil		0.995	0	0	100	100.5025126	LecoBalance	2/20/2013	2/22/2013
H13020221-028B	Soil		0.998	0	0	100	100.2004008	LecoBalance	2/20/2013	2/22/2013
H13020221-029B	Soil		1	0	0	100	100	LecoBalance	2/20/2013	2/22/2013
H13020221-030B	Soil		1.013	0	0	100	98.71668312	LecoBalance	2/20/2013	2/22/2013
H13020221-031B	Soil		0.997	0	0	100	100.3009027	LecoBalance	2/20/2013	2/22/2013
H13020221-015BMS	Soil		1.006	0	0	100	99.40357853	LecoBalance	2/20/2013	2/22/2013
H13020221-015BMSD	Soil		1.006	0	0	100	99.40357853	LecoBalance	2/20/2013	2/22/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19544** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/20/2013 8:02:29 AM**
Prep End Date: **2/22/2013 9:32:00 AM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
H13020221-027BMS	Soil		1.002	0	0	100	99.8003992	LecoBalance	2/20/2013	2/22/2013
H13020221-027BMSD	Soil		1.001	0	0	100	99.9000999	LecoBalance	2/20/2013	2/22/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Dustin C. Kono**

Prep Batch **19546** Prep Code: **PRP-200.2** Batch Units: **ML**

Prep Start Date: **2/20/2013 9:10:23 AM**

Prep End Date: **2/21/2013 11:19:00 A**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19546			50	0	0	50	1		2/20/2013	2/21/2013
LCS-19546			50	0	0	50	1		2/20/2013	2/21/2013
H13020221-034B	Aqueous		50	0	0	50	1		2/20/2013	2/21/2013
H13020221-035B	Aqueous		50	0	0	50	1		2/20/2013	2/21/2013
H13020221-036B	Aqueous		50	0	0	50	1		2/20/2013	2/21/2013
H13020221-037A	Aqueous		50	0	0	50	1		2/20/2013	2/21/2013
H13020221-038A	Aqueous		50	0	0	50	1		2/20/2013	2/21/2013
H13020221-034BMS3	Aqueous		50	0	0	50	1		2/20/2013	2/21/2013
H13020221-034BMSD3	Aqueous		50	0	0	50	1		2/20/2013	2/21/2013

Number	Reagent Name
3070	50mL Digestion Vessel with Screw Cap
3175	Disposable Watch Glass

Spk ID	Spike Name	SampType	AmtAdd
1:1 HCl-121112	1:1 HCl-121112	All	.5ml
1:1 HNO3-12121	HNO3-121218	All	1ml
200.2SPK 13013	AUDIGSPK	LCS, MS3, MS	.25ml
EL-200.2MS 6/13	EL-200.2MS	LCS, MS3, MS	.25ml
EL-MSICV-2-120	EL-MSICV-2-120424	LCS, MS3, MS	.25ml

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19555** Prep Code: **PRP-HG-245.1** Batch Units: **ML**

Prep Start Date: **2/20/2013 5:07:51 PM**

Prep End Date: **2/22/2013 2:43:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19555			10	0	0	10	1		2/20/2013	2/21/2013
LCS-19555			10	0	0	10	1		2/20/2013	2/21/2013
H13020196-003C	Drinking Water		10	0	0	10	1		2/20/2013	2/21/2013
H13020200-001A	Drinking Water		10	0	0	10	1		2/20/2013	2/21/2013
H13020200-002A	Drinking Water		10	0	0	10	1		2/20/2013	2/21/2013
H13020202-023A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020204-001C	Groundwater		10	0	0	10	1		2/20/2013	2/21/2013
Large amount of sediment in sample.										
H13020204-002C	Groundwater		10	0	0	10	1		2/20/2013	2/21/2013
Strong sulfur odor to sample.										
H13020220-027A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020220-028A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020220-028B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-034A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-034B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-035A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-035B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-036A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-036B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-037A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-038A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020243-025A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020243-025B	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020243-026A	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013

Number	Reagent Name
2908	Sulfuric Acid (Concentrated)
2942	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-K2S2O8-11/2	Mercury Potassium Persulfate	ALL	8 mL
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	1.5 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	.6 mL
HgWorkSS-.02 p	SS .02 ppm Mercury from stock	LCS	.1 mL
HgWork-.02 ppm	.02 ppm Mercury from stock	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19555** Prep Code: **PRP-HG-245.1** Batch Units: **ML**

Prep Start Date: **2/20/2013 5:07:51 PM**

Prep End Date: **2/22/2013 2:43:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
H13020202-023AMS	Aqueous		10	0	0	10	1		2/22/2013	2/21/2013
H13020202-023AMSD	Aqueous		10	0	0	10	1		2/22/2013	2/21/2013
H13020221-038AMS	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
H13020221-038AMSD	Aqueous		10	0	0	10	1		2/20/2013	2/21/2013
MB-19531			10	0	0	10	1		2/20/2013	2/21/2013
MB-19545			10	0	0	10	1		2/20/2013	2/21/2013

Number	Reagent Name
2908	Sulfuric Acid (Concentrated)
2942	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-K2S2O8-11/2	Mercury Potassium Persulfate	ALL	8 mL
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	1.5 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	.6 mL
HgWorkSS-.02 p	SS .02 ppm Mercury from stock	LCS	.1 mL
HgWork-.02 ppm	.02 ppm Mercury from stock	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19568** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/21/2013 12:46:36 P**

Prep End Date: **2/22/2013 9:33:00 AM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19568			1	0	0	100	100	LecoBalance	2/21/2013	2/22/2013
LCS-19568			1.002	0	0	100	99.8003992	LecoBalance	2/21/2013	2/22/2013
H13020221-032B	Soil		1.002	0	0	100	99.8003992	LecoBalance	2/21/2013	2/22/2013
H13020221-033B	Soil		1.017	0	0	100	98.32841691	LecoBalance	2/21/2013	2/22/2013
H13020243-001B	Soil		1.008	0	0	100	99.20634921	LecoBalance	2/21/2013	2/22/2013
H13020243-002B	Soil		1.012	0	0	100	98.81422925	LecoBalance	2/21/2013	2/22/2013
H13020243-003B	Soil		0.999	0	0	100	100.1001001	LecoBalance	2/21/2013	2/22/2013
H13020243-004B	Soil		1.016	0	0	100	98.42519685	LecoBalance	2/21/2013	2/22/2013
H13020243-005B	Soil		1.015	0	0	100	98.52216749	LecoBalance	2/21/2013	2/22/2013
H13020243-006B	Soil		1.018	0	0	100	98.23182711	LecoBalance	2/21/2013	2/22/2013
H13020243-007B	Soil		1.003	0	0	100	99.70089731	LecoBalance	2/21/2013	2/22/2013
H13020243-008B	Soil		1	0	0	100	100	LecoBalance	2/21/2013	2/22/2013
H13020243-009B	Soil		1.003	0	0	100	99.70089731	LecoBalance	2/21/2013	2/22/2013
H13020243-010B	Soil		1.007	0	0	100	99.30486594	LecoBalance	2/21/2013	2/22/2013
H13020243-011B	Soil		0.999	0	0	100	100.1001001	LecoBalance	2/21/2013	2/22/2013
H13020243-012B	Soil		1.006	0	0	100	99.40357853	LecoBalance	2/21/2013	2/22/2013
H13020243-013B	Soil		1.007	0	0	100	99.30486594	LecoBalance	2/21/2013	2/22/2013
H13020243-014B	Soil		1.002	0	0	100	99.8003992	LecoBalance	2/21/2013	2/22/2013
H13020243-015B	Soil		1.021	0	0	100	97.94319295	LecoBalance	2/21/2013	2/22/2013
H13020243-016B	Soil		1.017	0	0	100	98.32841691	LecoBalance	2/21/2013	2/22/2013
H13020243-017B	Soil		0.998	0	0	100	100.2004008	LecoBalance	2/21/2013	2/22/2013
H13020243-002BMS	Soil		1.01	0	0	100	99.00990099	LecoBalance	2/21/2013	2/22/2013
H13020243-002BMSD	Soil		1.014	0	0	100	98.61932939	LecoBalance	2/21/2013	2/22/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Shane B. Kono**

Prep Batch **19568** Prep Code: **PRP-HG-S-7471** Batch Units: **G**

Prep Start Date: **2/21/2013 12:46:36 P**

Prep End Date: **2/22/2013 9:33:00 AM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
H13020243-013BMS	Soil		1.008	0	0	100	99.20634921	LecoBalance	2/21/2013	2/22/2013
H13020243-013BMSD	Soil		1.004	0	0	100	99.60159363	LecoBalance	2/21/2013	2/22/2013

Number	Reagent Name
3072	Hydrochloric Acid, 36.5-38.0%
3082	Nitric Acid, 69.0-70.0%

Spk ID	Spike Name	SampType	AmtAdd
Hg-KMnO4-2/19/	Potassium Permanganate Solution	ALL	15 mL
Hg-NH2OH.HCl/	Sodium Chloride-Hydroxylamine Chloride Solu	ALL	6 mL
Hg-Spk-10ppm-1	10 ppm Hg Spiking Solution	MS/MSD	.1 mL

PREP BATCH REPORT

Technician: **Stephanie Dull**

Prep Batch **19572** Prep Code: **PRP-3050** Batch Units: **G**

Prep Start Date: **2/21/2013 5:10:13 PM**

Prep End Date: **2/25/2013 4:45:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19572			1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
LCS-19572			1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
Block B- West Side - 23 spaces filled										
LFB-19572			1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-001C	Soil		1.03	0	0	50	48.54368932	East Lab Extractio	2/21/2013	2/22/2013
H13020221-002C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-003C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-004C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-005C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-006C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-007C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-008C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-009C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-010C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-011C	Soil		1.03	0	0	50	48.54368932	East Lab Extractio	2/21/2013	2/22/2013
H13020221-012C	Soil		1.04	0	0	50	48.07692308	East Lab Extractio	2/21/2013	2/22/2013
H13020221-013C	Soil		1.04	0	0	50	48.07692308	East Lab Extractio	2/21/2013	2/22/2013
H13020221-014C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-015C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-016C	Soil		1.05	0	0	50	47.61904762	East Lab Extractio	2/21/2013	2/22/2013
H13020221-017C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-018C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-018CMS	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013

Number	Reagent Name
2581	Custom Metals in Soil - ERA
2694	EL-MSICV-2
3072	Hydrochloric Acid, 36.5-38.0%
3073	Hydrogen Peroxide, 30%
3082	Nitric Acid, 69.0-70.0%
3097	EL-MSICV-1A
3159	3 oz. EDM 3050 Vial
3175	Disposable Watch Glass

Spk ID	Spike Name	SampType	AmtAdd
200.2SPK 13022	AUDIGSPK	LFB, MS, MSD	0.50 mL
SulfurSpk-13022	100 ppm Sulfur	LFB, MS, MSD	0.50 mL
1:1 HNO3-13022	HNO3-130222-3050	Reagent	10 mL

PREP BATCH REPORT

Technician: **Stephanie Dull**

Prep Batch **19572** Prep Code: **PRP-3050** Batch Units: **G**

Prep Start Date: **2/21/2013 5:10:13 PM**
Prep End Date: **2/25/2013 4:45:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
H13020221-018CMSD	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013

Number	Reagent Name
2581	Custom Metals in Soil - ERA
2694	EL-MSICV-2
3072	Hydrochloric Acid, 36.5-38.0%
3073	Hydrogen Peroxide, 30%
3082	Nitric Acid, 69.0-70.0%
3097	EL-MSICV-1A
3159	3 oz. EDM 3050 Vial
3175	Disposable Watch Glass

Spk ID	Spike Name	SampType	AmtAdd
200.2SPK 13022	AUDIGSPK	LFB, MS, MSD	0.50 mL
SulfurSpk-13022	100 ppm Sulfur	LFB, MS, MSD	0.50 mL
1:1 HNO3-13022	HNO3-130222-3050	Reagent	10 mL

PREP BATCH REPORT

Prep Batch **19573** Prep Code: **PRP-3050** Technician: **Stephanie Dull** Batch Units: **G** Prep Start Date: **2/21/2013 5:10:40 PM** Prep End Date: **2/22/2013 4:00:00 PM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recov	Fin Vol (mL)	Factor	Balance	PrepStart	PrepEnd
MB-19573			1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
LCS-19573			1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
LFB-19573			1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020220-012C	Soil		1.03	0	0	50	48.54368932	East Lab Extractio	2/21/2013	2/22/2013
H13020221-019C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-020C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-021C	Soil		1.03	0	0	50	48.54368932	East Lab Extractio	2/21/2013	2/22/2013
H13020221-022C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-023C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-024C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-025C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-026C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-027C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-028C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-029C	Soil		1.01	0	0	50	49.5049505	East Lab Extractio	2/21/2013	2/22/2013
H13020221-030C	Soil		1.04	0	0	50	48.07692308	East Lab Extractio	2/21/2013	2/22/2013
H13020221-031C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-032C	Soil		1	0	0	50	50	East Lab Extractio	2/21/2013	2/22/2013
H13020221-033C	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-033CMS	Soil		1.02	0	0	50	49.01960784	East Lab Extractio	2/21/2013	2/22/2013
H13020221-033CMSD	Soil		1.03	0	0	50	48.54368932	East Lab Extractio	2/21/2013	2/22/2013

Number	Reagent Name
2581	Custom Metals in Soil - ERA
2694	EL-MSICV-2
3025	1000 ppm Sulfur (0.05 mL)
3072	Hydrochloric Acid, 36.5-38.0%
3073	Hydrogen Peroxide, 30%
3082	Nitric Acid, 69.0-70.0%
3097	EL-MSICV-1A
3159	3 oz. EDM 3050 Vial
3175	Disposable Watch Glass

Spk ID	Spike Name	SampType	AmtAdd
200.2SPK 13022	AUDIGSPK	LFB, MS, MSD	0.5 mL
1:1 HNO3-13020	HNO3-130207-3050	Reagent	10 mL

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Remediation Division H13020221

Login completed by: Tracy L. Lorash
Date Received: 2/19/2013
Reviewed by: BL2000\sdull
Received by: wjj
Reviewed Date: 2/27/2013
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	℃ See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

Samples left in locked entry.
No time on COC or jars for samples G-SMLC-231 and H-SMLC-258. Sample time estimated in laboratory.
Cooler 1 was received at 2.7℃, Cooler 2 at 2.9℃. Samples were received on wet ice.
Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and

Workorder Receipt Checklist - Continued

MT DEQ-Remediation Division H13020221

preserved within 15 minutes of collection. TI 2/21/13.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc.: Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA
x EDD/EDT (Electronic Data) **Format:** Trihydro
☐ LEVEL IV
☐ NELAC

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
Cooler 1 -2.2
Cooler 2 -2.9

Shipped by: left in locked
Cooler ID(s): extra Y
Receipt Temp: ____ °C
On Ice: Yes No
Custody Seal Intact: Y N
Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	SEE ATTACHED	Normal Turnaround (TAT)	
1	A-SMLC-1-A	2/18/13	0955	soil	x	x			Composite and
2	B				x	x			label sample
3	C				x	x			A-SMLC-1
4	D				x	x			
5	E				x	x			
6	A-SMLC-2-A	2/18/13	0950		x	x			Composite and
7	B				x	x			label sample
8	C				x	x			A-SMLC-2
9	D				x	x			
10	E				x	x			

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print): Luke Darnell	Date/Time: 2/18/13 1830	Signature:	Received by (print):
Relinquished by (print):	Date/Time:	Signature:	Received by (print):
Sample Disposal: Return to Client: _____	Lab Disposal: X		Received by Laboratory: Wanda Jones 2-19-13 7:10

Date/Time: Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
Cooler1-2.7 ←
Cooler-2.9

Shipped by: left in locked
Cooler ID(s): Y
Receipt Temp _____ °C
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	A-SMLC-3-A	2/18/13	1100	soil	x	x									Composite and	H13020221
2	B				x	x									label sample	
3	C				x	x									A-SMLC-3	
4	D				x	x										
5	E				x	x										
6	A-SMLC-4-A	2/18/13	1110		x	x									Composite and	
7	B				x	x									label sample	
8	C				x	x									A-SMLC-4	
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda John	Date/Time: 2-19-13 10	Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- x EDD/EDT (Electronic Data) **Format:** Trihydro
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
Cooler 1 - 2.7
Cooler 2 - 2.9

Shipped by: left in locked entry
Cooler ID(s): 1
Receipt Temp _____ °C
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	A-SMLC-5-A	2/18/13	1030	soil	x	x										Composite and
2	B				x	x										label sample
3	C				x	x										A-SMLC-5
4	D				x	x										
5	E				x	x										
6	A-SMLC-6-A	2/18/13	1020		x	x										Composite and
7	B				x	x										label sample
8	C				x	x										A-SMLC-6
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print): Luke Darnell	Date/Time: 2/18/13 1830	Signature:	Received by (print):	Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time: / Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda John	Date/Time: 2-19-13 7:12 / Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids
Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
cooler1 2.7
cooler2 2.9

Shipped by: leftin lake ent
Cooler ID(s): 1
Receipt Temp _____ °C
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	1 A-SMLC-7-A	2/18/13	1115	soil	x	x									Composite and
	2 B	〃	〃	〃	x	x									label sample
	3 C	〃	〃	〃	x	x									A-SMLC-7
	4 D	〃	〃	〃	x	x									
	5 E				x	x									
2	6 A-SMLC-8-A	2/18/13	1130		x	x									Composite and
	7 B	〃	〃	〃	x	x									label sample
	8 C	〃	〃	〃	x	x									A-SMLC-8
	9 D	〃	〃	〃	x	x									
	10 E				x	x									

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wandish	Date/Time: 2-19-13 10	Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State:MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: cooler 1 - 2.7 TB
cooler 2 - 2.9

Shipped by: fedex ground
Cooler ID(s): 4 and
Receipt Temp _____ °C
On Ice: Yes No
Custody Seal Intact Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
2	1 C-SMLC-17-A	2/18/13	1325	soil	x	x									Composite and
	2 B				x	x									label sample
	3 C				x	x									C-SMLC-17
	4 D				x	x									
	5 E				x	x									
2	6 C-SMLC-18-A	2/18/13	1320		x	x									Composite and
	7 B				x	x									label sample
	8 C				x	x									C-SMLC-18
	9 D				x	x									
	10 E				x	x									

LABORATORY USE ONLY: H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Wanderson	Date/Time: 2-19-13 10	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: coder1 2.7 TB
coder2 2.9@

Shipped by: left in locked
Cooler ID(s): area
4
Receipt Temp ____ °C
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
2	1 C-SMLC-19-A	2/18/13	1335	soil	x	x								Composite and	H13020221
	2 B				x	x								label sample	
	3 C				x	x								C-SMLC-19	
	4 D				x	x									
	5 E				x	x									
2	6 C-SMLC-20-A	2/18/13	1310		x	x								Composite and	
	7 B				x	x								label sample	
	8 C				x	x								C-SMLC-20	
	9 D				x	x									
	10 E				x	x									

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Wanda Jan	Date/Time: 2-19-13 7:40	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids
Vegetation Bioassay Other

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	SEE ATTACHED	Normal Turnaround (TAT)	RUSH	
1 G-SMLC-29-A	2/18/13	0825	soil	x	x				Composite and
2 B				x	x				label sample
3 C				x	x				G-SMLC-29
4 D				x	x				
5 E				x	x				
6 G-SMLC-30-A	2/18/13	0835		x	x				Composite and
7 B				x	x				label sample
8 C				x	x				G-SMLC-30
9 D				x	x				
10 E				x	x				

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
cooler 1 2.7
cooler 2 2.9

Shipped by: leftin locked
Cooler ID(s): enter
4
Receipt Temp ____ °C
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Wanda John	Date/Time: 2-19-13 7:10	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- x EDD/EDT (Electronic Data) **Format:** Trihydro
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B								SEE ATTACHED	Normal Turnaround (TAT)	RUSH	
1	G-SMLC-31-A	2/18/13	0845	soil	x	x											Composite and
2	B				x	x											label sample
3	C				x	x											G-SMLC-31
4	D				x	x											
5	E				x	x											
6	G-SMLC-32-A	2/18/13	0820		x	x											Composite and
7	B				x	x											label sample
8	C				x	x											G-SMLC-32
9	D				x	x											
10	E				x	x											

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
cooler1 2.7
cooler2 2.9

Shipped by: leftinlocked
Cooler ID(s): entry 4
Receipt Temp _____ °C
On Ice: (Yes) No
Custody Seal Intact Signature Match: Y N

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Jan	Date/Time: 2-19-13 10	Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
cooler1 2.7
cooler2 2.9

Shipped by: FedEx Ground
Cooler ID(s): Enviro 4

Receipt Temp _____ °C

On Ice: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
2	1 H-SMLC-57-A	2/18/13	1555	soil	x	x									Composite and
	2 B				x	x									label sample
	3 C				x	x									H-SMLC-57
	4 D				x	x									
	5 E				x	x									
2	6 H-SMLC-58-A	2/18/13	1605		x	x									Composite and
	7 B				x	x									label sample
	8 C				x	x									H-SMLC-58
	9 D				x	x									
	10 E				x	x									

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Wanda Dm	Date/Time: 2-19-13 710	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
Cooler 1 2.7
Cooler 2 2.9

Shipped by: left unlocked
Cooler ID(s): extra Y
Receipt Temp _____ °C
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
2	1 H-SMLC-59-A	2/18/13	1545	soil	x	x										Composite and
	2 B				x	x										label sample
	3 C				x	x										H-SMLC-59
	4 D				x	x										
	5 E				x	x										
2	6 H-SMLC-60-A	2/18/13	1540		x	x										Composite and
	7 B				x	x										label sample
	8 C				x	x										H-SMLC-60
	9 D				x	x										
	10 E				x	x										

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Johnson	Date/Time: 2-19-13 710	Signature:

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

R U S H — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Shipped by: lettinlocker

Cooler ID(s): 4

Receipt Temp _____ °C

On Ice: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	SEE ATTACHED	Normal Turnaround (TAT)	Comments
2	1 M-SMLC-69-A	2/18/13	1450	soil	x	x			Composite and
	2 B				x	x			label sample
	3 C				x	x			M-SMLC-69
	4 D				x	x			
	5 E				x	x			
2	6 M-SMLC-70-A	2/18/13	1435		x	x			Composite and
	7 B				x	x			label sample
	8 C				x	x			M-SMLC-70
	9 D				x	x			
	10 E				x	x			

Coder1 2.7 ← TB

Coder2 2.9

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Jm	Date/Time: 2-19-13 12	Signature:

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB Cooler 1 2.7 Cooler 2 2.9

Shipped by: left in locked

Cooler ID(s): entry Y

Receipt Temp _____ °C

On Ice: (Yes) No

Custody Seal Y N
Intact Y N
Signature Match (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										Comments
2	1 M-SMLC-71-A	2/18/13	1445	soil	x	x										Composite and
	2 B				x	x										label sample
	3 C				x	x										M-SMLC-71
	4 D				x	x										
	5 E				x	x										
2	6 M-SMLC-72-A	2/18/13	1430		x	x										Composite and
	7 B				x	x										label sample
	8 C				x	x										M-SMLC-72
	9 D				x	x										
	10 E				x	x										

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print): Luke Darnell Date/Time: 2/18/13 1830 Signature:

Relinquished by (print): Date/Time: Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Wardson Date/Time: 2-19-13 710 Signature:

Chain of Custody and Analytical Request Record

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids
Vegetation Bioassay Other

ANALYSIS REQUESTED

R U S H — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
cooler 1 · 2.7 ←
cooler 2 - 2.9

Shipped by: Jeffinlocker
Cooler ID(s): Y
Receipt Temp _____ °C
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B								SEE ATTACHED	Normal Turnaround (TAT)		
1	A-SMLC-107-A	2/18/13	1040	soil	x	x											Composite and
2	B				x	x											label sample
3	C				x	x											A-SMLC-107
4	D				x	x											
5	E				x	x											
6	A-SMLC-108-A	2/18/13	1055		x	x											Composite and
7	B				x	x											label sample
8	C				x	x											A-SMLC-108
9	D				x	x											
10	E				x	x											

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Wanda Johnson	Date/Time: 2-19-13 10	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
Cooler1 2.7
Cooler2 2.9

Shipped by: leftinlocked
Cooler ID(s): ontr
4
Receipt Temp _____ °C
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	G-SMLC-231-A	2/18/13		soil	x	x										Composite and
2	B				x	x										label sample
3	C				x	x										G-SMLC-231
4	D				x	x										
5	E				x	x										
6	H-SMLC-258-A	2/18/13			x	x										Composite and
7	B				x	x										label sample
8	C				x	x										H-SMLC-258
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY H13020224

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Wandra	2-19-13 10	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B								SEE ATTACHED	Normal Turnaround (TAT)
2	1 C-SMLD-3-A	2/18/13	1340	soil	x	x									
	2 B				x	x									
	3 C				x	x									
	4 D				x	x									
	5				x	x									
1	6 G-SMLD-6-A	2/18/13	0900		x	x									
	7 B				x	x									
	8 C				x	x									
	9 D				x	x									
	10 E				x	x									

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
Cooler 1 2.7
Cooler 2 2.9

Shipped by: letter locked
Cooler ID(s): cmtn
Y

Receipt Temp _____ °C

On Ice: (Yes) No

Custody Seal Y N
Intact Y N
Signature Match Y N

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Luke Darnell	2/18/13 1830				
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Wanda Jon	Date/Time: 2-19-13 10	Signature:

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
cooler1 2.7
cooler2 2.9

Shipped by: left in locked
Cooler ID(s): entry
Y
Receipt Temp _____ °C
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
2	1 H-SMLD-8-A	2/18/13	1620	soil	x	x									Composite and
	2 B				x	x									label sample
	3 C				x	x									H-SMLD-8
	4 D				x	x									
	5 E				x	x									
1	6 G-SMLD-18-A	2/18/13	0910		x	x									Composite and
	7 B				x	x									label sample
	8 C				x	x									G-SMLD-18
	9 D				x	x									
	10				x	x									

LABORATORY USE ONLY
H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Wanda Johnson	Date/Time: 2-19-13	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- x EDD/EDT (Electronic Data) **Format:** Trihydro
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
Cooler 1 2.7
Cooler 2 2.9

Shipped by: lettinlackob
Cooler ID(s): entry
4
Receipt Temp _____ °C
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	C-SMLD-19-A	2/18/13	1350	soil	x	x									Composite and
2	B	〃	〃	〃	x	x									label sample
3	C	〃	〃	〃	x	x									C-SMLD-19
4	D	〃	〃	〃	x	x									
5					x	x									
6					x	x									
7					x	x									
8					x	x									
9					x	x									
10					x	x									

LABORATORY USE ONLY H13020221

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Wandaw	Date/Time: 2-19-13 12	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA ☒ EDD/EDT (Electronic Data) **Format:** Trihydro ☐ LEVEL IV ☐ NELAC

Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
cooler1 2.7
cooler2 2.9

Shipped by: Fedex unlocked

Cooler ID(s): enter Y

Receipt Temp _____ °C

On Ice: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	Total Metals 6020A	Dissolved Metals 6020A	Total mercury 7470A							
2	1 C-SMLW-3	2/18/13	1350	water			X	X	X							H13020221
1	2 G-SMLW-6	2/18/13	0925	water			x	x	x							
2	3 H-SMLW-8	2/18/13	1605	water			x	x	x							
1	4 G-SMLC-EB-3	2/18/13	0900	water			x		x							
2	5 M-SMLC-EB-4	2/18/13	1415	water			x		x							
	6															
	7															
	8															
	9															
	10															

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/18/13 1830				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Wanda Jm	Date/Time: 2-19-13 710	Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: _____

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ANALYTICAL SUMMARY REPORT

February 28, 2013

MT DEQ-Remediation Division
PO Box 200901
Helena, MT 59620-0901

Workorder No.: H13020243 Quote ID: H825 - Spring Meadow Project

Project Name: Spring Meadow Lake

Energy Laboratories Inc Helena MT received the following 28 samples for MT DEQ-Remediation Division on 2/19/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H13020243-001	D-SMLC-21	02/19/13 11:20	02/19/13	Soil	Metals by ICP/ICPMS, Total Composite Fee Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieves Soil Preparation
H13020243-002	D-SMLC-22	02/19/13 11:35	02/19/13	Soil	Same As Above
H13020243-003	D-SMLC-23	02/19/13 11:45	02/19/13	Soil	Same As Above
H13020243-004	D-SMLC-24	02/19/13 11:30	02/19/13	Soil	Same As Above
H13020243-005	F-SMLC-25	02/19/13 10:40	02/19/13	Soil	Same As Above
H13020243-006	F-SMLC-26	02/19/13 10:50	02/19/13	Soil	Same As Above
H13020243-007	F-SMLC-27	02/19/13 10:55	02/19/13	Soil	Same As Above
H13020243-008	F-SMLC-28	02/19/13 10:35	02/19/13	Soil	Same As Above
H13020243-009	H-SMLC-33	02/19/13 8:45	02/19/13	Soil	Same As Above
H13020243-010	H-SMLC-34	02/19/13 8:20	02/19/13	Soil	Same As Above
H13020243-011	H-SMLC-35	02/19/13 8:40	02/19/13	Soil	Same As Above
H13020243-012	H-SMLC-36	02/19/13 8:30	02/19/13	Soil	Same As Above
H13020243-013	H-SMLC-37	02/19/13 8:10	02/19/13	Soil	Same As Above
H13020243-014	N-SMLC-99	02/19/13 9:35	02/19/13	Soil	Same As Above
H13020243-015	N-SMLC-100	02/19/13 9:45	02/19/13	Soil	Same As Above
H13020243-016	N-SMLC-101	02/19/13 10:00	02/19/13	Soil	Same As Above
H13020243-017	N-SMLC-102	02/19/13 10:05	02/19/13	Soil	Same As Above
H13020243-018	H-SMLC-235	02/19/13 10:00	02/19/13	Soil	Same As Above
H13020243-019	D-SMLD-4	02/19/13 11:25	02/19/13	Soil	Same As Above
H13020243-020	F-SMLD-5	02/19/13 11:05	02/19/13	Soil	Same As Above
H13020243-021	H-SMLD-7	02/19/13 8:55	02/19/13	Soil	Same As Above
H13020243-022	N-SMLD-9	02/19/13 9:25	02/19/13	Soil	Same As Above
H13020243-023	H-SMLD-20	02/19/13 9:00	02/19/13	Soil	Same As Above
H13020243-024	D-SMLD-21	02/19/13 11:10	02/19/13	Soil	Same As Above

ANALYTICAL SUMMARY REPORT

H13020243-025	D-SMLW-4	02/19/13 11:55	02/19/13	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Mercury, Dissolved Mercury, Total Metals Digestion by EPA 200.2 Preparation, Dissolved Filtration Digestion, Mercury by CVAA
H13020243-026	H-SMLW-7	02/19/13 9:10	02/19/13	Aqueous	Same As Above
H13020243-027	N-SMLW-9	02/19/13 9:30	02/19/13	Aqueous	Same As Above
H13020243-028	N-SMLC-EB-5	02/19/13 10:05	02/19/13	Aqueous	Metals by ICP/ICPMS, Total Mercury, Total Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA

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

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-001
Client Sample ID D-SMLC-21

Report Date: 02/28/13
Collection Date: 02/19/13 11:20
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	28.6	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	71.4	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	26.6	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	255	mg/kg-dry		1		SW6010B	02/26/13 13:23 / sld
Barium	217	mg/kg-dry		1		SW6010B	02/26/13 13:23 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 18:28 / sld
Cadmium	4	mg/kg-dry		1		SW6020	02/27/13 18:28 / sld
Chromium	15	mg/kg-dry		1		SW6010B	02/26/13 13:23 / sld
Copper	101	mg/kg-dry		1		SW6010B	02/26/13 13:23 / sld
Lead	420	mg/kg-dry	D	3		SW6010B	02/26/13 13:23 / sld
Manganese	19000	mg/kg-dry		1		SW6010B	02/26/13 13:23 / sld
Nickel	9	mg/kg-dry		1		SW6010B	02/26/13 13:23 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 18:28 / sld
Silver	6	mg/kg-dry		1		SW6020	02/27/13 18:28 / sld
Zinc	804	mg/kg-dry		1		SW6010B	02/26/13 13:23 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:37 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-002
Client Sample ID D-SMLC-22

Report Date: 02/28/13
Collection Date: 02/19/13 11:35
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	51.4	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	48.6	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	39.7	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	533	mg/kg-dry		1		SW6010B	02/26/13 13:27 / sld
Barium	199	mg/kg-dry		1		SW6010B	02/26/13 13:27 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 18:33 / sld
Cadmium	6	mg/kg-dry		1		SW6020	02/27/13 18:33 / sld
Chromium	13	mg/kg-dry		1		SW6010B	02/26/13 13:27 / sld
Copper	105	mg/kg-dry		1		SW6010B	02/26/13 13:27 / sld
Lead	720	mg/kg-dry	D	3		SW6010B	02/26/13 13:27 / sld
Manganese	14100	mg/kg-dry		1		SW6010B	02/26/13 13:27 / sld
Nickel	9	mg/kg-dry		1		SW6010B	02/26/13 13:27 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 18:33 / sld
Silver	11	mg/kg-dry		1		SW6020	02/27/13 18:33 / sld
Zinc	949	mg/kg-dry		1		SW6010B	02/26/13 13:27 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:39 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-003
Client Sample ID D-SMLC-23

Report Date: 02/28/13
Collection Date: 02/19/13 11:45
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	17.4	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	82.6	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	35.8	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	461	mg/kg-dry	D	2		SW6010B	02/26/13 13:38 / sld
Barium	197	mg/kg-dry		1		SW6010B	02/26/13 13:38 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 18:57 / sld
Cadmium	5	mg/kg-dry		1		SW6020	02/27/13 18:57 / sld
Chromium	17	mg/kg-dry		1		SW6010B	02/26/13 13:38 / sld
Copper	84	mg/kg-dry		1		SW6010B	02/26/13 13:38 / sld
Lead	552	mg/kg-dry	D	3		SW6010B	02/26/13 13:38 / sld
Manganese	10700	mg/kg-dry		1		SW6010B	02/26/13 13:38 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 13:38 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 18:57 / sld
Silver	9	mg/kg-dry		1		SW6020	02/27/13 18:57 / sld
Zinc	786	mg/kg-dry		1		SW6010B	02/26/13 13:38 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:49 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-004
Client Sample ID D-SMLC-24

Report Date: 02/28/13
Collection Date: 02/19/13 11:30
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	27.6	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	72.4	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	27.0	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	80	mg/kg-dry		1		SW6010B	02/26/13 13:42 / sld
Barium	179	mg/kg-dry		1		SW6010B	02/26/13 13:42 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 19:02 / sld
Cadmium	2	mg/kg-dry		1		SW6020	02/27/13 19:02 / sld
Chromium	16	mg/kg-dry		1		SW6010B	02/26/13 13:42 / sld
Copper	50	mg/kg-dry		1		SW6010B	02/26/13 13:42 / sld
Lead	139	mg/kg-dry	D	3		SW6010B	02/26/13 13:42 / sld
Manganese	3110	mg/kg-dry		1		SW6010B	02/26/13 13:42 / sld
Nickel	10	mg/kg-dry		1		SW6010B	02/26/13 13:42 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 19:02 / sld
Silver	2	mg/kg-dry		1		SW6020	02/27/13 19:02 / sld
Zinc	348	mg/kg-dry		1		SW6010B	02/26/13 13:42 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:51 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-005
Client Sample ID F-SMLC-25

Report Date: 02/28/13
Collection Date: 02/19/13 10:40
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	58.0	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	42.0	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	24.2	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	44	mg/kg-dry		1		SW6020	02/27/13 19:07 / sld
Barium	140	mg/kg-dry		1		SW6010B	02/26/13 13:45 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 19:07 / sld
Cadmium	1	mg/kg-dry		1		SW6020	02/27/13 19:07 / sld
Chromium	19	mg/kg-dry		1		SW6010B	02/26/13 13:45 / sld
Copper	51	mg/kg-dry		1		SW6010B	02/26/13 13:45 / sld
Lead	99	mg/kg-dry	D	3		SW6010B	02/26/13 13:45 / sld
Manganese	1300	mg/kg-dry		1		SW6010B	02/26/13 13:45 / sld
Nickel	11	mg/kg-dry		1		SW6010B	02/26/13 13:45 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 19:07 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 19:07 / sld
Zinc	162	mg/kg-dry		1		SW6010B	02/26/13 13:45 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:54 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-006
Client Sample ID F-SMLC-26

Report Date: 02/28/13
Collection Date: 02/19/13 10:50
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	37.9	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	62.1	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	28.2	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	21	mg/kg-dry		1		SW6020	02/27/13 19:12 / sld
Barium	190	mg/kg-dry		1		SW6010B	02/26/13 13:49 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 19:12 / sld
Cadmium	ND	mg/kg-dry		1		SW6020	02/27/13 19:12 / sld
Chromium	17	mg/kg-dry		1		SW6010B	02/26/13 13:49 / sld
Copper	43	mg/kg-dry		1		SW6010B	02/26/13 13:49 / sld
Lead	47	mg/kg-dry		1		SW6020	02/27/13 19:12 / sld
Manganese	759	mg/kg-dry		1		SW6010B	02/26/13 13:49 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 13:49 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 19:12 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 19:12 / sld
Zinc	125	mg/kg-dry		1		SW6010B	02/26/13 13:49 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:56 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-007
Client Sample ID F-SMLC-27

Report Date: 02/28/13
Collection Date: 02/19/13 10:55
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	19.6	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	80.4	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	34.9	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	16	mg/kg-dry		1		SW6020	02/27/13 19:17 / sld
Barium	220	mg/kg-dry		1		SW6010B	02/26/13 13:53 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 19:17 / sld
Cadmium	ND	mg/kg-dry		1		SW6020	02/27/13 19:17 / sld
Chromium	19	mg/kg-dry		1		SW6010B	02/26/13 13:53 / sld
Copper	35	mg/kg-dry		1		SW6010B	02/26/13 13:53 / sld
Lead	35	mg/kg-dry		1		SW6020	02/27/13 19:17 / sld
Manganese	648	mg/kg-dry		1		SW6010B	02/26/13 13:53 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 13:53 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 19:17 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 19:17 / sld
Zinc	111	mg/kg-dry		1		SW6010B	02/26/13 13:53 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 11:58 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-008
Client Sample ID F-SMLC-28

Report Date: 02/28/13
Collection Date: 02/19/13 10:35
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	36.7	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	63.3	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	33.1	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	40	mg/kg-dry		1		SW6020	02/27/13 19:22 / sld
Barium	168	mg/kg-dry		1		SW6010B	02/26/13 13:56 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 19:22 / sld
Cadmium	2	mg/kg-dry		1		SW6020	02/27/13 19:22 / sld
Chromium	30	mg/kg-dry		1		SW6010B	02/26/13 13:56 / sld
Copper	53	mg/kg-dry		1		SW6010B	02/26/13 13:56 / sld
Lead	92	mg/kg-dry		1		SW6020	02/27/13 19:22 / sld
Manganese	1360	mg/kg-dry		1		SW6010B	02/26/13 13:56 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 13:56 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 19:22 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 19:22 / sld
Zinc	284	mg/kg-dry		1		SW6010B	02/26/13 13:56 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:01 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-009
Client Sample ID H-SMLC-33

Report Date: 02/28/13
Collection Date: 02/19/13 08:45
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	18.2	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	81.8	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	36.8	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	54	mg/kg-dry		1		SW6010B	02/26/13 14:00 / sld
Barium	195	mg/kg-dry		1		SW6010B	02/26/13 14:00 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 19:27 / sld
Cadmium	3	mg/kg-dry		1		SW6020	02/27/13 19:27 / sld
Chromium	16	mg/kg-dry		1		SW6010B	02/26/13 14:00 / sld
Copper	40	mg/kg-dry		1		SW6010B	02/26/13 14:00 / sld
Lead	160	mg/kg-dry	D	3		SW6010B	02/26/13 14:00 / sld
Manganese	1490	mg/kg-dry		1		SW6010B	02/26/13 14:00 / sld
Nickel	10	mg/kg-dry		1		SW6010B	02/26/13 14:00 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 19:27 / sld
Silver	1	mg/kg-dry		1		SW6020	02/27/13 19:27 / sld
Zinc	261	mg/kg-dry		1		SW6010B	02/26/13 14:00 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:08 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-010
Client Sample ID H-SMLC-34

Report Date: 02/28/13
Collection Date: 02/19/13 08:20
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	21.7	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	78.3	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	30.9	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	46	mg/kg-dry		1		SW6020	02/27/13 19:32 / sld
Barium	156	mg/kg-dry		1		SW6010B	02/26/13 14:04 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 19:32 / sld
Cadmium	1	mg/kg-dry		1		SW6020	02/27/13 19:32 / sld
Chromium	17	mg/kg-dry		1		SW6010B	02/26/13 14:04 / sld
Copper	36	mg/kg-dry		1		SW6010B	02/26/13 14:04 / sld
Lead	90	mg/kg-dry		1		SW6020	02/27/13 19:32 / sld
Manganese	977	mg/kg-dry		1		SW6010B	02/26/13 14:04 / sld
Nickel	9	mg/kg-dry		1		SW6010B	02/26/13 14:04 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 19:32 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 19:32 / sld
Zinc	146	mg/kg-dry		1		SW6010B	02/26/13 14:04 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:10 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-011
Client Sample ID H-SMLC-35

Report Date: 02/28/13
Collection Date: 02/19/13 08:40
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	25.2	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	74.8	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	37.1	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	51	mg/kg-dry		1		SW6020	02/27/13 19:37 / sld
Barium	187	mg/kg-dry		1		SW6010B	02/26/13 14:07 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 19:37 / sld
Cadmium	3	mg/kg-dry		1		SW6020	02/27/13 19:37 / sld
Chromium	26	mg/kg-dry		1		SW6010B	02/26/13 14:07 / sld
Copper	39	mg/kg-dry		1		SW6010B	02/26/13 14:07 / sld
Lead	141	mg/kg-dry		1		SW6020	02/27/13 19:37 / sld
Manganese	1460	mg/kg-dry		1		SW6010B	02/26/13 14:07 / sld
Nickel	15	mg/kg-dry		1		SW6010B	02/26/13 14:07 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 19:37 / sld
Silver	1	mg/kg-dry		1		SW6020	02/27/13 19:37 / sld
Zinc	236	mg/kg-dry		1		SW6010B	02/26/13 14:07 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:13 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-012
Client Sample ID H-SMLC-36

Report Date: 02/28/13
Collection Date: 02/19/13 08:30
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	40.0	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	60.0	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	36.4	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	43	mg/kg-dry		1		SW6020	02/27/13 20:02 / sld
Barium	173	mg/kg-dry		1		SW6010B	02/26/13 14:11 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 20:02 / sld
Cadmium	3	mg/kg-dry		1		SW6020	02/27/13 20:02 / sld
Chromium	29	mg/kg-dry		1		SW6010B	02/26/13 14:11 / sld
Copper	42	mg/kg-dry		1		SW6010B	02/26/13 14:11 / sld
Lead	138	mg/kg-dry		1		SW6020	02/27/13 20:02 / sld
Manganese	1560	mg/kg-dry		1		SW6010B	02/26/13 14:11 / sld
Nickel	15	mg/kg-dry		1		SW6010B	02/26/13 14:11 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 20:02 / sld
Silver	1	mg/kg-dry		1		SW6020	02/27/13 20:02 / sld
Zinc	252	mg/kg-dry		1		SW6010B	02/26/13 14:11 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:15 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-013
Client Sample ID H-SMLC-37

Report Date: 02/28/13
Collection Date: 02/19/13 08:10
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	19.6	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	80.4	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	28.7	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	74	mg/kg-dry		1		SW6010B	02/26/13 14:49 / sld
Barium	187	mg/kg-dry		1		SW6010B	02/26/13 14:49 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 20:07 / sld
Cadmium	3	mg/kg-dry		1		SW6020	02/27/13 20:07 / sld
Chromium	14	mg/kg-dry		1		SW6010B	02/26/13 14:49 / sld
Copper	47	mg/kg-dry		1		SW6010B	02/26/13 14:49 / sld
Lead	139	mg/kg-dry	D	3		SW6010B	02/26/13 14:49 / sld
Manganese	1940	mg/kg-dry		1		SW6010B	02/26/13 14:49 / sld
Nickel	15	mg/kg-dry		1		SW6010B	02/26/13 14:49 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 20:07 / sld
Silver	1	mg/kg-dry		1		SW6020	02/27/13 20:07 / sld
Zinc	255	mg/kg-dry		1		SW6010B	02/26/13 14:49 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:18 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-014
Client Sample ID N-SMLC-99

Report Date: 02/28/13
Collection Date: 02/19/13 09:35
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	27.1	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	72.9	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	30.3	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	25	mg/kg-dry		1		SW6020	02/27/13 20:12 / sld
Barium	153	mg/kg-dry		1		SW6010B	02/26/13 14:52 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 20:12 / sld
Cadmium	ND	mg/kg-dry		1		SW6020	02/27/13 20:12 / sld
Chromium	15	mg/kg-dry		1		SW6010B	02/26/13 14:52 / sld
Copper	33	mg/kg-dry		1		SW6010B	02/26/13 14:52 / sld
Lead	44	mg/kg-dry		1		SW6020	02/27/13 20:12 / sld
Manganese	651	mg/kg-dry		1		SW6010B	02/26/13 14:52 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 14:52 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 20:12 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 20:12 / sld
Zinc	97	mg/kg-dry		1		SW6010B	02/26/13 14:52 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:27 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-015
Client Sample ID N-SMLC-100

Report Date: 02/28/13
Collection Date: 02/19/13 09:45
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	49.1	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	50.9	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	18.2	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	26	mg/kg-dry		1		SW6020	02/27/13 20:16 / sld
Barium	179	mg/kg-dry		1		SW6010B	02/26/13 14:56 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 20:16 / sld
Cadmium	ND	mg/kg-dry		1		SW6020	02/27/13 20:16 / sld
Chromium	14	mg/kg-dry		1		SW6010B	02/26/13 14:56 / sld
Copper	32	mg/kg-dry		1		SW6010B	02/26/13 14:56 / sld
Lead	51	mg/kg-dry		1		SW6020	02/27/13 20:16 / sld
Manganese	610	mg/kg-dry		1		SW6010B	02/26/13 14:56 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 14:56 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 20:16 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 20:16 / sld
Zinc	93	mg/kg-dry		1		SW6010B	02/26/13 14:56 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:29 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-016
Client Sample ID N-SMLC-101

Report Date: 02/28/13
Collection Date: 02/19/13 10:00
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	35.3	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	64.7	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	25.0	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	21	mg/kg-dry		1		SW6020	02/27/13 20:21 / sld
Barium	160	mg/kg-dry		1		SW6010B	02/26/13 15:00 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 20:21 / sld
Cadmium	ND	mg/kg-dry		1		SW6020	02/27/13 20:21 / sld
Chromium	13	mg/kg-dry		1		SW6010B	02/26/13 15:00 / sld
Copper	29	mg/kg-dry		1		SW6010B	02/26/13 15:00 / sld
Lead	50	mg/kg-dry		1		SW6020	02/27/13 20:21 / sld
Manganese	640	mg/kg-dry		1		SW6010B	02/26/13 15:00 / sld
Nickel	10	mg/kg-dry		1		SW6010B	02/26/13 15:00 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 20:21 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 20:21 / sld
Zinc	111	mg/kg-dry		1		SW6010B	02/26/13 15:00 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:32 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-017
Client Sample ID N-SMLC-102

Report Date: 02/28/13
Collection Date: 02/19/13 10:05
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	33.8	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	66.2	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	28.8	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	31	mg/kg-dry		1		SW6020	02/27/13 20:26 / sld
Barium	164	mg/kg-dry		1		SW6010B	02/26/13 15:04 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 20:26 / sld
Cadmium	ND	mg/kg-dry		1		SW6020	02/27/13 20:26 / sld
Chromium	14	mg/kg-dry		1		SW6010B	02/26/13 15:04 / sld
Copper	34	mg/kg-dry		1		SW6010B	02/26/13 15:04 / sld
Lead	53	mg/kg-dry		1		SW6020	02/27/13 20:26 / sld
Manganese	772	mg/kg-dry		1		SW6010B	02/26/13 15:04 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 15:04 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 20:26 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 20:26 / sld
Zinc	117	mg/kg-dry		1		SW6010B	02/26/13 15:04 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:34 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-018
Client Sample ID H-SMLC-235

Report Date: 02/28/13
Collection Date: 02/19/13 10:00
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	25.6	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	74.4	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	32.4	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	51	mg/kg-dry		1		SW6010B	02/26/13 15:07 / sld
Barium	183	mg/kg-dry		1		SW6010B	02/26/13 15:07 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 20:31 / sld
Cadmium	3	mg/kg-dry		1		SW6020	02/27/13 20:31 / sld
Chromium	25	mg/kg-dry		1		SW6010B	02/26/13 15:07 / sld
Copper	40	mg/kg-dry		1		SW6010B	02/26/13 15:07 / sld
Lead	139	mg/kg-dry	D	3		SW6010B	02/26/13 15:07 / sld
Manganese	1400	mg/kg-dry		1		SW6010B	02/26/13 15:07 / sld
Nickel	14	mg/kg-dry		1		SW6010B	02/26/13 15:07 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/27/13 20:31 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 20:31 / sld
Zinc	237	mg/kg-dry		1		SW6010B	02/26/13 15:07 / sld
METALS, TOTAL							
Mercury	0.57	mg/kg-dry		0.50		SW7471A	02/22/13 12:46 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-019
Client Sample ID D-SMLD-4

Report Date: 02/28/13
Collection Date: 02/19/13 11:25
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	28.0	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	72.0	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	26.4	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	192	mg/kg-dry		1		SW6010B	02/26/13 15:44 / sld
Barium	208	mg/kg-dry		1		SW6010B	02/26/13 15:44 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 22:11 / sld
Cadmium	4	mg/kg-dry		1		SW6020	02/27/13 22:11 / sld
Chromium	16	mg/kg-dry		1		SW6010B	02/26/13 15:44 / sld
Copper	86	mg/kg-dry		1		SW6010B	02/26/13 15:44 / sld
Lead	329	mg/kg-dry	D	3		SW6010B	02/26/13 15:44 / sld
Manganese	14200	mg/kg-dry		1		SW6010B	02/26/13 15:44 / sld
Nickel	13	mg/kg-dry		1		SW6010B	02/26/13 15:44 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/28/13 13:32 / sld
Silver	5	mg/kg-dry		1		SW6020	02/27/13 22:11 / sld
Zinc	1060	mg/kg-dry		1		SW6010B	02/26/13 15:44 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:49 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-020
Client Sample ID F-SMLD-5

Report Date: 02/28/13
Collection Date: 02/19/13 11:05
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	27.7	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	72.3	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	13.6	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	21	mg/kg-dry		1		SW6010B	02/26/13 15:48 / sld
Barium	206	mg/kg-dry		1		SW6010B	02/26/13 15:48 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 22:16 / sld
Cadmium	1	mg/kg-dry		1		SW6020	02/27/13 22:16 / sld
Chromium	21	mg/kg-dry		1		SW6010B	02/26/13 15:48 / sld
Copper	35	mg/kg-dry		1		SW6010B	02/26/13 15:48 / sld
Lead	61	mg/kg-dry		1		SW6020	02/27/13 22:16 / sld
Manganese	754	mg/kg-dry		1		SW6010B	02/26/13 15:48 / sld
Nickel	14	mg/kg-dry		1		SW6010B	02/26/13 15:48 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/28/13 13:36 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 22:16 / sld
Zinc	145	mg/kg-dry		1		SW6010B	02/26/13 15:48 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:51 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-021
Client Sample ID H-SMLD-7

Report Date: 02/28/13
Collection Date: 02/19/13 08:55
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	16.6	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	83.4	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	29.5	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	37	mg/kg-dry	D	2		SW6010B	02/26/13 15:52 / sld
Barium	153	mg/kg-dry		1		SW6010B	02/26/13 15:52 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 22:20 / sld
Cadmium	1	mg/kg-dry		1		SW6020	02/27/13 22:20 / sld
Chromium	23	mg/kg-dry		1		SW6010B	02/26/13 15:52 / sld
Copper	40	mg/kg-dry		1		SW6010B	02/26/13 15:52 / sld
Lead	86	mg/kg-dry		1		SW6020	02/27/13 22:20 / sld
Manganese	1050	mg/kg-dry		1		SW6010B	02/26/13 15:52 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 15:52 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/28/13 13:41 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 22:20 / sld
Zinc	218	mg/kg-dry		1		SW6010B	02/26/13 15:52 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 12:54 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-022
Client Sample ID N-SMLD-9

Report Date: 02/28/13
Collection Date: 02/19/13 09:25
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	39.0	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	61.0	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	34.0	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	27	mg/kg-dry		1		SW6010B	02/26/13 15:55 / sld
Barium	154	mg/kg-dry		1		SW6010B	02/26/13 15:55 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 22:25 / sld
Cadmium	ND	mg/kg-dry		1		SW6020	02/27/13 22:25 / sld
Chromium	14	mg/kg-dry		1		SW6010B	02/26/13 15:55 / sld
Copper	29	mg/kg-dry		1		SW6010B	02/26/13 15:55 / sld
Lead	41	mg/kg-dry		1		SW6020	02/27/13 22:25 / sld
Manganese	580	mg/kg-dry		1		SW6010B	02/26/13 15:55 / sld
Nickel	12	mg/kg-dry		1		SW6010B	02/26/13 15:55 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/28/13 14:06 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 22:25 / sld
Zinc	120	mg/kg-dry		1		SW6010B	02/26/13 15:55 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 13:03 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-023
Client Sample ID H-SMLD-20

Report Date: 02/28/13
Collection Date: 02/19/13 09:00
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	26.3	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	73.7	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	33.9	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	28	mg/kg-dry		1		SW6020	02/27/13 22:30 / sld
Barium	169	mg/kg-dry		1		SW6010B	02/27/13 12:23 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 22:30 / sld
Cadmium	2	mg/kg-dry		1		SW6020	02/27/13 22:30 / sld
Chromium	22	mg/kg-dry		1		SW6010B	02/27/13 12:23 / sld
Copper	42	mg/kg-dry		1		SW6010B	02/27/13 12:23 / sld
Lead	81	mg/kg-dry	D	3		SW6010B	02/27/13 12:23 / sld
Manganese	849	mg/kg-dry		1		SW6010B	02/27/13 12:23 / sld
Nickel	13	mg/kg-dry		1		SW6010B	02/27/13 12:23 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/28/13 14:11 / sld
Silver	ND	mg/kg-dry		1		SW6020	02/27/13 22:30 / sld
Zinc	184	mg/kg-dry		1		SW6010B	02/27/13 12:23 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 13:06 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-024
Client Sample ID D-SMLD-21

Report Date: 02/28/13
Collection Date: 02/19/13 11:10
DateReceived: 02/19/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
No. 60 Sieve, Retained	43.4	wt% retaine		0.1		ASA15-2	02/22/13 11:31 / rgk
No. 60 Sieve	56.6	wt% Passe		0.1		ASA15-2	02/22/13 11:31 / rgk
PHYSICAL CHARACTERISTICS							
Moisture	25.3	wt%		0.2		D2974	02/26/13 12:28 / sbk
3050 EXTRACTABLE METALS							
Arsenic	101	mg/kg-dry		1		SW6010B	02/27/13 12:26 / sld
Barium	178	mg/kg-dry		1		SW6010B	02/27/13 12:26 / sld
Beryllium	ND	mg/kg-dry		1		SW6020	02/27/13 22:35 / sld
Cadmium	3	mg/kg-dry		1		SW6020	02/27/13 22:35 / sld
Chromium	18	mg/kg-dry		1		SW6010B	02/27/13 12:26 / sld
Copper	58	mg/kg-dry		1		SW6010B	02/27/13 12:26 / sld
Lead	189	mg/kg-dry	D	3		SW6010B	02/27/13 12:26 / sld
Manganese	5490	mg/kg-dry		1		SW6010B	02/27/13 12:26 / sld
Nickel	11	mg/kg-dry		1		SW6010B	02/27/13 12:26 / sld
Selenium	ND	mg/kg-dry		1		SW6020	02/28/13 14:16 / sld
Silver	2	mg/kg-dry		1		SW6020	02/27/13 22:35 / sld
Zinc	448	mg/kg-dry		1		SW6010B	02/27/13 12:26 / sld
METALS, TOTAL							
Mercury	ND	mg/kg-dry		0.50		SW7471A	02/22/13 13:08 / sbk

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-025
Client Sample ID D-SMLW-4

Report Date: 02/28/13
Collection Date: 02/19/13 11:55
DateReceived: 02/19/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, DISSOLVED							
Arsenic	0.002	mg/L		0.001		E200.8	02/22/13 08:30 / dck
Barium	ND	mg/L		0.05		E200.8	02/22/13 08:30 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/22/13 08:30 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/22/13 08:30 / dck
Chromium	ND	mg/L		0.005		E200.8	02/22/13 08:30 / dck
Copper	0.006	mg/L		0.005		E200.8	02/22/13 08:30 / dck
Lead	ND	mg/L		0.001		E200.8	02/22/13 08:30 / dck
Manganese	ND	mg/L		0.001		E200.8	02/22/13 08:30 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:43 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/22/13 08:30 / dck
Selenium	ND	mg/L		0.001		E200.8	02/27/13 17:18 / sld
Silver	ND	mg/L		0.001		E200.8	02/22/13 08:30 / dck
Zinc	0.08	mg/L		0.01		E200.8	02/22/13 08:30 / dck
METALS, TOTAL							
Arsenic	0.001	mg/L		0.001		E200.8	02/22/13 11:46 / dck
Barium	ND	mg/L		0.05		E200.8	02/22/13 11:46 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/22/13 11:46 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/22/13 11:46 / dck
Chromium	ND	mg/L		0.005		E200.8	02/22/13 11:46 / dck
Copper	0.006	mg/L		0.005		E200.8	02/22/13 11:46 / dck
Lead	ND	mg/L		0.001		E200.8	02/22/13 11:46 / dck
Manganese	0.002	mg/L		0.001		E200.8	02/22/13 11:46 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:45 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/22/13 11:46 / dck
Selenium	ND	mg/L		0.001		E200.8	02/22/13 11:46 / dck
Silver	ND	mg/L		0.001		E200.8	02/22/13 11:46 / dck
Zinc	0.07	mg/L		0.01		E200.8	02/22/13 11:46 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-026
Client Sample ID H-SMLW-7

Report Date: 02/28/13
Collection Date: 02/19/13 09:10
DateReceived: 02/19/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, DISSOLVED							
Arsenic	0.001	mg/L		0.001		E200.8	02/22/13 12:09 / dck
Barium	ND	mg/L		0.05		E200.8	02/22/13 12:09 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/22/13 12:09 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/22/13 12:09 / dck
Chromium	ND	mg/L		0.005		E200.8	02/22/13 12:09 / dck
Copper	ND	mg/L		0.005		E200.8	02/22/13 12:09 / dck
Lead	ND	mg/L		0.001		E200.8	02/22/13 12:09 / dck
Manganese	ND	mg/L		0.001		E200.8	02/22/13 12:09 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 14:48 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/22/13 12:09 / dck
Selenium	ND	mg/L		0.001		E200.8	02/22/13 12:09 / dck
Silver	ND	mg/L		0.001		E200.8	02/22/13 12:09 / dck
Zinc	ND	mg/L		0.01		E200.8	02/22/13 12:09 / dck
METALS, TOTAL							
Arsenic	0.001	mg/L		0.001		E200.8	02/22/13 12:14 / dck
Barium	ND	mg/L		0.05		E200.8	02/22/13 12:14 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/22/13 12:14 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/22/13 12:14 / dck
Chromium	ND	mg/L		0.005		E200.8	02/22/13 12:14 / dck
Copper	0.009	mg/L		0.005		E200.8	02/22/13 12:14 / dck
Lead	ND	mg/L		0.001		E200.8	02/22/13 12:14 / dck
Manganese	ND	mg/L		0.001		E200.8	02/22/13 12:14 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 15:00 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/22/13 12:14 / dck
Selenium	ND	mg/L		0.001		E200.8	02/22/13 12:14 / dck
Silver	ND	mg/L		0.001		E200.8	02/22/13 12:14 / dck
Zinc	0.02	mg/L		0.01		E200.8	02/22/13 12:14 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-027
Client Sample ID N-SMLW-9

Report Date: 02/28/13
Collection Date: 02/19/13 09:30
DateReceived: 02/19/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, DISSOLVED							
Arsenic	0.001	mg/L		0.001		E200.8	02/22/13 12:19 / dck
Barium	ND	mg/L		0.05		E200.8	02/22/13 12:19 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/22/13 12:19 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/22/13 12:19 / dck
Chromium	ND	mg/L		0.005		E200.8	02/22/13 12:19 / dck
Copper	ND	mg/L		0.005		E200.8	02/22/13 12:19 / dck
Lead	ND	mg/L		0.001		E200.8	02/22/13 12:19 / dck
Manganese	ND	mg/L		0.001		E200.8	02/22/13 12:19 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 15:02 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/22/13 12:19 / dck
Selenium	0.001	mg/L		0.001		E200.8	02/22/13 12:19 / dck
Silver	ND	mg/L		0.001		E200.8	02/22/13 12:19 / dck
Zinc	ND	mg/L		0.01		E200.8	02/22/13 12:19 / dck
METALS, TOTAL							
Arsenic	0.001	mg/L		0.001		E200.8	02/22/13 12:24 / dck
Barium	ND	mg/L		0.05		E200.8	02/22/13 12:24 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/22/13 12:24 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/22/13 12:24 / dck
Chromium	ND	mg/L		0.005		E200.8	02/22/13 12:24 / dck
Copper	ND	mg/L		0.005		E200.8	02/22/13 12:24 / dck
Lead	ND	mg/L		0.001		E200.8	02/22/13 12:24 / dck
Manganese	ND	mg/L		0.001		E200.8	02/22/13 12:24 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 15:04 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/22/13 12:24 / dck
Selenium	0.001	mg/L		0.001		E200.8	02/22/13 12:24 / dck
Silver	ND	mg/L		0.001		E200.8	02/22/13 12:24 / dck
Zinc	ND	mg/L		0.01		E200.8	02/22/13 12:24 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Remediation Division
Project: Spring Meadow Lake
Lab ID: H13020243-028
Client Sample ID N-SMLC-EB-5

Report Date: 02/28/13
Collection Date: 02/19/13 10:05
DateReceived: 02/19/13
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Arsenic	ND	mg/L		0.001		E200.8	02/22/13 12:28 / dck
Barium	ND	mg/L		0.05		E200.8	02/22/13 12:28 / dck
Beryllium	ND	mg/L		0.001		E200.8	02/22/13 12:28 / dck
Cadmium	ND	mg/L		0.001		E200.8	02/22/13 12:28 / dck
Chromium	ND	mg/L		0.005		E200.8	02/22/13 12:28 / dck
Copper	ND	mg/L		0.005		E200.8	02/22/13 12:28 / dck
Lead	ND	mg/L		0.001		E200.8	02/22/13 12:28 / dck
Manganese	ND	mg/L		0.001		E200.8	02/22/13 12:28 / dck
Mercury	ND	mg/L		0.0001		E245.1	02/21/13 15:12 / sbk
Nickel	ND	mg/L		0.005		E200.8	02/22/13 12:28 / dck
Selenium	ND	mg/L		0.001		E200.8	02/22/13 12:28 / dck
Silver	ND	mg/L		0.001		E200.8	02/22/13 12:28 / dck
Zinc	ND	mg/L		0.01		E200.8	02/22/13 12:28 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 130221wa

Date: *28-Feb-13*

Run ID :Run Order: **HGCV201-H_130221A: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E245.1**
Analysis Date: **02/21/13 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002		102	90	110				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **HGCV201-H_130221A: 20** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **E245.1**
Analysis Date: **02/21/13 14:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002		94	90	110				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A**

Run ID :Run Order: **HGCV201-H_130221A: 34** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **E245.1**
Analysis Date: **02/21/13 14:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002		99	90	110				

Associated samples: **H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 130222sa

Run ID :Run Order: **HGCV201-H_130222A: 1** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **SW7471A**
Analysis Date: **02/22/13 10:06** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001		100	90	110				

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B; H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Run ID :Run Order: **HGCV201-H_130222A: 33** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**
Analysis Date: **02/22/13 11:22** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025		99	90	110				

Associated samples:

Run ID :Run Order: **HGCV201-H_130222A: 88** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**
Analysis Date: **02/22/13 12:03** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025		100	90	110				

Associated samples: **H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B**

Run ID :Run Order: **HGCV201-H_130222A: 102** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **SW7471A**
Analysis Date: **02/22/13 12:37** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025		99	90	110				

Associated samples: **H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19555

Run ID :Run Order: **HGCV201-H_130221A: 4** SampType: **Method Blank** Sample ID: **MB-19555** Method: **E245.1**
Analysis Date: **02/21/13 13:39** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8E-06	6E-06									

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A**

Run ID :Run Order: **HGCV201-H_130221A: 7** SampType: **Laboratory Control Sample** Sample ID: **LCS-19555** Method: **E245.1**
Analysis Date: **02/21/13 13:46** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0.00000806	94	90	110				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A**

Run ID :Run Order: **HGCV201-H_130221A: 29** SampType: **Sample Matrix Spike** Sample ID: **H13020221-038AMS** Method: **E245.1**
Analysis Date: **02/21/13 14:38** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002	0.00000851	92	70	130				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A**

Run ID :Run Order: **HGCV201-H_130221A: 30** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020221-038AMSD** Method: **E245.1**
Analysis Date: **02/21/13 14:41** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002	0.00000851	89	70	130	0.0001924	3.6	30	

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19556

Run ID :Run Order: **HGCV201-H_130221A: 36** SampType: **Method Blank** Sample ID: **MB-19556** Method: **E245.1**
Analysis Date: **02/21/13 14:55** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7E-06	6E-06									

Associated samples: **H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **HGCV201-H_130221A: 37** SampType: **Laboratory Control Sample** Sample ID: **LCS-19556** Method: **E245.1**
Analysis Date: **02/21/13 14:57** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002	0.0000072	95	90	110				

Associated samples: **H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **HGCV201-H_130221A: 41** SampType: **Sample Matrix Spike** Sample ID: **H13020243-027BMS** Method: **E245.1**
Analysis Date: **02/21/13 15:07** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002		95	70	130				

Associated samples: **H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **HGCV201-H_130221A: 42** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-027BMSD** Method: **E245.1**
Analysis Date: **02/21/13 15:09** Units: **mg/L** **Prep Info:** Prep Date: **2/20/2013** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00010	0.0002		97	70	130	0.0001892	2.9	30	

Associated samples: **H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19568

Run ID :Run Order: **HGCV201-H_130222A: 35** SampType: **Method Blank** Sample ID: **MB-19568** Method: **SW7471A**
Analysis Date: **02/22/13 11:27** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0009									

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B**

Run ID :Run Order: **HGCV201-H_130222A: 36** SampType: **Laboratory Control Sample** Sample ID: **LCS-19568** Method: **SW7471A**
Analysis Date: **02/22/13 11:30** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.4	0.50	4.99		87	80	120				

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B**

Run ID :Run Order: **HGCV201-H_130222A: 79** SampType: **Sample Matrix Spike** Sample ID: **H13020243-002BMS** Method: **SW7471A**
Analysis Date: **02/22/13 11:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.8	0.50	1.642	0.1832	101	80	120				

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B**

Run ID :Run Order: **HGCV201-H_130222A: 80** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-002BMSD** Method: **SW7471A**
Analysis Date: **02/22/13 11:44** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.8	0.50	1.635	0.1832	96	80	120	1.846	4.8	20	

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B**

Run ID :Run Order: **HGCV201-H_130222A: 81** SampType: **Serial Dilution** Sample ID: **H13020243-002BDIL** Method: **SW7471A**
Analysis Date: **02/22/13 11:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.18	0.50				0	0	0.1832		20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19568

Run ID :Run Order: **HGCV201-H_130222A: 81** SampType: **Serial Dilution** Sample ID: **H13020243-002BDIL** Method: **SW7471A**
Analysis Date: **02/22/13 11:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B**

Run ID :Run Order: **HGCV201-H_130222A: 95** SampType: **Sample Matrix Spike** Sample ID: **H13020243-013BMS** Method: **SW7471A**
Analysis Date: **02/22/13 12:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.392	0.09022	95	80	120				

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B**

Run ID :Run Order: **HGCV201-H_130222A: 96** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-013BMSD** Method: **SW7471A**
Analysis Date: **02/22/13 12:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.397	0.09022	96	80	120	1.41	1.7	20	

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B**

Run ID :Run Order: **HGCV201-H_130222A: 97** SampType: **Serial Dilution** Sample ID: **H13020243-013BDIL** Method: **SW7471A**
Analysis Date: **02/22/13 12:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.095	0.50				0	0	0.09022		20	

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19569

Run ID :Run Order: **HGCV201-H_130222A: 104** SampType: **Method Blank** Sample ID: **MB-19569** Method: **SW7471A**
Analysis Date: **02/22/13 12:41** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0009									

Associated samples: **H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Run ID :Run Order: **HGCV201-H_130222A: 105** SampType: **Laboratory Control Sample** Sample ID: **LCS-19569** Method: **SW7471A**
Analysis Date: **02/22/13 12:44** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.8	0.50	4.99		95	80	120				

Associated samples: **H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Run ID :Run Order: **HGCV201-H_130222A: 110** SampType: **Sample Matrix Spike** Sample ID: **H13020243-021BMS** Method: **SW7471A**
Analysis Date: **02/22/13 12:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.409	0.06458	94	80	120				

Associated samples: **H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Run ID :Run Order: **HGCV201-H_130222A: 111** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-021BMSD** Method: **SW7471A**
Analysis Date: **02/22/13 12:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW7471A**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	1.409	0.06458	94	80	120	1.392	0.3	20	

Associated samples: **H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Run ID :Run Order: **HGCV201-H_130222A: 112** SampType: **Serial Dilution** Sample ID: **H13020243-021BDIL** Method: **SW7471A**
Analysis Date: **02/22/13 13:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.059	0.50				0	0	0.06458		20	

Associated samples: **H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19574

Run ID :Run Order: **ICP2-HE_130226A: 50** SampType: **Method Blank** Sample ID: **MB-19574** Method: **SW6010B**

Analysis Date: **02/26/13 13:12** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5	0.4									
Barium	0.03	0.02									
Chromium	ND	0.07									
Copper	ND	0.2									
Lead	ND	1									
Manganese	0.4	0.04									
Nickel	ND	0.08									
Zinc	0.2	0.1									

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Run ID :Run Order: **ICP2-HE_130226A: 51** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19574** Method: **SW6010B**

Analysis Date: **02/26/13 13:16** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.4	1.0	50	0.4575	98	80	120				
Barium	50.6	1.0	50	0.027	101	80	120				
Chromium	49.7	1.0	50		99	80	120				
Copper	49.6	1.0	50		99	80	120				
Lead	49.4	1.0	50		99	80	120				
Manganese	245	1.0	250	0.399	98	80	120				
Nickel	48.7	1.0	50		97	80	120				
Zinc	47.9	1.0	50	0.1545	96	80	120				

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Run ID :Run Order: **ICP2-HE_130226A: 52** SampType: **Laboratory Control Sample** Sample ID: **LCS-19574** Method: **SW6010B**

Analysis Date: **02/26/13 13:19** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	274	1.5	343	0.4575	80	72.3	106.4				
Barium	549	1.0	614	0.027	89	80.6	112.2				
Chromium	66.8	1.0	76		88	72.8	109.1				
Copper	246	1.0	280		88	77.5	109.6				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19574

Run ID :Run Order: **ICP2-HE_130226A: 52** SampType: **Laboratory Control Sample** Sample ID: **LCS-19574** Method: **SW6010B**

Analysis Date: **02/26/13 13:19** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	176	3.1	187		94	75.9	108.6				
Manganese	351	1.0	369	0.399	95	80.8	115.7				
Nickel	52.0	1.0	61		85	72.3	103.4				
Zinc	183	1.0	213	0.1545	86	74.2	109.9				

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Run ID :Run Order: **ICP2-HE_130226A: 84** SampType: **Sample Matrix Spike** Sample ID: **H13020243-018CMS** Method: **SW6010B**

Analysis Date: **02/26/13 15:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	90.4	1.5	49.5	51	80	75	125				
Barium	241	1.0	49.5	183.2	116	75	125				
Chromium	72.3	1.0	49.5	25.17	95	75	125				
Copper	86.5	1.0	49.5	39.6	95	75	125				
Lead	183	3.1	49.5	138.7	89	75	125				
Manganese	1600	1.0	247.5	1396		75	125				A
Nickel	61.0	1.0	49.5	14.42	94	75	125				
Zinc	276	1.0	49.5	236.8		75	125				A

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Run ID :Run Order: **ICP2-HE_130226A: 85** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-018CMSD** Method: **SW6010B**

Analysis Date: **02/26/13 15:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	93.3	1.5	49.02	51	86	75	125	90.4	3.2	20	
Barium	233	1.0	49.02	183.2	102	75	125	240.5	3.1	20	
Chromium	73.2	1.0	49.02	25.17	98	75	125	72.34	1.2	20	
Copper	85.7	1.0	49.02	39.6	94	75	125	86.52	1.0	20	
Lead	185	3.0	49.02	138.7	95	75	125	183	1.2	20	
Manganese	1600	1.0	245.1	1396		75	125	1597	0.4	20	A
Nickel	62.0	1.0	49.02	14.42	97	75	125	61.01	1.6	20	
Zinc	282	1.0	49.02	236.8		75	125	276.2	2.1	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19574

Run ID :Run Order: **ICP2-HE_130226A: 85** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-018CMSD** Method: **SW6010B**

Analysis Date: **02/26/13 15:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19574

Run ID :Run Order: **ICPMS204-B_130227B: 28** SampType: **Method Blank** Sample ID: **MB-19574** Method: **SW6020**

Analysis Date: **02/27/13 18:03** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.03	0.01									
Beryllium	ND	0.005									
Cadmium	0.05	0.007									
Lead	0.03	0.003									
Selenium	0.01	0.01									
Silver	ND	0.02									

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Run ID :Run Order: **ICPMS204-B_130227B: 29** SampType: **Laboratory Control Sample** Sample ID: **LCS-19574** Method: **SW6020**

Analysis Date: **02/27/13 18:08** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	303	1.0	343	0.02668	88	72.3	106.4				
Beryllium	43.8	1.0	51		86	76.3	108.6				
Cadmium	123	1.0	137	0.04931	90	73	105.1				
Lead	191	1.0	187	0.02758	102	75.9	108.6				
Selenium	185	1.0	196	0.01051	94	72.5	112.2				
Silver	68.7	1.0	69		100	67.8	112.8				

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Run ID :Run Order: **ICPMS204-B_130227B: 30** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19574** Method: **SW6020**

Analysis Date: **02/27/13 18:13** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.3	1.0	50	0.02668	99	80	120				
Beryllium	22.5	1.0	25		90	80	120				
Cadmium	25.6	1.0	25	0.04931	102	80	120				
Lead	50.7	1.0	50	0.02758	101	80	120				
Selenium	53.0	1.0	50	0.01051	106	80	120				
Silver	25.9	1.0	25		104	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19574

Run ID :Run Order: **ICPMS204-B_130227B: 30** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19574** Method: **SW6020**

Analysis Date: **02/27/13 18:13** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Run ID :Run Order: **ICPMS204-B_130227B: 65** SampType: **Sample Matrix Spike** Sample ID: **H13020243-018CMS** Method: **SW6020**

Analysis Date: **02/27/13 21:06** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	99.8	1.0	49.5	49.84	101	75	125				
Beryllium	23.1	1.0	24.75	0.7153	90	75	125				
Cadmium	27.6	1.0	24.75	2.574	101	75	125				
Lead	183	1.0	49.5	130.9	105	75	125				
Selenium	52.8	1.0	49.5	0.4603	106	75	125				
Silver	26.0	1.0	24.75	0.9911	101	75	125				

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Run ID :Run Order: **ICPMS204-B_130227B: 66** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-018CMSD** Method: **SW6020**

Analysis Date: **02/27/13 21:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	102	1.0	49.02	49.84	107	75	125	99.8	2.3	20	
Beryllium	22.8	1.0	24.51	0.7153	90	75	125	23.1	1.4	20	
Cadmium	27.4	1.0	24.51	2.574	101	75	125	27.64	0.8	20	
Lead	183	1.0	49.02	130.9	107	75	125	182.7	0.4	20	
Selenium	54.3	1.0	49.02	0.4603	110	75	125	52.83	2.7	20	
Silver	26.4	1.0	24.51	0.9911	104	75	125	25.97	1.7	20	

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19575

Run ID :Run Order: **ICP2-HE_130226A: 88** SampType: **Method Blank** Sample ID: **MB-19575** Method: **SW6010B**
Analysis Date: **02/26/13 15:33** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.4									
Barium	0.02	0.02									
Chromium	ND	0.07									
Copper	ND	0.2									
Lead	2	1									
Manganese	0.1	0.04									
Nickel	ND	0.08									
Zinc	0.2	0.1									

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICP2-HE_130226A: 89** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19575** Method: **SW6010B**
Analysis Date: **02/26/13 15:37** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.8	1.0	50		102	80	120				
Barium	50.2	1.0	50	0.0245	100	80	120				
Chromium	50.9	1.0	50		102	80	120				
Copper	49.9	1.0	50		100	80	120				
Lead	51.7	1.0	50	1.803	100	80	120				
Manganese	244	1.0	250	0.1495	98	80	120				
Nickel	50.3	1.0	50		101	80	120				
Zinc	49.9	1.0	50	0.2245	99	80	120				

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICP2-HE_130226A: 90** SampType: **Laboratory Control Sample** Sample ID: **LCS-19575** Method: **SW6010B**
Analysis Date: **02/26/13 15:41** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	277	1.5	339.6		82	72.3	106.4				
Barium	545	1.0	607.9	0.0245	90	80.6	112.2				
Chromium	67.4	1.0	75.25		90	72.8	109.1				
Copper	247	1.0	277.2		89	77.5	109.6				
Lead	185	3.1	185.1	1.803	99	75.9	108.6				
Manganese	369	1.0	365.3	0.1495	101	80.8	115.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19575

Run ID :Run Order: **ICP2-HE_130226A: 90** SampType: **Laboratory Control Sample** Sample ID: **LCS-19575** Method: **SW6010B**

Analysis Date: **02/26/13 15:41** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	54.7	1.0	60.4		91	72.3	103.4				
Zinc	188	1.0	210.9	0.2245	89	74.2	109.9				

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICP2-HE_130226A: 101** SampType: **Sample Matrix Spike** Sample ID: **H13020243-024CMS** Method: **SW6010B**

Analysis Date: **02/26/13 16:21** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	137	1.5	48.54	99.24	79	75	125				
Barium	238	1.0	48.54	178.1	124	75	125				
Chromium	63.5	1.0	48.54	18.02	94	75	125				
Copper	105	1.0	48.54	59.34	94	75	125				
Lead	225	3.0	48.54	192	69	75	125				S
Manganese	5470	1.0	242.7	5350		75	125				A
Nickel	54.1	1.0	48.54	11.24	88	75	125				
Zinc	478	1.0	48.54	441.5		75	125				A

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICP2-HE_130226A: 102** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-024CMSD** Method: **SW6010B**

Analysis Date: **02/26/13 16:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	142	1.5	49.02	99.24	87	75	125	137.5	3.3	20	
Barium	239	1.0	49.02	178.1	125	75	125	238.1	0.4	20	
Chromium	64.5	1.0	49.02	18.02	95	75	125	63.49	1.5	20	
Copper	103	1.0	49.02	59.34	89	75	125	104.8	1.5	20	
Lead	239	3.0	49.02	192	96	75	125	225.3	5.9	20	
Manganese	5520	1.0	245.1	5350		75	125	5473	0.9	20	A
Nickel	54.8	1.0	49.02	11.24	89	75	125	54.13	1.2	20	
Zinc	483	1.0	49.02	441.5		75	125	477.8	1.2	20	A

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19575

Run ID :Run Order: **ICP2-HE_130227A: 22** SampType: **Method Blank** Sample ID: **MB-19575** Method: **SW6010B**
Analysis Date: **02/27/13 12:19** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.7	0.4									
Barium	ND	0.02									
Chromium	ND	0.07									
Copper	ND	0.2									
Lead	ND	1									
Manganese	0.2	0.04									
Nickel	ND	0.08									
Zinc	ND	0.1									

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICP2-HE_130227A: 27** SampType: **Sample Matrix Spike** Sample ID: **H13020243-024CMS** Method: **SW6010B**
Analysis Date: **02/27/13 12:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	141	1.5	48.54	100.9	83	75	125				
Barium	235	1.0	48.54	177.6	117	75	125				
Chromium	63.8	1.0	48.54	18.36	94	75	125				
Copper	104	1.0	48.54	58.22	94	75	125				
Lead	228	3.0	48.54	188.5	81	75	125				
Manganese	5540	1.0	242.7	5491		75	125				A
Nickel	54.8	1.0	48.54	11.01	90	75	125				
Zinc	484	1.0	48.54	447.8		75	125				A

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICP2-HE_130227A: 28** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-024CMSD** Method: **SW6010B**
Analysis Date: **02/27/13 12:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	146	1.5	49.02	100.9	91	75	125	141.3	2.9	20	
Barium	239	1.0	49.02	177.6	126	75	125	234.5	2.0	20	S
Chromium	66.2	1.0	49.02	18.36	98	75	125	63.78	3.8	20	
Copper	105	1.0	49.02	58.22	95	75	125	103.9	0.7	20	
Lead	230	3.0	49.02	188.5	84	75	125	227.9	0.8	20	
Manganese	5630	1.0	245.1	5491		75	125	5544	1.6	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19575

Run ID :Run Order: **ICP2-HE_130227A: 28** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-024CMSD** Method: **SW6010B**

Analysis Date: **02/27/13 12:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	54.5	1.0	49.02	11.01	**89**	75	125	54.77	**0.6**	20	
Zinc	491	1.0	49.02	447.8		75	125	484.3	**1.4**	20	A

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: 19575

Date: *28-Feb-13*

Run ID :Run Order: **ICPMS204-B_130227B: 69** SampType: **Method Blank** Sample ID: **MB-19575** Method: **SW6020**

Analysis Date: **02/27/13 21:26** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.02	0.01									
Beryllium	ND	0.005									
Cadmium	0.05	0.007									
Lead	0.02	0.003									
Selenium	ND	0.01									
Silver	ND	0.02									

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICPMS204-B_130227B: 70** SampType: **Laboratory Control Sample** Sample ID: **LCS-19575** Method: **SW6020**

Analysis Date: **02/27/13 21:31** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	300	1.0	339.6	0.021	88	72.3	106.4				
Beryllium	40.8	1.0	50.5		81	76.3	108.6				
Cadmium	130	1.0	135.6	0.04603	96	73	105.1				
Lead	190	1.0	185.1	0.02384	102	75.9	108.6				
Selenium	204	1.0	194.1		105	72.5	112.2				
Silver	68.9	1.0	68.32		101	67.8	112.8				

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICPMS204-B_130227B: 71** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19575** Method: **SW6020**

Analysis Date: **02/27/13 21:35** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.6	1.0	50	0.021	101	80	120				
Beryllium	21.5	1.0	25		86	80	120				
Cadmium	27.2	1.0	25	0.04603	108	80	120				
Lead	51.4	1.0	50	0.02384	103	80	120				
Selenium	54.8	1.0	50		110	80	120				
Silver	26.0	1.0	25		104	80	120				

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19575

Run ID :Run Order: **ICPMS204-B_130227B: 86** SampType: **Sample Matrix Spike** Sample ID: **H13020243-024CMS** Method: **SW6020**

Analysis Date: **02/27/13 22:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	159	1.0	48.54	107.1	107	75	125				
Beryllium	23.2	1.0	24.27	0.63	93	75	125				
Cadmium	28.3	1.0	24.27	2.538	106	75	125				
Lead	260	1.0	48.54	208.7		75	125				A
Silver	29.0	1.0	24.27	2.079	111	75	125				

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICPMS204-B_130227B: 91** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-024CMSD** Method: **SW6020**

Analysis Date: **02/27/13 23:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	158	1.0	49.02	107.1	104	75	125	159.1	0.8	20	
Beryllium	23.4	1.0	24.51	0.63	93	75	125	23.23	0.5	20	
Cadmium	28.1	1.0	24.51	2.538	104	75	125	28.32	0.6	20	
Lead	259	1.0	49.02	208.7		75	125	259.8	0.3	20	A
Silver	27.7	1.0	24.51	2.079	104	75	125	29.01	4.7	20	

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICPMS204-B_130228A: 27** SampType: **Method Blank** Sample ID: **MB-19575** Method: **SW6020**

Analysis Date: **02/28/13 13:27** Units: **mg/kg** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.02	0.01									
Beryllium	ND	0.005									
Cadmium	0.04	0.007									
Lead	0.04	0.003									
Selenium	0.01	0.01									
Silver	ND	0.02									

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19575

Run ID :Run Order: **ICPMS204-B_130228A: 40** SampType: **Sample Matrix Spike** Sample ID: **H13020243-024CMS** Method: **SW6020**

Analysis Date: **02/28/13 14:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	152	1.0	48.54	107.7	91	75	125				
Beryllium	25.2	1.0	24.27	0.705	101	75	125				
Cadmium	25.9	1.0	24.27	2.417	97	75	125				
Lead	253	1.0	48.54	209.9		75	125				A
Selenium	49.3	1.0	48.54	0.3467	101	75	125				
Silver	28.5	1.0	24.27	2.17	108	75	125				

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICPMS204-B_130228A: 41** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-024CMSD** Method: **SW6020**

Analysis Date: **02/28/13 14:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	153	1.0	49.02	107.7	93	75	125	151.7	1.0	20	
Beryllium	26.0	1.0	24.51	0.705	103	75	125	25.19	3.1	20	
Cadmium	26.5	1.0	24.51	2.417	98	75	125	25.86	2.5	20	
Lead	264	1.0	49.02	209.9		75	125	252.7	4.4	20	A
Selenium	49.9	1.0	49.02	0.3467	101	75	125	49.29	1.3	20	
Silver	28.0	1.0	24.51	2.17	105	75	125	28.5	1.9	20	

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19576

Run ID :Run Order: **ICPMS204-B_130221A: 100** SampType: **Method Blank** Sample ID: **MB-19576** Method: **E200.8**

Analysis Date: **02/22/13 08:40** Units: **mg/L** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	3E-05	2E-05									
Cadmium	ND	2E-05									
Chromium	ND	0.0002									
Copper	0.0002	0.0002									
Lead	ND	3E-05									
Manganese	ND	0.0001									
Nickel	ND	0.0001									
Selenium	ND	0.0002									
Silver	ND	0.0001									
Zinc	ND	0.001									

Associated samples: **H13020243-025B; H13020243-026B; H13020243-027B; H13020243-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 101** SampType: **Laboratory Control Sample** Sample ID: **LCS-19576** Method: **E200.8**

Analysis Date: **02/22/13 08:45** Units: **mg/L** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.532	0.0010	0.5		106	85	115				
Barium	0.500	0.050	0.5		100	85	115				
Beryllium	0.268	0.0010	0.25	0.0000345	107	85	115				
Cadmium	0.265	0.0010	0.25		106	85	115				
Chromium	0.508	0.0050	0.5		102	85	115				
Copper	0.488	0.0050	0.5	0.0002339	97	85	115				
Lead	0.507	0.0010	0.5		101	85	115				
Manganese	2.64	0.0010	2.5		106	85	115				
Nickel	0.509	0.0050	0.5		102	85	115				
Selenium	0.568	0.0010	0.5		114	85	115				
Silver	0.0493	0.0010	0.05		99	85	115				
Zinc	0.552	0.010	0.5		110	85	115				

Associated samples: **H13020243-025B; H13020243-026B; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: 19576

Run ID :Run Order: **ICPMS204-B_130221A: 132** SampType: **Sample Matrix Spike** Sample ID: **H13020243-025BMS3** Method: **E200.8**

Analysis Date: **02/22/13 11:51** Units: **mg/L** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.478	0.0010	0.5	0.001417	95	70	130				
Barium	0.570	0.050	0.5	0.04466	105	70	130				
Beryllium	0.252	0.0010	0.25		101	70	130				
Cadmium	0.254	0.0010	0.25	0.0000362	101	70	130				
Chromium	0.493	0.0050	0.5	0.0001983	99	70	130				
Copper	0.457	0.0050	0.5	0.006474	90	70	130				
Lead	0.518	0.0010	0.5	0.0005343	104	70	130				
Manganese	2.52	0.0010	2.5	0.001504	101	70	130				
Nickel	0.477	0.0050	0.5	0.0001919	95	70	130				
Selenium	0.473	0.0010	0.5	0.0006261	94	70	130				
Silver	0.0508	0.0010	0.05		102	70	130				
Zinc	0.536	0.010	0.5	0.07098	93	70	130				

Associated samples: **H13020243-025B; H13020243-026B; H13020243-027B; H13020243-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 133** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-025BMSD3** Method: **E200.8**

Analysis Date: **02/22/13 11:55** Units: **mg/L** **Prep Info:** Prep Date: **2/21/2013** Prep Method: **E200.2**

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.480	0.0010	0.5	0.001417	96	70	130	0.4777	0.4	20	
Barium	0.562	0.050	0.5	0.04466	103	70	130	0.5701	1.4	20	
Beryllium	0.244	0.0010	0.25		98	70	130	0.2516	3.1	20	
Cadmium	0.255	0.0010	0.25	0.0000362	102	70	130	0.2536	0.5	20	
Chromium	0.500	0.0050	0.5	0.0001983	100	70	130	0.4931	1.4	20	
Copper	0.462	0.0050	0.5	0.006474	91	70	130	0.457	1.2	20	
Lead	0.506	0.0010	0.5	0.0005343	101	70	130	0.5183	2.4	20	
Manganese	2.48	0.0010	2.5	0.001504	99	70	130	2.525	1.6	20	
Nickel	0.480	0.0050	0.5	0.0001919	96	70	130	0.4771	0.6	20	
Selenium	0.489	0.0010	0.5	0.0006261	98	70	130	0.4729	3.4	20	
Silver	0.0506	0.0010	0.05		101	70	130	0.05077	0.4	20	
Zinc	0.541	0.010	0.5	0.07098	94	70	130	0.5362	0.9	20	

Associated samples: **H13020243-025B; H13020243-026B; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **02/21/13 13:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0593	0.0050	0.06		99	90	110				
Barium	0.0601	0.10	0.06		100	90	110				
Beryllium	0.0305	0.0010	0.03		102	90	110				
Cadmium	0.0310	0.0010	0.03		103	90	110				
Chromium	0.0592	0.010	0.06		99	90	110				
Copper	0.0609	0.010	0.06		101	90	110				
Lead	0.0589	0.010	0.06		98	90	110				
Manganese	0.294	0.010	0.3		98	90	110				
Nickel	0.0607	0.010	0.06		101	90	110				
Selenium	0.0618	0.0050	0.06		103	90	110				
Silver	0.0296	0.0050	0.03		99	90	110				
Zinc	0.0622	0.010	0.06		104	90	110				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/21/13 13:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000485	0.0050									
Barium	0.000179	0.10									
Beryllium	8.00E-06	0.0010									
Cadmium	0.00107	0.0010									
Chromium	0.00128	0.010									
Copper	0.000755	0.010									
Lead	0.000230	0.010									
Manganese	0.000445	0.010									
Nickel	0.000770	0.010									
Selenium	0.00104	0.0050									
Silver	0.000114	0.0050									
Zinc	0.00146	0.010									

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/21/13 13:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0112	0.0050	0.01		113	70	130				
Barium	0.000131	0.10				0	0				
Beryllium	-1.60E-05	0.0010				0	0				
Cadmium	0.0111	0.0010	0.01		111	70	130				
Chromium	0.0224	0.010	0.02		112	70	130				
Copper	0.0212	0.010	0.02		106	70	130				
Lead	0.000205	0.010				0	0				
Manganese	0.0216	0.010	0.02		108	70	130				
Nickel	0.0222	0.010	0.02		111	70	130				
Selenium	0.0109	0.0050	0.01		109	70	130				
Silver	0.0206	0.0050	0.02		103	70	130				
Zinc	0.0124	0.010	0.01		124	70	130				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 17** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**

Analysis Date: **02/21/13 14:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	7E-05									
Barium	ND	5E-05									
Beryllium	ND	2E-05									
Cadmium	ND	7E-06									
Chromium	ND	4E-05									
Copper	4E-05	3E-05									
Lead	ND	6E-06									
Manganese	0.0001	8E-05									
Nickel	ND	6E-05									
Selenium	ND	5E-05									
Silver	ND	4E-05									
Zinc	0.0007	0.0003									

Associated samples: **H13020243-025A; H13020243-026A; H13020243-027A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 18** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**

Analysis Date: **02/21/13 14:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0482	0.0050	0.05		96	85	115				
Barium	0.0476	0.10	0.05		95	85	115				
Beryllium	0.0465	0.0010	0.05		93	85	115				
Cadmium	0.0479	0.0010	0.05		96	85	115				
Chromium	0.0482	0.010	0.05		96	85	115				
Copper	0.0488	0.010	0.05	0.0000364	97	85	115				
Lead	0.0465	0.010	0.05		93	85	115				
Manganese	0.0482	0.010	0.05	0.0001058	96	85	115				
Nickel	0.0492	0.010	0.05		98	85	115				
Selenium	0.0505	0.0050	0.05		101	85	115				
Silver	0.0196	0.0050	0.02		98	85	115				
Zinc	0.0521	0.010	0.05	0.0007175	103	85	115				

Associated samples: **H13020243-025A; H13020243-026A; H13020243-027A**

Run ID :Run Order: **ICPMS204-B_130221A: 23** SampType: **Sample Matrix Spike** Sample ID: **H13020220-028AMS** Method: **E200.8**

Analysis Date: **02/21/13 14:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0545	0.0010	0.05	0.00137	106	70	130				
Barium	0.0946	0.050	0.05	0.04632	96	70	130				
Beryllium	0.0464	0.0010	0.05		93	70	130				
Cadmium	0.0479	0.0010	0.05		96	70	130				
Chromium	0.0493	0.0050	0.05	0.0000968	98	70	130				
Copper	0.0487	0.0050	0.05	0.0006425	96	70	130				
Lead	0.0482	0.0010	0.05	0.0001833	96	70	130				
Manganese	0.0479	0.0010	0.05		96	70	130				
Nickel	0.0493	0.0050	0.05	0.0001179	98	70	130				
Selenium	0.0600	0.0010	0.05	0.001159	118	70	130				
Silver	0.0187	0.0010	0.02		94	70	130				
Zinc	0.0526	0.010	0.05	0.002548	100	70	130				

Associated samples: **H13020243-025A; H13020243-026A; H13020243-027A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 24** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020220-028AMSD** Method: **E200.8**

Analysis Date: **02/21/13 14:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0542	0.0010	0.05	0.00137	106	70	130	0.05452	0.6	20	
Barium	0.0952	0.050	0.05	0.04632	98	70	130	0.09456	0.7	20	
Beryllium	0.0471	0.0010	0.05		94	70	130	0.0464	1.5	20	
Cadmium	0.0479	0.0010	0.05		96	70	130	0.04789	0.1	20	
Chromium	0.0488	0.0050	0.05	0.0000968	97	70	130	0.04926	0.9	20	
Copper	0.0488	0.0050	0.05	0.0006425	96	70	130	0.04872	0.2	20	
Lead	0.0485	0.0010	0.05	0.0001833	97	70	130	0.04824	0.5	20	
Manganese	0.0485	0.0010	0.05		97	70	130	0.04789	1.2	20	
Nickel	0.0484	0.0050	0.05	0.0001179	97	70	130	0.04929	1.8	20	
Selenium	0.0601	0.0010	0.05	0.001159	118	70	130	0.06001	0.1	20	
Silver	0.0190	0.0010	0.02		95	70	130	0.01873	1.5	20	
Zinc	0.0516	0.010	0.05	0.002548	98	70	130	0.05258	1.9	20	

Associated samples: **H13020243-025A; H13020243-026A; H13020243-027A**

Run ID :Run Order: **ICPMS204-B_130221A: 51** SampType: **Laboratory Fortified Blank** Sample ID: **LFB-19541** Method: **E200.8**

Analysis Date: **02/21/13 16:48** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.7	1.0	50	0.1086	99	85	115				
Barium	50.5	1.0	50	0.534	100	85	115				
Beryllium	49.4	1.0	50		99	85	115				
Cadmium	53.2	1.0	50		106	85	115				
Chromium	53.0	1.0	50	2.388	101	85	115				
Copper	52.9	1.0	50	1.761	102	85	115				
Lead	49.6	1.0	50	0.019	99	85	115				
Manganese	51.5	1.0	50	0.1472	103	85	115				
Nickel	51.6	1.0	50	0.0456	103	85	115				
Selenium	51.9	1.0	50	0.077	104	85	115				
Silver	19.9	1.0	20		100	85	115				
Zinc	55.1	1.0	50	1.796	107	85	115				

Associated samples: **H13020243-025A; H13020243-026A; H13020243-027A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 82** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **02/21/13 19:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0590	0.0050	0.06		98	90	110				
Barium	0.0591	0.10	0.06		99	90	110				
Beryllium	0.0307	0.0010	0.03		102	90	110				
Cadmium	0.0306	0.0010	0.03		102	90	110				
Chromium	0.0587	0.010	0.06		98	90	110				
Copper	0.0606	0.010	0.06		101	90	110				
Lead	0.0595	0.010	0.06		99	90	110				
Manganese	0.301	0.010	0.3		100	90	110				
Nickel	0.0604	0.010	0.06		101	90	110				
Selenium	0.0616	0.0050	0.06		103	90	110				
Silver	0.0292	0.0050	0.03		97	90	110				
Zinc	0.0621	0.010	0.06		104	90	110				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 83** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/21/13 19:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000464	0.0050									
Barium	0.000132	0.10									
Beryllium	2.40E-05	0.0010									
Cadmium	0.00104	0.0010									
Chromium	0.00126	0.010									
Copper	0.000751	0.010									
Lead	0.000199	0.010									
Manganese	0.000477	0.010									
Nickel	0.000766	0.010									
Selenium	0.00106	0.0050									
Silver	0.000185	0.0050									
Zinc	0.00159	0.010									

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 84** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/21/13 19:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0110	0.0050	0.01		110	70	130				
Barium	0.000159	0.10				0	0				
Beryllium	1.00E-05	0.0010				0	0				
Cadmium	0.0111	0.0010	0.01		111	70	130				
Chromium	0.0220	0.010	0.02		110	70	130				
Copper	0.0209	0.010	0.02		105	70	130				
Lead	0.000215	0.010				0	0				
Manganese	0.0219	0.010	0.02		109	70	130				
Nickel	0.0214	0.010	0.02		107	70	130				
Selenium	0.0107	0.0050	0.01		107	70	130				
Silver	0.0206	0.0050	0.02		103	70	130				
Zinc	0.0122	0.010	0.01		122	70	130				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 93** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/22/13 08:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000486	0.0050									
Barium	0.000176	0.10									
Beryllium	4.80E-05	0.0010									
Cadmium	0.00103	0.0010									
Chromium	0.00112	0.010									
Copper	0.000789	0.010									
Lead	0.000206	0.010									
Manganese	0.000279	0.010									
Nickel	0.000785	0.010									
Selenium	0.000925	0.0050									
Silver	0.000191	0.0050									
Zinc	0.00163	0.010									

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 94** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/22/13 08:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0118	0.0050	0.01		118	70	130				
Barium	0.000161	0.10				0	0				
Beryllium	4.80E-05	0.0010				0	0				
Cadmium	0.0112	0.0010	0.01		112	70	130				
Chromium	0.0220	0.010	0.02		110	70	130				
Copper	0.0215	0.010	0.02		108	70	130				
Lead	0.000226	0.010				0	0				
Manganese	0.0228	0.010	0.02		114	70	130				
Nickel	0.0219	0.010	0.02		110	70	130				
Selenium	0.0118	0.0050	0.01		118	70	130				
Silver	0.0207	0.0050	0.02		104	70	130				
Zinc	0.0119	0.010	0.01		119	70	130				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 122** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**

Analysis Date: **02/22/13 10:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0580	0.0050	0.06		97	90	110				
Barium	0.0599	0.10	0.06		100	90	110				
Beryllium	0.0307	0.0010	0.03		102	90	110				
Cadmium	0.0310	0.0010	0.03		103	90	110				
Chromium	0.0576	0.010	0.06		96	90	110				
Copper	0.0598	0.010	0.06		100	90	110				
Lead	0.0595	0.010	0.06		99	90	110				
Manganese	0.297	0.010	0.3		99	90	110				
Nickel	0.0589	0.010	0.06		98	90	110				
Selenium	0.0582	0.0050	0.06		97	90	110				
Silver	0.0296	0.0050	0.03		99	90	110				
Zinc	0.0613	0.010	0.06		102	90	110				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86477

Run ID :Run Order: **ICPMS204-B_130221A: 123** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**

Analysis Date: **02/22/13 11:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.000416	0.0050									
Barium	0.000102	0.10									
Beryllium	1.60E-05	0.0010									
Cadmium	0.000934	0.0010									
Chromium	0.00111	0.010									
Copper	0.000669	0.010									
Lead	0.000179	0.010									
Manganese	0.000401	0.010									
Nickel	0.000634	0.010									
Selenium	0.000817	0.0050									
Silver	0.000131	0.0050									
Zinc	0.00135	0.010									

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Run ID :Run Order: **ICPMS204-B_130221A: 124** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**

Analysis Date: **02/22/13 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0101	0.0050	0.01		101	70	130				
Barium	0.000122	0.10				0	0				
Beryllium	8.00E-06	0.0010				0	0				
Cadmium	0.0101	0.0010	0.01		101	70	130				
Chromium	0.0203	0.010	0.02		102	70	130				
Copper	0.0196	0.010	0.02		98	70	130				
Lead	0.000188	0.010				0	0				
Manganese	0.0197	0.010	0.02		98	70	130				
Nickel	0.0201	0.010	0.02		101	70	130				
Selenium	0.00984	0.0050	0.01		98	70	130				
Silver	0.0196	0.0050	0.02		98	70	130				
Zinc	0.0107	0.010	0.01		107	70	130				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86483

Run ID :Run Order: **HGCV201-H_130221A: 2** SampType: **Continuing Calibration Verification Standar** Sample ID: **CCV** Method: **E245.1**

Analysis Date: **02/21/13 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00020	0.00010	0.0002		99	95	105				

Associated samples: **H13020243-025A; H13020243-025B; H13020243-026A; H13020243-026B; H13020243-027A; H13020243-027B; H13020243-028A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R86560

Date: *28-Feb-13*

Run ID :Run Order: **MISC SOILS_130225B: 8** SampType: **Sample Duplicate** Sample ID: **H13020243-007BDUP** Method: **D2974**

Analysis Date: **02/26/13 12:28** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	35.2	0.20						34.85			

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B; H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Run ID :Run Order: **MISC SOILS_130225B: 16** SampType: **Sample Duplicate** Sample ID: **H13020243-014BDUP** Method: **D2974**

Analysis Date: **02/26/13 12:28** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	29.8	0.20						30.28			

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B; H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Run ID :Run Order: **MISC SOILS_130225B: 27** SampType: **Sample Duplicate** Sample ID: **H13020243-024BDUP** Method: **D2974**

Analysis Date: **02/26/13 12:28** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	27.2	0.20						25.28			

Associated samples: **H13020243-001B; H13020243-002B; H13020243-003B; H13020243-004B; H13020243-005B; H13020243-006B; H13020243-007B; H13020243-008B; H13020243-009B; H13020243-010B; H13020243-011B; H13020243-012B; H13020243-013B; H13020243-014B; H13020243-015B; H13020243-016B; H13020243-017B; H13020243-018B; H13020243-019B; H13020243-020B; H13020243-021B; H13020243-022B; H13020243-023B; H13020243-024B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86575

Run ID :Run Order: **ICP2-HE_130226A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**

Analysis Date: **02/26/13 10:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.813	0.0092	0.8		102	90	110				
Barium	0.796	0.10	0.8		100	90	110				
Chromium	0.800	0.010	0.8		100	90	110				
Copper	0.791	0.010	0.8		99	90	110				
Lead	0.785	0.013	0.8		98	90	110				
Manganese	3.92	0.010	4		98	90	110				
Nickel	0.785	0.010	0.8		98	90	110				
Zinc	0.785	0.010	0.8		98	90	110				

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C; H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C**

Run ID :Run Order: **ICP2-HE_130226A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**

Analysis Date: **02/26/13 10:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.00148	0.0092				0	0				
Barium	0.000590	0.10				0	0				
Chromium	-0.00428	0.010				0	0				
Copper	0.000130	0.010				0	0				
Lead	0.0432	0.013				0	0				
Manganese	-0.00504	0.010				0	0				
Nickel	0.00657	0.010				0	0				
Zinc	0.0131	0.010				0	0				

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C; H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C**

Run ID :Run Order: **ICP2-HE_130226A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/26/13 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.06	0.0092	1		106	80	120				
Barium	0.496	0.10	0.5		99	80	120				
Chromium	0.470	0.010	0.5		94	80	120				
Copper	0.500	0.010	0.5		100	80	120				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86575

Run ID :Run Order: **ICP2-HE_130226A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/26/13 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.951	0.013	1		95	80	120				
Manganese	0.460	0.010	0.5		92	80	120				
Nickel	0.909	0.010	1		91	80	120				
Zinc	0.962	0.010	1		96	80	120				

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C; H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86593

Run ID :Run Order: **ICP2-HE_130227A: 6** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV** Method: **E200.7**

Analysis Date: **02/27/13 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.796	0.0092	0.8		100	90	110				
Barium	0.804	0.10	0.8		101	90	110				
Chromium	0.796	0.010	0.8		99	90	110				
Copper	0.805	0.010	0.8		101	90	110				
Lead	0.750	0.013	0.8		94	90	110				
Manganese	3.92	0.010	4		98	90	110				
Nickel	0.787	0.010	0.8		98	90	110				
Zinc	0.783	0.010	0.8		98	90	110				

Associated samples: **H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICP2-HE_130227A: 10** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**

Analysis Date: **02/27/13 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0118	0.0092				0	0				
Barium	-0.000120	0.10				0	0				
Chromium	0.00242	0.010				0	0				
Copper	-0.000670	0.010				0	0				
Lead	0.0560	0.013				0	0				
Manganese	-0.00441	0.010				0	0				
Nickel	0.00437	0.010				0	0				
Zinc	0.0102	0.010				0	0				

Associated samples: **H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICP2-HE_130227A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/27/13 11:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.04	0.0092	1		104	80	120				
Barium	0.499	0.10	0.5		100	80	120				
Chromium	0.466	0.010	0.5		93	80	120				
Copper	0.504	0.010	0.5		101	80	120				
Lead	0.895	0.013	1		89	80	120				
Manganese	0.461	0.010	0.5		92	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86593

Run ID :Run Order: **ICP2-HE_130227A: 11** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.7**

Analysis Date: **02/27/13 11:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.896	0.010	1		90	80	120				
Zinc	0.958	0.010	1		96	80	120				

Associated samples: **H13020243-023C; H13020243-024C**

Run ID :Run Order: **ICP2-HE_130227A: 13** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.7**

Analysis Date: **02/27/13 11:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0165	0.0092				0	0				
Barium	0.000280	0.10				0	0				
Chromium	0.00763	0.010				0	0				
Copper	0.000760	0.010				0	0				
Lead	0.0258	0.013				0	0				
Manganese	-0.00287	0.010				0	0				
Nickel	0.00391	0.010				0	0				
Zinc	0.0114	0.010				0	0				

Associated samples: **H13020243-023C; H13020243-024C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86600

Run ID :Run Order: **ICPMS204-B_130227A: 10** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **E200.8**
Analysis Date: **02/27/13 16:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0630	0.0050	0.06		105	90	110				

Associated samples: **H13020243-025A**

Run ID :Run Order: **ICPMS204-B_130227A: 11** SampType: **Interference Check Sample A** Sample ID: **ICSA** Method: **E200.8**
Analysis Date: **02/27/13 16:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.000944	0.0050									

Associated samples: **H13020243-025A**

Run ID :Run Order: **ICPMS204-B_130227A: 12** SampType: **Interference Check Sample AB** Sample ID: **ICSAB** Method: **E200.8**
Analysis Date: **02/27/13 16:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0104	0.0050	0.01		104	70	130				

Associated samples: **H13020243-025A**

Run ID :Run Order: **ICPMS204-B_130227A: 19** SampType: **Method Blank** Sample ID: **ICB** Method: **E200.8**
Analysis Date: **02/27/13 16:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	5E-05									

Associated samples: **H13020243-025A**

Run ID :Run Order: **ICPMS204-B_130227A: 20** SampType: **Laboratory Fortified Blank** Sample ID: **LFB** Method: **E200.8**
Analysis Date: **02/27/13 16:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0501	0.0050	0.05		100	85	115				

Associated samples: **H13020243-025A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86600

Run ID :Run Order: **ICPMS204-B_130227A: 25** SampType: **Sample Matrix Spike** Sample ID: **H13020243-025AMS** Method: **E200.8**

Analysis Date: **02/27/13 17:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0577	0.0010	0.05	0.0007318	114	70	130				

Associated samples: **H13020243-025A**

Run ID :Run Order: **ICPMS204-B_130227A: 26** SampType: **Sample Matrix Spike Duplicate** Sample ID: **H13020243-025AMSD** Method: **E200.8**

Analysis Date: **02/27/13 17:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0592	0.0010	0.05	0.0007318	117	70	130	0.0577	2.6	20	

Associated samples: **H13020243-025A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *28-Feb-13*

BatchID: R86605

Run ID :Run Order: **ICPMS204-B_130227B: 10** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **02/27/13 16:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0599	0.0010	0.06		100	90	110				
Beryllium	0.0294	0.0010	0.03		98	90	110				
Cadmium	0.0301	0.0010	0.03		100	90	110				
Lead	0.0577	0.0010	0.06		96	90	110				
Selenium	0.0630	0.0010	0.06		105	90	110				
Silver	0.0290	0.0010	0.03		97	90	110				

Associated samples: **H13020243-001C; H13020243-002C; H13020243-003C; H13020243-004C; H13020243-005C; H13020243-006C; H13020243-007C; H13020243-008C; H13020243-009C; H13020243-010C; H13020243-011C; H13020243-012C; H13020243-013C; H13020243-014C; H13020243-015C; H13020243-016C; H13020243-017C; H13020243-018C; H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Client: MT DEQ-Remediation Division
Work Order: H13020243
Project: Spring Meadow Lake

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

BatchID: R86628

Date: *28-Feb-13*

Run ID :Run Order: **ICPMS204-B_130228A: 9** SampType: **Initial Calibration Verification Standard** Sample ID: **ICV STD** Method: **SW6020**

Analysis Date: **02/28/13 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0608	0.0010	0.06		101	90	110				

Associated samples: **H13020243-019C; H13020243-020C; H13020243-021C; H13020243-022C; H13020243-023C; H13020243-024C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than three times the spike amount

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

MT DEQ-Remediation Division H13020243

Login completed by: Tracy L. Lorash
Date Received: 2/19/2013
Reviewed by: BL2000\wjohnson
Received by: TLL
Reviewed Date: 2/28/2013
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	℃ See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Contact and Corrective Action Comments:

D-SMLC-21-A jar has a collection time of 11:30 - COC has time of 11:20. Logged in with time from COC.
No collection time on jars or COC for sample H-SMLC-235. Sample time estimated in laboratory.
Sample D-SMLC-24-D has no collection time on jar. Took from COC.
Cooler 1 was received at 5.0℃, Cooler 2 at 3.8℃. Samples were received on wet ice.
Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric

Workorder Receipt Checklist - Continued

MT DEQ-Remediation Division H13020243

acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. TI 2/22/13.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

RUSH Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal (Y) N
Intact (Y) N
Signature Match (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Number of Containers (Sample Type: A Air, W Water, S Soils/Solids, V Vegetation, B Bioassay, O Other)	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal Turnaround (TAT)	
2	1 D-SMLC-21-A	2/19/13	1120	soil		x	x									Composite and
	2 B					x	x									label sample
	3 C					x	x									D-SMLC-21
	4 D					x	x									
	5 E					x	x									
2	6 D-SMLC-22-A	2/19/13	1135			x	x									Composite and
	7 B					x	x									label sample
	8 C					x	x									D-SMLC-22
	9 D					x	x									
	10 E					x	x									

LABORATORY USE ONLY H13020243

Custody Record MUST be Signed

Relinquished by (print): Luke Darnell Date/Time: 2/19/13 1500 Signature:
Relinquished by (print): Date/Time: Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X

Received by (print): Date/Time: Signature:
Received by (print): Date/Time: Signature:
Received by Laboratory: Tracy Loraah Date/Time: 2/11/13 15:00 Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand

Cooler ID(s): 4

Receipt Temp: See comments

On Ice: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
2	1 D-SMLC-23-A	2/19/13	1145	soil	x	x									Composite and
	2 B				x	x									label sample
	3 C				x	x									D-SMLC-23
	4 D				x	x									
	5 E				x	x									
2	6 D-SMLC-24-A	2/19/13	1130		x	x									Composite and
	7 B				x	x									label sample
	8 C				x	x									D-SMLC-24
	9 D				x	x									
	10 E				x	x									

LABORATORY USE ONLY H13020243

Custody Record MUST be Signed

	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Luke Darnell	2/19/13 1500				
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Tracy Lorash	Date/Time: 2/19/13 15:00	Signature: Tracy Lorash

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal Turnaround (TAT)	RUSH	
2	1 F-SMLC-25-A	2/19/13	1040	soil	x	x										Composite and
	2 B				x	x										label sample
	3 C				x	x										F-SMLC-25
	4 D				x	x										
	5 E				x	x										
2	6 F-SMLC-26-A	2/19/13	1050		x	x										Composite and
	7 B				x	x										label sample
	8 C				x	x										F-SMLC-26
	9 D				x	x										
	10 E				x	x										

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments °C
On Ice: (Yes) No
Custody Seal Intact Signature Match: Y N / Y N / Y N

LABORATORY USE ONLY H13020243

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/19/13 1500				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Tracy Lovat	Date/Time: 2/19/13 15:00	Signature: Tracy Lovat

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc.: Spring Meadow Lake	Sample Origin: State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901, Helena, MT59620	Contact Name: Aimee Reynolds; Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments °C
On Ice: Yes No
Custody Seal Intact: Y N
Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
2	1 F-SMLC-27-A	2/19/13	1055	soil	x	x										Composite and
	2 B				x	x										label sample
	3 C				x	x										F-SMLC-27
	4 D				x	x										
	5 E				x	x										
2	6 F-SMLC-28-A	2/19/13	1035		x	x										Composite and
	7 B				x	x										label sample
	8 C				x	x										D-SMLC-28
	9 D				x	x										
	10 E				x	x										

LABORATORY USE ONLY 413020243

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/19/13 1500				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Lorash	Date/Time: 2/19/13 15:00	Signature: Tracy Lorash

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State:MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments °C
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	H-SMLC-33-A	2/19/13	0845	soil	x	x										Composite and
2	B				x	x										label sample
3	C				x	x										H-SMLC-33
4	D				x	x										
5	E				x	x										
6	H-SMLC-34-A	2/19/13	0820		x	x										Composite and
7	B				x	x										label sample
8	C				x	x										H-SMLC-34
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY H13020243

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/19/13 1500				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Loraush	Date/Time: 2/19/13 15:00	Signature: Tracy Loraush

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Biossay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C15.0
C23.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	H-SMLC-35-A	2/19/13	0840	soil	x	x										Composite and
2	B				x	x										label sample
3	C				x	x										H-SMLC-35
4	D				x	x										
5	E				x	x										
6	H-SMLC-36-A	2/19/13	0830		x	x										Composite and
7	B				x	x										label sample
8	C				x	x										H-SMLC-36
9	D				x	x										
10	E				x	x										

LABORATORY USE ONLY H3020243

Custody Record MUST be Signed

Relinquished by (print): Luke Darnell	Date/Time: 2/19/13 1500	Signature:	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Tracy Conrad	Date/Time: 2/19/13 15:00	Signature: Tracy Conrad

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: C1 5.0 TB
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments °C
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal Turnaround (TAT)	
					ANALYSIS REQUESTED										
1	H-SMLC-37-A	2/19/13	0810	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									H-SMLC-37
4	D				x	x									
5	E				x	x									
6	N-SMLC-99-A	2/19/13	0935		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									N-SMLC-99
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY H13020243

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/19/13 1500				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Trask	Date/Time: 2/19/13 15:00	Signature: Tracy Trask

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments C
On Ice: (Yes) No
Custody Seal Intact Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	N-SMLC-100-A	2/19/13	0945	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									N-SMLC-100
4	D				x	x									
5	E				x	x									
6	N-SMLC-101-A	2/19/13	1000		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									N-SMLC-101
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY H13020243

Custody Record MUST be Signed

Relinquished by (print): Luke Darnell	Date/Time: 2/19/13 1500	Signature:	Received by (print):	Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time: / Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X			Received By Laboratory: Tracy Torask	Date/Time: 2/19/13 15:00 / Signature: Tracy Torask

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This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments C
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	N-SMLC-102-A	2/19/13	1005	soil	x	x									Composite and
2	B				x	x									label sample
3	C				x	x									N-SMLC-102
4	D				x	x									
5	E				x	x									
6	H-SMLC-235-A	2/19/13	—		x	x									Composite and
7	B				x	x									label sample
8	C				x	x									H-SMLC-235
9	D				x	x									
10	E				x	x									

LABORATORY USE ONLY H13020243

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/19/13 1500				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Loraas	Date/Time: 2/19/13 15:00	Signature: Tracy Loraas

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

RUSH — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments C
On Ice: (Yes) No
Custody Seal Intact Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B							SEE ATTACHED	Normal Turnaround (TAT)		
	Number of Containers / Sample Type: A W S V B O / Air Water Soils/Solids Vegetation Bioassay Other				ANALYSIS REQUESTED											
2	1 D-SMLD-4-A	2/19/13	1125	soil	x	x										Composite and
	2 B	〃	〃	〃	x	x										label sample
	3 C	〃	〃	〃	x	x										D-SMLD-4
	4 D	〃	〃	〃	x	x										
	5 ———	———	———	———	x	x										
2	6 F-SMLD-5-A	2/19/13	1105	soil	x	x										Composite and
	7 B	〃	〃	〃	x	x										label sample
	8 C	〃	〃	〃	x	x										F-SMLD-5
	9 D	〃	〃	〃	x	x										
	10 E	〃	〃	〃	x	x										

LABORATORY USE ONLY: H13020243

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/19/13 1500				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Loraol	Date/Time: 2/19/13 15:00	Signature: Tracy Loraol

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): 4
Receipt Temp: See comments
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B									
1	H-SMLD-7-A	2/19/13	0855	soil	x	x									Composite and
2	B	〃	〃	〃	x	x									label sample
3	C	〃	〃	〃	x	x									H-SMLD-7
4					x	x									
5					x	x									
6	N-SMLD-9-A	2/19/13	0925	soil	x	x									Composite and
7	B	〃	〃	〃	x	x									label sample
8	C	〃	〃	〃	x	x									N-SMLD-9
9	D	〃	〃	〃	x	x									
10	E	〃	〃	〃	x	x									

LABORATORY USE ONLY H13020243

Custody Record MUST be Signed

	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
1	Luke Darnell	2/19/13 1500				
2						

Received by Laboratory: Tracy Crash 2/19/13 15:00 Tracy Crash

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA x EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments C
On Ice: Yes No
Custody Seal Intact Signature Match: Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B										
1	H-SMLD-20-A	2/19/13	0900	soil	x	x										Composite and label sample H-SMLD-20
2	B				x	x										
3	C				x	x										
4	D				x	x										
5					x	x										
6	D-SMLD-21-A	2/19/13	1110	soil	x	x										Composite and label sample D-SMLD-21
7	B				x	x										
8	C				x	x										
9	D				x	x										
10					x	x										

LABORATORY USE ONLY H13020243

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Luke Darnell	2/19/13 1500				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Tracy Crush	Date/Time: 2/19/13 15:00	Signature: Tracy Crush

Sample Disposal: Return to Client: _____ Lab Disposal: X

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Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: MDEQ	Project Name, PWS, Permit, Etc. Spring Meadow Lake	Sample Origin State: MT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: PO Box 200901 Helena, MT59620	Contact Name: Aimee Reynolds Phone/Fax: 409 841 5000	Email: areynolds@mt.gov	Sampler: (Please Print) Jamie Mongoven
Invoice Address:	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA ☒ EDD/EDT(Electronic Data)
☐ POTW/WWTP **Format:** Trihydro
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: TB
C1 5.0
C2 3.8

Shipped by: Hand
Cooler ID(s): Y
Receipt Temp: See comments °C
On Ice: (Yes) No
Custody Seal Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Metals 6010C	Mercury 7471B	Total Metals 6020A	Dissolved Metals 6020A	Total mercury 7470A						
1	D-SMLW-4	2/19/13	1155	water			X	X	X						
2	H-SMLW-7	2/19/13	0910	water			x	x	x						
3	N-SMLW-9	2/19/13	0930	water			x	x	x						
4	N-SMLC-EB-5	2/19/13	1005	water			x		x						
5															
6															
7															
8															
9															
10															

LABORATORY USE ONLY H3020243

Custody Record MUST be Signed

	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Luke Darnell	2/19/13 1500				
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client: _____ Lab Disposal: X			Received by Laboratory: Tracy Trask	2/19/13 15:00	Signature: Tracy Trask

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APPENDIX D

DATA VALIDATION REPORTS

Tier II Data Validation Report Summary

Client: Montana Department of Environmental Quality–Remediation Division	Laboratory: Energy Laboratories
Project Name: Spring Meadow Assessment	Sample Matrix: Soil and Water
Project Number: 776-020-001	Sample Start Date: 02/11/2013
Date Validated: 02/26/2013	Sample End Date: 02/11/2013
Parameters Included: Metals by United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste (SW-846) Method 6020 and USEPA Method 200.8; Mercury by SW-846 Method 7471A and USEPA Method 245.1; Percent Moisture by ASTM D2974; sieve analysis by American Society of Agronomists Method ASA15-2.	
Laboratory Project ID: H13020146	
Data Validator: Charles Ballek, Senior Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Energy Laboratories of Helena, Montana, evaluating samples from the Montana Department of Environmental Quality (MDEQ) Spring Meadow site, located in Helena, Montana.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values of samples from laboratory duplicate pairs and matrix spike (MS) and matrix spike duplicate (MSD) pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of MS/MSD samples and laboratory control samples (LCS) to verify that data are not biased. Method compliance was established by reviewing holding times, detection limits, method blanks, and the LCS percent recoveries against method-specific requirements. Completeness was evaluated by determining the overall ratio of the number of planned samples and analyses versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other necessary documents associated with this analytical data set.

Chemical data validation was conducted in accordance with the National Functional Guidelines for inorganic analyses or by the appropriate method. Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, document number USEPA 540R-10-011, January 2010.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
E-SMLC-13	H13020146-001
E-SMLC-14	H13020146-002
E-SMLC-15	H13020146-003
E-SMLC-16	H13020146-004
E-SMLG-1	H13020146-005
E-SMLW-2	H13020146-006
E-SMLW-2	H13020146-006
E-SMLD-2	H13020146-007

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation
- ✓ Holding Times and Preservation
- ⊗ Laboratory Blanks
- ✓ LCS
- ⊗ MS/MSD
- ✓ Laboratory Duplicates

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Data Validation Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes. Text identified in **bold font** indicates that further action and/or qualification of the data were required. Data validation qualifiers were added for the items noted with crossed circles above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data qualifiers used during this validation included:

UJ – Estimated reporting limit

U – Evaluated to be undetected at the reporting limit

JB – Estimated concentration due to blank contamination

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly. The complete data package consisted of 110 data points. No data points were rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances related to the analytical data identified by the laboratory?	No
Comments: The laboratory noted the following in the Case Narrative and the Workorder Receipt Checklist. Samples were left in locked entry. Samples for dissolved metals were subsampled, filtered, and preserved to pH <2 with 2 mL of nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for dissolved metals should be filtered and preserved within 15 minutes of collection. Multiple jars, as indicated on the CoC, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for Moisture and Mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which pass through the No.60 sieve was used for the metals analysis. The samples are reported on a dry weight basis as indicated in the report.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory applied the following qualifiers to data. D – Reporting Limit increased due to sample matrix S – Spike recovery outside of advisory limits A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated	
3. Were sample CoC forms complete?	Yes
Comments: The CoC records from field to laboratory were complete. Custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The samples were delivered by project personnel and left in an entryway that was locked after leaving the cooler.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: Detection limits and dilutions were reviewed and found to be acceptable. Analyses that required dilutions are noted below. Method 6020: Dilutions of 20 times were applied for the analyses of metals in the soil samples. Dilutions of 400 times were applied to samples E-SMLC-13, E-SMLC-14, E-SMLC-15 and E-SMLD-2 for the analysis of manganese.	
5. Were the requested analytical methods in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC except as follows. USEPA Methods 200.8 and 245.1 were used instead of SW-846 Methods 6020 and 7470A for the analyses of metals in the water sample. The methods utilized provide acceptable quality control and appropriate application for the water matrix. No further action was required.	
6. Were samples received in good condition and within method-specified requirements?	No
Comments: Samples were received on ice, intact, and outside the 4°C ± 2°C acceptable range at 0.7°C, as noted on the CoC and the *Workorder Receipt Checklist*. Custody seals were present and intact on the coolers. The water sample, E-SMLW-2, was not filtered or preserved in the field. The laboratory filtered and preserved the sample the day after collection. Method 200.8 states “For the determination of dissolved elements, the sample must be filtered through a 0.45 µm pore diameter membrane filter at the time of collection or as soon thereafter as practically possible.” No further action was required.	
7. Were samples analyzed within method-specified or technical holding times?	Yes
Comments: The samples were analyzed within the method specified holding times.	

VALIDATION CRITERIA CHECKLIST	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)?	Yes
Comments: Data were reported in units of milligrams per kilogram (mg/kg), percent by weight (wt%), and milligrams per liter (mg/L), which were appropriate for the matrices and the analyses requested.	
9. Do the laboratory reports include all constituents requested to be reported?	Yes
Comments: The reported constituents were in accordance with the requested methods.	
10. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Comments: The available calibration verification data indicated that the calibrations were within acceptable limits and the laboratory did not note calibration non-conformances.	
11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method?	Yes
Comments: The number of laboratory blank samples analyzed was equal to at least 5% of the total number of samples.	

VALIDATION CRITERIA CHECKLIST

12. Were laboratory blank samples reported to be free of target analyte contamination? No

Comments: Laboratory blank samples were reported to be free of target analyte contamination, with the exceptions listed in the following tables.

Analytes detected in the method blanks were:

Blank ID	Analyte	Method	Batch	Run ID	Concentration (mg/kg)
MB-19494	Arsenic	6020	19494	ICPMS204-B_130215A	0.03
MB-19494	Barium	6020	19494	ICPMS204-B_130215A	0.03
MB-19494	**Cadmium**	**6020**	**19494**	**ICPMS204-B_130215A**	**0.05**
MB-19494	Chromium	6020	19494	ICPMS204-B_130215A	0.08
MB-19494	Copper	6020	19494	ICPMS204-B_130215A	0.2
MB-19494	Lead	6020	19494	ICPMS204-B_130215A	0.02
MB-19494	Manganese	6020	19494	ICPMS204-B_130215A	0.7
MB-19494	Selenium	6020	19494	ICPMS204-B_130215A	0.02
MB-19494	**Silver**	**6020**	**19494**	**ICPMS204-B_130215A**	**0.5**
MB-19494	Zinc	6020	19494	ICPMS204-B_130215A	0.2
Blank ID	Analyte	Method	Batch	Run ID	Concentration (mg/L)
MB-19502	Copper	200.8	19502	ICPMS204-B_130214B	0.0004
MB-19502	Zinc	200.8	19502	ICPMS204-B_130214B	0.001
MB-19502	Copper	200.8	19502	ICPMS204-B_130215B	0.0003
MB-19502	Lead	200.8	19502	ICPMS204-B_130215B	0.00004
MB-19502	Manganese	200.8	19502	ICPMS204-B_130215B	0.0003
MB-19502	Silver	200.8	19502	ICPMS204-B_130215B	0.0004
MB19493	Mercury	245.1	19509	HGCV201-H_130215A	0.00002

Analytes detected in the calibration blanks were:

Analyte	Method	Batch	Run ID	Concentration (mg/L)
Barium	200.8	R86372	ICPMS204-B_130214B	0.0001
Silver	200.8	R86401	ICPMS204-B_130215B	0.0005

Cadmium was detected in sample E-SMLC-16 analyzed in batch 19494 at a concentration equal to the RL. It was assigned a U qualifier.

Silver was detected in sample E-SMLC-16 analyzed in batch 19494 at a concentration greater than the RL but less than 10 times the method blank result. The result was assigned a JB qualifier.

Silver was detected in sample E-SMLG-1 analyzed in batch 19494 at a concentration equal to the RL. It was assigned a U qualifier.

Qualification was not required for analytes that were not detected or were detected in the associated samples at concentrations greater than 10 times the method blank concentrations.

VALIDATION CRITERIA CHECKLIST

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Analytical Method	Analytical Batch	MS/MSD Sample Source
6020	19494	E-SMLD-2
200.8	R86372	Not Associated
200.8	R86401	E-SMLW-2
200.8	19502	Not Associated
7471A	19506	E-SMLC-14 and E-SMLD-2
245.1	19509	Not Associated

Not Associated - Matrix spike samples were prepared from samples not associated with this data set.

14. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

Comments: The percent recoveries and RPD values for MS/MSDs prepared from project samples were within laboratory QC limits or were not applicable as the concentration of the analyte present in the original sample was greater than 3 times than the matrix spike concentration, with the exceptions listed below.

The recovery of silver in the MS for Method 200.8 batch R86401 was outside the data validation limits of 75-125% at 65% indicating potential low bias. Dissolved silver was not detected in the associated sample (E-SMLW-2) and the result was qualified UJ to indicate an estimated detection limit.

Recoveries and RPD values for MS/MSDs prepared from non-project samples were considered but data were not qualified based on these results since matrix similarity to project samples could not be guaranteed.

15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of laboratory control samples and laboratory fortified blanks prepared was equal to at least 5% of the total number of samples.

16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? Yes

Comments: The laboratory control sample and laboratory fortified blank percent recoveries were within laboratory QC limits.

17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? No

Comments: Blank samples were not collected with this sample group.

18. Were the trip blank, field blank, and/or equipment blank samples reported to be free of target analyte contamination? N/A

Comments: Blank samples were not collected with this sample group.

VALIDATION CRITERIA CHECKLIST	
19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: Field duplicate samples were not collected with this data set.	
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	N/A
Comments: Field duplicate samples were not collected with this data set.	
21. Were laboratory duplicate RPD values within laboratory QC limits?	Yes
Comments: A duplicate analysis for percent moisture was prepared from sample E-SMLD-2 for batch R86314. The RPD calculated for the pair was 1.1% and was acceptable.	
Laboratory sample duplicate analyses were not performed for other methods.	

BATCH MATCH TABLE

Client Sample ID	Laboratory Sample ID	6020/200.8	7471A/245.1	D2974
E-SMLC-13	H13020146-001	19494	19506	R86314
E-SMLC-14	H13020146-002	19494	19506	R86314
E-SMLC-15	H13020146-003	19494	19506	R86314
E-SMLC-16	H13020146-004	19494	19506	R86314
E-SMLG-1	H13020146-005	19494	19506	R86314
E-SMLW-2	H13020146-006	R86372 (Dissolved) R86401 (Dissolved Silver) 19502 (Total)	19509 (Dissolved) 19509 (Total)	NA
E-SMLD-2	H13020146-007	19494	19506	R86314

DATA QUALIFICATION SUMMARY

Analyte	Method	Client Sample ID	Lab Sample ID	Laboratory Result	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Cadmium, Total	SW6020	E-SMLC-16	H13020146-004	1	mg/kg	U	Method blank detection
Silver, Dissolved	E200.8	E-SMLW-2	H13020146-006	ND (0.001)	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Silver, Total	SW6020	E-SMLC-16	H13020146-004	2	mg/kg	JB	Method blank detection
Silver, Total	SW6020	E-SMLG-1	H13020146-005	1	mg/kg	U	Method blank detection

Tier II Data Validation Report Summary

Client: Montana Department of Environmental Quality–Remediation Division	Laboratory: Energy Laboratories
Project Name: Spring Meadow Assessment	Sample Matrix: Soil and Water
Project Number: 776-020-001	Sample Start Date: 02/13/2013
Date Validated: 02/27/2013	Sample End Date: 02/13/2013
Parameters Included: Metals by United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste (SW-846) Methods 6010B and 6020 and USEPA Method 200.8; Mercury by SW-846 Method 7471A and USEPA Method 245.1; Percent Moisture by ASTM D2974; sieve analysis by American Society of Agronomists Method ASA15-2.	
Laboratory Project ID: H13020182	
Data Validator: Charles Ballek, Senior Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Energy Laboratories of Helena, Montana, evaluating samples from the Montana Department of Environmental Quality (MDEQ) Spring Meadow site, located in Helena, Montana.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from field duplicate pairs; laboratory duplicate pairs; and matrix spike (MS) and matrix spike duplicate (MSD) pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of MS/MSD samples and laboratory control samples (LCS) to verify that data are not biased. Method compliance was established by reviewing holding times, detection limits, method blanks, and the LCS percent recoveries against method-specific requirements. Completeness was evaluated by determining the overall ratio of the number of planned samples and analyses versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other necessary documents associated with this analytical data set.

Chemical data validation was conducted in accordance with the National Functional Guidelines for inorganic analyses or by the appropriate method. Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Data Review, document number USEPA 540R-10-011, January 2010 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number USEPA 540-R-04-004, October 2004. Review of field duplicates was conducted according to the USEPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluation of Organic Analysis, December 1996.

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
B-SMLC-9	H13020182-001
B-SMLC-10	H13020182-002
B-SMLC-11	H13020182-003
B-SMLC-12	H13020182-004
J-SMLC-40	H13020182-005
J-SMLC-41	H13020182-006
J-SMLC-42	H13020182-007
J-SMLC-43	H13020182-008
I-SMLC-45	H13020182-009
I-SMLC-46	H13020182-010
I-SMLC-246	H13020182-011
I-SMLC-47	H13020182-012
I-SMLC-48	H13020182-013
K-SMLC-91	H13020182-014
K-SMLC-92	H13020182-015
K-SMLC-93	H13020182-016
K-SMLC-94	H13020182-017
K-SMLC-95	H13020182-018
K-SMLC-96	H13020182-019
K-SMLC-97	H13020182-020
K-SMLC-98	H13020182-021
J-SMLC-109	H13020182-022
B-SMLD-1	H13020182-023
I-SMLD-11	H13020182-024
I-SMLD-12	H13020182-025
I-SMLD-14	H13020182-026
B-SMLW-1	H13020182-027
I-SMLW-12	H13020182-028
J-SMLW-13	H13020182-029
J-SMLW-14	H13020182-030

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation
- ✓ Holding Times and Preservation
- ✓ Laboratory Blanks
- ✓ LCS
- ⊗ MS/MSD
- ✓ Laboratory Duplicates
- ✓ Field Duplicates

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Data Validation Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes. Text identified in **bold font** indicates that further action and/or qualification of the data were required. Data validation qualifiers were added for the items noted with crossed circles above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data qualifiers used during this validation included:

J – Estimated concentration

UJ – Estimated detection limit

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly. The complete data package consisted of 468 data points. No data points were rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances related to the analytical data identified by the laboratory?	No
Comments: The laboratory noted the following in the Case Narrative and the Workorder Receipt Checklist. Samples were left in locked entry. Samples for dissolved metals were subsampled, filtered, and preserved to pH <2 with 2 mL of nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for dissolved metals should be filtered and preserved within 15 minutes of collection. Multiple jars, as indicated on the CoC, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for moisture and mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which pass through the No.60 sieve was used for the metals analysis.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory applied the following qualifiers to data. D – Reporting Limit (RL) increased due to sample matrix S – Spike recovery outside of advisory limits R – RPD exceeds advisory limit	
3. Were sample CoC forms complete?	No
Comments: Custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The samples were delivered by project personnel and left in an entryway that was locked after leaving the coolers. The CoC records from field to laboratory were complete except for the following noted in the laboratory's *Workorder Receipt Checklist*. No collection time on CoC for I-SMLC-246. Sample time estimated in laboratory. Collection time on CoC for I-SMLC-47 is 16:10 - jar E has time of 13:55. Logged in with time from CoC. No collection date and time on I-SMLC-48-B jar. Took from CoC. Collection time on CoC for K-SMLC-98 is 9:30 - jars have time of 10:25. Collection time on CoC for J-SMLC-109 is 9:35 - jars have time of 13:55. Collection time on CoC for I-SMLD-12 is 9:30 - jars have time of 15:50. Collection time on CoC for I-SMLD-14 is 9:35 - jars have time of 16:30. No jar received for I-SMLD-14-E as shown on CoC. ID on CoC is I-SMLW-13 - bottles have ID as J-SMLW-13. Per Jamie Mongoven, the bottles are correct and there is no jar E for I-SMLD-14 sample set. As far as the ID on the CoC for I-SMLW-13 - bottles have ID as J-SMLW-13. "J" is correct. The laboratory contacted project personnel for confirmation of accurate sample times. No further action is required.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: Detection limits and dilutions were reviewed and found to be acceptable. The laboratory qualifier D was applied to specific arsenic and lead results indicating that reporting limits were increased due to matrix effects. The reported concentrations were greater than the elevated detection limits. Analyses that required dilutions are noted below. Method 6010B: Dilutions of 5 times were applied for the analyses of metals in the soil samples. Method 6020: Dilutions of 20 times were applied for the analyses of metals in the soil samples. Method 7471A: A dilution of 5 times was applied to sample I-SMLC-48 for the analyses of mercury. Reporting limits for these analyses were increased by the same factor as the dilution.	

VALIDATION CRITERIA CHECKLIST	
5. Were the requested analytical methods in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC except as follows. The laboratory reported results using SW-846 Methods 6010B and 7471A instead of Methods 6010C and 7471B requested on the CoC. The methods employed by the laboratory provide acceptable results and the substitution was acceptable. Method SW-846 Method 6020 was used for the analysis of arsenic, beryllium, cadmium, selenium, and silver in the soil samples instead of the requested SW-846 Method 6010C. Method 6020 provided lower detection limits for these analytes and the substitution was acceptable. USEPA Methods 200.8 and 245.1 were used instead of SW-846 Methods 6020A and 7470A for the analyses of total and dissolved metals in the water samples. The methods utilized provide acceptable quality control and appropriate application for the water matrix. No further action was required.	
6. Were samples received in good condition and within method-specified requirements?	Yes
Comments: Samples were received on ice, intact, and outside the 4°C ± 2°C acceptable range at 2.5°C and 3.0°C, as noted on the CoC and the *Workorder Receipt Checklist*. Custody seals were present and intact on the coolers. The water samples were not filtered or preserved in the field. The laboratory filtered and preserved the sample the day after collection. Method 200.8 states "For the determination of dissolved elements, the sample must be filtered through a 0.45 µm pore diameter membrane filter at the time of collection or as soon thereafter as practically possible." No further action was required.	
7. Were samples analyzed within method-specified or technical holding times?	Yes
Comments: The samples were analyzed within the method specified holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)?	Yes
Comments: Data were reported in units of milligrams per kilogram (mg/kg), percent by weight (wt%), and milligrams per liter (mg/L), which were appropriate for the matrices and the analyses requested.	
9. Do the laboratory reports include all constituents requested to be reported?	Yes
Comments: The reported constituents were in accordance with the requested methods.	
10. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Comments: The available calibration verification data indicated that the calibrations were within acceptable limits and the laboratory did not note calibration non-conformances.	
11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method?	Yes
Comments: The number of laboratory blank samples analyzed was equal to at least 5% of the total number of samples.	

VALIDATION CRITERIA CHECKLIST

12. Were laboratory blank samples reported to be free of target analyte contamination? No

Comments: Laboratory blank samples were reported to be free of target analyte contamination, with the exceptions listed in the following tables.

Analytes detected in the method blanks were:

Blank ID	Analyte	Method	Batch	Run ID	Concentration (mg/kg)
MB-19524	Barium	6010B	19524	ICP2-HE_130221A	0.04
MB-19524	Manganese	6010B	19524	ICP2-HE_130221A	0.04
MB-19525	Barium	6010B	19525	ICP2-HE_130221A	0.03
MB-19525	Manganese	6010B	19525	ICP2-HE_130221A	0.04
MB-19525	Zinc	6010B	19525	ICP2-HE_130221A	0.2
MB-19524	Arsenic	6020	19524	ICPMS204-B_130221B	0.03
MB-19524	Cadmium	6020	19524	ICPMS204-B_130221B	0.04
MB-19524	Selenium	6020	19524	ICPMS204-B_130221B	0.02
MB-19525	Arsenic	6020	19525	ICPMS204-B_130221B	0.03
MB-19525	Beryllium	6020	19525	ICPMS204-B_130221B	0.006
MB-19525	Cadmium	6020	19525	ICPMS204-B_130221B	0.04
MB-19525	Silver	6020	19525	ICPMS204-B_130221B	0.02
Blank ID	Analyte	Method	Batch	Run ID	Concentration (mg/L)
MB-19511	Chromium	200.8	19511	ICPMS204-B_130219A	0.0003
MB-19511	Silver	200.8	19511	ICPMS204-B_130219A	0.0006
MB-19507	Arsenic	200.8	R86419	ICPMS204-B_130219A	0.00008
MB-19507	Barium	200.8	R86419	ICPMS204-B_130219A	0.0002
MB-19507	Cadmium	200.8	R86419	ICPMS204-B_130219A	0.00002
MB-19507	Chromium	200.8	R86419	ICPMS204-B_130219A	0.0004
MB-19507	Copper	200.8	R86419	ICPMS204-B_130219A	0.0004
MB-19507	Lead	200.8	R86419	ICPMS204-B_130219A	0.00005
MB-19507	Manganese	200.8	R86419	ICPMS204-B_130219A	0.0001
MB-19507	Silver	200.8	R86419	ICPMS204-B_130219A	0.0002
MB-19507	Zinc	200.8	R86419	ICPMS204-B_130219A	0.002
MB-19510	Mercury	245.1	19510	HGCV201-H_130215A	0.00002

Analytes detected in the calibration blanks were:

Analyte	Method	Batch	Run ID	Concentration (mg/L)
Chromium	200.8	R86419	ICPMS204-B_130219B	0.00005
Silver	200.8	R86419	ICPMS204-B_130219B	0.0002

Qualification was not required for analytes that were not detected or were detected in the associated samples at concentrations greater than 10 times the method blank concentrations.

VALIDATION CRITERIA CHECKLIST

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Analytical Method	Analytical Batch	MS/MSD Sample Source
6010B	19524	K-SMLC-95
6010B	19525	I-SMLD-14
6020	19524	K-SMLC-95
6020	19525	I-SMLD-14
200.8	19511	Not Associated
200.8	R86419	B-SMLW-1
7471A	19527	I-SMLC-246
7471A	19528	K-SMLC-94
245.1	19510	J-SMLW-13

Not Associated - Matrix spike samples were prepared from samples not associated with this data set.

14. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

Comments: The percent recoveries and RPD values for MS/MSDs prepared from project samples were within laboratory QC limits, with exceptions listed below.

The recoveries of barium in the MS and MSD for Method 6010B batch 19524 were outside the data validation limits of 75-125% at 145% and 149%, respectively, indicating potential high bias. Barium was detected in the associated samples in the batch and the results were qualified to indicate estimated concentrations.

The recovery of lead in the MS for Method 6010B batch 19524 was outside the data validation limits of 75-125% at 70% indicating potential low bias. Lead was detected in the associated samples in the batch and the results were qualified J to indicate estimated concentrations.

The recovery of barium in the MSD for Method 6010B batch 19525 was outside the data validation limits of 75-125% at 134% indicating potential high bias. Barium was detected in the associated samples in the batch and the results were qualified to indicate estimated concentrations.

The recovery of copper in the MSD for Method 6010B batch 19525 was outside the data validation limits of 75-125% at 142% indicating potential high bias. The MS/MSD RPD for copper in the same batch was greater than the QC limit of 20% at 22% indicating poor precision. Copper was detected in the associated samples in the batch and the results were qualified to indicate estimated concentrations.

The recovery of silver in the MS for Method 6020 batch R86419 was outside the data validation limits of 75-125% at 74% indicating potential low bias. Silver was not detected in the associated samples in the batch and the results were qualified UJ to indicate estimated concentrations.

The recoveries of mercury in the MS and MSD for Method 7471A batch 19528 were outside the laboratory QC limits but within the data validation limits of 75-125% at 121% and 125%, respectively. Qualification of data was not required.

Recoveries and RPD values for MS/MSDs prepared from non-project samples were considered but data were not qualified based on these results since matrix similarity to project samples could not be guaranteed.

VALIDATION CRITERIA CHECKLIST	
15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method?	Yes
Comments: The total number of laboratory control samples and laboratory fortified blanks prepared was equal to at least 5% of the total number of samples.	
16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes
Comments: The laboratory control sample and laboratory fortified blank percent recoveries were within laboratory QC limits.	
17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: Blank samples were not collected with this sample group.	
18. Were the trip blank, field blank, and/or equipment blank samples reported to be free of target analyte contamination?	N/A
Comments: Blank samples were not collected with this sample group.	
19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: Field duplicate samples were collected but at less than a 10% frequency. Sample I-SMLC-246 was collected as a duplicate of sample I-SMLC-46.	
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: Field duplicate RPD values were within quality control limits. See Table 4. Field Duplicate Summary for details.	
21. Were laboratory duplicate RPD values within laboratory QC limits?	Yes
Comments: A duplicate analysis for percent moisture was prepared from sample I-SMLD-14 for batch R86440. The RPD calculated for the pair was 3.0% and was acceptable. Laboratory sample duplicate analyses were not performed for other methods.	

TABLE 4. FIELD DUPLICATE SUMMARY

Client Sample ID: I-SMLC-46 Field Duplicate Sample ID: I-SMLC-246				
Analyte	**Method**	**Laboratory Result**	**Duplicate Result**	**Relative Percent Difference (RPD)**
Arsenic	SW6010B	39 mg/kg	34 mg/kg	13.7%
Barium	SW6010B	159 mg/kg	161 mg/kg	1.3%
Cadmium	SW6020	1 mg/kg	1 mg/kg	0.0% +/- RL
Chromium	SW6010B	12 mg/kg	13 mg/kg	8.0%
Copper	SW6010B	36 mg/kg	33 mg/kg	8.7%
Lead	SW6010B	80 mg/kg	82 mg/kg	2.5%
Manganese	SW6010B	759 mg/kg	770 mg/kg	1.4%
Nickel	SW6010B	10 mg/kg	9 mg/kg	10.5%
Zinc	SW6010B	106 mg/kg	105 mg/kg	0.9%
Moisture	D2974	22.4 %	21.2 %	5.5%

Field duplicate RPD control limits are not to exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

+/-RL – Indicates that the detections in the samples are within two times the reporting limit. No qualification of data is required.

BATCH MATCH TABLE

Client Sample ID	Laboratory Sample Number	6010B	6020/200.8	7471A/245.1	D2974
B-SMLC-9	H13020182-001	19524	19524	19527	R86440
B-SMLC-10	H13020182-002	19524	19524	19527	R86440
B-SMLC-11	H13020182-003	19524	19524	19527	R86440
B-SMLC-12	H13020182-004	19524	19524	19527	R86440
J-SMLC-40	H13020182-005	19524	19524	19527	R86440
J-SMLC-41	H13020182-006	19524	19524	19527	R86440
J-SMLC-42	H13020182-007	19524	19524	19527	R86440
J-SMLC-43	H13020182-008	19524	19524	19527	R86440
I-SMLC-45	H13020182-009	19524	19524	19527	R86440
I-SMLC-46	H13020182-010	19524	19524	19527	R86440
I-SMLC-246	H13020182-011	19524	19524	19527	R86440
I-SMLC-47	H13020182-012	19524	19524	19527	R86440
I-SMLC-48	H13020182-013	19524	19524	19527	R86440
K-SMLC-91	H13020182-014	19524	19524	19527	R86440
K-SMLC-92	H13020182-015	19524	19524	19527	R86440
K-SMLC-93	H13020182-016	19524	19524	19527	R86440
K-SMLC-94	H13020182-017	19524	19524	19528	R86440
K-SMLC-95	H13020182-018	19524	19524	19528	R86440
K-SMLC-96	H13020182-019	19525	19525	19528	R86440
K-SMLC-97	H13020182-020	19525	19525	19528	R86440
K-SMLC-98	H13020182-021	19525	19525	19528	R86440
J-SMLC-109	H13020182-022	19525	19525	19528	R86440
B-SMLD-1	H13020182-023	19525	19525	19528	R86440
I-SMLD-11	H13020182-024	19525	19525	19528	R86440
I-SMLD-12	H13020182-025	19525	19525	19528	R86440
I-SMLD-14	H13020182-026	19525	19525	19528	R86440
B-SMLW-1	H13020182-027	NA	R56419 (Dissolved) 19511 (Total)	19510	NA
I-SMLW-12	H13020182-028	NA	R56419 (Dissolved) 19511 (Total)	19510	NA
J-SMLW-13	H13020182-029	NA	R56419 (Dissolved) 19511 (Total)	19510	NA
J-SMLW-14	H13020182-030	NA	R56419 (Dissolved) 19511 (Total)	19510	NA

DATA QUALIFICATION SUMMARY

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Barium, Total	SW6010B	B-SMLC-9	H13020182-001	247	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	B-SMLC-10	H13020182-002	207	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	B-SMLC-11	H13020182-003	228	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	B-SMLC-12	H13020182-004	213	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	J-SMLC-40	H13020182-005	197	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	J-SMLC-41	H13020182-006	162	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	J-SMLC-42	H13020182-007	175	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	J-SMLC-43	H13020182-008	161	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	I-SMLC-45	H13020182-009	199	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	I-SMLC-46	H13020182-010	159	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	I-SMLC-246	H13020182-011	161	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	I-SMLC-47	H13020182-012	172	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	I-SMLC-48	H13020182-013	172	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	K-SMLC-91	H13020182-014	215	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	K-SMLC-92	H13020182-015	206	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	K-SMLC-93	H13020182-016	202	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Barium, Total	SW6010B	K-SMLC-94	H13020182-017	206	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	K-SMLC-95	H13020182-018	184	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	K-SMLC-96	H13020182-019	206	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	K-SMLC-97	H13020182-020	158	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	K-SMLC-98	H13020182-021	236	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	J-SMLC-109	H13020182-022	182	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	B-SMLD-1	H13020182-023	212	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	I-SMLD-11	H13020182-024	196	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	I-SMLD-12	H13020182-025	160	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	I-SMLD-14	H13020182-026	146	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	K-SMLC-96	H13020182-019	38	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	K-SMLC-97	H13020182-020	36	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	K-SMLC-98	H13020182-021	42	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	J-SMLC-109	H13020182-022	39	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	B-SMLD-1	H13020182-023	31	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	I-SMLD-11	H13020182-024	30	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	I-SMLD-12	H13020182-025	40	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Copper, Total	SW6010B	I-SMLD-14	H13020182-026	44	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	B-SMLC-9	H13020182-001	51	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	B-SMLC-10	H13020182-002	60	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	B-SMLC-11	H13020182-003	38	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	B-SMLC-12	H13020182-004	35	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	J-SMLC-40	H13020182-005	89	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	J-SMLC-41	H13020182-006	65	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	J-SMLC-42	H13020182-007	66	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	J-SMLC-43	H13020182-008	61	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	I-SMLC-45	H13020182-009	140	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	I-SMLC-46	H13020182-010	80	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	I-SMLC-246	H13020182-011	82	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	I-SMLC-47	H13020182-012	110	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	I-SMLC-48	H13020182-013	80	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	K-SMLC-91	H13020182-014	128	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	K-SMLC-92	H13020182-015	100	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	K-SMLC-93	H13020182-016	105	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Lead, Total	SW6010B	K-SMLC-94	H13020182-017	109	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	K-SMLC-95	H13020182-018	82	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Silver, Dissolved	E200.8	B-SMLW-1	H13020182-027	ND (0.001)	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Silver, Dissolved	E200.8	I-SMLW-12	H13020182-028	ND (0.001)	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Silver, Dissolved	E200.8	J-SMLW-13	H13020182-029	ND (0.001)	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Silver, Dissolved	E200.8	J-SMLW-14	H13020182-030	ND (0.001)	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.

Tier II Data Validation Report Summary

Client: Montana Department of Environmental Quality - Remediation Division	Laboratory: Energy Laboratories
Project Name: Spring Meadow Assessment	Sample Matrix: Soil and Water
Project Number: 776-020-001	Sample Start Date: 02/14/2013
Date Validated: 02/28/2013	Sample End Date: 02/14/2013
Parameters: Metals by United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste (SW-846) Methods 6010B and 6020 and USEPA Method 200.8; Mercury by SW-846 Method 7471A and USEPA Method 245.1; Percent Moisture by ASTM D2974; sieve analysis by American Society of Agronomists Method ASA15-2.	
Laboratory Project ID: H13020202	
Data Validator: Charles Ballek, Senior Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Energy Laboratories of Helena, Montana, evaluating samples from the Montana Department of Environmental Quality (MDEQ) Spring Meadow site, located in Helena, Montana.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from field duplicate pairs; laboratory duplicate pairs; and matrix spike (MS) and matrix spike duplicate (MSD) pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of MS/MSD samples and laboratory control samples (LCS) to verify that data are not biased. Additionally, field accuracy was established by collecting an equipment blank sample to monitor for possible ambient or cross contamination during sampling and transportation. Method compliance was established by reviewing holding times, detection limits, method blanks, and the LCS percent recoveries against method-specific requirements. Completeness was evaluated by determining the overall ratio of the number of planned samples and analyses versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other necessary documents associated with this analytical data set.

Chemical data validation was conducted in accordance with the National Functional Guidelines for inorganic analyses or by the appropriate method. Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Data Review, document number USEPA 540R-10-011, January 2010 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number USEPA 540-R-04-004, October 2004. Review of field duplicates was conducted according to the USEPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluation of Organic Analysis, December 1996.

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
K-SMLC-73	H13020202-001
K-SMLC-74	H13020202-002
K-SMLC-75	H13020202-003
K-SMLC-76	H13020202-004
K-SMLC-77	H13020202-005
K-SMLC-78	H13020202-006
K-SMLC-79	H13020202-007
K-SMLC-80	H13020202-008
K-SMLC-81	H13020202-009
K-SMLC-82	H13020202-010
K-SMLC-83	H13020202-011
K-SMLC-84	H13020202-012
K-SMLC-85	H13020202-013
K-SMLC-86	H13020202-014
K-SMLC-87	H13020202-015
K-SMLC-88	H13020202-016
K-SMLC-89	H13020202-017
K-SMLC-90	H13020202-018
J-SMLD-16	H13020202-019
J-SMLD-13	H13020202-020
J-SMLD-15	H13020202-021
J-SMLD-17	H13020202-022
K-SMLC-EB-1	H13020202-023
K-SMLC-275	H13020202-024

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation
- ✓ Holding Times and Preservation
- ⊗ Laboratory Blanks
- ✓ LCS
- ⊗ MS/MSD
- ✓ Laboratory Duplicates
- ✓ Field Duplicates
- ✓ Equipment Blank

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Data Validation Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes. Text identified in **bold font** indicates that further action and/or qualification of the data were required. Additional data validation qualifiers were added for the items noted with crossed circles above. See the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data qualifiers used during this validation included:

J – Estimated concentration

JB – Estimated concentration due to blank contamination

UJ – Estimated reporting limit

U – Evaluated to be undetected at the reporting limit

Data Completeness

The analyses were performed as requested on the CoC records. The samples were received by the laboratory and analyzed properly. The complete data package consisted of 322 data points excluding blank samples. No data points were rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances related to the analytical data identified by the laboratory?	Yes
Comments: The report was free of non-conformances related to the analytical data. The laboratory noted the following in the Case Narrative. Multiple jars, as indicated on the CoC, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for moisture and mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which passes through the No.60 sieve was used for the metals analysis.	
2. Were the data free of data qualification flags or other notes used by the laboratory? If no, define.	No
Comments: The laboratory applied the following data qualification flags in this data set. D – Reporting Limit (RL) increased due to sample matrix S – Spike recovery outside of advisory limits R – RPD exceeds advisory limit A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.	
3. Were sample CoC forms complete?	No
Comments: Custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The samples were delivered by project personnel and left in an entryway that was locked after leaving the coolers. The CoC records from field to laboratory were complete except for the following noted in the laboratory's *Workorder Receipt Checklist*. • No collection date and time on K-SMLC-73-E jar. Took from CoC. • No collection time on K-SMLC-79-D jar and K-SMLC-81-A jar. Took from CoC. • No collection time on CoC or jars for K-SMLC-275. Sample time estimated in laboratory. Pages 2 -12 of the CoC were not signed by the client. The project person who relinquished the samples intended his signature on page 1 of 12 of the CoC to apply to all pages and did not sign all pages A sample confirmation affidavit signed by the person who relinquished the samples is attached to this report. The laboratory assignment of a sample time for sample K-SMLC-275 was not required but did not affect the data quality. No further action was required.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: Detection limits and dilutions were reviewed and found to be acceptable. The laboratory qualifier D was applied to selected arsenic and lead results indicating that reporting limits were increased due to matrix effects. The reported concentrations for the samples were greater than the elevated detection limits. Analyses that required dilutions are noted below. Method 6010B: Dilutions of 5 times were applied for the analyses of metals in the soil samples. Method 6020: Dilutions of 20 times were applied for the analyses of metals in the soil samples. Reporting limits for these analyses were increased by the same factor as the dilution.	

VALIDATION CRITERIA CHECKLIST	
5. Were the requested analytical methods in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC except as follows. The laboratory reported results using SW-846 Methods 6010B and 7471A instead of Methods 6010C and 7471B requested on the CoC. The methods employed by the laboratory provide acceptable results and the substitution was acceptable. SW-846 Method 6020 was used for the analysis of some analytes in the soil samples instead of the requested SW-846 Method 6010C. Method 6020 provided lower detection limits for these analytes and the substitution was acceptable. USEPA Methods 200.8 and 245.1 were used instead of SW-846 Methods 6020A and 7470A for the analyses of total and dissolved metals in the water sample. The methods utilized provide acceptable quality control and appropriate application for the water matrix. No further action was required.	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: Samples were received on ice, intact, and outside the 4°C ± 2°C acceptable range at 4.0°C and 4.8°C, as noted on the CoC and the *Workorder Receipt Checklist*. Custody seals were present and intact on the coolers.	
7. Were samples analyzed within method-specified or technical holding times?	Yes
Comments: The samples were analyzed within the method specified holding times.	
8. Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses?	Yes
Comments: Data were reported in units of milligrams per kilogram (mg/kg), percent by weight (wt%), and milligrams per liter (mg/L), which were appropriate for the matrices and the analyses requested.	
9. Do the laboratory reports include all constituents that were requested to be reported?	Yes
Comments: The reported constituents were in accordance with the requested methods.	
10. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Comments: The available calibration verification data indicated that the calibrations were within acceptable limits and the laboratory did not note calibration non-conformances.	
11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: The number of laboratory blank samples analyzed was equal to at least 5% of the total number of samples. Analysis of blank samples is not required for sieve analyses or percent moisture.	

VALIDATION CRITERIA CHECKLIST

12. Were laboratory blank samples free of target analyte contamination? No

Comments: Laboratory blank samples were reported to be free of target analyte contamination, with the exceptions listed in the following tables.

Analytes detected in the method blanks were:

Blank ID	Analyte	Method	Batch	Run ID	Concentration (mg/kg)
MB-19525	Barium	6010B	19525	ICP2-HE_130221A	0.03
MB-19525	Manganese	6010B	19525	ICP2-HE_130221A	0.04
MB-19525	Zinc	6010B	19525	ICP2-HE_130221A	0.2
MB-19540	Arsenic	6010B	19540	ICP2-HE_130221A	1
MB-19540	Chromium	6010B	19540	ICP2-HE_130221A	0.07
MB-19540	Zinc	6010B	19540	ICP2-HE_130221A	0.2
MB-19525	Arsenic	6020	19525	ICPMS204-B_130221B	0.03
MB-19525	Beryllium	6020	19525	ICPMS204-B_130221B	0.006
MB-19525	**Cadmium**	**6020**	**19525**	**ICPMS204-B_130221B**	**0.04**
MB-19525	Selenium	6020	19525	ICPMS204-B_130221B	0.02
MB-19540	**Cadmium**	**6020**	**19540**	**ICPMS204-B_130221B**	**0.04**
MB-19540	Selenium	6020	19540	ICPMS204-B_130221B	0.01
MB-19558	Arsenic	6020	19558	ICPMS204-B_130221B	0.5
MB-19558	Barium	6020	19558	ICPMS204-B_130221B	0.5
MB-19558	**Cadmium**	**6020**	**19558**	**ICPMS204-B_130221B**	**0.5**
MB-19558	Chromium	6020	19558	ICPMS204-B_130221B	0.7
MB-19558	Copper	6020	19558	ICPMS204-B_130221B	0.7
MB-19558	Manganese	6020	19558	ICPMS204-B_130221B	0.9
MB-19558	Selenium	6020	19558	ICPMS204-B_130221B	0.3
MB-19558	Zinc	6020	19558	ICPMS204-B_130221B	2

Blank ID	Analyte	Method	Batch	Run ID	Concentration (mg/L)
MB-19536	Mercury	7471A	19536	HGCV201-H_130221B	0.002
MB-19533	Zinc	200.8	19533	ICPMS204-B_130220B	0.001
MB-19555	Mercury	245.1	19555	HGCV201-H_130221A	0.000008

Analytical results in associated samples equal to the RL were qualified U due to the method blank detections.

Qualification was not required for analytes that were not detected or were detected in the associated samples at concentrations greater than 10 times the method blank concentrations.

VALIDATION CRITERIA CHECKLIST

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Analytical Method	Analytical Batch	MS/MSD Sample Source
6010B	19525	I-SMLD-14 of data set H13020182
6010B	19540	K-SMLC-90
6010B	19558	H-SMLG-2 of data set H13020220
6020	19525	I-SMLD-14 of data set H13020182
6020	19540	K-SMLC-90
6020	19558	H-SMLG-2 of data set H13020220
200.8	19533	K-SMLC-EB-1
7471A	19528	K-SMLC-73
7471A	19536	K-SMLC-79 and K-SMLC-89
245.1	19555	K-SMLC-EB-1

Not Associated - Matrix spike samples were prepared from samples not associated with this data set.

Analysis of matrix spike samples is not required for sieve analyses or percent moisture.

14. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

Comments: The percent recoveries and RPD values for MS/MSDs prepared from project samples were within laboratory QC limits or were not applicable as the concentration of the analyte present in the original sample was greater than 4 times than the matrix spike concentration, with the exceptions listed below.

Analyte	Analytical Method	Batch	MS Recovery	MSD Recovery	MS/MSD Data Validation Limits	MS/MSD RPD	RPD QC Limits
Barium	**6010B**	**19525**	**Acceptable**	**134%**	**75-125%**	**Acceptable**	**20%**
Copper	**6010B**	**19525**	**Acceptable**	**142%**	**75-125%**	**22%**	**20%**
Barium	**6020**	**19558**	**Acceptable**	**132%**	**75-125%**	**Acceptable**	**20%**
Mercury	**245.1**	**19555**	**69%**	**61%**	**75-125%**	**Acceptable**	**20%**

Barium was detected in the associated samples in batch 19525 and the results were qualified to indicate estimated concentrations.

Barium was detected in the associated sample (K-SMLC-73) in batch 19558 and the result was qualified J to indicate estimated concentrations.

Copper was detected in the associated samples in batch 19525 and the results were qualified J to indicate estimated concentrations.

Mercury was not detected in the associated sample (K-SMLC-EB-1) in batch 19555 and the result was qualified UJ to indicate an estimated detection limit due to evidence of low bias.

Recoveries and RPD values for MS/MSDs prepared from non-project samples were considered but data were not qualified based on these results since matrix similarity to project samples could not be guaranteed.

VALIDATION CRITERIA CHECKLIST	
15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: The total number of laboratory control samples and laboratory fortified blanks prepared was equal to at least 5% of the total number of samples. Analysis of laboratory control samples is not required for sieve analyses or percent moisture.	
16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes
Comments: The percent recoveries for the laboratory control samples and laboratory fortified blanks were within laboratory QC limits.	
17. Were surrogate recoveries within laboratory QC limits?	N/A
Comments: Surrogate analysis is not required for the methods requested.	
18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: An equipment blank sample, K-SMLC-EB-1, was collected with this sample group. However, this did not meet the 10% collection frequency.	
19. Were the trip blank, field blank, and/or equipment blank samples free of target analyte contamination?	Yes
Comments: The equipment blank sample was free of target analyte contamination.	
20. Was the number of field duplicate samples collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: Field duplicate samples were collected but at less than a 10% frequency. Sample K-SMLC-275 was collected as a duplicate of sample K-SMLC-75.	
21. Were field duplicate RPD values within data validation quality control (QC) limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: Field duplicate RPD values were within quality control limits. See the Field Duplicate Summary table for details.	
22. Were laboratory duplicate RPD values within laboratory QC limits?	Yes
Comments: A duplicate analysis for percent moisture was prepared from sample K-SMLC-275 for batch R86450. The RPD calculated for the pair was 4.6% and was acceptable. Analysis of duplicate samples is not required for sieve analyses.	
23. General Comments: The recovery of silver in the interference check sample (ICS) for Method 200.8 batch R86447 was outside the data qualification limits of 80-120% at 74%. Final results were not reported from this analytical batch and no qualification of data was required. The recovery of zinc in the interference check sample (ICS) for Method 200.8 batch R86447 was outside the data qualification limits of 80-120% at 121%. Final results were not reported from this analytical batch and no qualification of data was required.	

FIELD DUPLICATE SUMMARY

Client Sample ID: K-SMLC-75 Field Duplicate Sample ID: K-SMLC-275				
Analyte	**Method**	**Laboratory Result**	**Duplicate Result**	**Relative Percent Difference (RPD)**
Arsenic	SW6010B	94 mg/kg	92 mg/kg	2.15%
Barium	SW6010B	192 mg/kg	193 mg/kg	0.52%
Cadmium	SW6020	2 mg/kg	2 mg/kg	0.00% +/-RL
Chromium	SW6010B	17 mg/kg	18 mg/kg	5.71%
Copper	SW6010B	53 mg/kg	48 mg/kg	9.90%
Lead	SW6010B	115 mg/kg	130 mg/kg	12.24%
Manganese	SW6010B	1910 mg/kg	1970 mg/kg	3.09%
Nickel	SW6010B	13 mg/kg	13 mg/kg	0.00%
Silver	SW6020	1 mg/kg	1 mg/kg	0.00% +/-RL
Zinc	SW6010B	236 mg/kg	243 mg/kg	2.92%
Moisture	D2974	25.9%	29.0%	11.29%

Field duplicate RPD control limits are not to exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

+/-RL – Indicates that the detections in the samples are within two times the reporting limit. No qualification of data is required.

DATA QUALIFICATION SUMMARY

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Barium, Total	SW6010B	J-SMLD-13	H13020202-020	166	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	J-SMLD-15	H13020202-021	167	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	J-SMLD-16	H13020202-019	194	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	J-SMLD-17	H13020202-022	214	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	K-SMLC-275	H13020202-024	193	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6020	K-SMLC-73	H13020202-001	198	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Cadmium, Total	SW6020	J-SMLD-13	H13020202-020	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	J-SMLD-15	H13020202-021	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	J-SMLD-16	H13020202-019	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	J-SMLD-17	H13020202-022	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	K-SMLC-73	H13020202-001	3	1	mg/kg	JB	Method blank detection
Cadmium, Total	SW6020	K-SMLC-77	H13020202-005	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	K-SMLC-78	H13020202-006	1	1	mg/kg	U	Method blank detection
Copper, Total	SW6010B	J-SMLD-13	H13020202-020	36	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	J-SMLD-15	H13020202-021	42	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	J-SMLD-16	H13020202-019	36	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Copper, Total	SW6010B	J-SMLD-17	H13020202-022	37	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6010B	K-SMLC-275	H13020202-024	48	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Mercury, Total	E245.1	K-SMLC-EB-1	H13020202-023	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.

March 1, 2013

Luke Darnell
Trihydro Corporation
2707 Broadwater Avenue
Helena, Montana 59601

RE: Chain-of-custody Affidavit for Montana Department of Environmental Quality, Spring Meadow Lake project data set H13020202

This letter is to confirm that the Montana Department of Environmental Quality, Spring Meadow Lake samples collected on February 14th, 2013 were properly relinquished to Energy Laboratories located in Helena, Montana on February 14, 2013 at 6:15pm. The "relinquished by" signature was affixed to page 1 of 12 but inadvertently left off of pages 2 through 12 of the chain-of-custody (COC) submitted with the sample coolers.

To the best of my knowledge, the information contained herein is true.

LUKE DARNELL

3/1/13
DATE

This confirmation is an amendment to the chain-of-custody accompanying the Montana Department of Environmental Quality Spring Meadow Lake project, Energy Laboratories data set H13020202.

Tier II Data Validation Report Summary

Client: Montana Department of Environmental Quality - Remediation Division	Laboratory: Energy Laboratories - Helena, MT
Project Name: Spring Meadow Assessment	Sample Matrix: Soil and Water
Project Number: 776-020-001	Sample Start Date: 02/14/2013
Date Validated: 02/28/2013	Sample End Date: 02/15/2013
Parameters: Metals by United States Environmental Protections Agency (USEPA) Test Methods for Evaluating Solid Waste (SW-846) Methods 6010B and 6020 and USEPA Method 200.8; Mercury by SW-846 Method 7471A and USEPA Method 245.1; Percent Moisture by ASTM D2974; sieve analysis by American Society of Agronomists Method ASA15-2.	
Laboratory Project ID: H13020220	
Data Validator: Kigen Limo, Chemical Engineer (E.I.T.)	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Energy Laboratories of Helena, Montana, evaluating samples from the Montana Department of Environmental Quality (MDEQ) Spring Meadow site, located in Helena, Montana.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from field duplicate pairs; laboratory duplicate pairs; and matrix spike (MS) and matrix spike duplicate (MSD) pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of MS/MSD samples and laboratory control samples (LCS) to verify that data are not biased. Additionally, field accuracy was established by collecting an equipment blank sample to monitor for possible ambient or cross contamination during sampling and transportation. Method compliance was established by reviewing holding times, detection limits, method blanks, and the LCS percent recoveries against method-specific requirements. Completeness was evaluated by determining the overall ratio of the number of planned samples and analyses versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other necessary documents associated with this analytical data set.

Chemical data validation was conducted in accordance with the National Functional Guidelines for inorganic analyses or by the appropriate method. Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, document number USEPA 540R-10-011, January 2010 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number USEPA 540-R-04-004, October 2004. Review of field duplicates was conducted according to the USEPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluation of Organic Analysis, December 1996.

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
I-SMCL-38	H13020220-001
I-SMLC-39	H13020220-002
K-SMLC-44	H13020220-003
H-SMLC-49	H13020220-004
H-SMLC-50	H13020220-005
H-SMLC-51	H13020220-006
H-SMLC-52	H13020220-007
H-SMLC-53	H13020220-008
H-SMLC-54	H13020220-009
H-SMLC-55	H13020220-010
H-SMLC-56	H13020220-011
L-SMLC-61	H13020220-012
L-SMLC-62	H13020220-013
L-SMLC-63	H13020220-014
L-SMLC-64	H13020220-015
L-SMLC-65	H13020220-016
L-SMLC-66	H13020220-017
L-SMLC-67	H13020220-018
L-SMLC-68	H13020220-019
O-SMLC-103	H13020220-020
O-SMLC-104	H13020220-021
O-SMLC-105	H13020220-022
O-SMLC-106	H13020220-023
H-SMLC-251	H13020220-024
I-SMLD-10	H13020220-025
H-SMLG-2	H13020220-026
I-SMLC-EB-2	H13020220-027
I-SMLW-11	H13020220-028

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation
- ✓ Holding Times and Preservation
- ⊗ Laboratory Blanks
- ⊗ System Performance Checks
- ✓ Initial and Continuing Calibrations
- ✓ Instrument Tunes
- ✓ LCS
- ⊗ MS/MSD
- ✓ Laboratory Duplicates
- ✓ Field Duplicates
- ✓ Equipment Blank

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Data Validation Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes. Text identified in **bold font** indicates that further action and/or qualification of the data were required. Additional data validation qualifiers were added for the items noted with crossed circles above. See the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data qualifiers used during this validation included:

J – Estimated concentration

UJ – Estimated reporting limit

U – Evaluated to be undetected at the reporting limit

JB – Estimated concentration due to blank contamination

Tier II Data Validation Report Summary

Data Completeness

The analyses were performed as requested on the CoC records. The samples were received by the laboratory and analyzed properly. The complete data package consisted of 390 data points excluding blank samples. No data points were rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances related to the analytical data identified by the laboratory?	No
Comments: The laboratory noted the following in the Case Narrative and the Workorder Receipt Checklist. Samples for dissolved metals/hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for dissolved metals should be filtered and preserved within 15 minutes of collection. Multiple jars, as indicated on the CoC, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for moisture and mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which passes through the No.60 sieve was used for the metals analysis. The samples are reported on a dry weight basis as indicated in the report.	
2. Were the data free of data qualification flags or other notes used by the laboratory? If no, define.	No
Comments: The laboratory applied the following data qualification flags in this data set. D – Reporting Limit (RL) increased due to sample matrix S – Spike recovery outside of advisory limits A - The analyte level was greater than three times the spike level. In accordance with the method % recovery is not calculated.	
3. Were sample CoC forms complete?	No
Comments: Custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The samples were delivered by project personnel and left in an entryway that was locked after leaving the coolers. The CoC records from field to laboratory were complete except for the following noted in the laboratory's *Workorder Receipt Checklist*. No collection time on CoC or jar for sample H-SMLC-251. Sample time estimated in laboratory. Pages 2-14 of the CoC were not signed by the client. The project personnel who relinquished the samples inadvertently added his signature only to the first page of the 14 page CoC record. A sample confirmation affidavit signed by the person who relinquished the samples is attached to this report. The relinquish time from client did not match when samples were received in laboratory. The difference in time was negligible and did not affect the preparation nor the analysis of the samples as they were performed well in advance of the method holding times. No further action was required.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: Detection limits and dilutions were reviewed and found to be acceptable. The laboratory qualifier D was applied to selected arsenic and lead results indicating that reporting limits were increased due to matrix effects. The reported concentrations for the samples were greater than the elevated detection limits. Analyses that required dilutions are noted below. Method 6010B: Dilutions of 5 times were applied for the analyses of metals in the soil samples. Method 6020: Dilutions of 20 times were applied for the analyses of metals in the soil samples.	

VALIDATION CRITERIA CHECKLIST	
5. Were the requested analytical methods in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC except as follows. The laboratory reported results using SW-846 Methods 6010B and 7471A instead of Methods 6010C and 7471B requested on the CoC. The methods employed by the laboratory provide acceptable results and the substitution was acceptable. SW-846 Method 6020 was used for the analysis of some analytes in the soil samples instead of the requested SW-846 Method 6010C. Method 6020 provided lower detection limits for these analytes and the substitution was acceptable. USEPA Methods 200.8 and 245.1 were used instead of SW-846 Methods 6020A and 7470A for the analyses of total and dissolved metals in the aqueous samples. The methods utilized provide acceptable quality control and appropriate application for the water matrix. No further action was required.	
6. Were samples received in good condition within method-specified requirements?	No
Comments: Samples were received on wet ice, intact, and outside the 4°C ± 2°C acceptable range between 5.0°C and 9.4°C, as noted on the CoC and the *Workorder Receipt Checklist*. However, the samples were hand delivered and were not allowed sufficient time to reach the acceptable temperature range; therefore, no further action was required. Custody seals were present and intact on the coolers. The water samples designated for dissolved metals analyses were not filtered or preserved in the field. The laboratory filtered and preserved the samples on the day after collection. Method 200.8 states "For the determination of dissolved elements, the sample must be filtered through a 0.45 µm pore diameter membrane filter at the time of collection or as soon thereafter as practically possible." No further action was required.	
7. Were samples analyzed within method-specified or technical holding times?	Yes
Comments: The samples were analyzed within the method specified holding times.	
8. Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses?	Yes
Comments: Data were reported in units of milligrams per kilogram (mg/kg), percent by weight (wt%), and milligrams per liter (mg/L), which were appropriate for the matrices and the analyses requested.	
9. Do the laboratory reports include all constituents that were requested to be reported?	Yes
Comments: The reported constituents were in accordance with the requested methods.	
10. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Initial and continuing calibration data were within acceptable limits based on the available data in the reports. The laboratory did not note non-conformances related to the calibrations for the methods reported.	
11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: The number of laboratory blank samples analyzed was equal to at least 5% of the total number of samples. Analysis of blank samples is not required for sieve analyses or percent moisture.	

VALIDATION CRITERIA CHECKLIST

12. Were laboratory blank samples free of target analyte contamination? No

Comments: Laboratory blank samples were reported to be free of target analyte contamination, with the exceptions listed in the following tables.

Analytes detected in the method blanks were:

Blank ID	Analyte	Method	Batch	Run ID	Concentration
MB-19533	Total Zinc	E200.8	19533	ICPMS204-B_130220B	0.001 mg/L
MB-19542	Total Mercury	SW7471A	19542	HGCV201-H_130221B	0.001 mg/kg
MB-19555	Total and Dissolved Mercury	E245.1	19555	HGCV201-H_130221A	0.000008 mg/L
MB-19557	Total Barium	SW6010B	19557	ICP2-HE_130222A	0.02 mg/kg
MB-19557	Total Manganese	SW6010B	19557	ICP2-HE_130222A	0.06 mg/kg
MB-19557	Total Arsenic	SW6020	19557	ICPMS204-B_130221B	0.05 mg/kg
MB-19557	Total Barium	SW6020	19557	ICPMS204-B_130221B	0.1 mg/kg
MB-19557	**Total Cadmium**	**SW6020**	**19557**	**ICPMS204-B_130221B**	**0.04 mg/kg**
MB-19557	Total Chromium	SW6020	19557	ICPMS204-B_130221B	0.07 mg/kg
MB-19557	Total Copper	SW6020	19557	ICPMS204-B_130221B	0.1 mg/kg
MB-19557	Total Manganese	SW6020	19557	ICPMS204-B_130221B	0.1 mg/kg
MB-19557	Total Selenium	SW6020	19557	ICPMS204-B_130221B	0.02 mg/kg
MB-19557	Total Zinc	SW6020	19557	ICPMS204-B_130221B	0.2 mg/kg
MB-19558	Total Arsenic	SW6020	19558	ICPMS204-B_130221B	0.5 mg/kg
MB-19558	Total Barium	SW6020	19558	ICPMS204-B_130221B	0.5 mg/kg
MB-19558	**Total Cadmium**	**SW6020**	**19558**	**ICPMS204-B_130221B**	**0.5 mg/kg**
MB-19558	Total Chromium	SW6020	19558	ICPMS204-B_130221B	0.7 mg/kg
MB-19558	Total Copper	SW6020	19558	ICPMS204-B_130221B	0.7 mg/kg
MB-19558	Total Manganese	SW6020	19558	ICPMS204-B_130221B	0.9 mg/kg
MB-19558	Total Selenium	SW6020	19558	ICPMS204-B_130221B	0.3 mg/kg
MB-19558	Total Zinc	SW6020	19558	ICPMS204-B_130221B	2.0 mg/kg

Blank ID	Analyte	Method	Batch	Run ID	Concentration
MB-19573	Total Barium	SW6010B	19573	ICP2-HE_130225A	0.04 mg/kg
MB-19573	Total Zinc	SW6010B	19573	ICP2-HE_130225A	0.2 mg/kg
MB-19573	Total Cadmium	SW6020	19573	ICPMS204-B_130226A	0.05 mg/kg
MB-19573	Total Copper	SW6020	19573	ICPMS204-B_130226A	0.09 mg/kg
MB-19573	Total Selenium	SW6020	19573	ICPMS204-B_130226A	0.01 mg/kg
ICB	Dissolved Barium	E200.8	R86447	ICPMS204-B_130220B	0.00008 mg/L
ICB	Dissolved Cadmium	E200.8	R86447	ICPMS204-B_130220B	0.000009 mg/L
ICB	Dissolved Chromium	E200.8	R86447	ICPMS204-B_130220B	0.00005 mg/L
ICB	Dissolved Copper	E200.8	R86447	ICPMS204-B_130220B	0.00003 mg/L
ICB	Dissolved Lead	E200.8	R86447	ICPMS204-B_130220B	0.00001 mg/L
ICB	Dissolved Zinc	E200.8	R86447	ICPMS204-B_130220B	0.0009 mg/L

Analyte detections that were greater than the blank concentration and/or the reporting limit but less than 10 times the blank concentration were qualified as JB.

Analyte detections that were less than the blank concentration and/or less than or equal to the reporting limit were qualified as U.

Qualification was not required for analytes that were not detected or were detected in the associated samples at concentrations greater than 10 times the method blank concentrations.

VALIDATION CRITERIA CHECKLIST

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Analytical Method	Analytical Batch	MS/MSD Sample Source
E200.8	19533	K-SMLC-EB-1 Data Set H13020202
SW7471A	19542	K-SMLC-44 L-SMLC-64
SW7471A	19543	H-SMLG-2
E245.1	19555	K-SMLC-EB-1 Data Set H13020202
SW6010B	19557	L-SMLC-67
SW6020	19557	L-SMLC-67
SW6010B	19558	H-SMLG-2
SW6020	19558	H-SMLG-2
SW6010B	19573	C-SMLD-19 Data Set H13020221
SW6020	19573	C-SMLD-19 Data Set H13020221
E200.8	R86447	I-SMLW-11
E245.1	R86483	Not Prepared
E200.7	R86522	Not Prepared
E200.7	R86542	Not Prepared
SW6020	R86567	Not Prepared

Not Prepared – Matrix spike samples were not prepared. Other QC data were used to validate precision and accuracy of these batches.

Analysis of matrix spike samples is not required for sieve analyses or percent moisture.

14. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

Comments: The percent recoveries and RPD values for MS/MSDs prepared from project samples were within laboratory QC limits or were not applicable as the concentration of the analyte present in the original sample was greater than 4 times than the matrix spike concentration, with the exceptions listed below.

Analyte	Method	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits	MS/MSD RPD	RPD QC Limits
Total and Dissolved Mercury	**E245.1**	**19555**	**69%**	**61%**	**75-125%**	**Acceptable**	**20%**
Total Barium	**SW6020**	**19558**	**Acceptable**	**132%**	**75-125%**	**Acceptable**	**20%**
Total Copper	**SW6020**	**19573**	**63%**	**55%**	**75-125%**	**Acceptable**	**20%**

Analytes that exhibited low biased MS/MSD recoveries were qualified as J if detected and as UJ if undetected in the associated samples.

Analytes that exhibited high biased MS/MSD recoveries were qualified as J if detected in the associated samples.

VALIDATION CRITERIA CHECKLIST	
15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: The total number of laboratory control samples and laboratory fortified blanks prepared was equal to at least 5% of the total number of samples. Analysis of laboratory control samples is not required for sieve analyses or percent moisture.	
16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes
Comments: The percent recoveries for the laboratory control samples and laboratory fortified blanks were within laboratory QC limits.	
17. Were surrogate recoveries within laboratory QC limits?	N/A
Comments: Surrogate analysis is not required for the methods requested.	
18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: An equipment blank sample, I-SMLC-EB-2, was collected with this sample group, resulting in a collection frequency of less than 10% of the total number of samples.	
19. Were the trip blank, field blank, and/or equipment blank samples free of target analyte contamination?	Yes
Comments: The equipment blank sample was free of target analyte contamination.	
20. Was the number of field duplicate samples collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: Field duplicate samples were collected but at less than a 10% frequency. Sample H-SMLC-251 was collected as a duplicate of sample H-SMLC-51.	
21. Were field duplicate RPD values within data validation quality control (QC) limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: Field duplicate RPD values were within quality control limits. See the Field Duplicate Summary table for details.	
22. Were laboratory duplicate RPD values within laboratory QC limits?	Yes
Comments: A duplicate analysis for percent moisture was prepared from sample H-SMLG-2 for batch R86494. The RPD calculated for the pair was 3.2% and was acceptable. Analysis of duplicate samples is not required for sieve analyses.	
23. General Comments: **E200.8: Silver was recovered at 74% in the interference check sample associated with samples I-SMLC-EB-2 and I-SMLW-11, which is outside data validation QC limits of 80-120%. Total silver was qualified in the associated samples, I-SMLC-EB-2 and I-SMLW-11, as J.**	

FIELD DUPLICATE SUMMARY

Client Sample ID: H-SMLC-51 Field Duplicate Sample ID: H-SMLC-251					
Analyte	**Laboratory Method**	**Laboratory Result**	**Duplicate Method**	**Duplicate Result**	**Relative Percent Difference (RPD)**
Moisture	D2974	15.3 %	D2974	20.3 %	28.1%
Arsenic	SW6010B	45 mg/kg-dry	SW6020	43 mg/kg-dry	4.5%
Barium	SW6010B	98 mg/kg-dry	SW6020	112 mg/kg-dry	13.3%
Cadmium	SW6010B	ND (1.0 mg/kg-dry)	SW6020	1.0 mg/kg-dry	DL
Chromium	SW6010B	17 mg/kg-dry	SW6020	23 mg/kg-dry	30.0%
Copper	SW6010B	36 mg/kg-dry	SW6020	38 mg/kg-dry	5.4%
Lead	SW6010B	67 mg/kg-dry	SW6010B	71 mg/kg-dry	5.8%
Manganese	SW6010B	1220 mg/kg-dry	SW6020	1340 mg/kg-dry	9.4%
Nickel	SW6010B	10 mg/kg-dry	SW6020	9.0 mg/kg-dry	10.5%
Zinc	SW6010B	115 mg/kg-dry	SW6020	123 mg/kg-dry	6.7%

Field duplicate RPD control limits are not to exceed 30% for water, 50% for soil as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. No data were qualified since the detection was within two times the reporting limit.

DATA QUALIFICATION SUMMARY

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Silver, Total	E200.8	I-SMLW-11	H13020220-028	0.001	0.001	mg/L	J	Interference check percent recovery outside acceptable limits
Cadmium, Total	SW6020	L-SMLC-68	H13020220-019	3	1	mg/kg	JB	Method blank detection
Cadmium, Total	SW6020	O-SMLC-104	H13020220-021	2	1	mg/kg	JB	Method blank detection
Cadmium, Total	SW6020	I-SMLC-38	H13020220-001	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	H-SMLC-49	H13020220-004	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	H-SMLC-50	H13020220-005	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	H-SMLC-52	H13020220-007	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	H-SMLC-53	H13020220-008	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	L-SMLC-64	H13020220-015	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	L-SMLC-66	H13020220-017	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	O-SMLC-106	H13020220-023	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	H-SMLC-251	H13020220-024	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	I-SMLD-10	H13020220-025	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	H-SMLG-2	H13020220-026	1	1	mg/kg	U	Method blank detection
Barium, Total	SW6020	L-SMLC-68	H13020220-019	502	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6020	O-SMLC-103	H13020220-020	187	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6020	O-SMLC-104	H13020220-021	239	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6020	O-SMLC-105	H13020220-022	230	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6020	O-SMLC-106	H13020220-023	298	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6020	H-SMLC-251	H13020220-024	112	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6020	I-SMLD-10	H13020220-025	188	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Barium, Total	SW6020	H-SMLG-2	H13020220-026	127	1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	L-SMLC-61	H13020220-012	79	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Mercury, Total	E245.1	I-SMLC-EB-2	H13020220-027	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Mercury, Dissolved	E245.1	I-SMLW-11	H13020220-028	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Mercury, Total	E245.1	I-SMLW-11	H13020220-028	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.

AFFIDAVIT LETTER

March 4, 2013

Luke Darnell
Trihydro Corporation
2707 Broadwater Avenue
Helena, Montana 59601

RE: Chain-of-custody Affidavit for Montana Department of Environmental Quality, Spring Meadow Lake project data set H13020221

This letter is to confirm that the Montana Department of Environmental Quality, Spring Meadow Lake samples collected on February 14th, 2013 were properly relinquished to Energy Laboratories located in Helena, Montana between February 14, 2013 and February, 15, 2013. The "relinquished by" signature was affixed to page 1 of 14 but inadvertently left off of pages 2 through 14 of the chain-of-custody (COC) submitted with the sample coolers.

To the best of my knowledge, the information contained herein is true.

LUKE DARNELL

3/5/13
DATE

This confirmation is an amendment to the chain-of-custody accompanying the Montana Department of Environmental Quality Spring Meadow Lake project, Energy Laboratories data set H13020220.

Tier II Data Validation Report Summary

Client: Montana Department of Environmental Quality -Remediation Division	Laboratory: Energy Laboratories - Helena, MT
Project Name: Spring Meadow Assessment	Sample Matrix: Soil and Water
Project Number: 776-020-001	Sample Start Date: 02/18/2013
Date Validated: 02/28/2013	Sample End Date: 02/18/2013
Parameters: Metals by United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste (SW-846) Methods 6010B and 6020 and USEPA Method 200.8; Mercury by SW-846 Method 7471A and USEPA Method 245.1; Percent Moisture by ASTM D2974; sieve analysis by American Society of Agronomists Method ASA15-2.	
Laboratory Project ID: H13020221	
Data Validator: Kigen Limo, Chemical Engineer (E.I.T.)	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Energy Laboratories of Helena, Montana, evaluating samples from the Montana Department of Environmental Quality (MDEQ) Spring Meadow site, located in Helena, Montana.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from field duplicate pairs; laboratory duplicate pairs; and matrix spike (MS) and matrix spike duplicate (MSD) pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of MS/MSD samples and laboratory control samples (LCS) to verify that data are not biased. Additionally, field accuracy was established by collecting equipment blanks sample to monitor for possible ambient or cross contamination during sampling and transportation. Method compliance was established by reviewing holding times, detection limits, method blanks, and the LCS percent recoveries against method-specific requirements. Completeness was evaluated by determining the overall ratio of the number of planned samples and analyses versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other necessary documents associated with this analytical data set.

Chemical data validation was conducted in accordance with the National Functional Guidelines for inorganic analyses or by the appropriate method. Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, document number USEPA 540R-10-011, January 2010 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number USEPA 540-R-04-004, October 2004. Review of field duplicates was conducted according to the USEPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluation of Organic Analysis, December 1996.

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
A-SMLC-1	H13020221-001
A-SMLC-2	H13020221-002
A-SMLC-3	H13020221-003
A-SMLC-4	H13020221-004
A-SMLC-5	H13020221-005
A-SMLC-6	H13020221-006
A-SMLC-7	H13020221-007
A-SMLC-8	H13020221-008
C-SMLC-17	H13020221-009
C-SMLC-18	H13020221-010
C-SMLC-19	H13020221-011
C-SMLC-20	H13020221-012
G-SMLC-29	H13020221-013
G-SMLC-30	H13020221-014
G-SMLC-31	H13020221-015
G-SMLC-32	H13020221-016
H-SMLC-57	H13020221-017
H-SMLC-58	H13020221-018
H-SMLC-59	H13020221-019
H-SMLC-60	H13020221-020
M-SMLC-69	H13020221-021
M-SMLC-70	H13020221-022
M-SMLC-71	H13020221-023
M-SMLC-72	H13020221-024
A-SMLC-107	H13020221-025
A-SMLC-108	H13020221-026
G-SMLC-231	H13020221-027
H-SMLC-258	H13020221-028
C-SMLD-3	H13020221-029
G-SMLD-6	H13020221-030
H-SMLD-8	H13020221-031
G-SMLD-18	H13020221-032
C-SMLD-19	H13020221-033

Tier II Data Validation Report Summary

Client Sample ID	Laboratory Sample Number
C-SMLW-3	H13020221-034
G-SMLW-6	H13020221-035
H-SMLW-8	H13020221-036
G-SMLC-EB-3	H13020221-037
M-SMLC-EB-4	H13020221-038

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation
- ✓ Holding Times and Preservation
- ⊗ Laboratory Blanks
- ⊗ System Performance Checks
- ✓ Initial and Continuing Calibrations
- ✓ Instrument Tunes
- ✓ LCS
- ⊗ MS/MSD
- ✓ Laboratory Duplicates
- ✓ Field Duplicates
- ✓ Equipment Blank

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Data Validation Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes. Text identified in **bold font** indicates that further action and/or qualification of the data were required. Additional data validation qualifiers were added for the items noted with crossed circles above. See the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data qualifiers used during this validation included:

J – Estimated concentration

UJ – Estimated reporting limit

U – Evaluated to be undetected at the reporting limit

Tier II Data Validation Report Summary

Data Completeness

The analyses were performed as requested on the CoC records. The samples were received by the laboratory and analyzed properly. The complete data package consisted of 540 data points excluding blank samples. No data points were rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances related to the analytical data identified by the laboratory?	No
Comments: The laboratory noted the following in the Case Narrative and the Workorder Receipt Checklist. Samples for dissolved metals were subsampled, filtered, and preserved to pH <2 with 2 mL of nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for dissolved metals should be filtered and preserved within 15 minutes of collection. Multiple jars, as indicated on the CoC, were received for each sample. The jars were composited into one sample. A portion of the composited sample was then subsampled for moisture and mercury analysis. The remaining composite was then dried and sieved. The portion of the sample which passes through the No.60 sieve was used for the metals analysis. The samples are reported on a dry weight basis as indicated in the report.	
2. Were the data free of data qualification flags or other notes used by the laboratory? If no, define.	No
Comments: The laboratory applied the following data qualification flags in this data set. D – Reporting limit (RL) increased due to sample matrix S – Spike recovery outside of advisory limits A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.	
3. Were sample CoC forms complete?	No
Comments: Custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The samples were delivered by project personnel and left in an entryway that was locked after leaving the coolers. The CoC records from field to laboratory were complete except for the following noted in the laboratory's *Workorder Receipt Checklist*. There were no times of collection on CoC or jars for samples G-SMLC-231 and H-SMLC-258. Sample time was estimated at the laboratory. The arbitrary assignment of collection times by the laboratory to these samples did not affect the data quality and no further action was required.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: Detection limits and dilutions were reviewed and found to be acceptable. The laboratory qualifier D was applied to specific arsenic and lead results indicating that reporting limits were increased due to matrix effects. The reported concentrations for the samples were greater than the elevated detection limits. Analyses that required dilutions are noted below. Method 6010B: Dilutions of 5 to 10 times were applied for the analyses of metals in the soil samples. Method 6020: Dilutions of 20 times were applied for the analyses of metals in the soil samples. Method 7471A: A dilution of 2 times was applied for the analysis of mercury in sample C-SMLC-20	
5. Were the requested analytical methods in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC except as follows. The laboratory reported results using SW-846 Methods 6010B and 7471A instead of Methods 6010C and 7471B requested on the CoC. The methods employed by the laboratory provide acceptable results and the substitution was acceptable. SW-846 Method 6020 was used for the analysis of some analytes in the soil samples instead of the requested SW-846 Method 6010C. Method 6020 provided lower detection limits for these analytes and the substitution was acceptable. USEPA Methods 200.8 and 245.1 were used instead of SW-846 Methods 6020A and 7470A for the analyses of total and dissolved metals in the water sample. The methods utilized provide acceptable quality control and appropriate application for the water matrix. No further action was required.	

VALIDATION CRITERIA CHECKLIST	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: Samples were received on ice, intact, and within the 4°C ± 2°C acceptable range between 2.7°C and 2.9°C, as noted on the CoC and the *Workorder Receipt Checklist*. Custody seals were present and intact on the coolers. The water samples designated for dissolved metals analyses were not filtered or preserved in the field. The laboratory filtered and preserved the samples on the day after collection. Method 200.8 states "For the determination of dissolved elements, the sample must be filtered through a 0.45 µm pore diameter membrane filter at the time of collection or as soon thereafter as practically possible." No further action was required.	
7. Were samples analyzed within method-specified or technical holding times?	Yes
Comments: The samples were analyzed within the method specified holding times.	
8. Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses?	Yes
Comments: Data were reported in units of milligrams per kilogram (mg/kg), percent by weight (wt%), and milligrams per liter (mg/L), which were appropriate for the matrices and the analyses requested.	
9. Do the laboratory reports include all constituents that were requested to be reported?	Yes
Comments: The reported constituents were in accordance with the requested methods.	
10. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Comments: Initial and continuing calibration data were within acceptable limits based on the available data in the reports. The laboratory did not note non-conformances related to the calibrations for the methods reported.	
11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: The number of laboratory blank samples analyzed was equal to at least 5% of the total number of samples. Analysis of blank samples is not required for sieve analyses or percent moisture.	

VALIDATION CRITERIA CHECKLIST

12. Were laboratory blank samples free of target analyte contamination? No

Comments: Laboratory blank samples were reported to be free of target analyte contamination, with the exceptions listed in the following tables.

Analytes detected in the method blanks were:

Blank ID	Analyte	Method	Batch	Run ID	Concentration
MB-19546	Total Chromium	E200.8	19546	ICPMS204-B_130221A	0.0002 mg/L
MB-19555	Total Mercury	E245.1	19555	HGCV201-H_130221A	0.000008 mg/L
MB-19572	Total Arsenic	SW6010B	19572	ICP2-HE_130226A	1.0 mg/kg
MB-19572	Total Barium	SW6010B	19572	ICP2-HE_130226A	0.02 mg/kg
MB-19572	Total Lead	SW6010B	19572	ICP2-HE_130226A	1.0 mg/kg
MB-19572	Total Manganese	SW6010B	19572	ICP2-HE_130226A	0.7 mg/kg
MB-19572	Total Zinc	SW6010B	19572	ICP2-HE_130226A	0.2 mg/kg
MB-19572	Total Arsenic	SW6010B	19572	ICP2-HE_130227A	0.6 mg/kg
MB-19572	Total Barium	SW6010B	19572	ICP2-HE_130227A	0.03 mg/kg
MB-19572	Total Manganese	SW6010B	19572	ICP2-HE_130227A	0.6 mg/kg
MB-19573	Total Barium	SW6010B	19573	ICP2-HE_130225A	0.04 mg/kg
MB-19573	Total Zinc	SW6010B	19573	ICP2-HE_130225A	0.2 mg/kg
MB-19573	Total Barium	SW6010B	19573	ICP2-HE_130226A	0.04 mg/kg
MB-19573	Total Lead	SW6010B	19573	ICP2-HE_130226A	2.0 mg/kg
MB-19573	Total Manganese	SW6010B	19573	ICP2-HE_130226A	0.09 mg/kg
MB-19573	Total Zinc	SW6010B	19573	ICP2-HE_130226A	0.2 mg/kg
MB-19573	**Total Cadmium**	**SW6020**	**19573**	**ICPMS204-B_130226A**	**0.05 mg/kg**
MB-19573	Total Copper	SW6020	19573	ICPMS204-B_130226A	0.09 mg/kg
MB-19573	Selenium	SW6020	19573	ICPMS204-B_130226A	0.01 mg/kg
ICB	Copper	E200.8	R86477	CPMS204-B_130221A	0.00004 mg/L

Blank ID	Analyte	Method	Batch	Run ID	Concentration
ICB	Manganese	E200.8	R86477	CPMS204-B_130221A	0.0001 mg/L
ICB	Zinc	E200.8	R86477	CPMS204-B_130221A	0.0007 mg/L

Analyte detections that were less than the blank concentration and/or the reporting limit were qualified as U.

Qualification was not required for analytes that were not detected or were detected in the associated samples at concentrations greater than 10 times the method blank concentrations.

VALIDATION CRITERIA CHECKLIST

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Analytical Method	Analytical Batch	MS/MSD Sample Source
SW7471A	19543	H-SMLG-2 (data set H13020220) C-SMLC-17
SW7471A	19544	G-SMLC-31 G-SMLC-231
E200.8	19546	C-SMLW-3
E245.1	19555	K-SMLC-EB-1 (data set H13020202) M-SMLC-EB-4
SW7471A	19568	D-SMLC-22 (data set H13020243) H-SMLC-37 (data set H13020243)
SW6010B	19572	H-SMLC-58
SW6020	19572	H-SMLC-58
SW6010B	19573	C-SMLD-19
SW6020	19573	C-SMLD-19
E200.8	R86477	H-SMLC-258
E245.1	R86483	Not Prepared
E200.7	R86542	Not Prepared
SW6020	R86567	Not Prepared
E200.7	R86593	Not Prepared

Not Prepared – Matrix spike samples were not prepared or reported. Other QC data were used to validate precision and accuracy of these batches.

Analysis of matrix spike samples is not required for sieve analyses or percent moisture.

14. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

Comments: The percent recoveries and RPD values for MS/MSDs prepared from project samples were within laboratory QC limits or were not applicable as the concentration of the analyte present in the original sample was greater than 4 times than the matrix spike concentration, with the exceptions listed below.

Analyte	Method	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits	MS/MSD RPD	RPD QC Limits
Dissolved and Total Mercury	**E245.1**	**19555**	**69%**	**61%**	**75-125%**	**Acceptable**	**20%**
Copper	**SW6020**	**19573**	**63%**	**55%**	**75-125%**	**Acceptable**	**20%**

Analytes that exhibited low biased MS/MSD recoveries were qualified as J if detected and as UJ if undetected in the associated samples.

15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples, or analyzed as required by the method? Yes

Comments: The total number of laboratory control samples and laboratory fortified blanks prepared was equal to at least 5% of the total number of samples.

Analysis of laboratory control samples is not required for sieve analyses or percent moisture.

VALIDATION CRITERIA CHECKLIST	
16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes
Comments: The percent recoveries for the laboratory control samples and laboratory fortified blanks were within laboratory QC limits.	
17. Were surrogate recoveries within laboratory QC limits?	N/A
Comments: Surrogate analyses are not required for the methods requested.	
18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: Equipment blank samples, G-SMLC-EB-3 and M-SMLC-EB-4, were collected with this sample group. However, this did not meet the 10% collection frequency.	
19. Were the trip blank, field blank, and/or equipment blank samples free of target analyte contamination?	Yes
Comments: The equipment blank samples were free of target analyte contamination.	
20. Was the number of field duplicate samples collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: Field duplicate samples were on a less than a 10% frequency. Sample G-SMLC-231 was collected as a duplicate of sample G-SMLC-31, and sample H-SMLC-258 as a duplicate of sample H-SMLC-58.	
21. Were field duplicate RPD values within data validation quality control (QC) limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: Field duplicate RPD values were within quality control limits. See the Field Duplicate Summary table for details.	
22. Were laboratory duplicate RPD values within laboratory QC limits?	Yes
Comments: A duplicate analysis for percent moisture was prepared from sample C-SMLD-19 for batch R86528. The RPD calculated for the pair was 3.6% and was acceptable. Analysis of duplicate samples is not required for sieve analyses.	
23. General Comments: **E200.8: Zinc was recovered at 124% and 122% in the interference check samples associated with batch R86477, which were outside data validation QC limits of 80-120%. Zinc was qualified in the associated samples as J if detected.**	

FIELD DUPLICATE SUMMARY

Client Sample ID: H-SMLC-31 Field Duplicate Sample ID: H-SMLC-231					
Analyte	**Laboratory Method**	**Laboratory Result**	**Duplicate Method**	**Duplicate Result**	**Relative Percent Difference (RPD)**
Moisture	D2974	46.7 %	D2974	41.7 %	11.3%
Barium	SW6010B	191 mg/kg-dry	SW6010B	191 mg/kg-dry	0.0%
Chromium	SW6010B	16 mg/kg-dry	SW6010B	17 mg/kg-dry	6.1%
Copper	SW6010B	48 mg/kg-dry	SW6020	53 mg/kg-dry	9.9%
Lead	SW6010B	79 mg/kg-dry	SW6010B	72 mg/kg-dry	9.3%
Manganese	SW6010B	842 mg/kg-dry	SW6010B	919 mg/kg-dry	8.7%
Nickel	SW6010B	9 mg/kg-dry	SW6010B	9 mg/kg-dry	0.0%
Zinc	SW6010B	164 mg/kg-dry	SW6010B	172 mg/kg-dry	4.8%
Arsenic	SW6010B	29 mg/kg-dry	SW6020	31 mg/kg-dry	6.7%
Cadmium	SW6020	1 mg/kg-dry	SW6020	2 mg/kg-dry	66.7% +/-RL
Silver	SW6020	ND (1.0 mg/kg-dry)	SW6020	1.0 mg/kg-dry	DL

Field duplicate RPD control limits are not to exceed 30% for water or 50% for soil as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. No data were qualified since the detection was within two times the reporting limit.

+/-RL – Indicates that the detections in the samples are within two times the reporting limit. No qualification of data is required.

Client Sample ID: H-SMLC-58 Field Duplicate Sample ID: H-SMLC-258					
Analyte	**Laboratory Method**	**Laboratory Result**	**Duplicate Method**	**Duplicate Result**	**Relative Percent Difference (RPD)**
Moisture	D2974	28.4 %	D2974	31.2 %	9.4%
Arsenic	SW6010B	50 mg/kg-dry	SW6010B	51 mg/kg-dry	2.0%
Barium	SW6010B	171 mg/kg-dry	SW6010B	163 mg/kg-dry	4.8%
Cadmium	SW6010B	ND (1 mg/kg-dry)	SW6020	1 mg/kg-dry	DL
Chromium	SW6010B	18 mg/kg-dry	SW6010B	20 mg/kg-dry	10.5%
Copper	SW6010B	34 mg/kg-dry	SW6010B	38 mg/kg-dry	11.1%
Lead	SW6010B	66 mg/kg-dry	SW6010B	62 mg/kg-dry	6.3%
Manganese	SW6010B	1010 mg/kg-dry	SW6010B	1020 mg/kg-dry	1.0%
Nickel	SW6010B	12 mg/kg-dry	SW6020	12 mg/kg-dry	0.0%
Zinc	SW6020	126 mg/kg-dry	SW6020	126 mg/kg-dry	0.0%

Field duplicate RPD control limits are not to exceed 30% for water or 50% for soil as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. No data were qualified since the detection was within two times the reporting limit.

DATA QUALIFICATION SUMMARY

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Cadmium, Total	SW6020	A-SMLC-107	H13020221-025	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	H-SMLC-258	H13020221-028	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	G-SMLD-18	H13020221-032	1	1	mg/kg	U	Method blank detection
Copper, Total	SW6020	H-SMLC-59	H13020221-019	47	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	H-SMLC-60	H13020221-020	34	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	M-SMLC-69	H13020221-021	63	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	M-SMLC-70	H13020221-022	103	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	M-SMLC-71	H13020221-023	56	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	M-SMLC-72	H13020221-024	77	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	A-SMLC-107	H13020221-025	164	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	A-SMLC-108	H13020221-026	111	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	G-SMLC-231	H13020221-027	53	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	H-SMLC-258	H13020221-028	38	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	C-SMLD-3	H13020221-029	132	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	G-SMLD-6	H13020221-030	67	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	H-SMLD-8	H13020221-031	69	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	G-SMLD-18	H13020221-032	44	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Copper, Total	SW6020	C-SMLD-19	H13020221-033	181	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Zinc, Dissolved	E200.8	C-SMLW-3	H13020221-034	0.06	0.01	mg/L	J	Interference check percent recovery outside acceptable limits
Zinc, Dissolved	E200.8	G-SMLW-6	H13020221-035	0.03	0.01	mg/L	J	Interference check percent recovery outside acceptable limits
Zinc, Dissolved	E200.8	H-SMLW-8	H13020221-036	0.06	0.01	mg/L	J	Interference check percent recovery outside acceptable limits
Mercury, Dissolved	E245.1	C-SMLW-3	H13020221-034	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Mercury, Total	E245.1	C-SMLW-3	H13020221-034	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Mercury, Dissolved	E245.1	G-SMLW-6	H13020221-035	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Mercury, Total	E245.1	G-SMLW-6	H13020221-035	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Mercury, Dissolved	E245.1	H-SMLW-8	H13020221-036	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Mercury, Total	E245.1	H-SMLW-8	H13020221-036	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Mercury, Total	E245.1	G-SMLC-EB-3	H13020221-037	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Mercury, Total	E245.1	M-SMLC-EB-4	H13020221-038	ND	0.0001	mg/L	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.

Tier II Data Validation Report Summary

Client: Montana Department of Environmental Quality - Remediation Division	Laboratory: Energy Laboratories
Project Name: Spring Meadow Assessment	Sample Matrix: Soil and Water
Project Number: 776-020-001	Sample Start Date: 02/19/2013
Date Validated: 03/04/2013	Sample End Date: 02/19/2013
Parameters: Metals by United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste (SW-846) Methods 6010B and 6020 and USEPA Method 200.8; Mercury by SW-846 Method 7471A and USEPA Method 245.1; Percent Moisture by ASTM D2974; sieve analysis by American Society of Agronomists Method ASA15-2.	
Laboratory Project ID: H13020243	
Data Validator: Kigen Limo, Chemical Engineer (E.I.T.)	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Energy Laboratories of Helena, Montana, evaluating samples from the Montana Department of Environmental Quality (MDEQ) Spring Meadow site, located in Helena, Montana.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from field duplicate pairs; laboratory duplicate pairs; and matrix spike (MS) and matrix spike duplicate (MSD) pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of MS/MSD samples and laboratory control samples (LCS) to verify that data are not biased. Additionally, field accuracy was established by collecting equipment blanks sample to monitor for possible ambient or cross contamination during sampling and transportation. Method compliance was established by reviewing holding times, detection limits, method blanks, and the LCS percent recoveries against method-specific requirements. Completeness was evaluated by determining the overall ratio of the number of planned samples and analyses versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other necessary documents associated with this analytical data set.

Chemical data validation was conducted in accordance with the National Functional Guidelines for inorganic analyses or by the appropriate method. Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, document number USEPA 540R-10-011, January 2010 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number USEPA 540-R-04-004, October 2004. Review of field duplicates was conducted according to the USEPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluation of Organic Analysis, December 1996.

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
D-SMLC-21	H13020243-001
D-SMLC-22	H13020243-002
D-SMLC-23	H13020243-003
D-SMLC-24	H13020243-004
F-SMLC-25	H13020243-005
F-SMLC-26	H13020243-006
F-SMLC-27	H13020243-007
F-SMLC-28	H13020243-008
H-SMLC-33	H13020243-009
H-SMLC-34	H13020243-010
H-SMLC-35	H13020243-011
H-SMLC-36	H13020243-012
H-SMLC-37	H13020243-013
N-SMLC-99	H13020243-014
N-SMLC-100	H13020243-015
N-SMLC-101	H13020243-016
N-SMLC-102	H13020243-017
H-SMLC-235	H13020243-018
D-SMLD-4	H13020243-019
F-SMLD-5	H13020243-020
H-SMLD-7	H13020243-021
N-SMLD-9	H13020243-022
H-SMLD-20	H13020243-023
D-SMLD-21	H13020243-024
D-SMLW-4	H13020243-025
H-SMLW-7	H13020243-026
N-SMLW-9	H13020243-027
N-SMLC-EB-5	H13020243-028

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation
- ✓ Holding Times and Preservation
- ⊗ Laboratory Blanks
- ⊗ System Performance Checks
- ✓ Initial and Continuing Calibrations
- ✓ Instrument Tunes
- ✓ LCS
- ⊗ MS/MSD
- ✓ Laboratory Duplicates
- ✓ Field Duplicates
- ✓ Equipment Blank

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Data Validation Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes. Text identified in **bold font** indicates that further action and/or qualification of the data were required. Additional data validation qualifiers were added for the items noted with crossed circles above. See the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data qualifiers used during this validation included:

J – Estimated concentration, may be biased high

U – Evaluated to be undetected at the reporting limit

Data Completeness

The analyses were performed as requested on the CoC records. The samples were received by the laboratory and analyzed properly. The complete data package consisted of 414 data points excluding blank samples. No data points were rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances related to the analytical data identified by the laboratory?	No
Comments: The laboratory noted the following in the Case Narrative and the Workorder Receipt Checklist. Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for dissolved metals should be filtered and preserved within 15 minutes of collection.	
2. Were the data free of data qualification flags or other notes used by the laboratory? If no, define.	No
Comments: The laboratory applied the following data qualification flags in this data set. D – Reporting limit (RL) increased due to sample matrix S – Spike recovery outside of advisory limits A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.	
3. Were sample CoC forms complete?	No
Comments: Custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The samples were delivered by project personnel and left in an entryway that was locked after leaving the coolers. The CoC records from field to laboratory were complete except for the following noted in the laboratory's *Workorder Receipt Checklist*. D-SMLC-21-A jar has a collection time of 11:30 - CoC has time of 11:20. Logged in with time from CoC. No collection time on jars or CoC for sample H-SMLC-235. Sample time estimated in laboratory. The arbitrary assignment of sample time by the laboratory did not affect the data quality and no further action was required. Sample D-SMLC-24-D has no collection time on jar. Took from CoC.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: Detection limits and dilutions were reviewed and found to be acceptable. The laboratory qualifier D was applied to specific arsenic and lead results indicating that reporting limits were increased due to matrix effects. The reported concentrations for the samples were greater than the elevated detection limits. Analyses that required dilutions are noted below. Method 6010B: Dilutions of 5 times were applied for the analyses of metals in the soil samples. Method 6020: Dilutions of 20 times were applied for the analyses of metals in the soil samples.	
5. Were the requested analytical methods in compliance with the QAPP, permit, or CoC?	No
Comments: The reported analytical methods were in compliance with the CoC except as follows. The laboratory reported results using SW-846 Methods 6010B and 7471A instead of Methods 6010C and 7471B requested on the CoC. The methods employed by the laboratory provide acceptable results and the substitution was acceptable. SW-846 Method 6020 was used for the analysis of some analytes in the soil samples instead of the requested SW-846 Method 6010C. Method 6020 provided lower detection limits for these analytes and the substitution was acceptable. USEPA Methods 200.8 and 245.1 were used instead of SW-846 Methods 6020A and 7470A for the analyses of total and dissolved metals in the water sample. The methods utilized provide acceptable quality control and appropriate application for the water matrix. No further action was required.	

VALIDATION CRITERIA CHECKLIST	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: Samples were received on ice, intact, and within the 4°C ± 2°C acceptable range between 3.8°C and 5.0°C, as noted on the CoC and the *Workorder Receipt Checklist*. Custody seals were present and intact on the coolers. The water samples designated for dissolved metals analyses were not filtered or preserved in the field. The laboratory filtered and preserved the samples on the day after collection. Method 200.8 states "For the determination of dissolved elements, the sample must be filtered through a 0.45 µm pore diameter membrane filter at the time of collection or as soon thereafter as practically possible." No further action was required.	
7. Were samples analyzed within method-specified or technical holding times?	Yes
Comments: The samples were analyzed within the method specified holding times.	
8. Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses?	Yes
Comments: Data were reported in units of milligrams per kilogram (mg/kg), percent by weight (wt%), and milligrams per liter (mg/L), which were appropriate for the matrices and the analyses requested.	
9. Do the laboratory reports include all constituents that were requested to be reported?	Yes
Comments: The reported constituents were in accordance with the requested methods.	
10. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Comments: Initial and continuing calibration data were within acceptable limits based on the available data in the reports. The laboratory did not note non-conformances related to the calibrations for the methods reported.	
11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: The number of laboratory blank samples analyzed was equal to at least 5% of the total number of samples. Analysis of blank samples is not required for sieve analyses or percent moisture.	

VALIDATION CRITERIA CHECKLIST

12. Were laboratory blank samples free of target analyte contamination? No

Comments: Laboratory blank samples were reported to be free of target analyte contamination, with the exceptions listed in the following tables.

Analytes detected in the method blanks were:

Blank ID	Analyte	Method	Batch	Run ID	Concentration
MB-19555	Mercury	E245.1	19555	HGCV201-H_130221A	0.000008 mg/L
MB-19556	Mercury	E245.1	19556	HGCV201-H_130221A	0.000007 mg/L
MB-19574	Total Arsenic	SW6010B	19574	ICP2-HE_130226A	0.5 mg/kg
MB-19574	Total Barium	SW6010B	19574	ICP2-HE_130226A	0.03 mg/kg
MB-19574	Total Manganese	SW6010B	19574	ICP2-HE_130226A	0.4 mg/kg
MB-19574	Total Zinc	SW6010B	19574	ICP2-HE_130226A	0.2 mg/kg
MB-19574	Total Arsenic	SW6020	19574	ICPMS204-B_130227B	0.03 mg/kg
MB-19574	**Total Cadmium**	**SW6020**	**19574**	**ICPMS204-B_130227B**	**0.05 mg/kg**
MB-19574	Total Lead	SW6020	19574	ICPMS204-B_130227B	0.03 mg/kg
MB-19574	Total Selenium	SW6020	19574	ICPMS204-B_130227B	0.01 mg/kg
MB-19575	Total Barium	SW6010B	19575	ICP2-HE_130226A	0.02 mg/kg
MB-19575	Total Lead	SW6010B	19575	ICP2-HE_130226A	2.0 mg/kg
MB-19575	Total Manganese	SW6010B	19575	ICP2-HE_130226A	0.1 mg/kg
MB-19575	Total Zinc	SW6010B	19575	ICP2-HE_130226A	0.2 mg/kg
MB-19575	Total Arsenic	SW6010B	19575	ICP2-HE_130227A	0.7 mg/kg
MB-19575	Total Manganese	SW6010B	19575	ICP2-HE_130227A	0.2 mg/kg
MB-19575	Total Arsenic	SW6020	19575	ICPMS204-B_130227B	0.02 mg/kg
MB-19575	Total Cadmium	SW6020	19575	ICPMS204-B_130227B	0.05 mg/kg
MB-19575	Total Lead	SW6020	19575	ICPMS204-B_130227B	0.02 mg/kg
MB-19575	Total Arsenic	SW6020	19575	ICPMS204-B_130228A	0.02 mg/kg
MB-19575	**Total Cadmium**	**SW6020**	**19575**	**ICPMS204-B_130228A**	**0.04 mg/kg**
MB-19575	Total Lead	SW6020	19575	ICPMS204-B_130228A	0.04 mg/kg

Blank ID	Analyte	Method	Batch	Run ID	Concentration
MB-19575	Total Selenium	SW6020	19575	ICPMS204-B_130228A	0.01 mg/kg
MB-19576	Total Beryllium	E200.8	19576	ICPMS204-B_130221A	0.00003 mg/L
MB-19576	Total Copper	E200.8	19576	ICPMS204-B_130221A	0.0002 mg/L
ICB	Dissolved Copper	E200.8	R86477	ICPMS204-B_130221A	0.00004 mg/L
ICB	Dissolved Manganese	E200.8	R86477	ICPMS204-B_130221A	0.0001 mg/L
ICB	Dissolved Zinc	E200.8	R86477	ICPMS204-B_130221A	0.0007 mg/L

Analyte detections that were less than or equal to the blank concentration and/or the reporting limit were qualified as U.

Qualification was not required for analytes that were not detected or were detected in the associated samples at concentrations greater than 10 times the method blank concentrations.

VALIDATION CRITERIA CHECKLIST

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Analytical Method	Analytical Batch	MS/MSD Sample Source
E245.1	19555	M-SMLC-EB-4 Data Set H13020221
E245.1	19556	N-SMLW-9
SW7471A	19568	D-SMLC-22 H-SMLC-37
SW7471A	19569	H-SMLD-7
SW6010B	19574	H-SMLC-235
SW6020	19574	H-SMLC-235
SW6010B	19575	D-SMLD-21
SW6020	19575	D-SMLD-21
E200.8	19576	D-SMLW-4
E200.8	R86477	I-SMLW-11 Data Set H13020220
E200.8	R86600	D-SMLW-4

Analysis of matrix spike samples is not required for sieve analyses or percent moisture.

14. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory QC limits? No

Comments: The percent recoveries and RPD values for MS/MSDs prepared from project samples were within laboratory QC limits or were not applicable as the concentration of the analyte present in the original sample was greater than 4 times than the matrix spike concentration, with the exceptions listed below.

Analyte	Method	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits	MS/MSD RPD	RPD QC Limits
Total Lead	**SW6010B**	**19575**	**69%**	**Acceptable**	**75-125%**	**Acceptable**	**20%**
Total Barium	**SW6010B**	**19575**	**Acceptable**	**126%**	**75-125%**	**Acceptable**	**20%**

Analytes that exhibited low biased MS/MSD recoveries were qualified as J if detected and as UJ if undetected in the associated samples. Lead was detected in the associated samples in batch 19575 and was qualified J due to evidence of potential low bias.

Analytes that exhibited high biased MS/MSD recoveries were qualified as J if detected. Barium was detected in the associated samples in batch 19575 and was qualified J due to evidence of potential high bias.

15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples, or analyzed as required by the method? Yes

Comments: The total number of laboratory control samples and laboratory fortified blanks prepared was equal to at least 5% of the total number of samples.

Analysis of laboratory control samples is not required for sieve analyses or percent moisture.

16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? Yes

Comments: The percent recoveries for the laboratory control samples and laboratory fortified blanks were within laboratory QC limits.

VALIDATION CRITERIA CHECKLIST	
17. Were surrogate recoveries within laboratory QC limits?	N/A
Comments: Surrogate analyses are not required for the methods requested.	
18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: One equipment blank sample, N-SMLC-EB-5, was collected with this sample group. However, this did not meet the 10% collection frequency.	
19. Were the trip blank, field blank, and/or equipment blank samples free of target analyte contamination?	Yes
Comments: The equipment blank sample was free of target analyte contamination.	
20. Was the number of field duplicate samples collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit?	No
Comments: Field duplicate samples were on a less than a 10% frequency. Sample H-SMLC-235 was collected as a duplicate of sample H-SMLC-35.	
21. Were field duplicate RPD values within data validation quality control (QC) limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: Field duplicate RPD values were within quality control limits. See the Field Duplicate Summary table for details.	
22. Were laboratory duplicate RPD values within laboratory QC limits?	Yes
Comments: Duplicate analyses for percent moisture were prepared from samples F-SMLC-27, N-SMLC-99, and D-SMLD-21 for batch R86560. The duplicate sample RPDs were calculated to be 7.0%, 1.6%, and 7.3%, respectively and were acceptable. Analysis of duplicate samples is not required for sieve analyses.	
23. General Comments: **E200.8: Dissolved zinc was recovered at 124% and 122% in the interference check samples associated with batch R86477, which were outside data validation QC limits of 80-120%. Zinc was qualified in the associated samples as J if detected.** SW7471A: Serial dilutions were prepared for batch 19568 from samples D-SMLC-22, H-SMLC-37, and H-SMLD-7. Serial dilution percent differences did not exceed the upper data validation QC limit.	

FIELD DUPLICATE SUMMARY

Client Sample ID: H-SMLC-35 Field Duplicate Sample ID: GH-SMLC-235					
Analyte	**Laboratory Method**	**Laboratory Result**	**Duplicate Method**	**Duplicate Result**	**Relative Percent Difference (RPD)**
Moisture	D2974	37.1 %	D2974	32.4 %	13.5%
Barium	SW6010B	187 mg/kg-dry	SW6010B	183 mg/kg-dry	2.2%
Chromium	SW6010B	26 mg/kg-dry	SW6010B	25 mg/kg-dry	3.9%
Copper	SW6010B	39 mg/kg-dry	SW6010B	40 mg/kg-dry	2.5%
Manganese	SW6010B	1460 mg/kg-dry	SW6010B	1400 mg/kg-dry	4.2%
Nickel	SW6010B	15 mg/kg-dry	SW6010B	14 mg/kg-dry	6.9%
Zinc	SW6010B	236 mg/kg-dry	SW6010B	237 mg/kg-dry	0.4%
Arsenic	SW6020	51 mg/kg-dry	SW6010B	51 mg/kg-dry	0.0%
Cadmium	SW6020	3 mg/kg-dry	SW6020	3 mg/kg-dry	0.0%
Lead	SW6020	141 mg/kg-dry	SW6010B	139 mg/kg-dry	1.4%
Silver	SW6020	1 mg/kg-dry	SW6020	ND (1.0 mg/kg-dry)	DL
Mercury	SW7471A	ND (0.50 mg/kg-dry)	SW7471A	0.57 mg/kg-dry	DL

Field duplicate RPD control limits are not to exceed 30% for water or 50% for soil as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. No data were qualified since the detection was within two times the reporting limit.

DATA QUALIFICATION SUMMARY

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Zinc, Dissolved	E200.8	D-SMLW-4	H13020243-025	0.08	0.01	mg/L	J	Interference check percent recovery outside acceptable limits
Cadmium, Total	SW6020	F-SMLC-25	H13020243-005	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	H-SMLC-34	H13020243-010	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	F-SMLD-5	H13020243-020	1	1	mg/kg	U	Method blank detection
Cadmium, Total	SW6020	H-SMLD-7	H13020243-021	1	1	mg/kg	U	Method blank detection
Lead, Total	SW6010B	D-SMLD-4	H13020243-019	329	3	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	H-SMLD-20	H13020243-023	81	3	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Lead, Total	SW6010B	D-SMLD-21	H13020243-024	189	3	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	D-SMLD-4	H13020243-019	208	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	F-SMLD-5	H13020243-020	206	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	H-SMLD-7	H13020243-021	153	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	N-SMLD-9	H13020243-022	154	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	H-SMLD-20	H13020243-023	169	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Barium, Total	SW6010B	D-SMLD-21	H13020243-024	178	1	mg/kg	J	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.

APPENDIX E

SAMPLE CORRELATION RESULTS

The CORR Procedure

3 Variables: As_result Mn_result Pb_result

Simple Statistics

Variable	N	Mean	Std Dev	Sum
As_result	138	97.20290	179.66019	13414
Mn_result	138	3351	7304	462386
Pb_result	138	154.28261	176.71136	21291

Simple Statistics

Variable	Minimum	Maximum
As_result	13.00000	1390
Mn_result	454.00000	39800
Pb_result	27.00000	1120

Pearson Correlation Coefficients, N = 138
Prob > |r| under HO: Rho=0

	As_result	Mn_result	Pb_result
As_result	1.00000	0.89855 <.0001	0.92957 <.0001
Mn_result	0.89855 <.0001	1.00000	0.89194 <.0001
Pb_result	0.92957 <.0001	0.89194 <.0001	1.00000